

CONDITIONS OF ORGANIZATIONAL LEARNING - A STUDY OF  
DIVERGENT KNOWLEDGE RESOLUTION

Thesis submitted for the degree of Doctor of Philosophy

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February 1995



I have always loved butterflies .... The butterfly is the Fact - gleaming, fluttering, settling for an instant with the wings fully spread to the sun, then vanishing into the shades of the forest

Winston Churchill

## ABSTRACT

This thesis explores conditions of organizational learning. It works from the assumption that the ability of organizations to perform higher-level learning relates to their ability to resolve divergence of knowledge between organization members by exploiting the potential that divergence offers for higher-level learning.

The thesis argues, through a discussion of organizational learning in which axes of dichotomy within existing organizational learning research are explored, that insufficient attention has been given to the resolution of divergent knowledge in organizational learning theory.

A qualitative methodological approach was used to explore conditions of organizational learning in six different organizations that varied in terms of structure, goals and geographic location. The organizations studied were as follows: a research fellow network in Scandinavia; a United Nations development project in West Africa; an airline in French-speaking Europe; two hotels in Scandinavia (considered as one organization); a social care centre in Scandinavia; and a data company in French-speaking Europe.

A total of 55 semi-structured interviews were conducted at a range of managerial levels within each organization, as well as in-situ observations and informal talks. Illuminative analyses were used to explore the findings.

Patterns of divergent knowledge resolution were identified and explored at the levels of individual, social dynamics and organizational structure and systems. The analysis led to the development of a mapping typology of conditions that seem to influence the resolution of divergent knowledge. Partly from this mapping typology, an interpretative typology was derived, which consists of the parameters "medium", "behaviour", "forum" and "topic". The interpretative typology was tested, but not conclusively validated. It is suggested, however, that it offers a step towards better understanding of divergent knowledge resolution, and that it forms a useful basis for future research.

To Evy, for all our love, fun and friendship. This is to you.

## ACKNOWLEDGEMENTS

To my mother and my father, who taught me a lot simply by trusting me, and who would have been happy, had they been alive.

To Maya and Tania, who unknowingly and persistently reminded me that there are more important things in life than doing a Ph.D., and who have taught me a lot about learning and love. Maybe you are right, Tania, who on earth wants to read a book about learning? Nevertheless, I thought I'd give it a try. As to Maya, yes, I have finally finished "the book". Sorry to have been such a bore at times.

To Monica, my supervisor, who practised a two-person learning organization with me, one that had fun, and one which gave us the idea that learning benefits from many different media, such as grooming horses. Also to Chas and the boys for hospitality, regretting that I failed miserably at catching a live Norwegian lemming and getting it over to Michael.

To Harald, who first introduced me to Argyris and Schön.

To Li-Chia and Raymond, who first gave me the idea of doing a Ph.D.

To George, who simply said from the bottom of his heart, "you'll make it".

To Robin, for his help and his quiet, sometimes disquieting, insightful, questions.

To Leif, who never runs out of ideas.

To Halvar, who is enthusiastic, and who takes risks, even the risk of throwing client managers into conceptual turmoil, fuelled by incomplete doctoral theses.

To the Norwegian Management Development Council (now STILO), an organization of happiness and despair, and with a heart.

To Roger, who turns order into chaos.

To Christian, who shares in blending organizational concepts with mountaineering and vintage Bordeaux.

To Thierry, for the Matterhorn, and his wise words "si tu dois t'arrêter, c'est que tu es allé trop vite".

To Bjørner, who praises and who practices, deviant excellence.

To Louise, for help and support.

To those members of the six organizations studied for the thesis, who gave of their time and who shared some intense moments of exploration with me.

Finally, to all the Boddies and Tetleys of this world .....

## PREFACE

This project may be described as a journey of questions in search for answers, as well as for new questions. Key questions have been "what makes organizations learn?"; "what is the significance of organizational learning?"; and "what is the nature of organizational learning?" These questions have not been considered formal "research questions", nor have they been written down, but they have more or less tacitly been guiding the search in literature and in organizations where I have worked as either interventionist or researcher.

Conceptually speaking, the work began around 1989 by reading literature on organizational learning. I was fascinated by the prospect of viewing organizations as learning mechanisms, and what that could reveal about the way organizations work, and particularly the notion of higher-level learning.

As the work proceeded I realised that organizational learning is a metaphor more than anything else, and that it would be very difficult to measure, even if an appropriate definition of organizational learning was used. While not losing sight of the object of the work, a phenomenon had to be found, which lent itself to investigation, while at the same time could be said to represent a correlation with organizational learning. In other words, a phenomenon had to be found, which suggested that when we investigated it, we could be reasonably confident that we were investigating something that related closely to organizational learning. Thus, the idea was conceived of looking at factors influencing resolution of divergent knowledge between organization members, an assumption being that the ways in which organizations deal with divergence between their members might relate to their ability to perform higher-level learning.

The work on the thesis may also be appropriately described as a journey of a person, as much as a journey of questions. The studies of organizations have taken me to parts of the world as varied as desert regions and cities of West Africa, regions of northern Norway and Central European capitals. With a tape recorder and notepad, interviews and observations were made with people in very different organizational roles; field workers, section managers, project managers, cleaning staff, chefs, area directors, research fellows, sales agents, and social workers, to mention some of them. Interviews were made in a diversity of settings, such as offices, cafés, hotel rooms, gardens and in people's homes.



The thesis has also travelled with me, in a small portable computer on work assignments to East Africa, Asia and around Europe, where literature has been reviewed and bits and pieces of the thesis have been written. It has equally been part of the "baggage" when the family has set off on various vacations. In much the same way some wines "travel well", and others "travel badly", this could probably be applied to doctoral theses, as well. Whether this thesis has "travelled well", remains to be seen from the remaining 300 or so pages.

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## Introduction to the thesis

In the thesis, some expressions are used, which are seen as conceptually important, while lending themselves to different interpretations. To avoid misunderstanding about some of the findings of the thesis, therefore, preliminary explanations are given below.

Throughout the discussion, the expression "resolving divergence" is used. Whereas the idea of "divergence" is explicated in section 2.1, the use of the qualifying statement "resolution" is described here. The term "resolution" is defined by the Concise Oxford Dictionary as,

"disintegrate, analyse, break up or separate into parts, dissipate, convert or be converted into, reduce by mental analysis into..."

With this definition in mind, the term "resolution" used in relation to divergent knowledge, is taken to mean ways in which organization members come to terms with the divergence; how they identify it, make sense of it, and use it in order to arrive at new explanations of how their organization works. It is not assumed that resolution of divergence necessarily leads to convergence between members, although arriving at convergent views may be seen as one way of resolving divergence. It is assumed that the term "resolution" may apply to the discovery of the existence of divergence between members, or discovery by members, individually or collectively, of alternative meaning or causal explanations of phenomena.

The term "knowledge" employed throughout the thesis, is largely reflected by Heron's (1981: 27-28) three categories of knowledge, which may be summarised as; propositional knowledge (what we assert), practical knowledge (applied in skill), and experiential knowledge (knowing in face-to-face encounter and interaction). In addition, Sproull's (1981: 204) suggestion that the object of the knowledge may be considered in three categories; causal beliefs, phenomenological beliefs and normative beliefs, is a useful supplement to the usage. Hence, the term "knowledge" is given, both a cognitive and an expressive meaning, on the one hand, and both a "knowing" and explanatory meaning, on the other hand.

The notion of organizational learning is used throughout the thesis. It is a broad term, which has been given different definitions by different theorists. However, for illustration purposes, Huber's definition quoted in section 2.1.4.3 as "an organization learns if any of its units acquires knowledge that it recognises as potentially useful to the organization" seems adequate at this stage. Huber's definition allows for the fact that an organization may, or may not act on information, while insisting that knowledge acquisition is an essential part of learning. It also allows for the possibility that learning may be either planned, or accidental, but restricts learning to processes where it is recognised that learning has taken place. The expression "higher-level organizational learning", is meant to signify learning whereby, in the process of organizational learning, knowledge is derived, which changes the meaning of the context within which the learning is done. A similar definition is given by Watzlawick et al. (1974), referred to in section 1.1.1.

The following paragraphs describe briefly the contents and conclusions of different parts of the thesis, as well as some linkages between parts.

Section 1.1 argues why it is timely and important to explore further organizational learning theory. The argument is made at two levels. Firstly, in the context of global political and environmental concerns, suggesting the necessity, particularly of major institutions to be able to reassess their orientation. Secondly, in response to emerging organizational forms characterised by features such as flatness and loose coupling, suggesting that although they are demonstrated as being responsive and changeable, little is known as yet about their ability to change their operating values.

Building on the assumption argued in section 1.1; that organizational learning is an area of high potential, section 2.1 proceeds to a review of organizational learning theory. The term "explicit organizational learning theory" is employed in order to narrow the treatment of the subject down to theory making explicit reference to organizational learning. Instead of attempting to search for clusters of theory in the field, the section explores dimensions along which theories differ. In doing this, it is discovered that clusters of theories may be positioned at either ends of dimensions of dichotomy.

In the analysis, it is found that two major, overarching perspectives may be found; a divergent and a convergent perspective. Further scrutiny reveals that whereas theory from a divergent perspective seems to hold greater promise for understanding higher-

level organizational learning, it focuses largely on behavioural aspects of organizations, and does not explore in-depth other, possible contextual factors which may influence organizational learning. For this reason, the section concludes that a useful area of focus for the thesis would be to explore organizational learning from a divergent perspective, and more specifically, to explore how divergent knowledge is resolved in organizations. The section also explores possible modes of divergence which may be present in organizations.

Building on the assumption that explicit organizational learning theory explores to a limited extent the phenomenon of divergent knowledge, section 2.2. explores divergence resolution, as it may be derived from reviewing theory from perspectives other than explicit organizational learning. The section considers organizational learning and divergence resolution from five different perspectives; a sociological perspective, a systems perspective, an organizational culture perspective, a cognition and learning perspective and a group behaviour perspective. A major conclusion of the section is that it may be inferred from perspectives other than explicit organizational learning that factors other than behaviour may influence the resolution of divergent knowledge. In addition, a number of inferences are made about divergence resolution. These findings in section 2.1 are compared with the findings of the empirical work in section 3.2.8.5.

Chapter 3 presents the empirical work carried out for the thesis, reporting on the methodology used, and the data produced by the investigations. Section 3.1 reports on, and critiques, aspects of the methodology used. The essence of the description of the methodology is that it is qualitative, aiming to produce grounded theory, and that semi-structured interviews were used, with some triangulation to observations, in collecting the data.

Section 3.2 may be considered in two parts. Sections 3.2.1 - 3.2.7 present characteristics of the organizations studied and the data collected from the interviews. From the data, a number of inferences are made, which relate to divergence resolution in the organizations studied. Sections 3.2.8 - 3.2.12 contain essentially analysis of the data and elaboration of theory. The inferences made in the former part of section 3.2 are assembled in a mapping typology under generic terms. The mapping typology suggests a number of contextual factors, which appear to influence divergence resolution. The contents of the mapping typology is compared to that of other typologies, suggesting



firstly, that findings are congruous, and hence that the findings of the thesis have some validity, and secondly, that the findings of the thesis are of a comprehensiveness and specificity not found with the other typologies. For validation, the findings of the thesis are also assessed using Reason and Rowan's suggested criteria for assessing the validity of "new paradigm" research (section 3.2.8.4), suggesting a reasonable level of validity. The findings are also compared to the findings in section 2.2, suggesting a certain number of points of congruence.

It is argued in section 3.2.9.1 that, whereas the mapping typology points to a number of factors influencing divergence resolution, it may not be suitable for interpretation of the dynamics, as well as the correlation of factors. Hence, an alternative typology is derived, which has four core variables; "behaviour"; "topic"; "medium"; and "forum". The second typology, which is called an interpretative typology, is discussed and applied to data from the thesis. The interpretative typology is found to be promising as a means of describing the dynamics of divergence resolution, as well as correlation of factors.

Chapter 4 summarises the contributions that the thesis is thought to make to organizational learning theory, and suggests areas for future research.

## Chapter 1: Rationale of selecting the topic - why is it important to explore conditions for organizational learning?

The rationale of the topic of the thesis is argued at two levels. Firstly, why it seems important to explore conditions for organizational learning, and secondly, why concentrate on conditions where there is divergence of knowledge. Because the latter is argued as part of the review of existing research on organizational learning (section 2.1), it is not covered here. Thus, this section aims to argue, firstly, the rationale for selecting the area of organizational learning, and secondly, the rationale for concentrating the discussion on *conditions* for organizational learning. The two questions are addressed separately below, in sections 1.1 and 1.2 respectively.

### 1.1 Why organizational learning?

The two levels at which the question is discussed, is firstly, the level of social and global change, and secondly the level of organization theory, focusing on the emergence of novel organizational structures.

#### 1.1.1 Global/Social justification

With growing concerns, particularly in the last decade, about issues like peace processes and preservation of the environment, a debate is taking place on the roles of organizations. A theme of importance seems to be that of ethics and instrumentality. Burrell et al (1994: 10-11), building on the argument of Baumann (1989: 75) argue that a reason for the reality of "world war, genocide and ecological destruction" (p. 10) is a historically instrumental view of organizations, and that it is necessary to challenge the assumption of "technical instrumentality and ethical neutrality" (p. 11). An implication of the argument is that mechanisms influencing the orientation - that is; the aims, the ideology and the structure, of organizations, need to be subject to reassessment, both by practitioners and theorists. A second implication is that such mechanisms should be assessed in organizations playing different roles in society, i.e. policy organs as well as commercial organizations.

The importance of being able to rethink the orientation of an organization may be illustrated by the example of two parallel peace processes that have recently been going on; that in the former Yugoslavia and that between the PLO and Israel. Whereas the repeated failures in the peace negotiations in the former Yugoslavia lend support to the gloomy perspective reflected by Baumann and Burrell et al., the seemingly successful conclusion of a peace agreement between Israel and the PLO allows some optimism for other peace processes. The aim of the example, however, is not to argue for a particular strategy of peace negotiation, but to shed light on the considerable organizational differences that were at play, in order to illustrate how important it is for organizations to reconsider, sometimes dramatically, their orientation.

Peace in the Bosnian conflict has, over a period of more than two years been worked towards by a composite team of negotiators from the EEC and the UN. A large number of meetings have been held in Geneva with the contending parties, and a considerable number of proposals have been put forward, without reaching a conclusive agreement. At the same time, results were achieved by a married couple - a researcher and his diplomat wife - in negotiating peace in one of the long-standing social and ethnic conflicts of modern times; that between PLO and Israel. Corbin (1994) provides a thorough account of the negotiations, which were largely facilitated by a the married couple. A central point made by Corbin is that the success of the PLO-Israel negotiations was largely due to a thoroughly planned set of factors, such as the role and the style of the facilitator, the settings for negotiations, timing, institutional contexts, etc. - factors that she argues have been largely overlooked in previous negotiations. We will return to this example in the discussion of the results from the empirical findings of the thesis (section 3.2.11).

Put in crude and simplified terms, what was achieved by a married couple in negotiating peace agreement between PLO and Israel, was apparently not achieved by the combined efforts of the United Nations and the European Union in the case of Bosnia. In the absence of a comparative analysis, an assessment cannot be made about the reasons for the differences in achievement between the negotiation processes in Gaza and in former Yugoslavia. One must allow, for example, for the possibility that the PLO-Israel conflict was "ripe" for peace negotiations, while the Bosnian conflict was at an impasse. Thus, it is plausible that the married couple would not have had any success in Yugoslavia, while the UN/EEC negotiators might have succeeded in the

PLO-Israel case. Hence, the example does not have empirical validity to draw conclusions about the relative suitability of one structural configuration over another.

However, one can legitimately make the point that it suggests the importance of institutions being able to adapt their orientation, style and structure, because the two negotiating institutions appear so different in all these three respects. It may be inferred that there are no institutional "givens" to solutions in today's socio-political situation, and that there is, in fact a wide range of alternative reorientations from which institutions might usefully choose.

A need for organizations to be able to rethink their orientation also emerges from environmental preoccupations. Cairncross (1991: 149), in a discussion of how companies adjust to environmental concerns, suggests that it should be done as a shift from focus on product to focus on impact. Although this might seem like a structural adjustment, it is not. A shift from product to impact signifies a change of the set values from which an organization operates. As pointed out by the World Commission on Environment and Development (1987: 223), it is not sufficient for industry's response to environmental issues to be compliant with regulations, but to accept "a broad sense of social responsibility and ensure an awareness of environmental considerations at all levels."

A major body of organizational learning theory addresses the dynamics by which organizations change their orientation. The change of values by which they operate is known as "higher-level" learning. Watzlawick et al. (1974) were early proponents of the distinction between first order change and second order change in social systems. Their distinction is useful, as they suggest that first level change is change within the system, and is triggered by *difficulties*; and second level change is change *of* the system, and is triggered by *problems* (p. 38). A higher-level learning might allow an organization to question institutional "givens", mentioned above. Simon (1991: 128) suggests that this is an area where organizational learning theory could play an important role, arguing that organizational learning may provide insight into how an organization may deviate from the culture in which it is embedded. It is further argued by Cohen and Sproull (1991) that one of the perspectives offered by the organizational learning perspective is that it combines phenomena such as culture and institutionalization with mapping of individuals' beliefs as a basis for organizational action. In other words, organizational learning theory addresses a combination of

phenomena which could make possible a simultaneous assessment of institutional orientation and individual beliefs.

In summary, it is argued that it is both possible and necessary for organizations - and particularly organizations playing important roles in society, to be able to change their orientation, by questioning institutional "givens". A change of orientation appears also necessary if environmental concerns are to be taken seriously by organizations. It may be argued that organizational learning theory, because it attempts to combine organizational change with individual beliefs, responds in part to these preoccupations. Section 1.1.2. below discusses emerging organizational forms, suggesting that institutional "givens" are reassessed by some organizations, and how this seems to further enhance the need for development of organizational learning theory.

### 1.1.2 Response to emerging organizational forms

Peters (1992) describes how the Danish hearing-aid manufacturer Kolind evolved into what they tagged the "spaghetti organization"; moving away from a "command structure" into a "problem-solving structure", where departments were replaced by a "free-for-all" projects structure. Peters' account is illustrative of several other propositions about emerging organizational forms. Other accounts are Semler's (1989) idea of circular organizations, Quinn and Paquette's (1990: 69) description of "spider's web" organizations and "infinitely flat" organizations, Hennecke's (1991) account of networks and "skunkworks".

An example that global corporations are transforming towards similar forms is that of ASEA Brown Boveri (ABB), which, with its 240 000 people and 1100 local companies (1991 figures), combines global operations in local markets through a global matrix, all managed by a head office counting less than a hundred persons (Taylor 1991: 91). The example of ABB appears of importance from the point of view of influencing organizations globally, due to its presence in many countries.

Three characteristics are accentuated in accounts of emerging forms. Firstly, their structural features tend towards flatness and loose coupling between structural units. Secondly, and probably related to the first point, they tend to facilitate autonomy of

their members. Thirdly, they seem better able to combine global and local responsiveness.

Although it is uncertain how many organizations are presently developing novel structures, there are suggestions that the emergence of novel forms is inevitable. Sadler (1991: 170) predicts that the organization of the future will be characterised by the following structural parameters: flatness, networks, fuzzy boundaries and autonomous groups. His prediction is echoed by an article in *Management Today* (1992: 72-77), which reports on increasing use of network structures in a number of large corporations, where process partly takes over from hierarchy.

Hence, it seems probable that new forms of organization will emerge, that they are shaped by increasing pressure to be responsive and that they allow their members a higher degree of self-determination, through decentralisation and use of networks and self-managed groups. In conclusion, they seem able to practise first order change while engaging their members in becoming adaptive.

However, we do not know to what extent they allow for further levels of change to take place. A series of questions still seems to remain unanswered. For example, are they structured as such to become *changeable*, or to exhibit inherent characteristics of change? Do they allow for members to change collectively defined realities if they find them dysfunctional? And finally, to repeat Simon's (1991) concern, do such structures enable organizational units to deviate from the culture in which they are embedded?

However, conclusive evidence has not been found that such structures are guarantors of second order change. Some findings imply that such structures might actually resist second order change, because they restrict pluralism. Rothschild-Whitt (1979: 513) from research on "collectivist" organizations, found that they tended to recruit members who shared existing values, in order to remain cohesive. Du Gay (1994: 125-148), in arguing against the unconditional praise of the "entrepreneurial", or "post-modern" corporation argues that in certain cases, a bureaucratic configuration may be more effective in ensuring pluralism, a condition for "social governance" (p. 146). Grint (1994) shows that most of the ideas embodied in "reengineering" of corporations are not, in fact, novel, and argues that they reflect more a need to satisfy needs external to those they are intended to serve (customers, policy makers, public opinion and company management, rather than employees) than a radically new content (p. 192). Finally,

Calás and Smircich (1993) point out that if women are to play their due role as managers, they can better do that in differently conceived organizations than in existing orders.

There is also evidence that emerging forms are instrumental in nature, and that their conceptual popularity arises, more from providing competitive advantage, and less from ability to change their operating values. An extreme example of focus on instrumentality rather than changeability of values is found with Quinn (1992), who, effectively describes virtues of "infinitely flat" organizations as killing machines:

"Perhaps the most interesting example of an "infinitely flat" organization with extremely independent action at the operating nodes was the bomber deployment system utilised in the Gulf War ..... This was a triumph of logistics, communications, transportation and information (service) technologies working in tandem with just-in-time production and design systems 7,000 miles away." (p.p. 119-120)

The "triumph" of this airborne "infinitely flat" organization is, however, also written in lost lives of tens of thousands of sometimes defenceless Iraqi soldiers. Quinn's book, which is based on years of extensive empirical research, comprises 450 pages of discussion of novel structures, where the main message revolves around destruction of bureaucracies, flatness of structure, networking and the use of "intellect". However, the perspective chosen is visibly one of "harnessing" intellect, virtually nothing is said in the book about situations where the "intellect" is in dissonance with organizational practices.

In view of the present debate, where virtues of emerging structures are demonstrated, but where the danger of non-value driven instrumentality is present, it can be argued that the field of organization theory is in need of a further elaborated field of organizational learning, because the notion of second order change is arguably a central domain of organizational learning. It seems all the more necessary in order to avoid that all the presumed ills of the hierarchic, bureaucratic "Fordist" type of organizations are assumed eliminated by the emerging structures, only (perhaps) to be discovered later that in curing ills belonging to a past era, they generate new ills pertaining to the "post-Fordism" age.

It could be said against this argument that organizational learning and second order change alone is not going to eliminate all potential dysfunctional impact that the more or less unconditional acceptance of emerging forms might entail. It is true, for example, that change in orientation which is made at decision level of an organization because it is calculated to be politically favourable, may appear as second order change when it obliges organization members to alter their operating values. An example is given of such "imposed/pro-forma" change by Cairncross (1991: 149), who, in a discussion of how companies adjust to environmental concerns, argues that their efforts to be environmentally friendly are made in response to external pressure rather than as a result of self-generated resolve.

It is possible that organizational learning could fall prey to criticism of being free of value and ethics, or that it could be criticised on similar premises to those used by Grint in his critique of reengineering; i.e. that it becomes a more sophisticated instrument of corporate control. Much of organizational learning literature does not consider "rightness" of organizational choice in relation to social or ethical standards. Some theorists see organizational learning as a means of making organizations less averse to risk-taking (March, 1991) and more experimental (Hedberg, 1981: 17). However, the objective of taking risk is arguably consequential. One could argue that the most serious form of risk taking is that which endangers people's lives or the environment. Keywords here are the Bhopal and Chernobyl disasters. A less ominous form of risk taking is that which aims at gaining competitive advantage or commercial survival. An example is provided by De Geus (1988: 73), who tells of how the Shell corporation gained competitive advantage over other oil companies by engaging managers in a simulation game to simulate rapid adaptation in the face of international crisis. De Geus' example reflects arguably a case of relatively advanced organizational learning, but its nature is strategic, and its main aim is commercial.

Hence, it seems that if organizational learning is to play a legitimate role in assessing emerging organizational forms from a second order change perspective, its theorists should be aware of its socio-ethical implications. This is a complex issue, because if an organization is assessed on the premises of social virtue, it may be due, more to a choice of ideology than to an innate capacity for reorientation, which could be equally dysfunctional. Whereas this is a central argument of Dunbar et al. (1982: 95), an empirical example is found in Neuse's (1983: 496) account of how the Tennessee Valley Authority (TVA), as one of the means of socio-economic development in



President Roosevelt's "new deal" policy, became, according to Neuse, stifled by its own success, and had problems living up to its self-created image of being grass-roots oriented. A central point in Neuse's analysis is that the bold doctrine of the organization actually came in the way of its ability to respond to its stakeholders. The example suggests that it is insufficient to assess organizations by their ideologies, if they are not able to both reorient their ideologies in response to changing socio-economic conditions and also assess whether their actions correspond to their espoused doctrine.

An alternative tack is to assume that the beliefs of organization members reflect societal concerns, and if organizational learning is construed as the process by which organizations' assess their actions and their espoused ideologies in the light of members' concerns, legitimacy may be acquired. It is to be noted that reference is not made so much to members' concerns for own job satisfaction, etc. but to members' normative and causal beliefs concerning the organization as a whole. (The idea of causal and normative beliefs is borrowed from Sproull, 1981: 204). The type of organization we then move towards, may be the idea of "shamrock" organizations; organizations where intelligent individuals are governed by consent and not by command in a collegiate culture where shared understanding is the only way to make things happen (Handy, 1989: 113), or a "holistic agency" as suggested by Lee (1994); a type of organization where choice made by members is based on "holistic appreciation of the underlying processes that contextualise the choice and of the factors that are likely to be affected by the outcome of such choice" (p. 16).

A value of member influence, if it is to have legitimacy, presupposes, however, that the message conveyed by members is not conditioned by organizational practices. Organizations condition members' beliefs, as argued by a number of people (e.g. Gillette and McCollom, 1990, Starbuck, 1982: 12, Van Maanen and Schein, 1979: 210). Hence the importance of March's (1991: 85) concern that organizations must be able to learn from their members before they imbue the individual members with the organizational code. This would be the only guarantee against "inhibiting loops" and "escalating error", which Argyris (1983: 92, 153) warns against.

Thus, the idea of members influence poses two conditions on the furthering of organizational learning theory, both which have a bearing on research methodology. Firstly, it requires that research takes, at least partially, a member perspective of organizations, and that to the extent that organizations are viewed as adaptive systems,

data are correlated with members' beliefs. Secondly, it demands that in extracting data from members, divergence between individual members' beliefs and organizational practices are surfaced and analysed.

This thesis attempts to respond to these two requirements by focusing on conditions under which divergent knowledge is responded to in organizations. It should be noted that the reason for focusing on divergent knowledge is not solely rooted in ideological considerations. It is also focused on because it is thought to be a perspective requiring further exploration for improved understanding of organizational learning, as argued in section 2.1.

## 1.2 Why *conditions* of organizational learning?

The ultimate aim of this thesis is to contribute insight into how organizations may be designed or developed, which make use of divergence in knowledge. Instead of debating from a set of structural configurations, it attempts to capture part of the basis on which organization structure is formed, which is assumed to be the use of knowledge between individual members. Thus, the thesis builds on the assumption that organization structure is partly formed by the use of knowledge. Although the assumption concurs partly with Stinchcombe's (1986: 221) argument that innovation implies reorganization of structure, and ultimately of information processes and property rights, it is acknowledged that this assumption has two potential flaws.

Firstly, although factors other than knowledge have been demonstrated to shape organizational structure, such as the orientation of the organizational founder (Schein, 1983) and the characteristics of organizational environments (Lawrence and Lorsch, 1967), it does not seem that factors giving rise to organization structure have been given systematic attention in organization theory. Lanzara (1983) asks the following question,

"Why has so much attention been devoted to the performance features or functional requirements of a *given* organization and so little, instead, to the genetic processes that 'produce' organization, that give rise to an 'organizing pattern?'" (p. 92).

It seems all the more pertinent to pay attention to Lanzara's preoccupation, because it arises from an empirical study of a type of organization ("ephemeral organizations")

which has seems to have been overlooked in the mainstream of organizational research. The observation of Downey and Brief (1986: 185-186) is similar; that there has been little research carried out on what they refer to as "implicit organizing theories, i.e. theories that individuals use to guide their behaviour vis-à-vis other individuals.

Although assuming that knowledge gives rise to organizational structure seems insufficient as a unique rationale for the assumption, another of Lanzara's arguments lend implicit support to such an assumption. He points out that a major difference between ephemeral and non-ephemeral organizations is the existence of memory - whereby ephemeral organizations are not hampered by an institutional memory of explanations of cause and effect. Similarly, March (1971) argues that the treatment of memory "as an enemy" is one of five factors that may help organizations develop "unusual combinations of attitudes and behaviour". The idea of memory is retained an example, because it constitutes arguably a cognitive element of organization, as being created by the use of knowledge and at the same time being used as a background for assessing new knowledge. Thus, it seems legitimate to consider knowledge as giving rise to organization as a valid assumption for the thesis.

The second potential flaw in the assumption that knowledge partly gives rise to organization, is that knowledge seems itself to be the result of organization. Hence, the question "does knowledge create organization?", or "does organization create knowledge?" can open up a "chicken and egg" debate.

There is evidence that organization gives rise to knowledge. In section 2.1 it is shown how March and Olsen (1975: 148) and Weick (1979: 130-131) suggest models whereby organizations act vis-à-vis their environment on the basis of perceived knowledge about the environments. Thus, it may be inferred that organizations act on knowledge. But the form of the organization also determines the knowledge that is used. This can be shown in two ways. Firstly, an organization structure perspective suggests that upwards communication in hierarchies tends to be distorted. This is argued by Hall (1972: 288) and Rosenthal and Weiss (1966: 320), and empirically by Foy (1986: 70-71), who tells of how, in a power culture, people, out of fear, were cautious of how they presented critical information to top management. Secondly, from the perspective of organizational roles, March and Simon (1958: 165) argue that "a great deal of discretion and influence is exercised by those persons who are in direct contact with some part of the "reality" that is of concern to the organization." Empirical findings by Tushman and

Scanlan (1981: 295) from the research and development division of a high-tech company support the argument of Simon and March, in concluding that individuals who are seen as valuable sources of new knowledge are those who are well connected to internal as well as external areas of the organization. Finally, it is one of the conclusions of O'Reilly et al's (1987) review of research on information processes and decision making in organizations that,

"The operation of contextual factors such as organizational structure, incentive systems, and group pressures may affect both the acquisition and processing of information by decision makers." (p. 615)

The above suggests, firstly, that organizations act on knowledge, and secondly, that the way organizations are shaped, influences the type of knowledge they act on. Hence, it is reasonable to assume that organization gives rise to knowledge, just as knowledge gives rise to organization, as argued in the case of organizational memory. What we do not know, is the *extent* that knowledge gives rise to organization as compared to the extent that organization gives rise to knowledge, keeping in mind that an assumption behind the thesis is that knowledge gives rise to organization. It seems probable that the relative impact between knowledge creation and formation of organization depends on the choice of structure, and the sensitivity of structure to new information. We shall not pursue a lengthy debate here, but illustrate the probability of the assumption by way of examples of two different types of structures, which visibly have different relationships to knowledge creation.

Firstly, the idea of "communities-of-practice", which is a form of organization within existing structures, built around common, tacit, knowledge. This form of organization is described by Seely Brown and Duguid (1991) and Orr (1990). By its very nature, it is fair to assume that such organizations are built largely by knowledge, firstly because participation is voluntary rather than formal, and secondly because the articulation of knowledge, as shown by Orr and Seely Brown and Duguid works as a socially cohesive mechanism.

Another type of organization, which suggests the existence of an opposite phenomenon, is the machine bureaucracy, described by Mintzberg (1979: 315) as consisting of "standardised responsibilities, qualifications, communication channels, and work rules, as well as a clearly defined hierarchy of authority". There is evidence that in such

structures, knowledge is subordinate to routines, systems and codes of conduct. Child (1973: 12), for example, found in a study of 787 senior British managers that the more centralised is the overall decision making in the organization, the less do managers regard questioning authority and pressure for change as appropriate modes of behaviour. Similarly, Rosenthal and Weiss (1966: 320) argue that there are two main types of structural barriers to the effective use of knowledge in organizations: 1. Status levels, hindering the upwards flow of information signalling weaknesses of actions for which executives are responsible; and 2. boundaries between departments. In support of this, Røvik (1992: 41), found, from doing research on use of knowledge in public administration, that organizational structure and routines had a formative power over the members' attention, i.e. the knowledge that members applied in their work. One of his findings is that information systems in public administration tend to "eliminate information problems" (p. 39), because they define the contents of the information that members should act upon. Finally, it is instructional to sum up the above observations with the words of Wilensky (1967: 179), "If anything is clear from this book, it is that intelligence failures are built into complex organizations".

The above example suggests that organizational structure may influence the relative importance of knowledge giving rise to structure. An implication of this argument lies in the choice of organizations selected for the research. For example, the choice of more formalised, compartmentalised structures, may reveal that organizations, rather than change with knowledge, tend to determine the use of knowledge. However, that would assume that organizational structure was an independent variable, something that the thesis tries to avoid, both in the literature review and in the choice of organizations for the empirical work.

### 1.3 Summary

This chapter has discussed the choice of topic of the thesis. It has argued that the choice of organizational learning is pertinent in the light of present global/social preoccupations, and it has argued that it is a field that plays an important role with emerging organizational structures, largely because it provides a perspective of reassessing operating values. The importance of the latter, it is argued, arises from a need to assess the ability of emerging forms to change their operating values, and thus help prevent that they are used simply as more efficient means of instrumentality. It is

argued, as well, that in order to do this, it is important to focus on divergence between beliefs held by members and the values practised by the organization.

## Chapter 2: Literature review

### 2.1 Overview of organizational learning theory

#### 2.1.1 Introduction

The aim of section 2.1 is to analyse status quo of research on organizational learning. In order to delineate organizational learning theory from other disciplines, it makes the distinction between explicit and implicit organizational learning theory, and considers mainly explicit organizational learning theory in the main body of the analysis. Contrary to previous analyses of organizational learning theory, which tend to group theories, the chapter identifies dimensions of dichotomy, the justification being that for theory in the field to make progress, an analysis of dichotomous perspectives forms a complementary contribution to existing analyses.

The section argues that the field of organizational learning theory has an underlying fault line, which demarcates, on the one side, divergent theory, and on the other side, convergent theory, and that, for better understanding of higher-level organizational learning, a divergent perspective appears most useful. It further concludes that divergent theory largely considers social behaviour as the main variable, and argues that the field merits investigation of other potential factors.

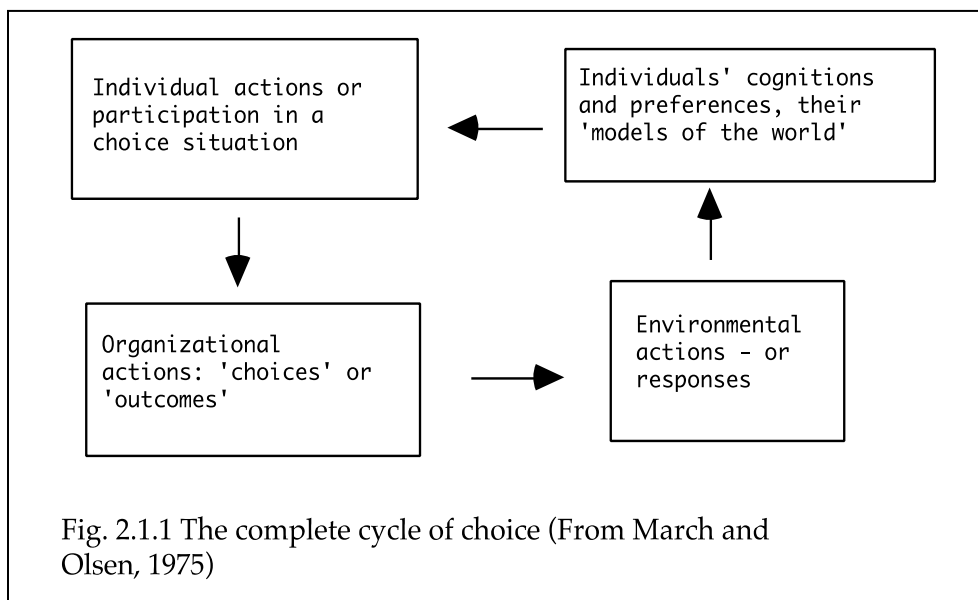
#### 2.1.2 Choice of literature

A discussion of organizational learning theory necessitates a choice to be made about the population of theory from which data is to be drawn. The choice may be made between, on the one hand, theory which is explicitly positioned within the notion of organizational learning, and on the other hand, theory which implicitly relates to the notion. Thus, the terms "explicit" and "implicit" have been adopted for the thesis, where "explicit" refers to theory making use of the term organizational learning, and "implicit" refers to theory dealing with phenomena significantly similar to those addressed by organizational learning theory.

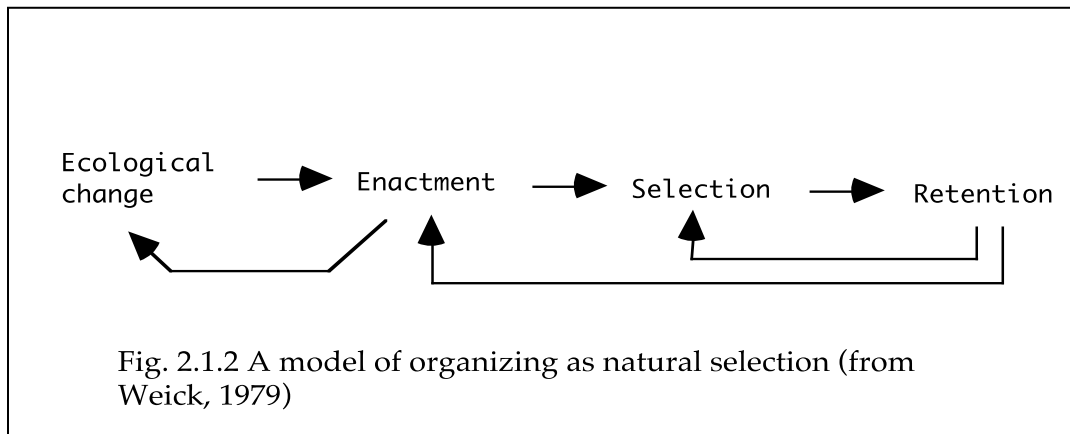
The dilemma arises from the perception that two theories, one of which explicitly refers to organizational learning as a concept, and another which does so implicitly, may describe similar phenomena.

An example that explicit and implicit theory may in certain cases refer to similar phenomena, may be illustrated by a comparison between the organizational learning cycle as proposed by March and Olsen (1975: 148) (considered explicit organizational learning theory) and the process of organising as natural selection proposed by Weick (1979: 130-131) (considered implicit organizational learning theory).

Figures 2.1.1 and 2.1.2 illustrate the two theories respectively. Both theories attempt to describe an evolutionary view of the dynamics of interchange between organization and the environment, the only obvious difference being that March and Olsen consider the effects of the social system, whereby members' cognition affects their choices of action, whereas Weick's model reflects a perspective of the organization as an entity of learning.







Whereas there are differences between the two models, such as the multiple feedback connections suggested by Weick, the two models reflect similar concepts in that they consider organizations as; (1) systems making choices, based on (2) cognitive models of the world, which (3) influences their actions, producing (4) environmental reactions.

Some might argue that these two models are not so much models of organizational learning, but models of organizational change, evolution or transaction between organization and environment. However, in the discussion of their models, March and Olsen as well as Weick point to cognitive errors made by organizations in their anticipation of environmental response as well as in their assumptions about cause-and-effect in their transactions with the environment. Hence, their main concern lies with cognitive deviations which organizations trap themselves into by error. March and Olsen, for example, refer to "superstitious experiential learning, where organizational members appear to imagine that certain actions produce certain environmental responses, when this is in fact not the case" and Weick argues that organizations subject ambiguous information to order, and later treat the information as "facts" structured by the same order that they originally assumed (p. 211). Hence, the essence of the discussion of the two models is closely related to the idea of organizational learning.

In addition to similarities, the two theories have differences which make them complementary to one another in explaining how social systems adapt to environmental change. For example, the more nuanced perspective in Weick's theory on how systems adapt over time adds an important time-systemic dimension to the more socially cognitive perspective of March and Olsen.

Hence, it may be assumed that contributions from explicit organizational learning theory, on the one hand, and implicit organizational learning theory, on the other hand, may describe similar phenomena, and they may be complementary to one another. It follows that the choice of theory impacts the outcome of the analysis. For this reason, section 2.1 considers almost exclusively organizational learning theory which may be considered "explicit", whereas section 2.2 considers a larger selection of theory.

### 2.1.3 Observations on the status of organizational learning theory

#### 2.1.3.4 Conceptual coherence and clarity

The thrust of critiques of the status of organizational learning theory points, partly to inadequate conceptual coherence and clarity of the theory itself, and partly to inability among theorists to agree on common conceptual ground, as the commentaries below suggest.

Hedberg (1981: 20) argues that

"... the current knowledge about organizational learning is weak, partial and often generalised from individual learning. .... Further research is therefore badly needed."

Shrivastava (1983: 1) arrived at a similar conclusion; that there exist very few well accepted and sharply defined sets of concepts of organizational learning.

Ten years on from Hedberg (1981), Huber (1991: 108) remarks, in a review of organizational learning literature, on the lack of cumulative work and integration in organizational learning theory, and puts it down to a "sparsely populated landscape" of organizational learning theory.

In the same issue as Huber (1991), Cohen and Sproull (1991:1), comment that,

"Research in organizational learning has suffered from conceptions that were excessively broad, encompassing nearly all organizational change, from ontological complaints that organizations cannot learn, and from various other maladies that arise

from insufficient agreement among those working in the area on its key concepts and problems."

Cohen and Sproull's argument finds support with Weick (1991: 122), who argues that previous attempts have "mixed together change, learning and adaptation, with only casual attention to levels of analysis and to referents for the activity itself." Weick argues for a narrowing down of the concept towards a grounding in the psychological definition of learning, providing a basis for exploring conditions under which organizations learn.

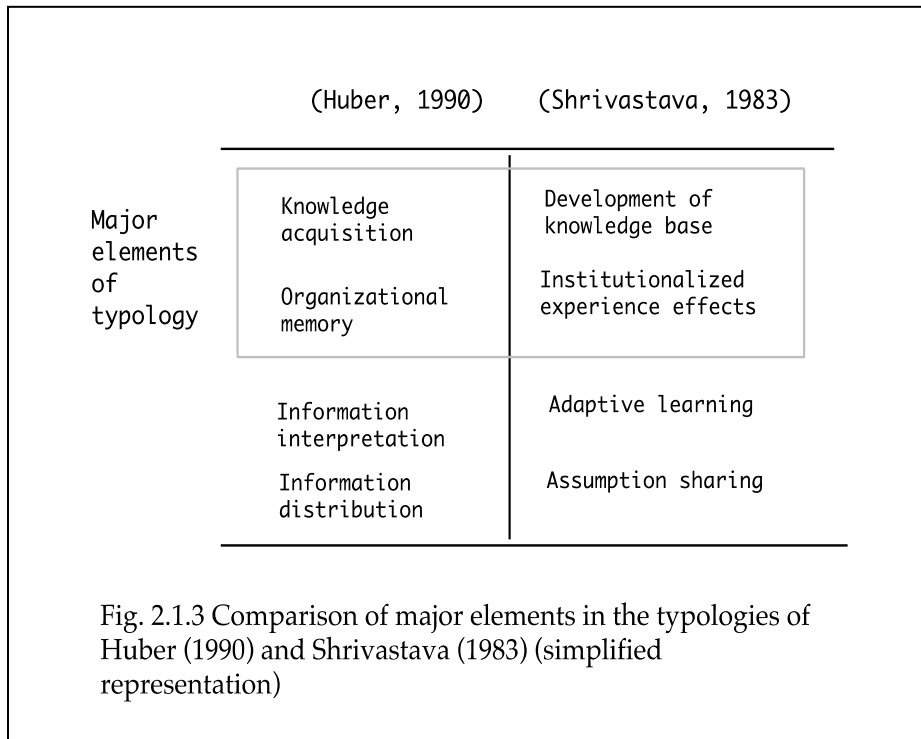
These points suggest general agreement that, firstly, the theoretical landscape assumed for organizational learning is too large, and that, combined with a limited number of theories, the population of theories becomes thinly distributed. Secondly, they suggest that contributions to the field have not been adequately rigid in specifying their choice of perspectives.

Some theorists attempt to limit their definitions of organizational learning. Duncan and Weiss (1979), for example, delineate their conceptualisation in two ways. Firstly they insist that organizational learning should be seen as a process of generating knowledge. Secondly, in their discussion, they are consistent in their consideration of organizations as purposeful, goal-seeking systems. Levitt and March (1988: 335) are similarly explicit in defining the boundaries of the concept they apply to organizational learning, by describing it as the "encoding of inferences from history".

Attempts are also made to arrive at a conceptual structure of the field of organizational learning. Shrivastava (1983), Fiol and Lyles (1985), Huber (1991) and Levitt and March (1988) suggest various forms of typologies or clusters of concepts. Their works enable a certain amount of clustering to be done of otherwise more or less disparate concepts. Their clustering is partly congruent, partly inconsistent with one another, as shown below.

### 2.1.3.5 Two works of clustering - an example of common ground and incongruence

Two major reviews of organizational learning theory are those of Shrivastava (1983) and Huber (1991), both developing typologies of organizational learning. A simplified schematic comparison of the two is shown below.



The two reviews concur on two points. Firstly, the perspective of knowledge creation (referred to as 'knowledge acquisition' by Huber and 'knowledge base development' by Shrivastava), where they describe ways in which organizations develop knowledge, essentially through various forms of experiential learning. Secondly the perspective of institutionalised learning (referred to as organizational memory by Huber and institutionalised experience effects by Shrivastava), which describes essentially how organizations establish systems for learning from their experiences.

Incongruence can be seen in the two groups of theories that fall outside the dotted line in the figure. Huber's focus on interpretation and distribution of information suggests a perspective that information is something "given", and independent of context, whereas Shrivastava's focus on assumption sharing among organization members suggests that information must be given meaning in a social context, i.e., what is perceived, is attributed meaning by the observer.

#### 2.1.3.6 Towards conceptual coherence?

If the building on one another's contributions is an indicator of progress towards conceptual coherence, then this is partially taking place in the case of organizational learning. Theorists refer to the works of one another to a varying extent. For example, whereas Huber (1991) and Levitt and March (1988) refer to nearly all of the preceding major works, Senge (1991), Cohen and Levinthal (1990), Argyris (1990), Seely Brown and Duguid (1991) hardly refer to any. Theorists developing clusters (Huber, Levitt and March, Shrivastava, Fiol and Lyles), however, tend to refer to the majority of preceding organizational learning literature.

Although referencing is done, the evidence of cumulative build-up is scarce (this supports Huber's observation cited above). For example, Levitt and March (1988) develop a typology which includes learning from experience, interpretation of experience and organizational memory. However, they do not draw on a similar typology developed empirically by Shrivastava (1983).

Referencing is sometimes done to support schemas rather than to articulate underlying differences between schemas. For example, Huber (1991: 104), in a discussion of the role of "unlearning" in organizational learning, refers simultaneously to Hedberg (1981) and Klein. He then proceeds to describe Hedberg's notions of unlearning, concluding that (unlearning) "begs to be addressed in a paper dealing with organizational learning". However, he does not pursue the fact the Klein is at odds with the idea of "unlearning", equalling it with less laudable notions, such as "exorcism", "replacement model", etc. Klein's critique of Hedberg's model is arguably important for advancing the understanding of organizational learning (which is the main aim of Huber's paper), because Klein's concept represents quite a different perspective on the organizational learning process. Huber's treatment of the subject does not indicate that fundamental differences exist, and leaves the reader with the impression that there is consensus among organizational learning theorists as to the significance of organizations unlearning old behaviour.

In conclusion, although theorists specify and adhere to defined concepts of organizational learning, the field as such does not acquire a more coherent ontological

profile, as the above commentaries testify to. The field consisting of clusters of theories, which seems to make it difficult to build one, or a few, major constructs from a common basis.

It might be questioned whether building on a common basis is desirable. Galtung (1990: 96-112), in a discussion of theory formation in social research, argues effectively that conceptual coherence is not that important. Building on the assumptions that no construct "flowing from one set of non-contradictory, independent and complete statements can ever have a richness capable of reflecting anything like 'social reality'." (p. 101), he argues for a 'poly- rather monotheistic' use of theory. He argues that rather than stick to one theory until disconfirmation obliges you to change (out of fear of being victim of eclecticism), one should consider families of theories, "squeezing (one another) as far as possible for their intellectual content, neither believing, nor disbelieving completely in any one of them."

It is possible that Galtung's idea of letting the field grow in a Darwinistic fashion is most appropriate for creating richness of theory in a field where density of theories is not a problem. Huber's argument referred to above, however, is that the organizational learning field is "sparsely populated" in terms of theory, hence, lack of density is a problem at present.

It is with this dilemma in mind that the thesis, instead of exploring common ground between theories, takes the approach of exploring dichotomies among existing theory. The aim is thus to attempt to identify an underlying pattern of fault lines around which clusters of theories group themselves. Thus, the analysis in section 2.1.4 will, rather than try and develop another typology of organizational learning, seek to identify differences that exist. The choice of approach is inspired by Kuhn (1970), who shows that paradigm shifts tend to take place in times of crises, when existing paradigms no longer succeed in solving problems that practitioners try and solve (p. 23). It could be argued that such is the case with organizational learning, and that the lack of common conceptual ground is a "conceptual" crisis.

## 2.1.4 Dimensions of dichotomy within Explicit Organizational Learning Theory

### 2.1.4.1 Overview of explicit organizational learning theory

Table 2.1.1 below shows the selection of literature made, and suggests some salient features of each theory. The works are listed chronologically, and are categorised by four descriptors. The "ontological perspective of organizational learning" refers to the overarching view that the contribution reflects of organizational learning. "Organizational level at which the theory is largely directed" refers to the general level which is focused. It can be seen that the works tend to consider individual member level, group level, management or the organization as a whole, i.e. consider the organization as a learning entity. "Conceptual level at which change is aimed" refers to the type of change that is considered as result of the learning. As can be seen from the table, most works assume change, either at behavioural or decision level, or at cognitive or perceptual level. The "Thrust of contribution of theory" refers to the major output of the works.

The table comprises 21 different works, listed in chronological order, which have been selected, either because they are thought to be contributing to better understanding of organizational learning, or because they are extensively quoted in explication of organizational learning<sup>1</sup>.

	Ontological perspective of Organizational Learning	Organization Level at which theory is largely directed	Conceptual level at which change is aimed	Thrust of contribution of theory
Cyert and March (1963)	Adaptation of goals, attention and search rules	Organization	Decision making	Theory of adaptive behaviour
Cangelosi and Dill (1965)	Adaptation in response to tension/stress	Individual and group	Actions - search for solutions	Understanding of adaptation in social systems
March and Olsen (1975)	Mutual adaptation between external and internal environments	Organization	Perceptions of reality	Barriers to learning, effects of ambiguity
Argyris and Schön (1978)	Examination of shared assumptions, "single- and double loop learning"	Individual	Assumptions and behaviour	Barriers to higher-level learning, nature of higher and lower-level learning
Duncan and Weiss (1979)	Process of generating knowledge about action-outcome relationships	Organization	Knowledge	Learning-contingent structural prescriptions for organizational design
Hedberg (1981)	Adaption between organization and environment	Organization	Perception	Conditions for systemic change
Etheridge and Short (1983)	Intelligence of top managers and/or collective intellectual coherence	Organization	Decisions	Distinction of learning types, learning in public organizations
Shrivastava (1983)	Processing of knowledge for decision making	Organization	Knowledge	Typology of learning systems
Nyström and Starbuck (1984)	Organizational adaptation	Organization and top managers	Decisions	Effect of top management on organizational learning
Shrivastava and Schneider (1984)	Shared meaning institutionalised as consensual knowledge	Organization	Knowledge	Collective sensemaking
Fiol and Lyles (1985)	Reflected change	Organization	Knowledge	Overview of learning theory
Levitt and March (1988)	Encoding of inferences from history into routines guiding behaviour	Organization	Decisions	Problems of learning from experience
Klein (1989)	Development of new knowledge	Organization	Knowledge	Learning from limited failures and experiments
Pascale (1990)	Change of assumptions, levels of learning	Organization	Assumptions	Conditions for organizational learning
Senge (1990)	Change of assumptions	Group/ individual	Assumptions and behaviour	Conditions for organizational learning
Cohen and Levinthal (1990)	Acquisition of new knowledge	Organization	Knowledge	Capacity for absorption of new knowledge
Argyris (1990)	Change of behavioural norms	Group/ individual	Behaviour	Conditions for organizational learning
Huber (1991)	Acquisition of knowledge of alternative actions	Organization	Knowledge	Typology of org. learning
March (1991)	Intersection between member generated and institutionalised knowledge	Individual and organization	Knowledge	Dichotomy between individual and collective and between old and new knowledge
Seely Brown and Duguid (1991)	Creation of shared meaning	Individual - organization	Knowledge	Combines perspective of work and knowledge
Røvik (1992) (in Norwegian)	Use of information	Individual-organization	Knowledge	Insight into formal learning systems

Table 2.1.1 Overview of explicit organizational learning theory



Whereas table 2.1.1 provides an overview of existing theory, a more detailed analysis of theories is needed for better understanding of dimensions of dichotomy. Sections 2.1.4.2 to 2.1.4.5 discuss four dimensions of dichotomy, along which explicit organizational learning theory appears to be divided. Section 2.1.5.1 explores whether there is an underlying fault line which marks a more profound division of perspectives in explicit organizational learning theory.

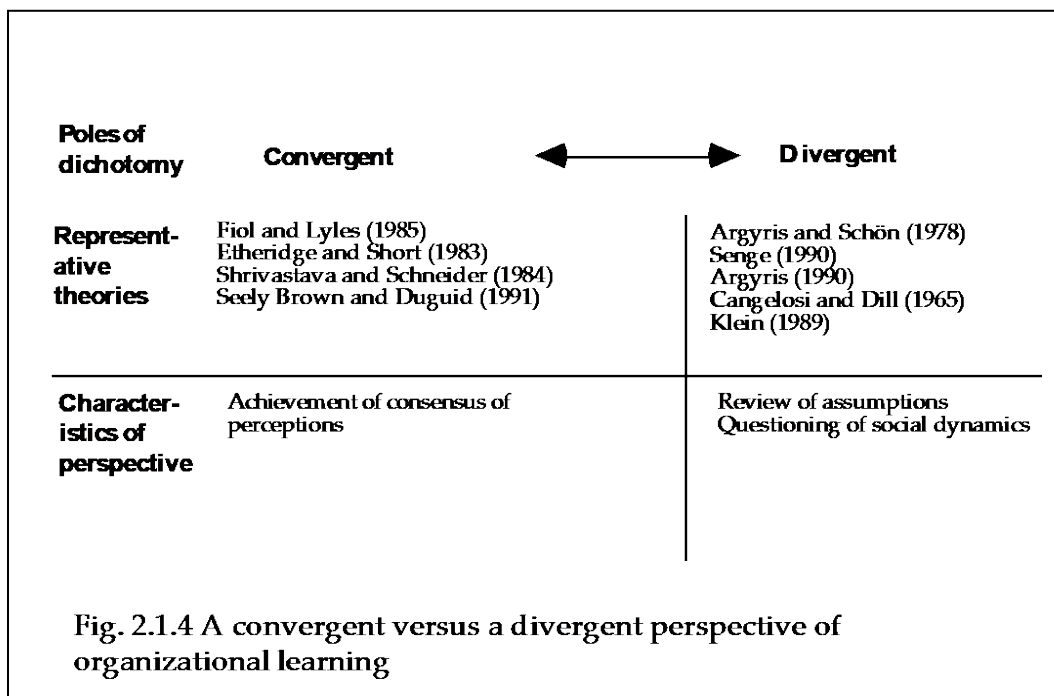
#### 2.1.4.2 Dimension 1: A divergent versus a convergent perspective

Does organizational learning denote process whereby groups of individuals converge versus a shared understanding of their reality, or does it describe the process whereby some internal or external disturbance upsets the social order in such a way that the organization is obliged to explore its operating assumptions? Organizational learning literature seems largely divided in these two perceptual categories.

A major difference between the two views may be put down to convergence versus divergence. Convergent theory tends towards viewing organizational learning as the process of reaching consensus, whereas divergent theory tends towards a view of the organization learning when organization members realise that their consensus is either dysfunctional, or that their consensus is not genuine, but false.

An illustration of differences between the two perspectives can be found in the responses of Argyris, Schön and Senge (1991: 167-171) to Seely Brown's (1991: 102-111) article "Research that Reinvents the Corporation". Seely Brown tells of how research people at the Xerox Corporation are able to extract knowledge on novel and innovative work practices from people in different parts of Xerox, and argues that the knowledge thus harvested serves management in improving practices aiming at making the company more innovative. A main point at which Argyris, Schön and Senge express disagreement with his article is their preoccupation that providing a new medium of processing knowledge through inquiry may not suffice for breaking up the "self-sealing social dynamics" of organizational units.

Figure 2.1.4 below attempts to group theories from table 2.1.1 according to whether they may be seen as representing a convergent or a divergent perspective of organizational learning.



Divergence is viewed differently by different theorists in relation to learning. Argyris and Schön (1978) and Argyris (1990) view the discovery of divergence as in itself a process of learning. A central argument of theirs is that when the organization "discovers" the incongruence between privately held assumptions (reflecting norms practised by the organization) and the espoused practice of the organization, it can be said to be learning. They consider essentially two types of divergence; firstly, incongruity between tacitly (privately) held assumptions and what is practised or espoused by the organization, and secondly, between what individuals say and what they practise or believe. This distinction appears important, because an implication of the perspective is that, while members are seen as pertinent sources of intelligence for identifying incongruity for which the organization is responsible, they may also be victims of their own incongruity; such as between what they say and what they mean (Argyris, 1990: 60-63). Klein (1989) also expresses concern about the knowledge which is officially espoused as acceptable and the knowledge possessed by individual members.

Another perspective, which is central to Senge's theory, is that exploration of divergence is a precondition for learning. He argues that for learning to take place, assumptions have to be suspended at group level, and that members enter into joint

inquiry in the absence of their previously held assumptions. Senge regards tacit assumptions as being potentially dysfunctional and poorly founded, and argues that it is necessary to consciously try and suspend them before the group enters into a process of "alignment", that is, working towards a "shared vision" (p. 236). As with Argyris and Schön, the type of divergence discussed by Senge is difference between what is privately assumed, and what is practised collectively.

The differences between these two perspectives are distinct, but not incongruent. Whereas Argyris and Schön regard the exploration of divergence as part of the learning process, Senge regards it as a precondition for developing shared views. They concur largely on the nature of divergence. Another point which they have in common, is the notion of higher order learning; i.e. change of operating assumptions.

The third perspective, which is that of Cangelosi and Dill, is that organizational learning is a product of different kinds of stress. Discomfort stress (related to a feeling of inability to understand and to control the environment) and performance stress (related to sensitivity to success or failure) lead to adaptations at individual and group level (p. 200). Furthermore, the added stress from divergence and conflict leads to disjunctive stress and adaptation at organization level. This perspective differs markedly from the previous two, in that the nature of divergence is described more in terms of tension and conflict created largely by disagreement over decisions, developing into overt conflict.

The difference in perspective may be put down to research methodology. The theory of Senge and that of Argyris and Schön are largely based on observation or intervention in existing organizations, whereas Cangelosi and Dill's theory is based on an experiment on seven managers playing a simulation game over 15 weeks. Cangelosi and Dill's collected their data from a situation where the ability of the group to achieve efficient communication of strategic intelligence occupies an important role. It is therefore likely that factors such as organizational structure, organizational politics and past history played a more important role in the theory of Senge and Argyris/Schön than in that of Cangelosi and Dill.

Theory developed from a divergent perspective may be attributed four major characteristics. Firstly, it springs out of concerns for organizations to be able to practise higher order learning. Secondly, it typically focuses on conflictual and hence emotional aspects of social dynamics. It appears to spring out of observations of social deadlock,

and concern about self-reinforcing dynamics in organizations, which is often rooted in dysfunctional behaviour. Thirdly, it considers broadly two types of divergence; on the one hand between members' perceptions and organizational practices and on the other hand between members' own personally held beliefs and their espoused beliefs. Fourthly, it typically takes an individual perspective, focusing on the behaviour and perceptions of individual organization members, and that members' perceptions should play a potentially corrective function in relation to organizational practices.

In a convergent perspective, organizational learning may be seen as taking place as a process of achieving consensual knowledge (Shrivastava and Schneider, 1983:801, as shared associations, cognitive systems, and memories (Fiol and Lyles, 1985:804); or as collective intellectual coherence (Etheridge and Short, 1983).

There does not seem a major conceptual difference between these three propositions. They appear to share the idea that the process of arriving at common knowledge is in itself a process of organizational learning. In doing so, they seem to overlook the potential for shared, new knowledge offered by a divergent perspective.

Whereas the nature of divergence is explored in the three "divergent" theories, it has not been found that "convergent" theory explores the nature of "shared", or "consensual" knowledge. For example, does it imply the acceptance of the information or the assimilation of information? This observation concurs with Huber (1991:102), who observes that "there seems to have been little systematic study of the development of shared understanding among organizational units about particular events or items or information." Both the terms "knowledge" and "shared" seems to need further explication.

It is arguably of importance, for example, whether knowledge is defined as knowledge which is trusted and believed (as argued by Polanyi (1958)) as a basis for action, or whether it refers to mere cognitively shared constructs. Secondly, the notion of "sharing" or "consensus" is vaguely defined in convergent theory, such as whether it springs out of processes of genuine consensus, or if it constrained by organizational rules - formal and social. Thus, convergent based theory might lend itself to attack from those who favour a divergent perspective, who might argue that what members of a group declare to be shared, may tacitly be subject to great divergence.

Whereas divergent based theory is directed towards often conflictual social dynamics, convergent theory appears more concerned with the cognitive aspect of achieving unity of beliefs among organization members. An example is Duncan and Weiss' (1979: 84) definition of organizational learning as "the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed". Their view of organizational learning suggests that knowledge is seen as something common, external, to organization members, and not so much the type of personalised knowledge described by Polanyi.

The divergent - convergent dimension may be summed up the following two points.

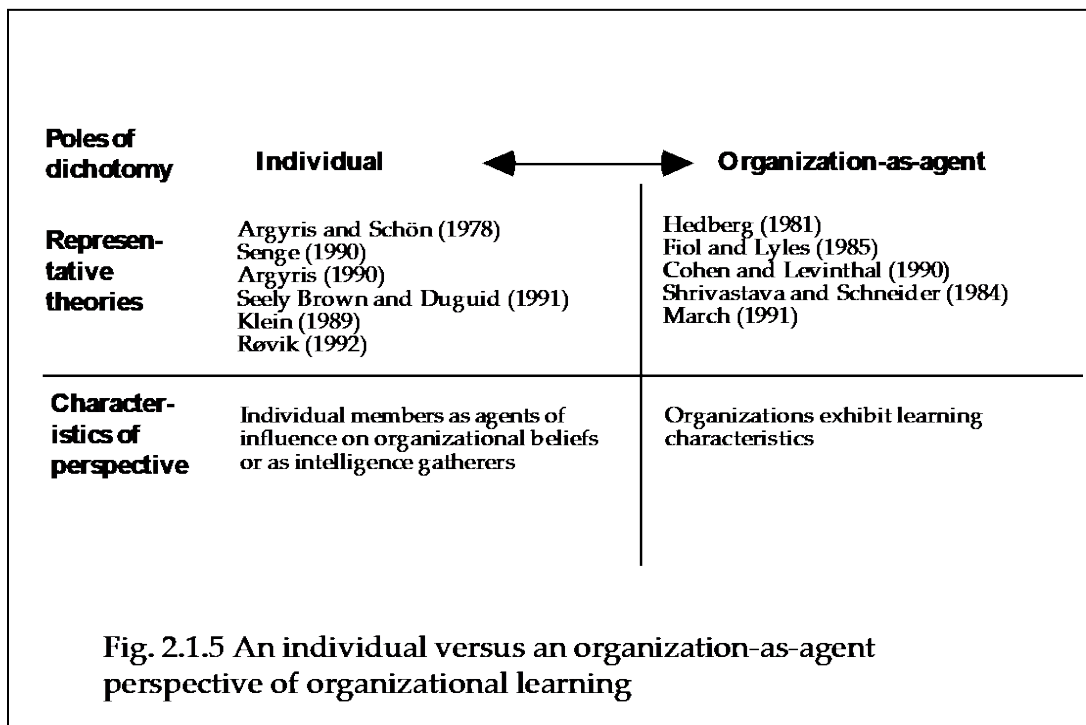
1. There are significant differences between a convergent and a divergent perspective of organizational learning.
2. The choice of perspective affects the view of social dynamics in organizations. Whereas a divergent perspective tends to consider conflictual and emotive processes, a convergent perspective takes more of a cognitive view.

#### 2.1.4.3 Dimension 2: Individual versus organization-as-agent perspective<sup>ii</sup>

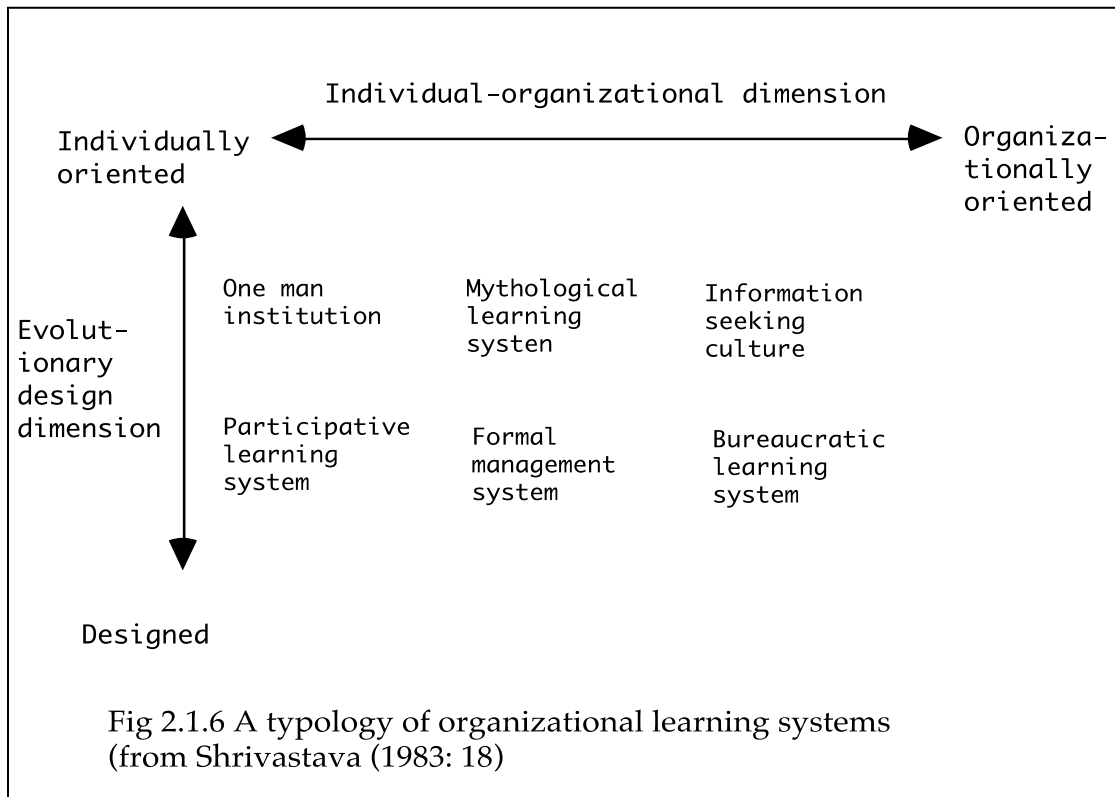
Can organizational learning be seen as the learning practised by individual members, or as the manifestation of learning by the organization as a whole? It would seem that the choice stands between the perspective of the organization as a social system of members and the "organization-as-agent". Among the works listed in the figure above, there is a certain conceptual division along this dimension. The distinction is less clear than for the dimension "convergent versus divergent" theory. Some, for example March and Olsen (1975) consider learning as adaptation by the organization at large, while taking into consideration that learning is done by organization members (see fig. 2.1.1 above). However, they do not specify the social dynamics of learning, other than to point out the type of problems that arise when learning is done under ambiguity. Other contributions seem less ambiguous. Argyris and Schön (1978: 20), for example, refer specifically to organization members as "agents of organizational learning", thus exhibiting a "member perspective". At the opposite end of the dimension, an organization-as-agent perspective is implicitly taken by Hedberg (1981: 3), who defines organizational learning as "Learning takes place when organizations interact with their

environments: organizations increase their understanding of reality by observing the results of their acts."

Figure 2.1.5 below suggests how organizational learning theories from table 2.1.1 may be grouped along the individual versus organization-as-agent dimension.



Shrivastava (1983:18) suggests a similar continuum as the one shown here, along which different types of organizational learning systems may be positioned (see fig. 2.1.6 below). The difference, however, is that Shrivastava projects a second axis onto the individual-organizational continuum, describing an evolutionary dimension. Shrivastava's representation along the second dimension is instructional, in that it distinguishes between personalised and formalised learning, i.e. when learning by individuals is predominately important for organizations, and when institutionalised systems are important. Whilst Shrivastava's representation is useful as a typology, it does not explore the significance of the poles of dichotomy along the individual-organizational dimension, which is our main aim.



Two characteristics emerge under an individual perspective. The first is the view of the individual member as someone who influences collective ideologies, or world views. The second consists of viewing individuals as intelligence gatherers, i.e. serving the information needs of the organization.

The first view sees the individual member is as an actor, who acts from his or her beliefs, and whose beliefs influence others in the organization. There are different representations of how that might happen, which seem to hinge on divergent versus convergent theory.

Some individual perspective theory focuses on cases of divergence between individuals. It is mentioned above how Argyris and Schön (1978) and Senge (1990) regard the surfacing of assumptions between members as part of the organizational learning process, and that such a process may be emotive and conflictual in nature. In addition, Klein (1989) places focus on how individuals fare under a model of organizational unlearning, and suggests "parenthetic learning" as an alternative model.

Seely Brown and Duguid (1991), on the other hand, take an individual perspective, but while focusing on processes of narration, stories and social construction (p. 40), which they argue, create convergent knowledge between the individual member and collectivity (section 2.1.4.2). Their view of organizations as "communities-of-practice" suggests that they emphasise the creation of knowledge aspect of organizations rather than interpersonal dynamics.

The two types of individual perspective theory describe different relationships with organizational structure and organizational evolution. The research of Argyris and Schön and of Senge has taken place within given, existing organizational structures, and the divergence they describe, is sometimes described as a conflict of roles or conflict between organizational units. Likewise, the types of assumptions that they point towards the importance of surfacing for questioning, have evolved over time.

A central argument of Seely Brown and Duguid, on the other hand, is that structure must not come in the way of learning (p. 50), and that "work practice and learning need to be understood not in terms of the groups that are ordained, but in terms of the communities that emerge." (p. 49). It is plausible that the differences in conception of structure account for the choice of divergent versus convergent theory.

Another point which seems important for the understanding of their differences, is the view of working as a medium for learning. Most of the examples of Argyris and Schön and Senge are from face-to-face dialogue, whereas Seely Brown and Duguid insist that learning is inseparable from working. The idea of work as a medium of learning is recent in organizational learning theory, which has traditionally tended to consider cognition and action as separate entities. Probably for this reason, the perspective of Seely Brown and Duguid has not yet gathered a momentum of cumulative exploration among organizational learning theorists.

The second view consists of viewing individual members as "learning agents", or as intelligence gatherers for the organization. This view is not prevalent in explicit organizational learning theory. There seems to be a trend to view individuals as agents of influence, rather than as individuals in roles of intelligence gathering. March and Olsen (1975: 148) point to the problem of role-constrained experiential learning, where individual learning has little or no effect on individual behaviour, but do not treat as such the function of the individual as intelligence gatherer.



The view of individuals as intelligence gatherers is found in theory outside explicit organizational learning theory. For example, Tushman and Scanlan (1981: 295) identified conditions for transfer of new knowledge into the organization from individuals in "boundary spanning roles". Similarly, but from another perspective, Wilensky (1967) reports on use of intelligence from individuals in public decision making. Arguably, both these works have implications for organizational learning theory, because they focus on how organizations, having once allocated resources to fact finding, deal with information that either falls outside the initially intended information format, or information that contradicts prevailing beliefs in the organization. Noting that data from research on how organizations formally make use of information from individuals should add insight into conditions for organizational learning, it is considered beyond the scope of this thesis to deal with the issue in-depth.

An organization-as-agent perspective seems to essentially view the organization as a learning entity, and attributes it to a learning behaviour. Kolb et al. (1983: 40) argue that organizations exhibit learning behaviour, and that they have different learning styles. Others point to the behaviour of organizations in the adaptation of goals, attention and search rules (Cyert and March, 1963), or to the different types of behaviour organizations adapt vis-a-vis their environments. Although it is argued that organizations do not have reflective competencies (Argyris, 1983: xiii), such as attributed to individuals (e.g. by Schön, 1983), they develop world views and ideologies, while preserving certain behaviours, mental maps, norms and values (Hedberg, 1981: 6).

Correlation may be made between the theory of experiential learning by individuals and the organizational learning from an organization-as-agent perspective. If we consider one by one the stages of the learning cycle proposed by Kolb et al. (1983: 32), it can be shown that each stage has at least one conceptual counterpart in organization learning theory (fig. 2.1.7 below).

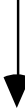


Stage in the exp. learning cycle of Kolb et al.	Corresponding explicit organizational learning theory
(1) concrete experience 	(1) Hedberg (1981), Nyström and Starbuck (1984):  Organizations learn in interaction with their environments, from other organizations
(2) observation and reflection 	(2) Cyert and March (1963), Duncan and Weiss (1979), Shrivastava and Schneider (1984):  Organizations try and make sense of events and action-outcome relationships
(3) the formation of abstract concepts and generalizations 	(3) Cyert and March (1963), Argyris and Schön (1978), Nyström and Starbuck (1984), Levitt and March (1988):  Organizations encode their learning in programs and standard operating procedures
(4) testing implications of concepts in new situations	(4) Cohen and Levinthal (1990):  Organizations recognize the value of new information, assimilate it, and apply it to commercial ends

Fig. 2.1.7 Comparison between explicit organizational learning theory and the cycle of experiential learning

This suggests that elements of explicit organizational learning theory correspond to stages of the individual experiential learning cycle for individuals. It may be noted that Kolb et al's theory is not assumed to fully represent experiential learning theory in general, but is thought to have sufficient validity to be used as basis for comparison with organizational learning theory.

All stages are not equally well explored, however. From the literature studied, it is worth noting that stage (4) (testing implications of concepts in new situations), seems least explicated. This is the stage which is suggested as a precondition for learning by Hedberg (1981:17) and Wildavsky (1972: 518), and which corresponds to the stage "enactment" in Weick's model, shown in fig. 2.1.2.

If one assumes that this is a learning mode which corresponds to experimentation, there are suggestions that this mode is not sufficiently practised by organizations, although it opens up for the possibility of higher-level learning. Weick (1977: 201) brings in the element of play as a facilitator of higher-level learning and March (1971) suggests various elements of what he calls "a technology of foolishness" as means of "liberating us from the constraints of over-rational straight jackets". There are also suggestions that research on organizational learning has not systematically explored experimentation in learning. Huber (1991) observes that,

"in spite of the importance of experiments as learning mechanisms, the literature contains very few studies of experimentation by organizations", further that "(the question of experimenting organizations) begs to be answered by those seeking a fuller understanding of organizational learning." (p. 92)

Huber's observation concurs with Røvik (1991: 39), who, from doing research on organizational learning systems in public administration, observes that experimentation is little applied in the public sector, and explains this fact by a lack of legitimacy of experimentation in comparison with rule compliance and rational planning.

Divergence is found among explicit organizational learning theorists in how they perceive change of behaviour versus change of cognition as being elements of learning. Is organizational learning change of knowledge, or change of behaviour, or both? This is a dilemma which Huber (1991: 89) discusses, and from which he chooses to define learning as "an organization learns if any of its units acquires knowledge that it recognises as potentially useful to the organization." In other words, he chooses a knowledge creation perspective in favour of a change of behaviour perspective. Fiol and Lyles (1985), while arguing that "it is essential to note the difference between cognition and behaviour" (p. 806), define organizational learning as including both knowledge and behaviour, suggesting that "Organizational learning means the process of improving actions through better knowledge and understanding" (p. 803). Both Fiol

and Lyles and Huber acknowledge that organizations may well change behaviour without a corresponding cognitive development, and vice versa, they may learn (correctly or incorrectly) cognitively without changing behaviour. An implication is that, for example, an organization may correctly learn something by accident (i.e. unplanned), and that it may incorrectly learn something from reflection. In other words, the learning process is not veridical, whether a behavioural or a cognitive perspective is taken. The problem of veridicity highlights a difficulty of an organization-as-agent perspective.

There are certain differences between an individual perspective, on the one hand, and an "organization-as-agent" perspective on the other hand. Ontologically the two perspectives seem rooted in two different traditions, as suggested by (Weick, 1991: 116-123). Whereas an individual perspective considers largely the development of knowledge, an organization-as-agent perspective appears to be rooted in stimulus-response learning theory.

From a research methodology point of view, it seems that the choice of perspective could significantly influence the outcome of the research. Sources outside explicit organizational learning theory provide a number of accounts and arguments suggesting that the learning by individual members and by the organization may not be the same. Crozier (1989: 112) provides an account of how in an organization, top management espoused transparency, whilst middle managers detected considerable lack of transparency. De Bono (1980) provides several examples of how organizations miss opportunities from lack of ability to undertake opportunity-driven search. Pearson (1992: 68) argues that employees know more about their organizations' weaknesses that they care to convey to management. Hence, it seems a valid assumption that a research approach which entailed mapping members' knowledge would yield different results from one that investigated the knowledge applied by the organization as a whole.

Although examples are given of cases where what was learned by individuals was not learned by the organization, the question has not been subject to systematic exploration in explicit organizational learning theory. Instead, more attention seems to have been given to the reverse direction of learning, i.e., considering members to learn from the organization, as discussed below under the dimension "adaptation of knowledge versus change of meaning perspective". It would appear useful for the advancement of understanding organizational learning to explore, for example, conditions under which

the knowledge that organizations act on as agents concurs with the knowledge adopted by individual members. The question is arguably of importance, because concurrence between members' knowledge and the organization's knowledge corresponds to the idea of "holography" advanced by Morgan (1986: 99) as a central feature of self-organization with an ability to "learn to learn", i.e. the ability to achieve higher order learning.

It seems difficult to assess why this gap exists in organizational learning research. The explanation may lie in the conceptual difficulty of separating the learning by the individual from the learning by the organization, as suggested by Mumford (1988: 206). Another possible explanation is that it is not perceived as a gap by explicit organizational learning theorists. Morgan's discussion of holography is inspired by the study of biological systems, a science which is little quoted by organizational learning theorists, other than Argyris and Schön (1978), and hence for this reason not widely perceived as a problem. For a discussion of the contributions in systems theory towards the understanding of organizational learning, see section 2.2.3.

The discussion about the individual perspective, on the one hand, and an "organization-as-agent" perspective on the other hand, may be summed up in the following four points.

1. The dimension of individual versus organization-as-agent perspective reflects significant differences in how organizational learning is conceptually perceived.
2. The choice of perspective is likely to affect significantly the outcome of the research, as research suggests that the knowledge held by individual members may deviate significantly from the knowledge applied by the organization as a whole.
3. The issue of how organizations learn from their members, does not seem to have been systematically explored in explicit organizational learning theory.
4. There seems to be conceptual linkages between the dimension "member versus organization-as-agent" and the dimension "divergence versus convergence", in that an individual perspective contains either a divergent or a convergent element.

5. An organization-as-agent perspective does not seem obliged to take position of a convergent versus a divergent perspective. Various theories from an "organization-as-agent" perspective form complimentary elements in relation to an experiential learning model. When reviewed against an experiential learning model, it can be seen that relatively little work has been carried out within explicit organizational learning theory on experimentation as an organizational learning mode.

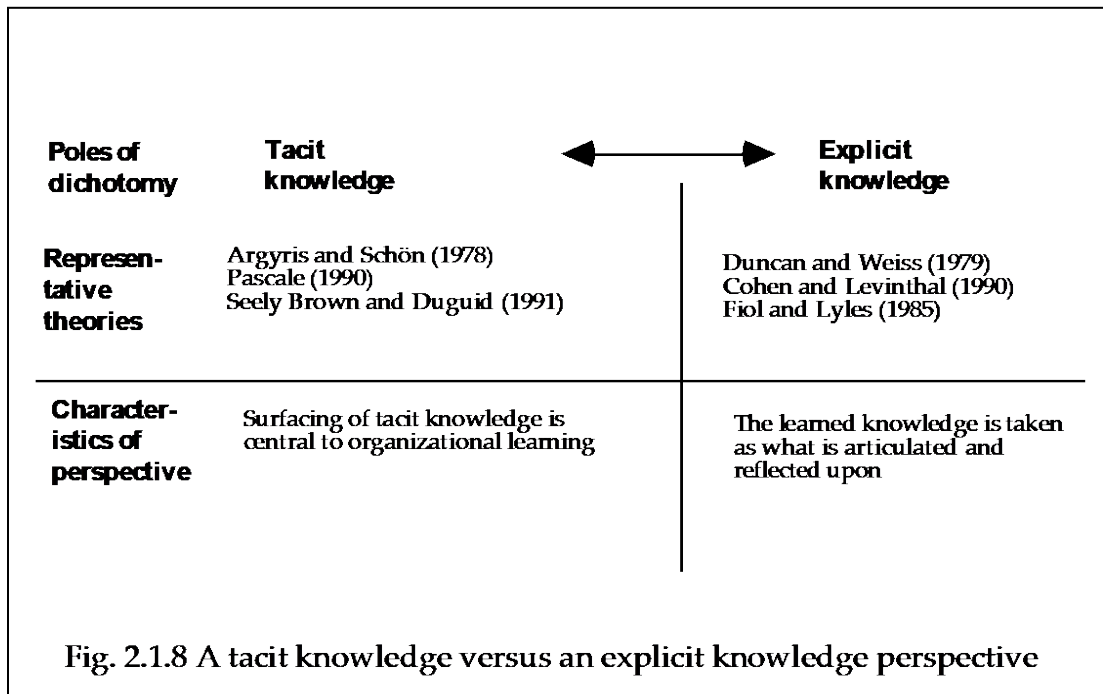
#### 2.1.4.4 Dimension 3: Tacit knowledge versus explicit knowledge

Research, such as by Argyris (1990: 5) suggests that individual members may purposely withhold important knowledge from the organization. It may be assumed that this knowledge is publicly tacit, and that it reflects what Cohen (1991) refers to as the organizational counterpart to the "cognitively unconscious" - a stock of memory and know-how which can be recollected and analysed. The importance of this dimension lies principally in the implications of the phenomenon of tacit and explicit knowledge.

Probing into ways in which organizations deal with tacit knowledge, may uncover non-rational aspects of organizational learning, as suggested by Argyris and Schön (1978). The irrationality is reflected in incompatibility between what is said (espoused theory) and what is practised (theory of action). This dimension is also related to the divergence-convergence dimension, in that what is tacit may diverge from what is pronounced. However, tacit knowledge may also be convergent, as suggested theories viewing the creation of shared meaning through narration, collaboration and social construction (Seely Brown and Duguid (1991: 44-47). Hence, the tacit knowledge - explicit knowledge dimension is not congruous with the convergent - divergent dimension.

The tacit knowledge - explicit knowledge dimension has a less obvious dichotomy than the other dimensions discussed in this section. Some theorists, such as Shrivastava and Schneider (1984: 800), point out that the codification of learning may be both explicit, such as through organizational goals and purposes, and implicit, such as myths, stories and rituals. It is to be noted, however, that they consider codification after the learning has taken place, and that the codification takes place in the direction from the collective towards the individual member level. Whereas theories that have been placed at the

tacit end of the dimension make a point of considering tacit knowledge as an important element of organizational learning, explicit knowledge theories are not defined as such.



It is possible to view the tacit knowledge perspective as either a divergent perspective or a convergent perspective. The two will be dealt with separately.

A divergent perspective is implicit in the above discussion in 2.1.4.2, which suggests that there may be divergence between the knowledge held by individual member and the knowledge which is espoused and acted on by the organization. A central element of the theories of Argyris and Schön (1978) and Senge (1990) is that the knowledge which is considered collectively tacit, may be known by individual members. Hence, their research suggests that knowledge exists which members think is important for the organization to act on, but which for some reason is avoided at collective level. Argyris (1989) points out that the collective avoidance takes place at two levels; groups cover up the tacit knowledge, then cover up their cover-up.

The research referred to is representative of what one could label a divergent tacit perspective. A common characteristic of the research is a high degree of emphasis on the behavioural aspect of social systems, and the corresponding dysfunctional effects on the ability of organizations to learn. Their arguments are congruent with suggestions from outside explicit organizational learning theory, such as for example Porter (1990:

77), who argues that, "The organization at all levels filters out information that would suggest new approaches, modifications or departures from the norm."

An important contribution of this research seems to be that it raises the question about the nature of collective knowledge, which again has implications, both for the understanding of the ontological nature of organizational learning and for the choice of research methodology. As to the first point, it raises the question whether the knowledge acquired by an organization is that which is espoused, practised, or discovered as a difference between the two. This distinction forms a contrast to the more rationally based type of learning behaviour proposed by, for example Duncan and Weiss (1979) referred to above, and points to the importance of specifying the nature of the implied shared knowledge assumed in organizational learning.

While focusing on dysfunctional, behavioural reasons for not being able to identify and act on tacit knowledge, the research referred to above does not address cognitive/structural reasons why organizations do not identify and act on tacit knowledge. It could be argued that knowledge is not retrieved because of cognitive ignorance, or inability among decision makers to search for and activate the tacit knowledge. In other words, the reason may not be that it is fear of conflict that prevents collective search, but "lack of knowing about the lack of knowledge". This issue does not seem to be systematically addressed by other explicit learning theorists, either. Klein seems to be an exception, pointing to the importance (1989: 300) of organizations employing parenthical learning to cover knowledge which they are not aware of. Similarly, Røvik (1992: 41), found that organizational learning systems do not produce information for needs which are not signalled by members as important for executing their functions.

A tacit convergent perspective can be seen as a collective counterpart to tacit knowledge in individuals (Polanyi, 1964: 138-159), in that it is knowledge which we use as a basis for action, but which we are not able to articulate. Seely Brown and Duguid (1991: 44-47) refer to knowledge being created, which is practice-based (as opposed to espoused). This perspective is a relatively recent contribution to the area of organizational learning, and conceptual development as well as empirical work is still scarce.



As regards an explicit knowledge perspective, some theory does not crystallise itself as being explicit, but may be interpreted as such. A close approximation may be found in Fiol and Lyles' (1985: 803) conception of organizational learning as "the process of improving actions through better knowledge and understanding", and their argument that learning involves "reflected change" (p. 808). A common characteristic of the theories of Fiol and Lyles and Duncan and Weiss (1979) is their emphasis on analysis and development of insight in the process of organizational learning. Thus, theory within this perspective tends to take a view of the organization as a rational agent who learns from analysis and who chooses between different alternatives of improvement.

It appears that an explicit knowledge perspective fails to completely cover the reality of organizational learning and change. In the absence of a discussion about the choice of tacit versus explicit perspective in explicit organizational learning theory, it is instructional to borrow from a similar discussion outside explicit organizational learning theory. Thompson (1967: 83-93) discusses a similar dichotomy between the perspectives of organizations as *maximising* versus organizations as *satisficing* systems (in which he includes the theory of Cyert and March, 1963). Thompson summarises part of his discussion in the form of a two-by-two typology consisting of, along one axis, "crystallised and ambiguous standards of desirability", and along the second axis, "complete and incomplete beliefs about cause and effect". One of Thompson's arguments is that, "(in complex systems) we must consider that understanding of cause/effect can vary from complete to incomplete" (p. 85). Hence, the significance of Thompson's argument transferred to organizational learning is that learning will never be more than partly perfect. A system may act on incomplete information, or it may act erroneously on information given.

Taking into account that choices made overtly by organizations are imperfect (Cyert and March, 1963), it seems reasonable to suggest that the explicit knowledge perspective has limitations corresponding to issues of rationality versus non-rationality in organization theory. The point, however, is not that the perspective has more limitations than other perspectives, but given that its limitations are documented, and that corresponding dichotomies are subject to discussion outside explicit organizational learning theory, it seems of central importance to launch a similar debate in explicit organizational learning theory.

The discussion about tacit versus explicit knowledge perspective may be summed up in the following three points.

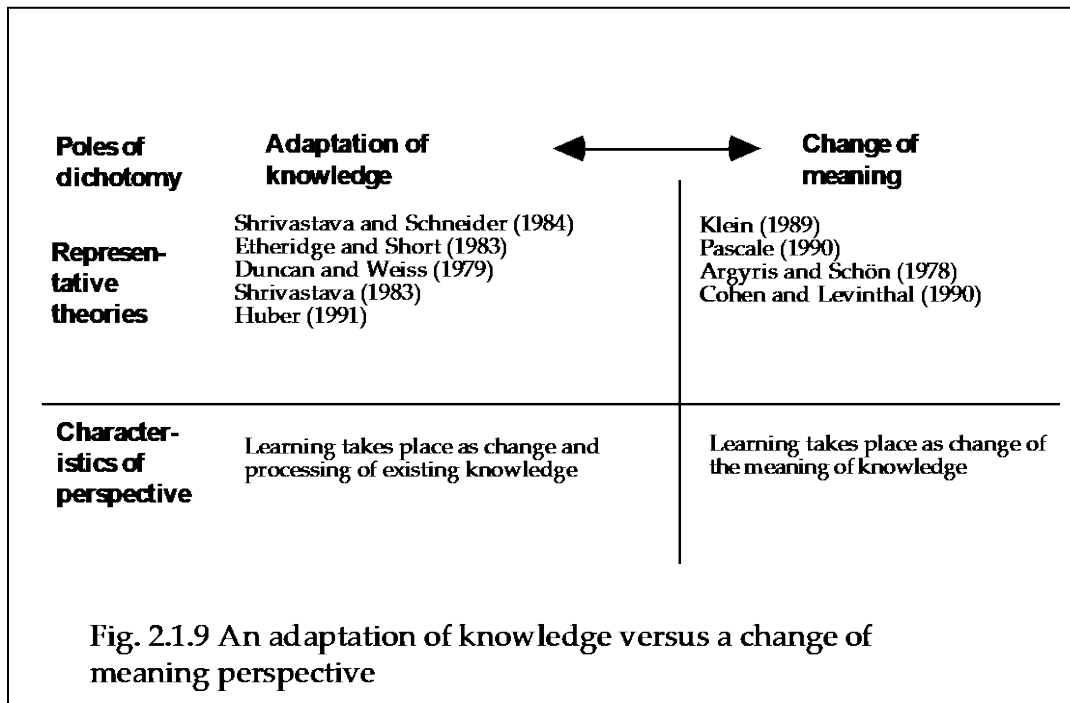
1. A tacit knowledge perspective raises the issue of the nature of knowledge to be considered in organizational learning, as it focuses on knowledge that is present among organizational members, but which is not articulated on or acted on at collective level. The perspective has implications, both for ontological understanding of organizational learning, and for the choice of research methodology.

2. A tacit knowledge perspective may be considered as consisting of a divergent and a convergent perspective. The divergent perspective tends to focus on behavioural, and most often conflictual, aspects of organizational learning. There does not seem as yet to be a substantial body of literature exploring cognitive/structural reasons why organizations do not examine divergence between tacit and explicit knowledge.

3. The distinction between tacit and explicit knowledge perspective may be positioned along similar lines to considerations of organizations as rational versus non-rational systems. However, whereas contributions outside explicit organizational learning theory tend to be positioned along the dimension, the taking up of position is not evident in explicit organizational learning literature. An explicit knowledge perspective appears to have empirical limitations, which are yet to be explicated in organizational learning research.

#### 2.1.4.5 Dimension 4: Adaptation of knowledge versus change of meaning perspective

Does organizational learning constitute adaptation of existing of knowledge among members, or does it signify a process of discovering new meaning? March (1991: 71) adds to the understanding of such a dimension, by making a distinction between systems engaging in exploitation and systems engaging in exploration. In March's definition, exploitation consists of refinement, choice, production, efficiency, selection, implementation, execution, whereas exploration consists of search, variation, risk taking, experimentation, play, flexibility, discovery or innovation. Whereas March's discussion takes account of the two perspectives, other works in explicit learning theory tend to take a more specific form at either end of the dimension.



The perspective of adaptation of knowledge may be seen as embodying two different views. The first is the notion of validation of knowledge, where organizations are considered as social systems where consensual processes facilitate sharing of knowledge. The second is the institutionalisation of knowledge, which reflects a view of organizations as systems of processing of knowledge for retrieval.

The idea of validation of knowledge is present with several theorists. Shrivastava and Schneider (1984: 801) suggest that organizational learning allows members to share organizational frameworks and institutionalise them as consensual knowledge. They suggest that validation and social sanctions form part of reality tests (p. 797). Similarly, Etheridge and Short (1983) refer to "collective intellectual coherence" among members. Validation of knowledge among members is also a concern of Duncan and Weiss (1979: 89), who regard validation as a prerequisite for learning.

The nature of validation is, however, not systematically explored, and it seems to be in need of a similar kind of explication as the use of explicit knowledge and shared knowledge discussed above. For example, is the validation considered to be what is publicly espoused, or privately acknowledged, or in some other form? It is instructional to note Harshbarger's (1973: 259-260) observation; that incongruent behaviour embodying simultaneously the presence of deviance, but the absence of heresy takes

place in social systems. Hence, assuming that Harshbarger's argument applies in organizational learning processes, members may well express consensus, while undermining ensuing decision or implementation.

Another question, which should arguably be explored in connection with validation, is, "how does an organization obtain validation which is unaffected by the organization's influence on the individual member? The importance of ensuring opposition is argued by theorists outside explicit organizational learning theory, such as Wildavsky (1972: 518) who suggests that "opposition is part and parcel of the evaluative process", and Janis (1971: 76) who suggests that (in order to avoid "groupthink"), members should act as "devil's advocates". Creating legitimate opposition may prove difficult, because, as argued by Røvik (1992: 41) and Cyert and March (1963:133) organizations have formative power on members' attention and perceptions. The idea of opposition takes us back to the dimension of convergence versus divergence discussed above, where validation as opposition would correspond to a divergent perspective, and validation as consensus would correspond to a convergent perspective.

In conclusion, the idea of validation seems problematic without positioning the notion within an over-arching perspective of tacit-explicit and convergence-divergence.

Institutionalisation of knowledge is seen as being done in at least two different ways. Firstly, formal knowledge systems consist of codes of practice and routines that are followed by members, and which result from previous experiences encountered by the organization (Nyström and Starbuck, 1984: 53, March, 1991:73). The system of recording may consist of accounts, files, standard operating procedures and rule books (Levitt and March, 1988: 327). Secondly, by way of cultural transmission, through narratives and stories (Levitt and March, 1988: 327, Seely Brown and Duguid, 1991). A characteristic of institutionalised knowledge is that it may remain influential over time, although members come and leave the organization.

Institutionalised knowledge embodies contradiction in relation to organizational learning, in that it is recognised as being both an essential element of learning and at the same time an obstacle to learning. As indicated above, several theorists point to the importance of institutionalising knowledge. Few, however, discuss the risk of stories becoming obstacles to learning. Hedberg, Nystrom and Starbuck (1976: 41) suggest that stories may be misleading, because they represent interpretations after the fact, and

may distort reality. Similarly, Levitt and March (1988: 335) argue that there are problems with learning from experience, such as "superstitious learning, competency traps, and erroneous inferences." Such arguments concur with contributions from outside explicit organizational learning theory, such as Feldman (1986: 274), who suggests that "Hindsight bias creates another barrier to realising the need for learning."

As regards a "change of meaning" perspective, if we assume that the idea of meaning signifies the context of knowledge, it would suggest a higher-level of learning. Bateson (1972: 304), in a discussion of levels of learning makes a point to the effect that learning levels are placed hierarchically, whereby one level provides a context for the level below.

In explicit organizational learning theory, there are various definitions as to levels of learning. Fiol and Lyles (1985) present a discussion of various contributions, concluding that there are two principal levels of learning. Lower-level learning is characterised by repetition of past behaviours - usually short term, surface, temporary, but with associations being formed. Higher-level learning signifies the development of complex rules and associations regarding new actions. It seems, however, that the idea of higher-level learning remains for the time being metaphor, which has little empirical evidence in organizational learning theory. Attempts are made to show that higher order learning may take place. An example is Bartunek (1984), who studied second order change of interpretative schemes in a catholic order. Whereas her study is instructional for showing how higher order change may unfold, it is worth noting that the change was triggered by the Vatican Council (Bartunek uses the expression "occasioned a crisis" (p. 365) who mandated the orders "to begin a collaborative analysis and revision of principles". (p. 365)

Attempts have been made to explore ways in which higher-level learning may be achieved by organizations. Argyris and Schön (1978), Argyris (1990) and Senge (1990) argue for face-to-face situations, with the help of interventionists, where assumptions are surfaced and explored in order for new, collective meaning to be created. While acknowledging that these contributions seem so far to be the most thoroughly documented attempts to describe higher-level learning, it is worth noting that they exhibit two major characteristics which may limit their broader applicability. Firstly, cases are largely drawn from organizations where members have prescribed hierarchical roles. Hence, empirical data are not drawn from organizational types where

hierarchical and structural constraints do not prevail. Secondly, the effects of media of learning other than face-to-face encounters are not systematically explored.

So far, there does not seem to be a significant body of explicit organizational learning literature building on the work of Argyris, Schön and Senge, while adding new perspectives to their findings. Klein (1989: 291-308) provides an additional perspective, which he terms "parentic learning", prescribing conscious, incremental learning behaviour where the context of learning is continually assessed as a means of attaining higher order learning. Klein displays a view of learning as a continuous process, and argues against the type of "replacement" or "exorcism" he claims is advocated by Hedberg (1981). Thus, Klein implicitly argues that higher-level learning may take place gradually. In a similar critique, from outside explicit organizational learning theory, Burgoyne and Hodgson (1983:398), speculate whether a jump from level one to level two learning suggested by Argyris and Schön is feasible, and ask if it is not more realistic to think in terms of higher-level learning emerging from a gradual erosion of lower-level learning. Similarly, from a perspective of organizational change, Hedberg, Nystrom and Starbuck (1976: 51) argue in favour of gradual change, where organizations unlearn old behaviours through disconfirmation. These suggestions would imply that change of meaning takes place through adaptation of knowledge, in other words the two perspectives would no longer form a dichotomy, but they would feed on each other.

However, there is at present lack of empirical evidence by which to ascertain whether higher-level change may come about as a process of gradual learning. Three questions, which have not been dealt with, seem pertinent. Firstly, the time factor - would gradual adaptation be fast enough for organizations to reorient themselves before they are extinguished? Secondly, what would a process of adaptation of knowledge towards change of meaning unfold? Thirdly, could such a process be conscious, and partly planned? In the absence of answers to these questions, the largely behaviourally based perspectives of Argyris, Schön and Senge still seem to occupy centre stage on explication of higher order learning.

Nevertheless, the discussion suggests that organizational learning theory needs complementary perspectives on how higher-level learning may be achieved. A central question to be answered would be whether such theory should be divergence-based. There are differing views about that. Huber (1991) speculates that diverse

understanding may be a condition for higher order learning, but his suggestion runs counter to Brunsson (1985: 127), who that consensus, rather than conflict, breeds change. The rationale of Brunsson's argument is that divergence may cause "social deadlock", which again hinders change of organizational ideology. However, the two arguments seem at odds with one another only if divergence is equalled with destructive conflict. It may be true that in many organizations divergence and conflict take on equally dysfunctional meanings, but the reason for the dissent may be that there has not been sufficient exploration of organizational forms, which by their very nature are built around divergence without corresponding conflict.

The discussion about an adaptation of knowledge versus change of meaning perspective may be summed up in the following two points.

1. An adaptation of knowledge perspective may be subdivided into validation of knowledge, signifying a social consensual view; and institutionalisation of knowledge, which may be in the form of formal systems or culturally transmitted knowledge. Institutionalisation of knowledge is regarded as an element of organizational learning, and at the same time a potential obstacle to further learning.
2. So far, a behaviourally based perspective dominates the discussion of higher-level learning, leaving unexplored alternative concepts. There is a need for empirical exploration of alternative models of higher-level learning.

## 2.1.5 Discussion

### 2.1.5.1 Identifying an underlying fault line

In the introduction (section 2.1.1) it is stated that the aim is to uncover an possible underlying pattern of fault lines across the field of explicit organizational learning theory. Having considered four different dimensions of dichotomy , this section explores whether there is a possible fault line, which marks a more profound division of the literature of explicit organizational learning.

Conclusions from the above discussions suggest that there may be a fault line (see fig. 2.1.10 below), where, on one side we find the ideas of Argyris and Schön (1978),

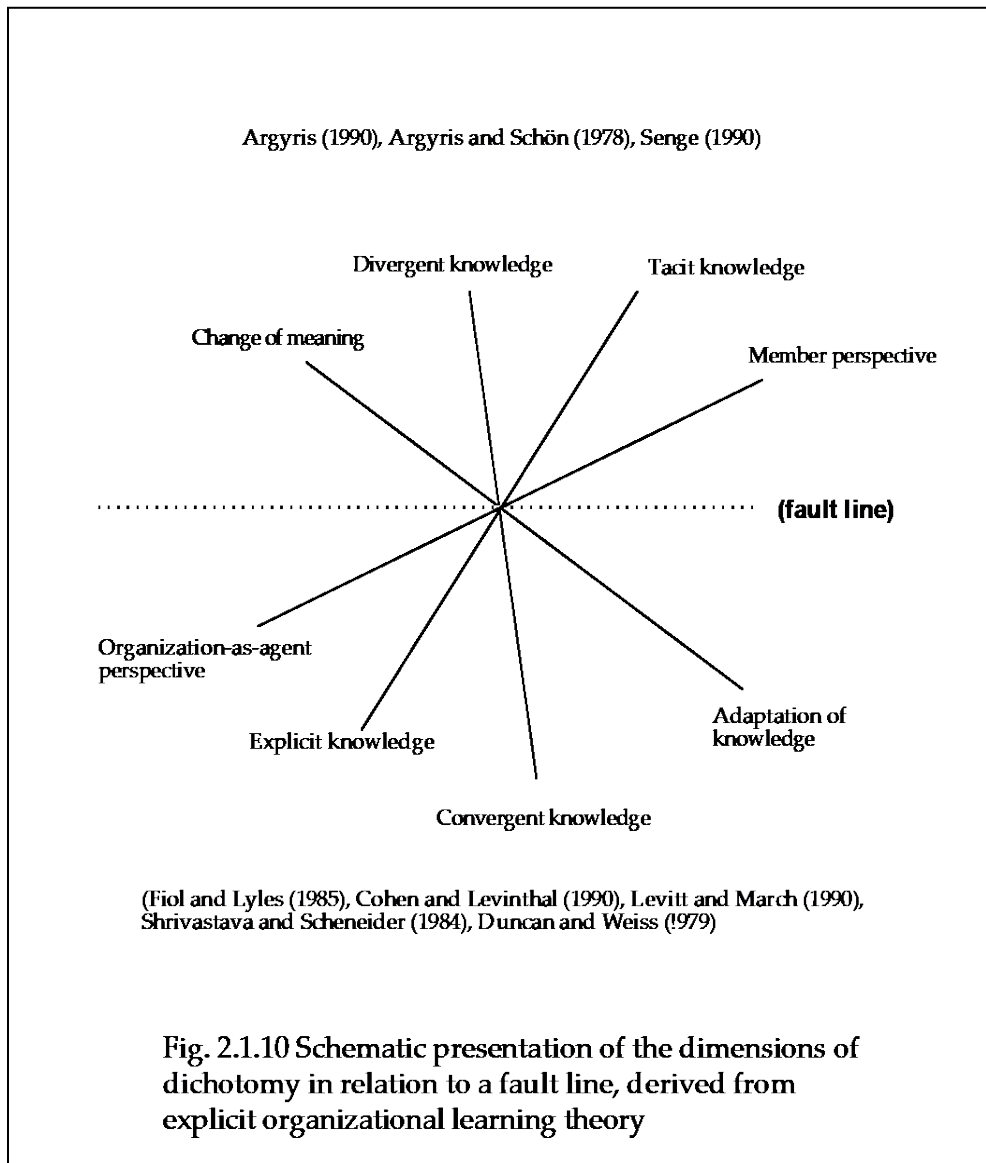
Argyris (1990) and Senge (1990), which may be characterised as follows, divergence, individual member focus, tacit knowledge perspective and change of meaning (higher-level learning). Other theories take to a varying degree the same perspectives, but not consistently. For example, Klein (1989) takes an individual perspective while showing concern for the divergence between individual and organizational knowledge. Cangelosi and Dill (1965) focus strongly on the tension of divergence. An overarching feature over these perspectives seems to be that they consider divergence to be a main factor in organizational learning.

At the other side of the fault line, a group of theories may be characterised by the opposing poles of dichotomy, i.e. convergence, organization-as-agent focus, explicit knowledge perspective and adaptation of knowledge. Representative theories are those of Fiol and Lyles, Cohen and Levinthal (1990), Levitt and March (1990), Huber (1991), Shrivastava and Schneider (1984) and Duncan and Weiss (1979).

Exceptions to the pattern is worth noting. Klein is mentioned above. Seely Brown and Duguid (1991) are described as representing a convergent and tacit perspective while being individually oriented. It is quite possible that this owes to their idea of organizational structure as "communities-of-practice", which differs considerably from the types of structures considered by Argyris, Schön and Senge. It appears that a common feature of these theories relates to a convergent perspective.

Hence, although it seems that although a fault line may be drawn, it is not to considered an unambiguous partition of the field. However, it provides a basis for understanding some major differences between theories in the field.





Are there underlying assumptions about organizations which explain the partitioning of the works on either side of the fault line in the figure? It seems difficult to identify underlying assumptions about organization that cut across the perspectives on either side of the fault line, without labelling it with one perspective. For example, it seems that the perspectives above the fault line could be collectively labelled "divergent perspective" of organization. In trying to search for a more fundamental ontological labelling, it is tempting to explain the fault line using the idea of rationalism, suggesting, say, that the lower part represents a rationalist, instrumental view of organizations. However, that would not reflect entirely the findings in the above

analysis. For example, an organization-as-agent perspective describes organizations as irrational as well as rational.

An alternative is to review the rationale on which contrasting works are founded. Argyris and Schön (1978) is taken as representative of the works in the upper part in the figure. Their work reflects two concerns, which seem to shape the result of their work. Firstly, they are concerned with higher-level learning, i.e. the inquiry into assumptions. Secondly, they focus much of their discussion factors which *prevent* organizations from achieving higher-level learning. The obstacles to learning are found largely in dysfunctional behaviour of members (including managers), and higher-level learning is achieved through resolution of conflict (Argyris and Schön, 1978: 22-23), or when members discover the effects of, and learn to deal with, their defensive behaviour.

In contrast to this perspective, the works representing the perspectives below the fault line tend to focus on what organizations do in order to learn. Examples are Nystrom and Starbuck (1984) and Shrivastava and Schneider (1984), who propose a series of conditions for organizational learning to take place. Whereas these works also include arguments about factors preventing organizations from learning, they basically tend to try and make sense of how organizations learn - for better or for worse. As mentioned in the discussion of the "adaptation of knowledge versus change of meaning perspective", they do not show the same concern for higher-level learning as, say, Argyris and Schön.

Hence, it appears that the rationale behind the works influences the perspective taken. A rationale of trying to find out what prevents organizations from learning may take individuals as a starting point, and appears to lead to findings of divergence, with corresponding conflict. Conversely, works aiming to identify patterns of organizational learning, without putting constraints on the outcome of the learning, may logically end up, wholly or partially, with a convergent, explicit knowledge and organization-as-agent perspective.

If the fault line is based on initial operating assumptions of theorists, it may be argued that it is a border that is tacitly taken for granted, and which is waiting to be crossed.

### 2.1.5.2 Crossing the fault line

There appears to be no visible reason why an underlying assumption, such as that of Argyris and Schön referenced in section 2.1.5.1 should not give rise to thinking about ways in which organizations can overcome learning obstacles, other than changing member behaviour, or than through conflict. It is instructional to pay attention to proposals such as that of Finney and Mitroff (1986), who, while paying attention to the potential divergence between tacit knowledge and espoused organizational practices (p 321) argue for action to be designed and taken following dissonance (p. 322). In other words, while siding with Argyris and Schön on the presence of potentially dysfunctional incongruence between tacit knowledge and espoused practices, they go beyond the type of face-to-face interventionist model of Argyris and Schön and suggest learning-through-action as a means of learning.

Conversely, there is no evident reason why theory based on, say, a convergent, organization-as-agent perspective could not, say, yield insight into how change of meaning (above the fault line) can be created by organizations. The discussion in section 2.1.4.3 suggests that an organization-as-agent perspective could imply that experimentation by organizations may be a means of higher-level learning. Likewise, the discussion in section 2.1.4.5 suggests that an "adaptation-of-knowledge" perspective could be a means of achieving higher-level learning, as well as a "change-of-meaning" perspective.

It seems that dialectical relationships may exist between divergent and a convergent perspective of knowledge creation, in the sense that in practice, convergence may derive from divergence, and vice versa. March, Sproull and Tamuz (1991: 6) consider implicitly this dilemma, by pointing out that there is a trade-off between reliability (degree of shared interpretations) and validity (organization's ability to interpret its environment). In other words, the essence of their argument is that one cannot have the best of both divergence and convergence at the same time. However, their argument assumes that divergence and convergence take place at the same time, and therefore they compromise each other. Although their argument is likely to reflect reality in organizations, one could view convergence and divergence as interacting alternately over time, say, that divergence leads to a new level of convergence. It does not appear that organizational learning theory has addressed this issue in significant depth. Instead,

it appears, as suggested above, that theories tend to lean towards, either a divergent, or a convergent perspective.

It is subject to speculation that organizational learning theory may not have been adventurous enough in considering alternative combinations of theories and phenomena to be able to cross the fault line. It is possible that Spender (1992) offers us a clue, when regretting that organizational learning theorists fail to take account of how the conventional body of organizational theory might be "retained, refashioned and extended to include knowledge generation" (p. 397).

#### 2.1.5.3 A case for exploring a divergent perspective of organizational learning

It may seem that the fault line can be crossed from either a "divergent" or a "convergent" perspective. Hence, for further elaboration it seems necessary to make a choice. The thesis could either build on findings in "divergent" theory and hence explore conditions under which divergent knowledge is dealt with in organizations, or it could try and identify conditions under which convergent knowledge is created.

For the thesis, the former is chosen, for the following reasons:

1. A "divergent" knowledge perspective appears to hold greater promise of higher order learning. It is argued in section 1.1.1 that higher order learning may necessary for organizations to be able to review their operating values, which is again important in view of today's environmental and social concerns.
2. As shown in this section, a divergent perspective of organizational learning is considered by a minority of theorists, and that their treatment of it is limited, in the sense that they tend to consider face-to-face encounter, and that a large part of their research is carried out in organizations with existing hierarchical structures. It is possible that additional factors may add to the understanding of organizational learning from a divergent perspective. However, additional factors should be sought in a wider population of data than that provided by explicit organizational learning theory.
3. In view of evolving organizational characteristics, it appears of increasing importance for organizations to be able to resolve divergence. Reed (1992: 248), in an

attempt to look into future prospects, suggests that theoretical development "seems to press in the direction of enhanced plurality, diversity and controversy", which suggests that divergence may become an increasingly important feature in future organizations. Further on in his discussion he calls attention to "complex negotiating processes through which a precarious, and unavoidably unstable, collective sense of organizational reality is sustained". If collectively defined realities may become as volatile as he suggests, a consequence is that not only would organizations need to improve their ability to resolve divergence, but the resolution of divergence would need to part of day-to-day life.

#### 2.1.5.4 The nature of divergence

It seems necessary at this stage to establish an explanatory framework of the notion of "divergence". The framework is meant to serve as a guide, particularly in the analysis of the empirical data in chapter 3. The idea is not so much to elaborate a definition of divergence, as to provide a framework of understanding of divergence which is at the same time sufficiently explicit to build on in the following chapters, and sufficiently wide so that important patterns of divergence are not overlooked in the analysis.

Divergence as a general term signifies that which proceeds "in different directions", or that which "differs" (The Concise Oxford Dictionary, 1976). In these two definitions lies an implication that divergence may either be dynamic, as suggested by that which proceeds in different directions, or it may be static, as suggested by the definition of that which simply differs. The distinction between dynamic and static divergence seems important for understanding of divergence in organizations, because it allows for a passive stance among organizational members to be counted as divergence, as well as divergence which manifests itself through action.

The work on the thesis has not revealed exhaustive exploration of different modes of divergence in literature, although isolated contributions have been found. In explicit organizational learning theory, Argyris and Schön (1978: 55) refer to the existence of "error", or "anomaly", either between what organizational members perceive as the difference between actual and expected outcomes of organizational actions, or as difference between events and the maps that members hold of the organization. Both types of divergence use member's perceptions as a point of reference. Elsewhere in their

book, Argyris and Schön make reference to unawareness of error (pp. 112-113), something which is pursued by Argyris (1989: 22-23) in discussing how people may be unaware of their own, dysfunctional behaviour. The idea that people may be unaware of errors represents arguably a type of divergence which appears particularly important for the choice of research methodology, as it implies that in mapping out divergence, the researcher must find ways of uncovering knowledge which people are not aware of, or would not like to admit to.

Outside explicit organizational learning theory, Harshbarger (1973: 259-260) presents a typology of divergence between individual and collectivity, and identifies two elements of divergence; *heresy*, which consists of questioning the social order (and hence, public) and *deviance*, which is behavioural (and hence, private). The thrust of Harshbarger's paper deals with limits of organizational tolerance, and how individual members cope within the limits of collective tolerance. It hence derives from his contribution that divergence may have a private-public dimension. Brunsson provides an alternative perspective, suggesting that there are three sets of ideologies (Brunsson defines an ideology as a set of ideas) present in organizations: *subjective ideologies* are ideas of individuals, *perceived ideologies* are ideas of members about the perceptions of other members, and *objective ideologies*, which are ideas shared by all organizational members. In other words, individual beliefs may persist which are inconsistent with the beliefs that guide collective action.

Argyris (1983: 62)) brings attention to the idea that beliefs that are being held by members, may be based on untested premises. An explanation is offered by Downey and Brief (1986), who argue, that "We tend to be more interested in developing and confirming our cognitive schemas rather than testing them" (p. 171). Thus, it seems that divergence may exist between the knowledge which is held in its untested state and the knowledge that members might have if they tested it. The testing is a characteristic which this mode of divergence has in common with the divergence that arises from unawareness, as testing might serve to recover unknown knowledge. Hence, one could argue that the two modes of divergence are similar. It is plausible that the two modes are identical in certain cases, such as when knowledge is subconsciously suppressed. However, it seems important to distinguish between knowledge that is not tested for lack of will, and knowledge that is not tested for lack of awareness, keeping in mind that the border between the two might in certain cases be blurred, or even non-existent.

It is mentioned in section 2.1.2 how Weick (1979) and March and Olsen (1975) point to collective assumptions that organizations develop about cause-and-effect in their transactions with the environment, and how such assumptions come to be taken for granted in the absence of reality testing. Hence, a possible mode of divergence is revealed between knowledge which is collectively taken for granted in its untested form, and knowledge which is tested.

Whereas much research assumes that the knowledge is already present, awaiting retrieval, it appears instructional to allow for the eventuality that new knowledge is *created*, such as for example through novel constellations of problems, novel patterns of collaboration between members, etc. Nonaka (1988: 12) uses the term "information creation", which means essentially creating new meaning through personal inter-action. The concept is similar to the concept of communities-of-practice mentioned in section 2.1.4.3. The divergence in this case, would lie between knowledge which is privately held, and knowledge which is unknown.

We may infer from the above that divergence refers to the divergence of *knowledge*, either between members, or between members and some untested reality. This distinguishes divergence as it is meant to imply in the thesis from, say, behavioural deviance mentioned by Harshbarger above.

Summing up the above contributions, five modes of divergence may be suggested.

Firstly, divergence arising from unawareness. Individuals are unaware of discrepancy between, say, their actions, beliefs and propositions. Consequently, they can, neither change the knowledge they act on, nor test the knowledge they consider appropriate.

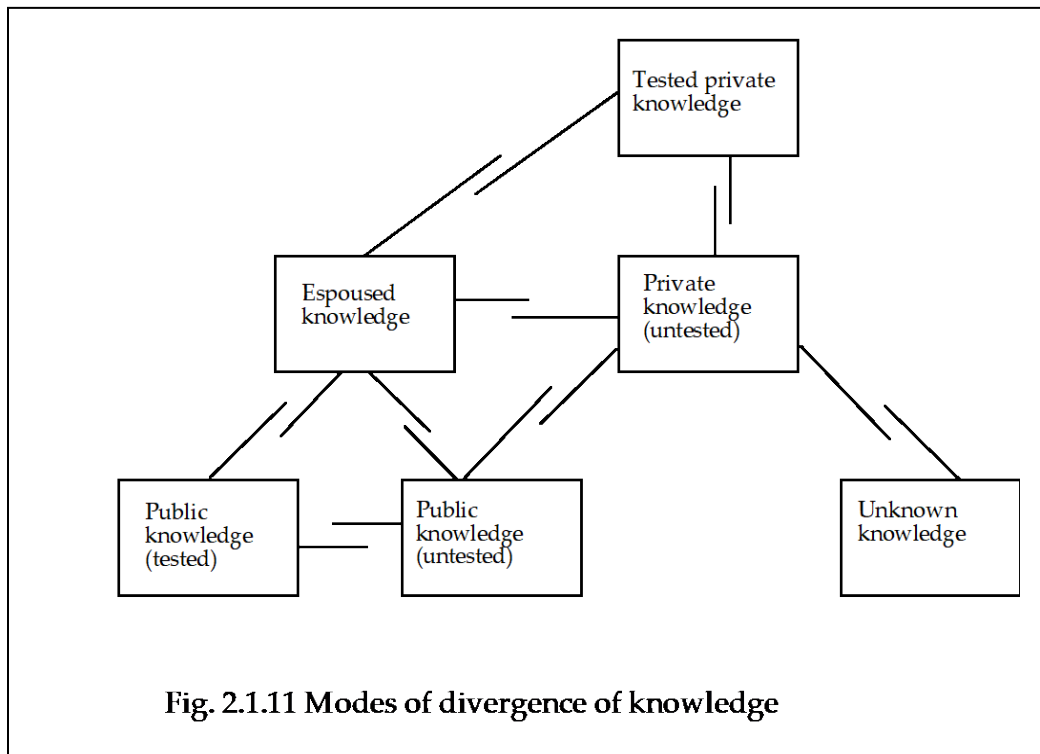
Secondly, divergence between tested and untested assumptions held by members. Members have assumptions about phenomena, about the organization, about other members, which they, for various reasons do not test.

Thirdly, divergence between privately held knowledge and publicly acknowledged knowledge. It has been argued in section 2.1.4.4 that there may be divergence between knowledge held by members individually and knowledge that is used as a basis for organizational actions.

Fourthly, divergence between what is publicly assumed and what might be assumed if public assumptions were tested.

Fifthly, divergence between knowledge that is espoused by organization decision makers and public or private knowledge. The espoused knowledge implies statements describing, either how the organization is seen as functioning, or how it aims to function.

The four modes of divergence may be summarised in figure 2.1.11 as follows:



The framework as suggested in the figure may have some evident limitations. Firstly, the nature of testing is not specified, nor are criteria laid down as to what would qualify as appropriate testing of knowledge. For example, if the aim of testing is to yield insight into governing assumptions, it could be argued that the means of testing must not be influenced by the assumptions that are to be tested, otherwise there might be a risk of entering into "inhibiting loops" or "escalating error" (Argyris, 1983: 92, 153).

Secondly, it is quite possible that additional modes of divergence are possible beyond those depicted in the figure. The aim is not, however, to provide an exhaustive list of modes of divergence, but to develop a framework for the discussion in the following



chapters. It is worth noting that the figure includes modes of testing - untesting at individual level, between individual and collective level, and at collective level. As the figure depicts divergence at the two levels of analysis, as well as between them, it is for the moment assumed to be adequate for proceeding.

The above discussion about the nature of divergence points to the importance of divergence as a means of attaining learning for organizations. Thus, it suggests that divergence is not something to avoid, but to surface and make sense of, in order to arrive at a deeper level of understanding of phenomena in the organization.

### 2.1.6 Conclusions

The above discussion suggests:

1. Perspectives in explicit organizational learning theory may be considered along a variety of axes of dichotomy.
2. There is a pattern of an underlying fault line, which seems to be based on initial assumptions of theorists. This fault line can, and should be transgressed for further advancement of the field of organizational learning.
3. Taking a divergent perspective of organizational learning appears to hold promise for exploring conditions of organizational learning.

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<sup>i</sup>Other works have not been listed, in spite of treating explicitly organizational learning and having been reviewed for the Thesis:

Argyris, C. (1983) *Reasoning, Learning and Action* , San Francisco: Jossey Bass.

Bartunek J.M. "Changing Interpretive Schemes and Organizational Restructuring: The Example of a Religious Order", in *Administrative Science Quarterly*, 29, 1984, pp 355-372.

Morgan G. (1986) *Images of Organization* , Great Britain: Sage.

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Epple D, Argote L. and Devadas R. (1991) "Organizational Learning Curves: A Method for Investigating Intra-Plant Transfer of Knowledge Acquired through Learning by Doing", in *Organization Science*, 2, 58-70.

Pedler M., Burgoyne J. and Boydell T. (1991) *The Learning Company - A Strategy for Sustainable Development* (1991), UK: McGraw-Hill.

<sup>ii</sup> The term "organization-as-agent" is borrowed from Argyris and Schön (1978).

## 2.2 Contributions of perspectives other than explicit organizational learning theory

### 2.2.1 Introduction

The discussion in section 2.1. has been based on what was termed "explicit" organizational learning theory, and concluded that it is timely and potentially useful to examine organizational learning from a perspective of resolution of divergent knowledge. Whilst limiting the review to "explicit" organizational learning seems useful for carving out a specific niche in organizational learning theory debate, it is arguably insufficient for comprehensively exploring resolution of divergent knowledge from other perspectives. Table 2.2.1 summarises findings from the review of this section in relation to organizational learning and divergent knowledge resolution. The findings are compared with the results of the empirical findings of the thesis in section 3.2.8.3.

Therefore, a review has been undertaken to study how literature other than that which explicitly considers organizational learning, takes account of conditions for organizational learning, with particular attention to resolution of divergent knowledge. In order to remain consistent with the theme of the thesis, theory has been chosen, which either appears directly illuminative of the use of knowledge in organizations, or which, by being referenced in explicit organizational learning theory, appears to have had an impact on the development of the organizational learning field.

The following perspectives have been explored:

- A sociological perspective
- A systems perspective
- An organizational culture perspective
- A cognition and learning perspective
- A group behaviour perspective

This representation of social sciences does not pretend to provide a comprehensive framework. Nor is it so detailed as to provide a picture of how disciplines within sciences have interacted towards improving the understanding of organizational

learning. It should be noted, however, that the perspectives may be considered as dependent variables in relation to organizational learning, which is the variable in focus. Hence, a possible lack of comprehensiveness appears justified.

The discussion of each perspective includes three elements. Firstly, a discussion of salient features of the perspective which may be of interest for organizational learning, secondly exploration of conceptual interactions between the perspective and explicit organizational learning theory, and thirdly, identification of issues brought to attention by the perspective, which appear of interest for divergent knowledge resolution.

### 2.2.2. A sociological perspective

#### 2.2.2.1 Introduction

It is assumed that a sociological perspective allows greater freedom in the type of bonding to be assumed between individual and organization.

Traditionally, organization theory appears to have assumed that formal organizations exist on the basis of mutual obligations between individual and organization, and that in the face of conflict, individuals will resign (Zammuto (1982: 70). This may explain why the strain that organizational change puts on relations between the individual and the organization may produce reactions such as "compulsive acquiescence" or rebelliousness (Parsons (1951: 249)). Thus, the inclusion of a sociological perspective may be considered useful to allow for consideration of looser coupling between member and organization than that which is traditionally assumed.

Burrell and Morgan (1979: 149) make a point to this effect when they critique Barnard's (1938) theory from a sociological viewpoint. They point out that he contradicts himself when he suggests that while willing co-operation from organization members is taken as an endorsement of the purpose of the organization (p. 86, Barnard), executives are urged to condition individuals by training, inculcation of attitude and incentives (p. 15, Barnard). In other words, they illustrate a contradiction which organization theorists risk inflicting upon themselves when they try to prescribe theories for maximising the voluntary contributions of individuals while at the same time creating "unitary" organizations.

It is acknowledged that theory on group behaviour and organizational culture also contributes towards the understanding of organizational learning. Although those two areas have arguably benefited from sociological theory, they are dealt with separately in sections 2.2.4 and 2.2.6.

This section considers three areas of a sociological perspective. Firstly, organizational structure, examples are taken from theory of loosely coupled systems, using as an illustration the development of industrial districts. Secondly, organizational evolution, considering the possible covariance between divergence and convergence in the evolution of social systems. Thirdly, the aspect of rationality, arguing that probing into the rationality in organizations can yield clues to the understanding of organizational learning and divergence resolution.

#### 2.2.2.2 Looseness of coupling

It is argued in section 1.1.2 that emerging organizational forms tend towards flatness and loose coupling. Looseness of coupling between organizational units, and how it applies to educational organizations is discussed by Weick (1976: 1-18). By looseness of coupling, Weick means anything that may be tied together weakly, infrequently, slowly or with minimal interdependence. His argument is that looseness of coupling applies in several dimensions, such as control, intention - action, events, co-ordination, interdependence, means-end, etc., and that it is inherent in organizations. A similar phenomenon to looseness of coupling is found with the metaphor of "garbage cans" applied to organizational processes proposed by Cohen, March and Olsen (1972), which suggests that organizations may be better construed as a loose collection of ideas than a coherent structure.

A link between the theory of looseness of coupling and sociological perspectives is implied by the argument of March and Sevón (1984) that

"(with the discovery of) loose coupling and ambiguity in organizations ..... some of the distances between the properties of organizations and the properties of other social systems seem to grow smaller". (p. 106)

Some might argue that looseness of coupling is another metaphor in organization theory for a form that organizations might adapt. Handy (1984: 304), for example, lists "loosely-coupled" as one of seven "new organizational metaphors". The other six are:

- "adhocracy" (from Toffler (1971: 126-130) and Mintzberg (1979: 431-467));
- "tents" (from Hedberg, Nystrom and Starbuck (1976: 45));
- "technology of foolishness" (from March (1971));
- "market-place" (from Williamson (1975));
- "champions, boot-legging, skunk works, cabals, shadow organizations" (from Peters and Waterman (1982); and
- "networks" (from Foy (1980)).

The difference between these six metaphors and the notion of looseness of coupling, (which Handy does not point out) is that the six metaphors each tend to prescribe design of adaptable organizations, while the notion of loose coupling is used to explain inherent phenomena of organization. Weick points out that looseness of coupling exists, but that organizational members do not realise it to the extent they should. (p. 9)

While taking into consideration that looseness of coupling applies to actions, such as suggested by March (1981: 563-577), Weick argues that it is also structural in nature, pointing out that the inter-action between organizational units is more loosely coupled than is normally assumed. A major problem, Weick claims, is that organizational members don't understand the nature of looseness of coupling, which makes them predict wrongly organizational outcomes, such as in planning processes (p. 4).

Weick's work contributes towards the understanding of how certain structural characteristics of organizations influence the way in which they learn. He identified the following seven characteristics of loosely coupled systems, each of which has a corresponding dysfunction: 1. Perpetuation of mechanism; 2. Sensitive environmental sensing; 3. Localised adaptation; 4. Cultural preservation; 5. Localised breakdown; 6. Local self-determination; 7. Cost saving (p. 6-9).

The notion of looseness of coupling may be illustrated in the case of industrial districts, where, particularly in Italy, networks of thousands of small companies have shown to be competitive and responsive in the international market (Amin and Robins (1990: 196)). It is worth noting that such districts are referred to as "social and economic

phenomena" (Zeitlin, 1990:5 and Becattini, 1990: 37), and not so much as organizational phenomena, and where professional participation may be conditioned by the family or local community norms (Piore, 1990: 54), as well as traditions of craft (Brusco, 1990: 10-11).

Industrial districts have been found, since the 1950s, to exhibit characteristics of adaptable organizations (Capecchi, 1990: 33), evolving from regional artisan industries towards producing a wide range of high quality and high technology products for niches in foreign markets (Short, 1991: 6-7), while facilitating improvements in workers' conditions, such as wages and equality between the sexes (Lazerson, 1990: 130) and Capecchi, 1990: 27). The latter is particularly noteworthy, as improved equality between sexes suggests a possible change of values over time. In addition to adapting, their learning is sometimes proactive, in the sense that technology and products may be planned on the basis of networks of intelligence and forecasts of tastes and habits several years in advance (Short, 1991: 5).

It is important to note that a trait of industrial districts is a consistent "bottom up" approach to innovation (Piore, 1990: 56), and that Piore and Sabel (1984: 270-271) argue that small firms in industrial districts naturally develop a capacity for "perpetual innovation". Industrial district theorists also point to different types of norms and values. Pyke (1992: 12), for example, reports on how the existence of an entrepreneurial and initiative-taking spirit in a district, is seen as being essential for economic development. It appears reasonable to assume, although conclusive evidence has yet to be found, that an organization's ability to innovate is related to its capacity for resolving divergence of knowledge, because innovation would probably mean challenging something that, for the moment, seems adequate (de Bono 1980: 131). Hence, it implies that untested knowledge, whether it is public, or private (see fig. 2.1.11) is tested.

It thus appears reasonable, from a perspective of innovation and change of values, to assume that divergence of knowledge is to some extent resolved in industrial districts. This inference has to be treated with caution, however, as the extent to which divergence is resolved is not specified, and the data collected on industrial districts for the thesis are limited.

We may infer that industrial districts reflect to some extent Weick's seven characteristics of loosely coupled systems listed above, and that they serve as illustration that organizations may have a capacity for resolving divergence by virtue of loosely coupled structure, with corresponding systems of intelligence gathering and embedded in an enterprising culture. The inference is significant in relation to the discussion about whether it is possible to envisage different combinations on either side of the fault line (sections 2.1.5.1 and 2.1.5.2), because it suggests that divergence resolution may take place without exclusively focusing on interpersonal behaviour, as suggested by Argyris and Schön.

### 2.2.2.3 Organizational evolution

It seems that there is relatively little data empirical data instructing us on how organizations evolve. Pfeffer and Salancik (1978) argue that

"Unfortunately, speculations about the evolution of social systems require facts and knowledge that are not presently available. Because it has not been studied, there is little information about how organizational responses and environments evolve over time." (p. 286)

Change of social systems is seen by some theorists as consisting of stages at which an existing social order is challenged, before a new social order is established (Emile Durkheim, interpreted by Cuff et al. 1990: 31, Parsons 1966: 538-539, Miller, 1982: 132). The transition may be construed as a sort of learning (Habermas, 1987:783).

It could be argued that this interpretation contains both a conflictual and a consensual element. It is conflictual in the sense that change is seen to be preceded by conflict, and consensual in the sense that governing values are seen to prevail, to be shared by members and inculcated in new members. Merton (1936: 903) explains the dynamics of social change by the fact that certain values release processes which were not intended, and which have ramifications beyond the set of values within which they were initiated. Further consequences thus tend to react upon the fundamental value system. The observation that processes released within social systems have unintended consequences, is supported by Chapin (1936: 1), who suggests that the area of social



action consists of two overlapping fields, of which one concerns intended consequences and the other unintended consequences of social action.

Thus, a sociological perspective brings out the evolutionary dimension of organizational change, whereby consensus and conflict interact and in some way feed on each other over time. The perspective corresponds to Weick's (1979: 91-93) model of organizational evolution, which consists of 4 steps, as follows: diverse ends (1) lead to common means (2), leading in turn to common ends (3), which again turns into diverse means (4), which again leads to diverse means (1).

In summary, a sociological perspective suggests that, firstly, convergence and divergence may interact dialectically over time, and secondly, that one may not be able to exist without the other. This observation is arguably of ontological value for divergent knowledge resolution.

#### 2.2.2.4 Rationality

Different definitions exist of rationality applied to social systems. Elster (1984), relates rationality to the ability to elaborate a strategy over time (p. 9), and to the actions of others, assuming they will change in response to one's choice (p. 18-19). Simon (1976: 243) suggests that a decision is rational from the standpoint of a group if it is consistent with the values governing the group and the information that the group possesses relevant to the decision. Thompson (1967: 24) refers to organizational rationality as knowledge of cause/effect relations, plus control over all the relevant variables, or closure. The three perspectives focus on factors of knowledge and consistency of actions.

Assuming that the three definitions are valid, there are suggestions that organizations as wholes, as well as organizational members, may exhibit to a varying degree non-rational behaviour. Whereas this is discussed in explicit organizational theory by Cyert and March (1963), Beer (1981: 234) argues in support from a systems perspective that when organizations find themselves in a crisis mode, their primary objective is to get out of the crisis, and that it is a mode in which non-rational decisions are made.

In the case of individual members, Northcraft and Neale (1986) observe that,

"Research suggests that decision makers often persist, or even escalate resource committed to a course of action, even when persistence or escalation clearly is not justified by future return calculations." (pp 349-350)

They suggest that two factors that seem to account for this. Firstly, there is a psychological mechanism of commitment, involving self-image, organizational image, reputation, face saving, etc. Secondly, there is the element of framing, whereby it is more tempting to continue in the hope of matters improving, because of the negative perceptions attached to the loss, or waste of an undertaking.

Non-rationality of behaviour seems inherent in social systems, and therefore it merits understanding. Simon (1976) suggests that the phenomenon is present in human behaviour, arguing that,

"I do not regard the description of human rationality ..... as hypothetical, but as now having been verified in its main features" (p. xxxi).

Selznick (1948: 302) writes in support of Simon's observations, suggesting that formal organizational structures never succeed in conquering the non-rational dimensions of organizational behaviour. Thus, it appears that from the point of view of both social evolution and organization theory that absolute rationality cannot be assumed. There are examples from organizational practice of the application of limited rationality, the events surrounding the 1986 Challenger space shuttle disaster and the ensuing court hearings being a case in point.

Argyris (1990: 37-43) and Morgan (1989: 112-115), in referring to different sources, describe independently of each other the events surrounding the disaster of the space shuttle "Challenger". Both report that NASA management overruled technical evidence provided by design engineers that the launch would be risky due to adverse weather conditions, and decided to launch the shuttle. Although neither of them refers to the case specifically as an example of limited rationality, Morgan describes the process as an example of how an organization may discourage feedback and learning, and become committed to the achievement of a predetermined goal at any cost (p. 112), and Argyris describes it as a case of how individuals performed defensive behaviour, thereby violating organizational standards.

The events surrounding the Challenger disaster can be attributed limited rationality on two grounds:

1 NASA is described as an organization with ample rules and regulations to avoid such an accident (Argyris, p.37). This suggests that there is little ambiguity about preferences for safety.

2 Individuals did report that the launch was risky, and the reports were heard, but not reacted to (Argyris, p. 37 and Morgan, p. 113). Hence, information was available, which appears to have provided an adequate basis for making a decision to postpone the launch.

The notion of limited rationality seems to have influenced thinking around organizational learning in different ways.

March and Olsen (1975: 147-171) suggest that there are four types of organizational learning that represent a rupture of an organization's complete learning cycle, one of which is "superstitious learning". They refer to superstitious learning as that which takes place when organizational members appear to imagine that certain actions produce certain environmental response, when in fact this is not the case. If this is compared to the above definitions of rationality by Elster, Simon and Thompson, it is arguably a type of learning which arises from limited rationality.

It is mentioned in section 2.1.4.2 how Argyris and Schön (1978: 142) suggest that higher order organizational learning takes place during a diagnosis between what the organization says it does (espoused theory) and what it actually does (theory of action). In other words, they implicitly suggest that organizational learning takes place when the organization comes to terms with its own lack of rationality.

Thus, it seems that rationality may relate to organizational learning in at least two ways. Firstly, as implied by March and Olsen's contribution, it is a matter of whether rationality is applied by organization members in interpretation of events and processes. In this case, it could be seen is a variable in an organizational learning process. Secondly, surfacing of non-rationality can be seen as an aim, in order to be able to deal

with it rationally. In such a case, it may be seen as an aim of an organizational learning process.

However, the relationship between rational and non-rational behaviour seems complex. Whereas Weick and Bougon (1986: 124) point out that people are both rational (they make correct explanations, predictions, and deductions) and irrational (by ignoring data, they form a map from which it is easy to make deductions), Elster (1984) argues that people may operate simultaneously at a rational and a non-rational level,

"Man can be *rational*, in the sense of deliberately sacrificing present gratification for future gratification. Man is often not rational, and rather exhibits *weakness of will*. Even when not rational, man knows that he is irrational and can *bind himself* to protect himself against (his own) irrationality." (p. 111)

In other words, rational and non-rational behaviour may co-exist, and rationality may be used by people to, at least temporarily, reduce the effects of non-rationality. In relation to divergence of knowledge this raises the issue of whether organization members are able to test the rationality of the knowledge they hold, which is found in section 2.1.5.4. to be significant for resolving divergence. The above discussion suggests that members may both be victims of their own non-rationality, and at the same time be able to deal with it.

### 2.2.3 A systems perspective

#### 2.2.3.1 Introduction

Section 2.2.3 discusses elements from systems theory which are suggested to be of importance for the understanding of organizational learning and resolution of divergent knowledge. The following elements have been identified: requisite variety, feedback mechanisms, arousal signals, levels of systems analysis and autopoietic systems.

A systems perspective may be approached from at least two different angles. One consists of the general application the principles of systems thinking to organizational life, i.e. seeing organizations as systems. Examples are found in social psychology (Katz and Kahn (1978), organization structure (Emery and Trist, 1960; Mintzberg,

1979), group therapy (Palazzoli et al., 1975), and organizational analysis (Weisbord, 1978 and Morgan, 1988). We shall refer to this as "applied systems thinking".

The other consists of the application of principles of self-regulatory systems as we find in biology and in physics to the understanding of social organization. This may be referred to as "systems theory". The terms "applied systems thinking" and "systems theory" do not pretend to be generic classifiers of the field of systems thinking, but they are considered useful for the purpose of this section, where it is their contributions towards the understanding of organizational learning and divergence resolution which are emphasised, and to a lesser extent their ontological origins.

We will consider "systems thinking" in this section, the main reason being that "applied systems thinking", more than being a discipline in itself, may be usefully seen as a perceptual filter, which offers the perceiver alternative ways of looking at organization, rather than suggesting inherent characteristics of social systems, in the way "systems theory" does.

#### 2.2.3.2 Use of the word "system"

The general definition from the dictionary of systems can be summarised as being "complex wholes, sets of connected parts". Hence, the term "systems thinking" would indicate the analysis of objects, either as a set of inter-connected parts, or as a part of a bigger whole. Angyal (1981) offers a definition of systems thinking in contrast to causal thinking suggesting that whereas causal thinking would attempt to single out links between pairs of facts, systems thinking would attempt to "find the superordinate system in which they are connected or to define their value within such a system" (p. 125).

Angyal's definition is instructional in relation to organizational learning, because it helps define the initial figure-ground constellation for the observer. For example, from a systemic view of an organization which produces a response, an observer might try to understand the response in relation to the environmental context of the organization. One example is the research by Normann (1971: 206), who separates external environments into domains and secondary environments. Normann, based on study of reorientation among Swedish companies observed that organizations are in regular

contact with their domain (technology, market environment, etc.), in which events can easily be recognised by the people in the organization. The secondary environment, however, is less known by organization members, and the organizations have no appropriate rules for attention and decoding of signals from that environment. Normann, thus brings attention to the idea that an organization's learning has to do with the relationship between its coding system and the proximity of the environments.

### 2.2.3.3. Requisite Variety

Ashby (1960: 229) introduced the law of "requisite variety", which states that only variety can respond to variety. For an organism to be able to respond to a certain variety of stimuli in its external environment, it needs to possess a choice of responses which corresponds to the variety of external stimuli. Beer (1985: 24-35) demonstrates how the law of requisite variety applies to the design of organization structure. Similarly, Cohen and Levinthal (1990: 133) argue that the relationship between knowledge sharing and knowledge diversity across individuals influence organizations' absorptive capacity for learning and innovation.

There are also empirical works testifying to the importance of the principle of requisite variety for organizational survival. Lawrence and Lorsch (1967: 103) found that the better performing organizations were of a diversity that better matched that of the environment. Kolb (1983: 49) reported on the failure of an organization staffed mainly with engineers to respond adequately to needs requiring a non-engineering approach towards problem-solving. Zammuto (1982: 70) brings attention to the importance of the organization learning from its constituents, such as employees, clients and shareholders, and argues that the organization has to know by which criteria its constituents judges its performance, furthermore that its evaluative mechanism has to be able to capture the perspectives of its constituents.

It is useful to retain for the understanding of organizational learning that an organization (assuming that it is subject to the laws of general systems) may not be able to learn from stimuli which fall outside the variety of its sensory system. For example, a company polluting the environment, but which has no knowledge about how to become more environmentally friendly, may not be able to respond immediately to

environmentalist concerns among the public, without importing the knowledge necessary to act.

An empirical example is found with Fortune (1993: 104-105), which reports from research into the environmental records of more than 100 American companies. Dow Chemicals, which is reported as being one of those who most actively responded to environmental concerns, seems to ensure requisite variety in the following ways:

1 Four times a year, the company invites eight environmental advocates from around the world to spend 1 1/2 days with senior managers and board members;

2 It is the only company in the United States, that has an environmental officer on its Board of Directors;

This suggests that the company has taken steps, not only to ensure variety of knowledge (measure no. 1), but also variety of decision making (measure no. 2). The example has to be treated with some caution, because the extent to which the variety is real, i.e. to what extent the advice of the experts is heeded, and to what extent the environmental member of the Board really influences Board decisions, is not stated in the article.

The idea of requisite variety suggests implicitly that the knowledge of organizational members should represent a sufficient diversity for an organization to be able to respond to a wide variety of signals. As the idea of requisite variety is largely derived from living organisms, it may be inferred that the diversity is assumed to relate to objective knowledge. This can not, however, be assumed for divergence of knowledge in organizations, which is assumed to have propositional, subjective elements. Hence, it would seem risky to equate diversity and divergence. However, there is arguably a relationship between the two, in the sense that diversity of knowledge may be necessary for divergence to take place.

#### 2.2.3.4 Feedback mechanisms and learning levels

The concept of feedback systems is related to the levels of learning, which may be characterised as a major element of the understanding of organizational learning.

The concept of feedback mechanisms is basic to the concept of open systems. Kremyansky (1960) noted that feedback plays an essential role in the evolution of organisms towards higher-levels of development. Von Bertalanffy (1950: 29) points out that feedback is responsible for homeostasis, i.e. the development of a system towards a state of equilibrium with its environment. In the case of social systems, feedback is provided by, for example, information systems and decision making processes. However, more important for the understanding of organizational learning, is the contributions from systems theory which relates to the levels of feedback, and hence, and the insight this provides into levels of learning.

An early contribution in systems theory was that of von Bertalanffy's (1950), suggesting that open systems may spontaneously develop towards greater heterogeneity and complexity. Sommerhoff (1969) illustrates this by the example of an animal learning to walk,

... "at first the leg movements are unsteady and random ..... co-ordination of the leg movements begin to produce directed movements of the body ..... As the process of learning advances, the random element moves up the organizational ladder. This continues right through to the advanced stages of trial-and-error learning". (p. 195)

Bateson (1972: 274) is explicit about the link between feedback and progression of learning, arguing that whatever the system (including social systems), adaptive change depends upon feedback loops, and that in all cases there must be a process of trial and error and a mechanism of comparison. He argues further that because trial and error always involves error, it is biologically and/or physically expensive, and must therefore be hierarchic. Tomkins (1962: 118) brings up the issue of how signals are coded, pointing out that higher order learning takes place when the system contains another language of interpretation which enables it to correct its own feedback system.

The idea of a system having a mechanism which can correct its the feedback system is central to some organizational learning theorists. Argyris (1983: 106) writes, for example, that "Correction of error (in double-loop learning) begins with the development of a map that provides a different perspective on the problem (for example, a different set of governing values or norms)." Similarly, Mintzberg (1987: 69-70) distinguishes between deliberate (corporate) strategy and strategic learning, and



Watzlawick et al. (1974: 10) distinguish between first order problems and second order problems.

An empirical example, which demonstrates that organizations may be good at lower-level learning, while at the same time deficient in higher-level learning, is provided by Steine (1992: 135), who provides an account of how Norsk Data, an aggressive and innovative computer manufacturer, developed from being founded in 1976, went through periods of international success in the 1980s until it went out of business in 1991. He describes how the company was highly responsive to customers' needs for technological solutions, and how it was aggressive and risk taking vis-a-vis competitors. He also describes an unusual team spirit, inspiring leadership and a highly organic type of structure which featured the company. However, from the point of view of higher-level learning, he argues that the company was poor at two things: 1. Being responsive to customers' needs which went beyond the immediate technological solutions, such as having tailor-made software made for them, and; 2. Being responsive to the fact that customers thought they were being unresponsive to their needs. He maintains that the company was not able to adjust itself to needs that called for competence which did not prevail in the company, i.e. competence in understanding the business of their clients. (It is worth noting that Barham and Cassam, 1989: 132-133 characterise Norsk Data as a typical "learning organization", with a "learning by doing" type of culture which provides the "tools, open communications, access to senior people and a system that does not rebel against you having a responsible job at a young age".)

Similarly, "Les Dossiers du Canard" (1994) demonstrate, by investigating how viewer statistics ("audiomat") influence the choice of policy of French television channels, how organizations thus may become prisoners of their own information systems, in the absence of higher-level corrective learning systems.

In relation to divergent knowledge resolution, the idea of higher-level correction of learning systems suggests that if the regular learning systems of an organization are not tested for their validity, the organization might fall victim of the limitations of its learning systems when a situation occurs which requires use of other means of measurement.

### 2.2.3.5 Arousal signals

Beer (1981: 148) points to the importance for an organism to have a system of registering "arousal" signals and which measures statistical non-conformity. Similarly, Chein (1954), discusses the notion of environmental "cues" in individual learning. Daft and Weick (1984), whose typology of relationships between organization and environment is shown in fig. 3.1.1, suggests that organizations performing "undirected viewing" in "unanalyzable environments", typically use hunch, non-routine data and rumours to make sense of their environments.

The idea of signals arousing the attention of the organization suggests a relationship between the strength of signals and the sensorial sensitivity of the organization. There are studies of decision making which instruct us on the relevance of this finding to organizational adaptation. Hoffmann (1982: 120) brings attention to the existence of arousal signals from studying problem-solving in managerial groups, observing that a solution must accumulate valence beyond the adoption threshold to be truly a candidate for adoption. Similarly, Mintzberg, Raisinghani and Theoret (1976: 253) observed from studying decision processes in organizations that low amplitude stimuli could be collected, cumulated and stored over long periods of time before a more intensive signal finally evoked action.

The importance of arousal signals for the understanding of organizational learning lies largely in their stochastic, and hence unpredictable, nature. Results from organizational research are consistent with the idea that organizations have to be designed and managed to act on signals which may be irregular and unforeseen. Drucker (1990: 94-102) points out the importance of control systems (accounting), which affect the planning of activities, being based on the realities of the organization, and not oriented towards premises and values of the past. Wildavsky (1983: 31) suggests that in practice, weaknesses in formal information systems are covered up by informal systems, which are able to transmit more subtle signals. An interesting point to note in relation to Wildavsky's finding, is that the emerging concept of network organizations aims, among other things, at formalising what in traditional organizational design would have been labelled informal knowledge. Feneuille (1990: 299), who experimented with network organizations in a French company, writes in support to this, underlining the ability of networks over line organizations to register weak signals, "which appear as surfeit of information, but which, in all essentials, is merely statistical noise".

It would seem that between routine signals which the organization reacts to, on the one hand, and non-statistical signals which it should react to, on the other hand, there is a potential source of divergence of knowledge between organization members. An empirical example is provided by Allison (1971: 120), who in an account of the Cuba missile crisis, explains how information procedures were inadequate when the organization faced rapid change. Clues that the Russians had installed offensive weapons in Cuba were omitted in the standard reporting procedures that were followed by the CIA. For example, an important clue, such as Castro's private pilot boasting after a night of drinking in Havana that they had nuclear weapons, and that a CIA agent had sighted the rear profile of a strategic missile, took several days to get to Washington.

Hence, it could be argued that disability of organizations to react to "odd" signals may prevent them from receiving potentially important knowledge. It is probable that frequently, the "odd" knowledge may also be divergent knowledge, held by one or more members, such as suggested by Allison's account from Cuba. It would follow from this that in the absence of some system which detects "odd" knowledge, divergence may be difficult to resolve.

#### 2.2.3.6 Levels of systems analysis

Systems theory has its origins in the study of biology and physiology. Of relevance to learning is specifically the response that organisms give to external stimuli. Experiments by Pavlov and others on the adaptive behaviour of animals contributed towards the understanding of conditioned responses and learning. Knowledge about the functioning of the body contributed towards the understanding of co-ordination, communication and control. Whereas von Bertalanffy (1950: 23-29) attempted to integrate different scientific disciplines into a model for understanding complex open systems, based on the living organism he did not elaborate significantly on the applicability to social systems. Feibleman and Friend (1945) were more explicit about the links to social systems, although they did not demonstrate a distinct causality between the two types of systems.

Theorists take different standpoints as to the extent to which social organization resembles the living organism. Emery (1969: 14) argues that "human organizations are living systems, and should be analysed accordingly". Selznick (1948: 309) and Miller and Friesen (1980) point out that certain, fundamental characteristics are consistent between the two types of systems. Vickers (1983) shows more concern with the differences between social systems and models of self-regulatory systems, pointing out that there are differences due to the technological, purposive and norm-setting character of social systems.

The importance of purpose is suggested by Ackoff and Emery (1981: 393), who demonstrate that there is a connection between the level of a system's purposefulness and the types of actions it can perform and the types of outcomes it can achieve. If Ackoff and Emery's position is accepted, the arguments of Pondy and Mitroff (1979: 9) appear valid, which disqualify systems theory from providing a fully comprehensive model of social organization. With basis in Boulding's 9-level organization typology, Pondy and Mitroff argue that all human organizations are level 8 phenomena, i.e. "multi-cephalous (multi-brains) systems, whereas our conceptual models of them are fixated at level 4, i.e. open systems, and data collection efforts are rooted at level 1, (frameworks) and level 2 (clockworks).

This appears important for the study of divergent knowledge in organizations. If organizational members carry out their data collection while viewing the organization as a structure rather than as a system of knowledge processing, it is possible that divergence of knowledge could be overlooked, and consequently that underlying causes would not be explored.

Another critique of the applicability of open systems theory comes from Maturana (1980(b): 12), which is more specifically directed at the notion of purpose. Maturana suggests as an alternative to the input-output model of open systems, the idea of circular evolution of living systems, in which interaction is defined by the way in which the system preserves its own identity. Of particular interest to organizational learning is the idea of Maturana and Varela (1980: 120-121) that (what they call) autopoietic systems are capable of interacting with their own states, and capable of developing with others in a linguistic domain. A system thus develops a metadomain which allows it to interact recursively with its own states. It is worth noting that Beer (1980:70) argues that cohesive social systems meet the criteria of being autopoietic systems. Their argument

concur with, but extends further, than Lewin's (1952: 463) argument that for any learning to take place, there must be defined objective standards of achievement.

This goes beyond the idea of purpose. It offers the idea that organizations might learn through cyclical evolution by being confronted with their own identity, and that this is made possible by meta-perspectives of their own identity.

A consequence for organizational learning, is that it requires a mechanism and a language at meta-level which enables the organization to assess and to modify its identity. In other words, it points out, firstly, the importance of having an identity, and, secondly, having a set of symbols which can assess whether or not the identity is being changed. As regards divergence resolution, it questions whether divergence can be resolved if the organization is not able to interact with its own identity.

## 2.2.4 An organizational culture perspective

### 2.2.4.1 Introduction

Culture is a construct which owes its origins to anthropology, where it has been used to explain behaviour in societies (Mitchell et al., 1986: 304-305). The term "culture" has been subject to many different interpretations. Blumenthal, for example, identified in 1936 no less than 20 different definitions of culture in sociology (Blumenthal, 1936: 885-891). Kluckhohn (1951) offers the following definition,

“Culture consists of patterned ways of thinking, feeling and reacting, acquired mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values.” (p. 86)

It is worth noting that Kluckhohn's definition suggests simultaneous presence of knowledge ("ideas") and "values", something which, it is proposed in this section, is of particular importance for resolution of knowledge divergence.

The study of culture in formal organizations has associated it with symbols, language, ideology, belief ritual and myth (Pettigrew, 1979:93). The notion of culture has also

been used by organization theorists to explain why some organizations seem to exhibit a greater readiness for change than others. Examples are Peters and Waterman (1982) and Ouchi (1981), both who suggest on the basis of empirical data, characteristics of company cultures which serve to increase their competitiveness.

Organization theorists approach the term 'culture' from different angles. From a group behaviour perspective, March and Simon (1958: 68) refer to culture as relating to norms that develop in groups, norms which the individual shares with the group, whilst Gillette and McCollom (1990:43) and Schein (1985: 6) focus on assumptions that develop in groups about the group and the environment. From a perspective of individual cognition and behaviour, it is argued that culture conditions beliefs of organization members (Sproull (1981: 204), Van Maanen and Schein (1979: 210)) and their behaviour (Moch and Seashore (1981: 210)), while representing shared understanding about exchange and value, rights and obligations (Jones, 1983: 454-467). From a management theory perspective Bennis (1989: 155) refers to the shaping of culture by leaders, suggesting that people in power must shape "the culture of work", and that they must examine the norms and values of their organizations, and the ways they are transmitted to individuals.

Although the theorists cited above approach culture from different angles, they tend to converge towards an appreciation of culture as being associated with *shared* meanings or assumptions among organizational members. This interpretation has two major implications for the understanding of organizational learning and the resolution of divergent knowledge. The first suggests that a change of culture signifies higher order learning, and the second suggests that the element of convergence may be problematic in relation to resolution of divergence.

#### 2.2.4.2 Culture change and higher order learning

Schein (1983: 16) argues that there are basically two levels of assumptions in a group. The first level concerns goals, methods, systems, etc. There is also, in most cultures, a deeper level of assumptions which ties together the various solutions to the various problems, and this deeper level deals with more ultimate questions. It is suggested that

the deeper level of assumptions has profound effects on how an organization works. Smircich, (1983) argues that,

"A cultural analysis moves us in the direction of questioning taken-for-granted assumptions, raising issues of context and meaning, and bringing to the surface underlying values". (p. 355)

Hence, it would seem that if an organization changes its culture, it could be said to be performing higher-level learning, because context and meaning would appear different for organization members (it is argued in section 2.1.4.5 that change of meaning constitutes a higher-level of learning).

Although a cultural perspective, when used as a means of making sense of deeper level processes in organizations suggests that assimilation of new assumptions signifies a higher-level of learning, it stops short of explaining the dynamics of culture change. Two issues seem of particular relevance to organizational learning and resolution of divergent knowledge.

Firstly, the possibility of changing culture. Although empirical examples exist of change of corporate culture initiated by top management, (e.g. Carlzon, 1985), , and theory suggests various conditions facilitating culture change (Salama, 1991; and Wilkins and Ouchi, 1983), it appears difficult for organizations to deviate from the culture in which they are embedded (Simon, 1991: 128). This observation is supported by Finney and Mitroff (1986: 321), who, from intervening on shared assumptions in groups (they refer to them as consensual cognitive schemas) point out that it is the unconscious nature of schemas that make them difficult to identify. This does seem to pose a dilemma, in the sense that if we consider that assumptions can be changed principally by the organization members, it may seem all the more difficult, as the members would normally have taken part shaping the assumptions in the first place.

If divergence of knowledge pertains to the culture, the question is what would make resolution of the divergent knowledge possible. At least two possible scenarios of divergence reveal themselves. Firstly, that organizational members think that some prevalent assumptions are dysfunctional, but their concerns are not heeded. Secondly, that there is significant convergence about the rightness of prevalent assumptions between organization members, but the convergent view is not tested. In either case, it

seems improbable that a scrutiny of prevailing assumptions could be done by members taking an outsider's view of their own culture.

Secondly, the significance of culture change in terms of the relationship between individual and organization. Schein (1985) raises the issue, asking if cultural change refers to change of the whole paradigm, or to individual sets of assumptions (p. 245). He provides an empirical example from intervening in a company that it is possible for collective cultural paradigms to remain unchanged, even though partial change of assumptions is widespread among organization members (pp. 265-266).

This raises the issue of who in the organization experience a change of assumptions, and what effects the change of assumptions of certain people has on the organization's culture. It is probable that for new assumptions to be accepted, they need to be assimilated by influential organization members, as suggested by Schein (1985: 75) and Lyles and Mitroff (1980: 111). However, a similar dilemma to that above would probably be encountered, in the sense that the same persons would be likely to be in some sense central in creating or reinforcing the assumptions that are "shared". Hence, the culture could be an obstacle to its own change.

#### 2.2.4.3. Cultures of change or change of cultures?

Although it is argued that the culture perspective focuses more on sensemaking than on outcomes in terms of organizational readiness for change, as suggested by Jelinek et al. (1983: 337-338), it provides identification of organizational characteristics that facilitate change. Shrivastava (1983: 20) refers to an "information seeking culture" as one of six different types of learning systems. It is referred to in section 2.2.2.2 above how entrepreneurial culture may encourage innovation. An example is given by Reichheld and Sasser (1990: 110), who refer to a "zero defections culture", where everybody understands that "zero defections (of customers) is the goal", and therefore any change may be considered appropriate, as long as it helps to keep loyal customers. Fortune Magazine (1994: 51-56) describes how Motorola has achieved a great deal by developing a "total quality and innovation" culture.

However, such examples suggest that certain organizational cultures may facilitate change merely within a given set of parameters, which are likely to be shaped by



decision makers, as suggested by Ford and Baucus (1987: 373-375), or be derived from the values of founders, such as described by Schein (1983).

The effects on individual members is, as observed by Van Maanen and Schein (1979) a form of "organizational socialization" (p. 212), which induces a readiness with individual members to, for example, focus on certain events rather than on others, or, as argued by Jones and Hendry (1994: 158-159), that they engage in learning that is defined as "acceptable" by the organization. Henry and Jones' argument concurs with Duncan and Weiss (from explicit organizational learning theory).

The question then becomes, "what happens when the parameters defining "acceptable" and "unacceptable" change lend themselves to disconfirmation? That would arguably represent a stage where higher-level learning could be achieved, if we use the definition of Watzlawick et al. (1974) referred to in chapter 1. One effect of that would, according to Jones and Hendry (1994: 157), be that members learn the code of knowing when to speak and when to keep quiet, as they begin to understand how the communication and other systems operate.

A cultural perspective suggests that this would be a critical and potentially highly conflictual stage, if culture is seen as a means of exercising social control, as argued by Douglas (1966: 67). An example of how this may be done cynically and purposely, is provided by Boyd (1991), who in an account of how the actions BLF, then one of Australia's biggest building worker unions, tells of how its management used industrial action as a means to escape personal legal pursuit for alleged corruption. The paradox of the account lies in the divergence between the politically left-wing beliefs on which the union was founded and the actions which they performed, actually serving to cover up personal enrichment of top management. Hence, it would seem that the more an organization approaches the point where prevailing parameters are subjected to scrutiny, the more the control functions of the organizational culture might manifest themselves.

On the other hand, it is argued that the more organizations are managed by cultural norms among members rather than by directives from management, the more change-oriented they may become (Moss Kanter, 1983: 125-126 and Crozier, 1989: 51 and Donegan, 1990: 307).

There seems to be a potentially important paradox between, in the one hand the culture exercising control over members, and at the same time, the culture being a means of change. One possible conclusion is that change within what is considered acceptable, may be accelerated in a change driven culture. On the other hand, it seems probable that in a strongly cohesive culture, which is assumed to exist in organizations which are largely managed by culture, "unacceptable" change might be all the more reacted against, because the control function of the culture might be correspondingly stronger. Hence, it is possible that, paradoxically, a change oriented culture might find it difficult to transform itself. In other words, a more cohesive culture might be less tolerant of divergent knowledge. The case of Norsk data referred to in section 2.2.3.4 appears to reflect such a pattern.

March (1991: 85) points out that there are two flows which might represent opposite forces between the individual and the organization's culture, that the culture may condition the individual to the organizational code before the code has the chance to learn from the individual. He suggests that this is a serious problem, as such a relationship may carry within it its own "seeds of destruction". It is the situation where either the person is not of crucial importance to the organization, or where criticism is deemed "unacceptable" which Rosenthal and Weiss (1966: 325-326), in their discussion of organizational feedback systems, describe as a scenario where feedback to the organization is likely to be discounted.

In conclusion, it may be argued that resolution of divergent knowledge may represent a process that runs counter to prevailing organizational assumptions, if the divergent knowledge falls outside what is considered culturally "acceptable". It suggests that a cohesive culture, although oriented towards change, may (unconsciously), provide a framework, outside of which members may purposely not manifest their divergence.

## 2.2.5 A human cognition and behaviour perspective

### 2.2.5.1 Introduction

Section 2.2.5 discusses possible implications that theory from a human behaviour perspective may have on the understanding of organizational learning and divergent knowledge resolution. It pays attention to what may make people, not merely change

their perceptions, but the underlying structures they use to interpret their perceptions. The issue appears of importance for exploring organizational learning and divergence resolution, as it arguably plays an important role in human behaviour (Davis and Luthans, 1980: 289).

#### 2.2.5.2 Cognitive structures

A key concept in relation to human cognition and learning, is that people operate according to certain mental schemas, which influence their thinking as well as their behaviour.

For example, Feldman's (1986: 271) argument that what is learned from past experience, depends on the pre-existing cognitive structure, is supported by Mintzberg's (1973: 89) finding of how managers make decisions using their memories and mental models which they carry with them. Similarly, Nyström and Starbuck (1984: 55) argue that people's cognitive structures influence what they can see, predict, and understand.

Whereas the phenomenon per se is readily understandable, its nature seems complex. Firstly, cognitive structures can not be assumed to be constant. For example, Isenberg (1986: 253) argues that schemas can be intuitive, which concurs with findings in management learning theory (Mumford, 1990). An finding by Isabella (1990: 31-32), who carried out research on perceptions of forty managers during processes of change, suggests that their perceptions of phenomena changed during processes of organizational change.

Secondly, although Smircich and Stubbart (1985: 730) argue that cognitive structures form a basis for people's behaviour, it seems uncertain how the influence manifests itself. There are suggestions that there may not always be a correlation between the two. For example, Sproull (1981: 203) points out that it should not be taken for granted that beliefs influence actions. The complexity of the factors is usefully summed up by Schein (1988: 50), as follows,

"Human behaviour is a complex result of our intentions (*italics*), our perception (*italics*) of the immediate situation and our assumptions (*italics*) or beliefs (*italics*) about the

situation and the people in it. These assumptions are, in turn, based upon our past experience, cultural norms, and what others have taught us to expect."

### 2.2.5.3 Formation of cognitive structures

Schein's definition above mentions factors that are derived from the organization around the member, such as cultural norms, and others' expectations, on the one hand, and factors that are to be found with the member, such as intentions, assumptions and beliefs, on the other hand. Although in practice there is arguably a dialectical relationship between the two groups of factors, a separation is useful.

We could label the former group of factors "extrinsic" factors, as it emerges in interaction between a members and the organization. A central argument appears to be that cognition is influenced by other organizational members, who are perceived as significant, as suggested by Blau (1954), Berger and Luckmann (1966: 170-177)), Revans (1984: 75) and Donnellon 1986: 138). Empirical support for this argument is found with Fornengo (1988: 116), who observed, from studying telematic networks in companies like Benetton and Fiat, that information flows were associated with asymmetric relations of power, influence, trust and expertise.

Organizational roles people occupy also seem to influence their cognitive structures. For example, Ford and Baucus (1987: 373-375) identified, on the basis of an extensive literature review, a number of areas in which top decision makers tend to interpret information. From a more general perspective, Beer, Eisenstat and Spector (1990: 159) concluded from studying a number of organizational change programmes that individual perception and behaviour is powerfully shaped by the organizational roles they play. This concurs with Senge (1990) within explicit organizational learning theory, who argues that one of the obstacles to higher-level learning is the notion among managers that "I am my positions" (p. 18).

It would thus seem that divergence may be created and sustained by extrinsic factors, such as influential people and organizational roles. If we extrapolate this assumption onto resolution of divergence, it suggests that change of a factor, at least temporarily, might help to resolve divergence. In the case of change of roles, this concurs partly with

Herbst (1981), who suggests that participation by members in projects may offer the advantage of making discoveries which go beyond "established givens" (p. 258).

The other type of factors in Schein's definition in section 2.2.5.2 could be labelled "intrinsic" factors, relating to the member's own needs and mental processes.

People's own experiences may influence their cognitive structures. Revans (1984: 75) found, from analysing hundreds of hours of recorded discussions between managers, that they idealised past experience. There are also suggestions that people are influenced by needs, such as a need for learning, as suggested by Pedler, Boydell, Burgoyne (1989) and Kolb et al. (1983: 32). However, the essence of assuming that there are intrinsic factors, is that members have their own, individual needs, which may be significant in their choice of actions. As Gioia (1986) suggests,

"The main implication of the sensemaking perspective on organizations is that organization members both create and sustain their own particular reality." (pp. 66-67)

Consideration of "intrinsic" factors suggests, in other words, that members can not always be considered organizational members per se, in the sense that they will consistently pursue organizational goals, but that they may, under certain conditions, choose to pursue satisfaction of their own needs. This is what Parsons (1951: 252) refers to as "withdrawal". It has a possible direct bearing on the resolution of divergence, in the sense that it implies that members may choose not to engage in a process of resolution if pursuing personal goals appears more profitable than resolving the divergence. In other words, divergence would be avoided rather than attempted resolved.

#### 2.2.5.4 Limitations of human judgement

In cognitive theory, work has been carried out, notably, by Tversky and Kahnemann (1974) and by Nisbett and Ross (1980) to assess patterns of human judgement. The work has, in particular, served to identify limitations on people's ability to assess phenomena objectively, and to be willing to reassess their impressions, once formed.

Tversky and Kahnemann (1974: 1124-1131) identified three heuristics that are employed by people to assess probabilities and to predict values, with corresponding sources of error, as follows,

1. People are biased by *representativeness*, meaning that they tend to be insensitive to prior probability of outcomes, to sample size, and to predictability.
2. People are biased by *availability*, meaning that they lend undue attention to retrievability of instances, they are biased by imaginability, and susceptible to illusory correlation.
3. People are biased by *adjustment and anchoring*, meaning they may attribute undue validity to, say, conjunctive and disjunctive events, and tend anchor to their judgements in the assessment of subjective probability distributions.

The work of Tversky and Kahnemann is largely founded on laboratory experiments, which might suggest that it has less validity for organizational settings, where social dynamics are at play. However, their work concurs significantly with Katz and Kahn's (1978: 506) suggestions of four different types of cognitive simplification processes which people employ to cope with the complexities of the world around them, which are as follows,

1. Undifferentiated thinking (e.g. treating other groups and people as homogenous entities).
2. Dichotomised thinking (e.g. good and evil, black and white, etc.).
3. Cognitive nearsight (e.g. responding to the immediate at the expense of the more remote).
4. Oversimplified notions of causality.

Whereas the work of Tversky and Kahnemann and Katz and Kahn identifies simplification processes, Nisbett and Ross (1980: 59) bring in the element of information medium, suggesting, for example, that vivid information has significantly more power over people's perceptions than factual information.

The above discussion suggests that people are susceptible to draw conclusions from false premises. If we consider this in the light of Downey and Brief's (1986: 171) argument that individuals' assumptions about causal relationships among attributes of people with whom they interact are an important input into their actions, we may infer that similar errors from oversimplification may arise in assessing other people's attributes or actions. This inference concurs with Nisbett and Ross (1980: 122-123), who refer to "the fundamental attribution error", pointing out the incompatibility between the observer, who sees the actor rather than the situation, and the actor, who sees the situation, because he (or she) cannot see himself (or herself).

Works of others concur with the idea that simplification of judgement is present in human relationships. Cosmides and Tooby (1992: 183) found, from analysing cause and effect reasoning with a large number of people, that whereas subjects reasoned logically "correctly" about abstract problems, their reasoning changed markedly when it came to social contracts, although they were taken at an abstract level. Similarly, Schein (1987: 63-77) argues that in social dynamics, we tend ourselves observe to distorted analysis and judgement, which makes us react emotionally from erratic premises.

In relation to organizational learning and divergence resolution, this could imply two things. Firstly, from the work of Tversky and Kahnemann and of Katz and Kahn, that members may overlook the significance of knowledge conveyed by other members because of lack of ability to extract unusual or nuanced information. Secondly, from the work of Nisbett and Ross, Downey and Brief, Schein and Cosmides and Tooby, that members' emotive attributions to other members may obscure what other members try and convey.

#### 2.2.5.5 Willingness to test underlying cognitive structures

Although it is suggested in 2.2.5.3 that a number of factors influence members' cognitive structures, there are several suggestions that once formed, they are difficult to change.

From a systems perspective, Bateson (1972) observes that people are self-correcting systems against disturbance. From a perspective of organizational change, Nystrom and Starbuck (1984: 60) observe that,

"research shows that people tend to ignore warnings of trouble and interpret nearly all messages as confirming the rightness of their beliefs."

Rosenthal's (1973: 56-63) research on school teachers provides empirical support, demonstrating that teachers would consistently encourage pupils whom they (wrongly) thought more apt, without actually testing to see if that was the case.

Acknowledging that cognitive structures may be changed with difficulty, there are suggestions that they change under given conditions. Hedberg (1981: 22) suggests that the willingness to change is related to the perceived relationship between problem complexity and estimated problem-solving capacity. It is thus implicit in his suggestion that members assess the pros (ability to solve problem) and the cons (difficulty of problem), and make a decision based on the relative importance of the two. Schein (1987: 94) formulates it differently, but with essentially the same message, that a person will not seek solutions to his problems unless there is something in his own life that is not working out.

There are suggestions as to how cognitive structures may change without assuming an element of calculation. Feldman (1986: 267) points to a certain power of direct experience, and suggest that *experiences* that contradict existing rules promote the most learning. Feldman's argument thus concurs with Nisbett and Ross' observation in section 2.2.5.4 above, that the type of medium plays a role in the formation of cognitive structures. Another observation by Nisbett and Ross appears important; that people are more likely to revise their cognitive structures if confronted with data which account for the impressions that helped form the initial structure (p. 190). The significance of this proposition is that a disconfirming medium would need to somehow correspond to that, or those, which helped form the cognitive structures. Given the complexity of formation of cognitive structure mentioned in section 2.2.5.2, this would seem difficult to achieve in practice, but it nevertheless sheds additional light on the potential importance of which medium the disconfirming information is channelled through.



In relation to divergent knowledge resolution, three inferences may be made. Firstly, as cognitive structures are modified with difficulty, we may assume that they may remain unchanged, although the member experiences disconfirming information. Secondly, members may calculate whether solving a problem is worth the potential benefits. Thirdly, the medium of experiencing the disconfirmation of one's cognitive structure may be significant, particularly if it reflects the initial conditions which helped form the structure. It seems important to lend particular attention to media providing "vivid" information.

#### 2.2.5.6 Transmission of knowledge and collectively shared knowledge<sup>iii</sup>

A branch of cognitive research which appears of interest are ethnographic studies of the creation of professional, shared meaning in the context of work, so called "communities-of-practice" (referred to in section 2.1.4.3 and section 2.1.5.1). Orr (1990), for example, found, from studying photocopier maintenance technicians that they developed shared knowledge by utilising their tacit knowledge (immediacy of experience, "letting the material speak") because the repair manuals were conceptually bounded and could be used for solving trivial problems only. What appears of particular interest, however, is the idea of collaborative work as a powerful medium of transmission of knowledge. It supports the argument of Roszak (1988: 190), that information only makes sense in the context of issues.

The process of developing shared knowledge is discussed by Boisot (1983), who suggests that knowledge may develop through various stages from personal knowledge versus public knowledge. His work concurs with Cohen (1991), who refers to the "collectively unconscious" (section 2.1.4.3).

However, in the case that the "collective unconscious" constitutes some kind of organizational memory, the idea of shared knowledge in collaborative work may be insufficient for the understanding of resolution of divergent knowledge. Douglas (1987: 70), for example, points to the problems of referring to the memory of a social system, because of the dilemma of not knowing about the rightness of categories (sic). Her point suggests that learning from memory is almost naturally conflictual, and should not be overlooked.

The concept of transmission and sharing of knowledge, such as in communities-of-practice is potentially interesting in relation to divergent knowledge resolution, in the sense that if collaborative work may represent an effective medium for creating convergence, it follows that it could also be effective for dealing with divergence. This warrants some caution, however, because it is uncertain to what extent collaborative work serves to surface divergent knowledge rather than suppress it for the sake of creating convergence.

## 2.2.6 A group behaviour perspective

### 2.2.6.1 Introduction

The working of groups is arguably an important perspective, not only because they can be construed as microcosms of the organizations in which they are embedded, but also because they provide for exploration of what may happen to organizational learning and divergent knowledge resolution when social dynamics are at play in face-to-face situations.

Of particular interest are factors which potentially influence groups' ability to practise higher-level learning, i.e. to revise operating assumptions, or explore their tacit norms when faced with divergence. Critchley and Casey (1986:417) provide a useful image of such a process, arguing that it might progress from "unshared certainty" between members towards "shared uncertainty" as the issues of resolution become increasingly more fundamental to the functioning of the group.

It is instructional for the sake of understanding the contribution of the group behaviour perspective to use a definition of groups which takes into account the external context of groups and allows for a varying nature of interaction between group members. Thus, the definition of Alderfer (1977) serves our purpose, which suggests a group as characterised by:

"collections of individuals having: a) significantly interdependent relations with each other; 2) who perceive themselves as a group by reliably distinguishing members from non-members; 3) whose group identity is recognised by non-members; 4) who have differentiated roles in the group as a function of expectations from themselves, others

and non-group members; 5) who as group members acting alone or in concert have significantly interdependent relations with other groups." (p. 230)

This definition distinguishes the type of groups we want to consider from, say informal networks, although informal networks are characterised by Neuhauser (1988: 191) as powerful groups in organizations.

#### 2.2.6.2 Irrational and sub-conscious processes in groups

A central element of group behaviour is the irrational, sub-conscious behaviour, such as the basic assumptions group described by Bion (1968), where sub-conscious, shared assumptions may influence any rational work the group attempts to do. Another element is that of projective identification, discussed by Wells (1990:69) in the context of groups in organizations whereby, for example, members typically project incompetence or anxiety onto someone else. An example of seemingly irrational group behaviour is that groups may act as if certain problems don't exist in order to avoid embarrassment or threat. This inability spirals into further dysfunctionality, as groups cover up their avoidance (Argyris, 1989: 7).

The emotive effects of face-to-face encounter may distort views in problem solving and decision making (Argyris (1983) and Wells (1990: 56). When groups exist in a mutual win-lose situation, mutual negative stereotypes arise, and members of each group may reject information about their adversary which might have changed their views of them (Sherif and Sherif, 1961: 183). In the case of intense relationships, "double binds" occur, which prevent them from making metacommunicative statements, and which lead to defensive behaviour (Bateson, 1972: 208-209). A possible behavioural consequence in face-to-face interaction is Schein's (1987: 45) notion of "face work", and Argyris' (1983: 8-9) "face-saving games".

Thus, it appears that with dysfunctional dynamics, group members distort reality while pretending to be dealing with it, i.e. they can be said to practise defensive behaviour, which works as an obstacle to organizational learning. It is equally possible that defensive behaviour poses an obstacle to divergent knowledge resolution, because resolving divergent knowledge would arguably require that divergence is not covered up.

### 2.2.6.3 Norms, non-conformity and change

In relation to second order change, the idea of group norms, defined by Katz and Kahn (1978:385) as "common beliefs of an evaluative type", appears important, because they tend to regulate the behaviour of group members.

The research of Takeuchi and Nonaka (1986: 139), who studied high-performance product development teams in companies like Canon, 3M, Honda, Xerox and Hewlett Packard, suggests that an important feature of what they call a "self-organising" group, is an ability to perform self-transcendence (challenging limits, values and norms). Similarly, Hay (1988) observes from the study of autonomous groups in "just-in-time" industrial production, that,

"The (JIT) group needs to continually make decisions based on changing information and even changing *assumptions*". (p. 197) (italics mine)

It has also been found from laboratory experiments that groups which are more successful than others at performing tasks or solving problems tend to use divergent views as a source of creativity, rather than resorting to compromise, such as found by Hall (1971: 86-88), from studying decision processes of hundreds of groups in laboratory setting. His findings are supported by Asch (1952), and Maier and Solem (1952).

We may hence assume that the challenge of norms is both possible and important. However, whereas it appears important for groups to be able to probe into their norms, there are suggestions that norms change with difficulty.

One such difficulty lies in the fact that the norm itself is such that inadequacies in the norm are not to be discussed, as suggested by Hoffmann (1982: 114). A similar argument is made by Argyris (1989: 9), who suggests that undiscussability represents in itself a double obstacle to achieving higher-level learning.

Another difficulty is found in the idea of "groupthink", by Janis (1971, 1972); i.e. the inability of a group to examine its operating assumptions, although members privately

question the validity of the assumptions that are influencing the actions of the group. Janis' research is based on studies of the decision processes in the Kennedy Administration leading up to the failure of the Bay of Pigs invasion in Cuba.

A third difficulty lies with the pressure for conformity which seems to be produced in certain groups. Sherif and Sherif argue that,

"The *social attitude* of the individual, determining characteristic and persistent modes of behaviour to relevant stimuli, be they other persons, groups, activities, institutions or symbols, is derived from those expected, or even ideal modes of behaviour referred to as a group norm."

Parsons (1951: 252, 255) argues that whereas conformative motivation encourages accentuation of the positive, careful expression and minimising risk of further disturbing the relationship, non-conformist behaviour, on the other hand, may lead to alienation. Alienation may take place without much effort, if we assume along with Sabel (1990: 13-14) that patterns of loyalty may not be stable, but volatile, and subject to review by members. However, it may not take place if there is social support for deviance in the group. Allen (1975: 27) suggests that reduction of conformity requires that one or more group members provide social and psychological support to a person's non-conformist view. In other words a view which diverges from what is generally expected by the group, may be rejected if proposed by one person, but with increasing social support, it stands a better chance of influencing the group.

The issue of non-conformity seems to have ontological similarities with divergence of knowledge, particular in the situation where a member advocates knowledge which is at odds with what is considered acceptable by the group. The above discussion suggests firstly that groups may reject divergence which involves views that are potentially in opposition to the group's norms. Secondly, it suggests that divergent (non-conformist) views may succeed in influencing the group if there is some social support, as opposed to being advocated by one person only.

#### 2.2.6.4 Change in groups

Theory exists on how change in groups takes place without intervention, on the one hand, and how it takes place with the help of interventionists, on the other hand.

Change may take place when tension in the group becomes clearly dysfunctional. Cangelosi and Dill (1965: 200) suggest that from studying change in group of seven managers playing a simulation game over 15 weeks, change in group behaviour developed from tension which developed from individual level and up to group level. When tension (discomfort stress, performance stress or disjunctive stress (p. 200)) began to interfere with organizational activities, search for total-system solutions was undertaken and changes were made (p. 196).

It is also argued that change may take place, provided certain skills are present in the group. Senge (1990: 233-269) argues that change of assumptions in groups is possible, provided that a shared vision is developed, that members learn to suspend private assumptions, master dialogue skills and avoid defensive behaviour. To support his argument, Senge provides an example from intervening in a management team, where some operating assumptions appeared to change as a result of members making conscious effort at suspending assumptions.

Clues about how groups may change assumptions are also provided by other interventionist perspectives. Freire (1972: 87) suggests that individuals may be able to explore their "real consciousness" of the world by codifying inherent contradictions in their situation. Similarly, Berg and Smith (1990), suggest that what they label "fault lines" in groups can be identified by group members beginning to learn how their actions and reactions are expressions of sub-conscious as well as conscious wishes and fears. Argyris (1990: 136-155) suggests a strategy for intervention which includes helping members discover how their behaviour creates barriers to second order change, then helping them to adopt less defensive behaviour. Eden et al. (1981) suggest ways of helping members deal with their subjective biases as a basis for collective action. An important element of Eden et al.'s is the presence of a visual medium enabling members to appreciate one another's reasoning. Their findings concur with Burke (1975: 319-326), who shows how the exchange of projected images can be of help in the presence of a structure for conflict solving.

Thus, a change perspective of groups suggests the importance of being able to identify and revise assumptions prevailing in a group. An interventionist perspective suggests that it is possible for members to learn how assumptions may be suspended. The observations by Freire and Eden et al, in particular, suggest that the codification of information is important.

## 2.2.7 Summary

Table 2.2.1 below summarises the findings in the above sections, suggesting factors, found from exploring five selected perspectives, which seem to influence resolution of divergent knowledge.

Sociological perspective	Systems perspective	Organization culture perspective	Cognition and behaviour perspective	Group behaviour perspective
1. Factors, other than behaviour, such as org. structure, may indirectly influence divergence resolution	5. Necessity of testing validity of learning systems for higher-level learning	9. Problem of organization members assessing their own culture	12. Change of contextual factors, such as org. roles and relationships may help resolve divergence	18. Defensive behaviour may effectively prevent resolution of divergence
2. Divergence and convergence form a dialectical relationship	6. Necessity for learning systems to be able to detect "odd" knowledge	10. It may be significant which org. members are involved in resolving the divergence	13. Organization members may, instead of try and resolve divergence, pursue their own goals	19. Resolution of divergence may require social support in the group
3. Rationality and non-rationality co-exist, and may co-vary	7. Necessity for members to view the organization as a knowledge generation system	11. A culture may form an obstacle to its own change	15. Cognitive structures may not change, even in the presence of disconfirming knowledge	20. Group members may learn to suspend assumptions and thus facilitate divergence resolution
4. Adequate diversity form the basis for divergence as a means of higher-level learning	8. Need for ability to assess organization's identity, and meta-language of codification		16. The effect of disconfirming knowledge may depend on the medium by which it is received	21. The codification of knowledge is potentially important
			17. Collaborative work is potentially an effective medium of disconfirmation of knowledge	

Table 2.2.1 Summary of contributions of other perspectives to the understanding conditions of divergent knowledge resolution

Of particular interest in relation to the preoccupation expressed in section 2.1.5.2; that theory representing a divergent perspective considers largely social behaviour as a key



variable, is that the findings in table 2.2.1 suggest that other factors may also be significant. Examples are organizational structure (in particular loose coupling); alternative media for transmitting knowledge; and the use of organizational learning systems which register non-conformative signals. The results and the discussion of the empirical findings of the thesis in chapter 3 will shed further light on this issue.

It is also instructional, from an ontological perspective of organizational learning, to note that from a sociological viewpoint, convergence and divergence in social organization may almost inevitably form dialectical a relationship with each other. It may be recalled from sections 2.1.4.2 and 2.1.5.1, that explicit organizational learning theories seem divided between a divergent and a convergent perspective. It could seem that explicit organizational learning theory, because it tends to take either a divergent or a convergent perspective, may not be exploiting its potential.

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<sup>iii</sup> It is acknowledged that this could also be discussed from the perspective of "sociology of knowledge"

## Chapter 3 Report and discussion of the empirical work

### 3.1 Methodology - description and critique

This chapter presents the methods that have been employed at different stages of the research. It attempts to respond to Galtung's (1990) concern that,

"A good theory, then, should be able to reflect on the conditions for its own disconfirmation....." (p. 99)

It can be argued that the "conditions for disconfirmation" lie with the methods that have been employed in the work on the thesis, and for this reason they merit questioning.

After an overall description of the methodology used, the chapter discusses the methods used for each major stage of the research process. The research process is considered to consist of the following stages:

- selection and approach of organizations<sup>iv</sup> studied;
- selection of interviewees<sup>v</sup> and interview method;
- data analysis

#### 3.1.1 Overall classification of methodology

The approach described has to some extent been non-specified from the start. Hypotheses have emerged, been modified, or discarded, sometimes retrieved. The work has resembled Schön's (1983: 150-151) idea of how professionals proceed in a transactional relationship the situation they study, arguing that the hypothesis-testing is neither self-fulfilling prophecies, nor neutral hypothesis testing, but rather a conversation with the situation, so that the professional's models of the situation are also shaped by the situation.

In general terms, the methodology may be termed "largely qualitative - inductive", aiming at grounded theory. The term "largely" is being added to account for the probable presence of both quantitative and deductive elements.

"A largely qualitative methodology"

The term "qualitative" appears appropriate in the light of Van Maanen's (1983: 9) definition of qualitative methodology as,

"an array of interpretative techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less natural occurring phenomena in the social world".

That the main aim of the thesis is arguably to explore *meaning*, is manifest by the attempt of the thesis to understand effects of the organizational context in the light of perceptions of interviewees and observations.

Although the general pattern of data collection and analysis can be said to be of a qualitative nature, it would seem incorrect to assume that it does not have a quantitative element.

Firstly, the choice to study 6 organizations, and to talk to around 10 people in each organization, is largely a choice of numbers. A volume of 55 interviews with corresponding observations sets a limitation in terms of the depth of data collection and analysis. Whereas a "pure" qualitative approach should ideally allow for probing in increasing depth as new meaning emerges, the limitations imposed by the volume of work normally associated with a doctoral thesis, prevents the researcher from probing successively in-depth, once it has been decided to carry out a certain number of interviews.

Secondly, although efforts have been made to look for odd, "off-stream" data that provide (new) meaning, rather than to select those data which occur more often than others, my experience throughout the research has been that I tend to look for data that are greater in numbers while concurring in providing similar explications of a phenomenon. It may be subject to speculation that this is a conceptual "reflex" owing

to my background in engineering. Given that I have sensed a natural tendency with myself at times to look for numbers of occurrences, I have attempted to consciously look for "odd" data providing explanations different from the ones anticipated.

### Grounded theory

It is assumed that a commonality between a qualitative approach and grounded theory lies in the search for meaning rather than going by frequency and numbers of occurrence of similar data. This assumption is used, although it is pointed out that grounded theory may (exceptionally) be generated using quantitative methods (Hammersley, 1989: 173)

The reason for adding 'grounded' theory as a descriptor to 'qualitative method', is that the thesis aims at generating theory for further research, by generating categories of data based on theoretical sampling, in line with Glaser and Strauss (1967) idea of grounded theorising.

### "Largely inductive"

The work may be termed "largely inductive" from the point of view that understanding has been allowed to emerge from empirical data. In other words, it may be labelled "empirically inductive".

The work was not undertaken to test rigorous hypotheses, but rather to develop theoretical models as the data emerged. Taking as a point of departure Hammersley's (1989) argument that grounded theory differs from analytic induction in the sense that it does not consist of testing hypotheses, it would be a grounded, rather than an analytically inducted approach.

It would, however, seem a distortion of reality if the approach taken was presented as devoid of hypothesis testing. It is difficult to imagine that during an extensive literature review, such as that undertaken for the thesis, the researcher does not subconsciously develop hypotheses about what influences organizations' ability to resolve divergence. In addition, as the empirical work proceeds, data are beginning to be analysed and

sorted into explanatory schemas, it is probable that additional hypotheses may develop, although they may not be strictly rigorous.

The risk of assuming that a piece of data is "right" when it corresponds to a subconscious hypothesis may be compounded by a natural tendency with myself to look for "right" answers, which may be ascribed a background as a consultant, where clients tend to expect expert judgements, as well as an engineering education.

As the work progressed, I became increasingly aware of this potential risk, and tried to minimise the consequences by purposely questioning, from time to time, conclusions that were made. The extent to which this was successful, is difficult to assess, because that would imply trying to be objective about my own subjectivity, by subjectively selecting my objectivity, which would seem a self-defeating exercise.

### 3.1.2 Dimensions of variance between the organizations studied

This section discusses the criteria by which the organizations were selected for the studies.

#### 3.1.2.1 Overall characteristics of the organizations studied

A major concern governing the choice of organizations, was to obtain as wide diversity of organizational characteristics as possible. This concern is related to the aim of obtaining clues for generation of new theory. Given that the choice of organizations is somewhat limited to the range of personal contacts, diversity between the organizations was obtained at the following levels of analysis; organizational structure; nature of interaction between the organization and its target groups; and the nature of the national cultures within which the organizations were embedded.

It should be noted that the thesis does not represent a comparative study between organizations of different characteristics, although the diversity of organizations studied might lend itself to such an approach. The main rationale is that it is the phenomenon of divergence resolution which is the main object of study, and the sense the research makes of it in the context of the organization where it is studied. Therefore,

the diversity of organizations is considered a means of providing a wide "catch" of contexts, rather than a means of providing a useful comparative basis.

Table 3.1.1 below summarises the characteristics of each of the organizations studied in relation to the three levels of analysis. The descriptions of the respective organizations in table 3.1.1 are largely drawn from section 3.2.

Organization and geographical location	Organizational structure	Nature of interaction with target groups	Characteristics of national culture (from Hofstede (1980))
The research fellow network (Scandinavia)	Network, minimal hierarchy, horizontal interdependence	Development of knowledge	Low power distance; Low uncertainty avoidance; High individualism; Low masculinity
The development programme (West Africa)	Mixture of network and hierarchy, multiple reporting lines, high level of horizontal interdependence	Development of skills and social systems	(not obtained directly, but probably high on power distance and low on individualism)
The airline (French-speaking Europe)	High extent of hierarchy, matrix structure	Delivery of services	High power distance; High uncertainty avoidance; High individualism; Medium masculinity
The hotels (Scandinavia)	Few levels of hierarchy, singular reporting lines	Delivery of services	Low power distance; Low uncertainty avoidance; High individualism; Low masculinity

Table 3.1.1 Overview of characteristics of the organizations studied

Organization and geographical location	Organizational structure	Nature of interaction with target groups	Characteristics of national culture (from Hofstede (1980))
The social care centre (Scandinavia)	High extent of hierarchy, singular reporting lines, low level of horizontal interdependence	Development of motivation	Low power distance; Low uncertainty avoidance; High individualism; Low masculinity
The data company (French-speaking Europe)	Few hierarchical layers, high degree of autonomy, singular reporting lines, varying levels of horizontal interdependence	Delivery of services and products	High power distance; High uncertainty avoidance; High individualism; Medium masculinity

Table 3.1.1 (contd.) Overview of characteristics of the organizations studied

In addition, it may be noted that three of the organizations were publicly funded (the research fellows network, the social care centre and the development programme), whereas three organizations operated in the private sector (the airline, the hotels and the data company).

### 3.1.2.2 Organizational structure

It can be seen table 3.1.1 that the organizational structures varied from the loosely coupled research fellow network, with virtually no operational focus, to the quite tightly run airline, with a clear hierarchical build-up and high operational focus. A similar variance in organizational structure can be seen between the development programme and the data company, both of which had operationally and conceptually focused work, but where the data company had a unity of command (fig. 3.2.21), and the development programme had multiple reporting/communication lines (as shown in fig. 3.2.5).

The differences in organizational structure may be positioned within different typologies, or frameworks, but classification risks distorting some

of the fundamental differences between them. For example, although Mintzberg's (1979) classification scheme of "simple structure", "machine bureaucracy", "professional bureaucracy", "divisionalised form" and "adhocracy", would arguably accommodate the organizations in an approximate classification, it would not show up

some nuances in differences, which may be important for analysis in the thesis. An example is the data company, which might at first sight correspond to Mintzberg's "divisionalised form", but whose high degree of decentralisation does not correspond to Mintzberg's description of the "divisionalised form" as exhibiting "limited decentralisation" (p. 380).

### 3.1.2.3 Interaction with target groups

It may be seen from table 3.1.1 that whereas three organizations (the airline, the hotels and the data company) provided their target groups with services and/or products, the other three organizations performed developmental assistance to their target groups. This section argues why the differences in relations with the target groups between the organizations represents a significant span in organizational characteristics.

The difference between the two groups of organizations is significant, because it relates to analysability of the organizations' environments. It could be argued that commercial organizations, providing services or products to customers, operate in an environment that is perceived as more analysable by members than organizations engaged in development. The rationale for this argument is that for provision of services and products, clients (or users) are recognised as legitimate sources of judgement (Drucker, 1978), whereas development of people may lend itself to idiosyncratic views among organization members. If we adopt Daft and Weick's (1984: 289) typology of organizations' modes of intrusiveness vis-a-vis their environments (see fig. 3.1.1 below) it may be inferred that the three organizations which provided services or products (the airline, the hotels and the data company), belong largely in bottom half of the figure ("analysable environments), whereas the remaining three organization, performing largely developmental work, correspond to the top half of the figure ("unanalysable environments"). A significance of this as related to resolution of divergent knowledge, is suggested by the argument of Mitroff and Emshoff (1979: 9), that when the organization faces planning problems vis-a-vis its external environment representing simultaneously uncertainty and importance, it is particularly critical to be able to surface and review assumptions among members.

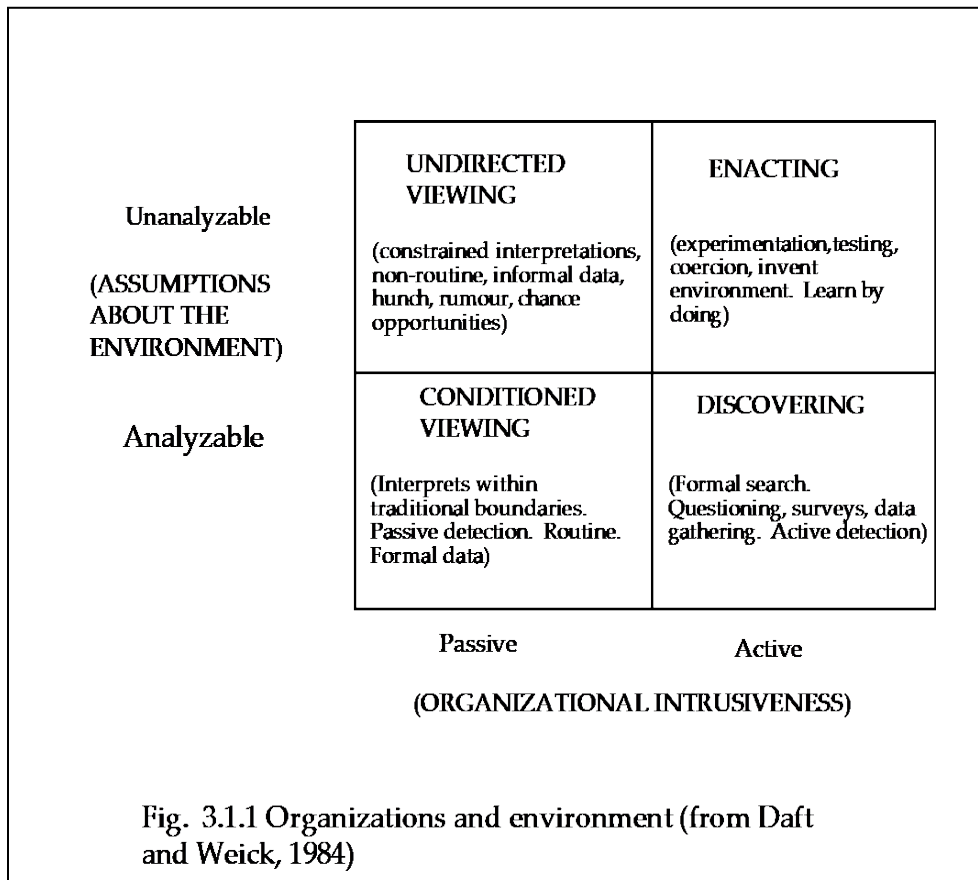
Another significance lies in the consequences that the different types of relations with the target groups may have on internal collaboration and problem solving. It can be



argued that the difference lies in, among other things, operational versus non-operational goals, which brings attention to March and Simon's (1958: 156) argument that whereas operational goals lend themselves to solving differences of opinion by means of predominately *analytic* processes, the influence of non-operational goals is that decisions will be reached by predominately *bargaining* processes.

Assuming that organizational environments are not given realities; they are created through a process of attention and interpretation (Pfeffer and Salancik, 1978: 13), the non-operational goals which may be imposed by "unanalysable" environments, may provide a particularly important dimension to the issue of divergence resolution. The issue of bargaining versus analysis is pointed out overleaf. However, the social dynamics surrounding the processing of knowledge, may also be significantly affected. It is instructional to pay attention to Rothschild-Whitt's (1979) research on "collectivist organizations"; organizations with strong cultural norms, based on consensual decision making, with strong emphasis on members' knowledge, and where members perceive their work places as emotionally intense. Rothschild-Whitt found that in such organizations, "interpersonal tension is probably endemic"(p. 521), the norms of consensual decision making conflict more threatening, and the intimacy of face-to-face decision personalises ideas to a greater extent, which makes rejection of ideas harder to accept than in bureaucratic organizations (p. 524). Her observation seems all the more important, considering the finding of Lyles and Mitroff (1980: 111) from a general sample of organizations, that the presence of commitment behind a personal view did not significantly contribute towards that view being accepted.

It will be seen from the descriptions in section 3.2 that some of the organizations studied operate in less analysable environments, have characteristics of collectivist organizations, such as the research fellow network (intimacy of consensual decision making), the social care centre (emotionally intense work) and the development project (strong emphasis on members' knowledge). Others operate in more analysable environments, and rely more heavily on formal systems for decision making, such as the airline and the data company.



### 3.1.2.4 National cultures

The cultures within which the organizations operated may be broadly divided in three categories; Scandinavian, European French speaking and West-African. These categories are to be taken as approximate for the airline and the development programme, who, although they employed a majority of nationals, also had expatriates working with them.

Hofstede's (1980) four national culture variables may be used to illustrate the span in national cultures that was present in the organization studied. Hofstede's four variables are; power distance; uncertainty avoidance; individualism and masculinity. Table 3.1.2 illustrates an approximate correlation between the national cultures in the countries and Hofstede's variables.

Hofstede's variable	Scandinavia	French-speaking Europe	Africa
power distance	Low	High	(probably high)
uncertainty avoidance	Low	High	(not obtained)
individualism	High	High	(probably low)
masculinity	Low	Medium	(not obtained)

Table 3.1.2 The national cultures mapped against Hofstede's variables

It can be seen from the table that for the three variables "power distance", "uncertainty avoidance" and "masculinity", the organizations represent a wide span in terms of national cultures. For the variable "individualism", and where Scandinavia and French-speaking Europe both have high scores, it is likely that Africa scores low, given Hofstede's correlation between social, cultural and political characteristics that he thinks are typical of low-scoring countries (p. 150-164). Similarly, it is probable that West Africa would score "high" on power distance, if one correlates with Hofstede's summary of characteristics of typical "high power distance cultures" (p. 92).

The correlations in table 3.1.2 are taken as indicative spans of national cultures only, as Hofstede's findings are likely to have limitations of validity, although it is likely to go beyond showing us "that not everybody is American" (Handy, 1984: 431). Another factor, which suggests less validity of Hofstede's findings in relation to the thesis, is that his findings are based on the same (north American) parent organization, with a "distinct corporate identity" (Hofstede, p. 41), whereas the thesis explores organizations with varying identities.

### 3.1.2.5 Summing up the three dimensions of variance

It is argued above that the organizations vary considerably along the three dimensions of organizational structure, inter-action with target groups and national culture. There are arguably other dimensions along which variance could be important to consider, such as stages of organizational evolution (Schein, 1983, Hawkins, 1991), the degree of organic versus mechanistic structure (Burns and Stalker (1966), or the nature of the organizations' environments (Emery and Trist, 1965). Whether or not they would have yielded different results, is an open question. Bearing in mind, however, that the main subject of the studies in the organizations was how they resolved divergence of

knowledge, there is reason to believe that the dimensions of variance chosen were sufficient to produce interesting results.

### 3.1.3 General data collection approach

The approach may be said to consist mainly of interviews and observations.

The interviews may be considered in two categories. Firstly, the "formal" interviews, with a total of 55 persons, which were taped, and which were of a consistent structure (section 3.1.4.4), Secondly, informal talks, whose nature, time and place were random. For example, one of the hotel owners in Norway invited me to share a bottle of brandy into the small hours. Another example was on field visit to a village in Mali (West Africa), while travelling by car and by river boat, I had a lively discussion with a project manager about the purpose of doing organization development for achieving self sustainability for villagers.

Secondly, observations, which were made at different levels of depth, depending on my relationship with the organization. The most comprehensive observations were made in the research fellow network, of which I was member, and in the development programme, which I had followed as an external consultant for some years. In the hotels and at the airline, I spent some days observing practices, events and behaviour and talking informally to members. In the social care centre and the data company, the method of data collection was largely limited to interviews.

Observing things that went on in the organizations, provided in some cases common ground with interviewees, which was helpful for exploring clues. For example, in discussing the learning systems at the hotels with a member of the cleaning staff, she made reference to two worn lampshades which were in my room, and which I had noticed were particularly "shabby" compared to the furnishings of the room. The lampshades turned out to be a contentious issue between her and the owners of the hotel, where she had repeatedly insisted that they be replaced. In front of this visual manifestation of divergence, we were able to explore how information from staff were dealt with in the organization. Another example, of a more general nature is from the research fellow network, where I could test hypotheses with interviewees about effects

of events that had previously taken place, such as the collaboration between organization management and fellows to save the organization from extinction.

An effect of observations was to provide a point of intersection between the dialogue in the interviews and events or practices that had taken place, or were happening in the organization. Thus, it may be argued that there was some triangulation of perceptions on the one hand, and actions, on the other hand, although this was not done systematically. Using Easterby-Smith et al's (1991: 134) definition of triangulation, the approach corresponds to a kind of "data triangulation", where data are collected from different sources (observations and interviews).

### 3.1.4 Interviews

#### 3.1.4.1 Selection of interviewees

Interviewees were selected from different organizational roles and different hierarchical layers. This was done to ensure that divergence which was present as a result of playing different roles in decision making processes, or as a result of simply experiencing different parts of the organizational reality, would be identified. It was thus assumed that a person's perception of organizational processes may vary considerable, depending on the perspective from which the person sees the organization. The assumption finds support with Gioia (1986), who is quoted in section 2.2.5.3 as arguing that people in organizations respond only to things that have meaning for them.

Empirically, findings may vary considerably, depending on who the researcher uses as the informants in the organization. An interesting contrast between findings of two different researchers, one of which used a management perspective, and another taking a bottom-up perspective, researching the same company, serves to illustrate the importance of this point.

Gunther Wallraff (1988), a German journalist, disguised as a Turkish immigrant, spent some weeks working at a McDonalds hamburger parlour. Two incidents may be retained from his experience as a McDonalds employee. Firstly, he was severely reprimanded by his manager when he tried to make suggestions of how their service

could be improved. Secondly, he tells of how they used the same cloth to wipe the tables as they did cleaning the toilets. In sharp contrast to Wallraff's account on employee motivation is Ouchi's (1982: 14) argument that "no company is maybe better managed than McDonalds" and Peters and Waterman's (1982: xix) praise of the cleanliness standards at McDonalds, on the one hand, and their speculation that "no company cares more about its employees" than McDonalds, on the other hand.

One might argue that factors other than selection of perspective contributed to the differences of the findings between Wallraff on the one hand, and Peters, Waterman and Ouchi on the other hand. Their methods differed significantly. Whereas Wallraff's approach could be labelled 'ethnographic', using Hammersley's (1990: 1-2) definition, Peters, Waterman and Ouchi used interviews and outsider's observations. Having observed the differences between the findings referred to here, however, suggests that, in the absence of being able to become part of the organization the way Wallraff did, it is all the more important to ensure frankness in the interviews, if findings as penetrating as Wallraff's are to be made.

It was also considered important to be able to interview members, who would not be afraid of speaking their minds, and who were reasonably knowledgeable about organizational issues, although the latter was not a major criterion.

It was indicated to the organizations that the interviews might well reveal critical information. This was done to help ensure that interviewees were selected, who were likely to be frank. For each of the organizations, a written note was submitted to my contact person, describing the type of topics I wanted to bring up with the interviewees, and how the interviews were generally to be conducted. In the letter, it was outlined that together with the interviewees I would explore, among other things, barriers to resolution of divergence, and that clues would be attempted found in interpersonal relations in the organization, as well as in the organization's structure.

It seems that the "warning" implicit in my letters encouraged the organizations to search out members who were susceptible to frankness. It seemed that my contact person, who was in most cases a senior manager or director, was proud of not being afraid of providing persons who were frank.

In the case of the data company, for example, the director introduced me to a sales person, who, in the interview turned out to be very critical of management practices, saying "she'll tell you the truth!" Similarly, in the airline, the station manager explained to me that he tried to pick out interviewees who would not be afraid of "telling the truth".

As to the procedure for selecting the interviewees, it varied considerably between the organizations. In two organizations which I knew from before (the research fellow network and the development programme), I did the selection. In the others, people were asked by management to volunteer. To what extent they consented by acquiescence, or by their own interest, was not assessed. None of the interviewees gave the impression that they had preferred not to be interviewed.

It is difficult to assess the extent to which interviewees were frank. The feedback from interviewees (see section 3.1.4.4 below) suggest that little information was purposely withheld. However, if a person purposely withholds information, it is unlikely that the same person will admit at the end of the interview that information had been withheld.

#### 3.1.4.2 Choice of face-to-face interviews versus use of questionnaires

Apart from choosing face-to-face interviews largely because that is what I enjoy the most, there are suggestions made by other researchers that questionnaires are of limited usefulness for identifying perceptions.

Hofstede (1980) reports that in carrying out a study of people's perceptions of organizational practices, they encountered a problem of "acquiescence" when using questionnaires. They found that particularly members at lower levels of the hierarchy tended to "give a positive answer to a question, regardless of its content" (p. 57).

A finding by Argyris (1990) suggests that the questionnaire method may yield false data. He expresses puzzlement at a study on social dynamics of board meetings by two researchers, where questionnaires sent to a large number of board members suggested that during board meetings members felt free to say whatever they wanted to say, whereas documentation revealed that discussions in the board meetings did not feature open critique (p. 2).

Apart, from empirical findings, Schein (1985) asks (and answers) a more philosophical question on the issue of questionnaires for probing into people's underlying assumptions,

"can one use questionnaires or other more formalised tests? Given the approach I take to culture, the answer must clearly be "no." At best what one would get with such an instrument is some of the espoused values of group members." (p. 135)

These points have been used as a justification of the choice of face-to-face interviews over questionnaires as the main method of inquiry is justified.

#### 3.1.4.3 Criteria for choice of interview methodology

It is important to be explicit about the main aim of the interviews, which was firstly, to elicit divergent knowledge and secondly, to identify ways in which organizations resolved (or was not able to resolve) divergence of knowledge. With these intentions in mind, three assumptions were made about the knowledge which was sought extracted from the interviewees.

Firstly, knowledge may be considered personal and subjective (Bateson, 1972: 47, Heron 1981: 27-28). It is formed from experience in an organizational setting (Feldman, 1986: 267). Exploring what, say, would make interviewees test their knowledge, might therefore require that interviewees be confronted with their own beliefs in the interviews; their perceptions of reality might have to be questioned. This concurs with Reason and Rowan's (1981: 247) warning against consensus collusion, pointing out the importance of challenge and confrontation in the research process.

Secondly, much of the knowledge people are in possession of, may be considered tacit, and may be aroused in the presence of a problem that we perceive as being genuine (Polanyi, 1961: 138-159). Hence, the importance of providing a context, or clues, in the interviews to tease out tacit knowledge.

Thirdly, we cannot measure beliefs, or knowledge directly, only statements about them or artefacts from them are accessible to description and measurement (Sproull, 1981:



203, Schein, 1985: 113-114). In addition, there may be a difference between what people believe, and what they *say* they believe, as was found by Gilbert and Mulkey (1984: 127) in the case of scientific discourse. In other words, the research is not only limited to people's beliefs about their own knowledge, it may also be subject to people's distortions of their knowledge.

It may be inferred that the added effect of these three assumptions about knowledge (if taken as valid) and the sensitivity of the issue (divergent knowledge) would require that the following three criteria be used as a basis for designing and conducting the interviews:

1. The physical surroundings of the interview, as well as the style of interviewing makes interviewees feel psychologically safe, and establish a climate of mutual trust.
2. Confrontation of interviewees with their own words, their actions or their perceived beliefs. Although Easterby-Smith et al (1991: 76) argue that the interviewers must refrain from projecting their own opinions or feelings into the situation, Schein (1985: 114) argues that the outsider may convey interpretations to the insider for correction.
3. Exploration of questions and issues taken from the interviewees' work, which they feel as important, while at the same time trigger reflection about how their organizations resolve divergence.

#### 3.1.4.4 Interview methodology

The interviews may be described as tending towards a "semi-structured", "collaborative inquiry" approach.

There were no standard questions, but each interview contained questions on the interviewee's perceptions about:

1. How the organization related to its target groups
2. What was perceived as the joint purpose of the organization

### 3. How internal collaboration functioned in facilitating 1. and 2.

The three areas may be called "thematic lines of inquiry" (Parlett, 1981: 222) rather than questions, along which a variety of beliefs and facts were allowed to emerge.

The purpose of using a uniform overall structure, such as these three points, was mainly to ensure a certain degree of conformity of findings between the six organizations.

As mentioned above, the interviewing tended towards "collaborative inquiry". It is useful for illustrative purposes, to position the interviewing style in relation to Massarik's (1981) typological scale consisting of six levels, ranging from "the hostile interview" to the "phenomenal, companion, interview", the latter consisting of "caring companions mutually committed to the enhancement of understanding" (p. 205). Massarik's argument implies that the researcher takes simultaneously the role of fellow observer. Although Ronai (1992) argues from personal experience as a strip dancer that this is not that easy, and that simultaneous roles are very difficult to disentangle from one another, I tried consistently to conduct the interviews in a way that was as close to Massarik's "phenomenal companion" style as possible, in order to fulfil the three criteria outlined in section 3.1.4.3. At the same time, the dilemma pointed out by Ronai was also experienced. It proved difficult, and only partly successful, to be simultaneously in the roles of researcher and fellow observer.

Most interviews would start off with an explanation of the aims of the interview, information about measures taken to ensure confidentiality, the use of the findings an introduction of myself and some general information about the research project. Following the introduction, the interviewees were asked about their work, and their roles in the organization.

Depending on the type of information I had about the organization or the interviewee, I would launch a topic which was of potential interest to the interviewee (in order to comply with criterion 2 above), and which could yield clues about divergence resolution. This generally worked well, apart from one interview at the airline, where the interviewee said after the interview that had I been better at explaining what I

wanted out of the interview, he could have been able to give better answers to my questions.

The questioning throughout the interviews was generally intuitive, attempting to identify divergence, then probe into patterns whereby the divergence was, or was not, resolved. Hence, rather than adhering to a set of questions, it aimed to make discoveries of divergence, then try and unravel patterns of divergence resolution in collaboration with the interviewee. This approach finds support with Torbert (1981: 442), who argues that in "collaborative inquiry", incongruities between, say, a member's descriptions of self and other members' descriptions of that person are of particular interest.

At times, when intuition told me that a potential incongruity was worth looking into, there was a payoff.

For example, when interviewing the director of the research fellow network, a substantial amount of time was spent towards the end of the interview probing into why he thought it was difficult to identify major differences in perception between fellows and the administration. Five questions, which are summarised below, were asked on this issue, some which were similar to one another. The five questions may be summarised as follows:

1. "Are there basic differences of perceptions between the fellows and the administration?"
2. "What do you think those differences consist of?"
3. "Does the fact that you think that there are major differences make things difficult for you?"
4. "What prevents you from assessing what the differences consist of?"
5. "So then, are you unsure about what to do next?"

The series of questions made him finally respond, to my surprise, that, in effect he did not actively try and identify differences in perception because he was unsure of the consequences in term of expectations from the fellows. This is one of the responses from which the inference "threshold of relative discomfort" is drawn (section 3.2.2.7).

At other times, an opportunity was missed, because I did not sense in time that there was a potential clue the revealed itself in the dialogue. For example, the interview with the desk officer of the development programme, revealed that he thought lack of trust was a major obstacle to improving the programme, but his explanations of why trust

was lacking, and how he thought the lack of trust manifested itself, were not probed into. Pursuing his response could have yielded additional clues as to the nature of the lack of trust, as well as his causal attributions. The issue was pursued later, in greater depth, with other members of the development programme.

In order to respond to the first criterion in section 3.1.4.3, the physical surroundings of the interviews were largely subject to the preferences of each interviewee, as it was considered important in relation to the consideration of feeling of psychological safety. Due to this flexibility on part of the researcher, interviews were carried out in places as different as people's homes (one interviewee was cooking during part of the interview), in cafés, or in their own offices. One mistake was made in the choice of location. At the hotels, it was suggested that I interview a member of the cleaning staff in my room. She was visibly ill at ease. I had overlooked the fact that it is generally part of the working culture in hotels that staff do not stay in rooms at the same time as customers.

Although Buchanan et al. (1988) argue that use of tape recorder does not normally present difficulties, it represents a potentially important obstacle to the feeling of psychological safety. Therefore, the interviewees were asked if they might feel constrained by the tape recorder. Several were also asked again during the interview if the tape recorder presented a problem. One person did not wish to be recorded. Another asked for it to be switched off half-way into the interview, and asked it to be switched on again a little later.

In some interviews, confrontation with the interviewee's discourse or reasoning appeared to be successfully achieved. The following is an extract from the data company, in which the interviewee blames the lack of communication upon the organizational structure.

Q: "How do you find the collaboration with other divisions of (the data company)?"

A: "There isn't any".

Q: "Does that bother you?"

A: "Yes. A structure has to be put into place to enable us to speak to other divisions."

Q: "What do you need to do that?"

A: "Eh, a structure"

Q: "You have the telephone..."

A: "But I don't know who to contact, I need a name.....There is no process for communicating about the needs of customers."

The following extract is from the interview with one of the hotel co-owners, during which he argued that staff were well informed about measures being taken to improve the financial situation of the hotels, and that should be sufficient for staff to be motivated to cut costs.

Answer: "We thought that the turnover figures we presented at the meeting spoke for themselves, that they were the proof that measures now had to be taken."

Question: It could seem that you and (the other hotel co-owner) are involved in the "fun" work, while they have to bear the brunt of cutting down, that they are not involved with the positive side, i.e. bringing in customers through the actions that they carry out.

Answer:"I see what you mean, but at the meeting, we informed of what we are doing to bring in a bigger market share to the hotel, and to avoid cutting down....But I agree that the staff are not participants in the "positive" elaborations. But it is not possible for everyone to participate. The important thing is that they are informed."

Confrontation was used only when I felt that the relationship between myself and the interviewee was such that it could be used.

At the end of each interview, the interviewees were asked to comment on the quality of the interview. The majority said that they had expressed themselves openly.

I was frank, these are the type of issues that we discuss on a day-to-day basis.

I've spoken my mind, I was able to reflect on some central issues

I have expressed myself freely. It is been quite exciting to explore some of the issues that your questions have brought up. Some of them have been thought provoking .

None of those interviewed said that they had not felt free to say what they wanted. Although testimonies of openness are encouraging in that they suggest that interviewees had not purposely withheld important information, they do not guarantee that everyone had been equally frank. It is plausible that a person who did not feel completely frank during the interview, would not feel free to admit so afterwards, either. It is possible that if an interviewee does not feel free to speak his or her mind, it is a sort of undiscussability of issues, which is partly created by the social dynamics of the interview. If that is the case, the interview might be victim of the double obstacle of social dynamics described by Argyris (1989: 9), whereby the "undiscussability" becomes "undiscussable".

Others emphasised that the interview had probed into issues that they considered important and revealing concerning their organizations.

The interview has given me some things to think about. One needs perhaps to be asked such kind of questions more often

I enjoyed the interview. These are important things to talk about

You asked unconventional questions which I normally don't ask myself, and which gives me food for thought

Some remarked on the interviewing style, and found it conducive for joint exploration of issues.

I found it inspiring that you explored the issues together with me, and not just accepted my answers

The style was good, much more a dialogue than an interview

I felt relaxed during the talk, things occurred to me as we were talking

A comment was made by one person that the interview might have benefited from more precise questions.

I saw the interview as an opportunity to have different opinions pieced together, although I had expected more precise questions from you

Some, while finding that the interview had covered interesting ground, did not think that much new knowledge had been gained by the interview (this was particularly the case in the data company).

I have not learned anything new, but we have touched upon fundamental issues that concern the company

I have had the possibility again to think about these things, we rarely have time for that.

You seem to have understood my work

In summary, the comments from the interviewees tend to describe the interviews as corresponding fairly well to the criteria specified in section 3.1.4.3. (although these criteria were not mentioned to them). Paradoxically, it is not known to what extent the interviews did *not* correspond to the same criteria, as comments to that effect were more difficult to obtain.

Would the interviews have yielded better data if, say open-ended questionnaires had been sent to the interviewees beforehand? Some might argue that would have enabled identification of issues of divergence prior to the interviews, which could have left more time in the interviews for exploring patterns of divergence resolution. This is possible, especially if the type of questions could have been phrased similarly to the three lines of inquiry listed in section 3.1.4.4 above, and thus prepared the interviewees better for the interviews. However, it is uncertain how making the interviewees respond to readily formulated questions beforehand, might have affected the spontaneity of the interviews. There is reason to believe that when a climate of psychological safety was created in the interviews, it was because the researcher was responsive. Hence, there might be a risk, although it is difficult to be conclusive, that questionnaires might have put *interviewees* in a responsive mode, which could have worked against the active involvement that the interviews aimed to encourage.

### 3.1.5 Data analysis methodology

"All that counts is the facts!  
And, of course, intuition!"  
(Inspecteur Cluseau)

The way in which the data analysis has been carried out, corresponds largely to Parlett's (1981) idea of illuminative evaluation, in the sense that it has progressed from exploring the data along certain lines of inquiry, allowing for successive transformation as new data emerged, then concentrating on selected, critical, questions. Making sense of the data has been like a continuous process of interplay between intuition and systematic reasoning. Although it seem difficult to disentangle one from the other, they are attempted described separately below.

#### 3.1.5.1 Use of intuition

It seemed odd that parts of the theory should appear suddenly, without a visible process of reasoning leading up to it. For example, the idea of learning frames struck me while returning on a train from Brussels airport to the city centre in April 1992. The idea of relating the descriptors "medium-topic-forum-behaviour" to a dimension of levels occurred to me while running in the forest on a summer's day in 1994. My immediate reaction to sudden emergence of constructs has been to ask "is this really research?" I have previously associated research with rational, cumulative processes of exploration where one step logically leads to the next, and where intuition is allowed only at the stage where bits of the puzzle already point towards a conclusion. I therefore sensed some disappointment at "facts" emerging seemingly effortlessly from out of the blue.

By searching into literature and into my own research process, however, my perception changed of the results and of the process that led to them changed. It changed from a feeling of disappointment that my results might be insignificant because they seemed to emerge so easily, towards belief that they were rooted in an elaborate process of reflection and tacit hypothesis testing. It should be noted that the doubts I had about the legitimacy of my research process were particularly present during and after the development of theory from the data. Having grappled with the issue of legitimising my research process, I proceeded with my research with two reflections in mind.



The first reflection is based on research carried out by others on processes of research, suggesting not only that intuition forms part of the research process, but that it is an important part.

A piece of empirical research which support this view, is that of Gilbert and Mulkey (1984), who analysed scientists' descriptions of how results were arrived, and who found that there were significant differences between their formal accounts as compared to account given in informal interviews. An example is given of a discovery in biology which, on the basis of experiments, challenges a long-held assumption about energy release from a particular type of molecule (p. 41).

Because the formal paper is highly technical, it is more instructional to first look at Gilbert and Mulkey's analysis of it:

"... the text has conveyed a strong impression, at least for readers unfamiliar with the topic, that the rest of the paper is based upon a well established analytical position....This has been achieved, not by the presentation of biochemical findings, but by the characterisation of scientific action and belief within the author's social network." (p.43)

The formal presentation of the findings contrasts considerably with the informal account of the scientists:

"He came running into the seminar ..... He was very excited ..... He said, what if I told you that ..... It took him about 30 seconds to sell it to me. It was like a bolt. I felt, 'Oh, my God, this must be right! Look at all the things it explains' ..... And so we sat down and designed some experiments to prove, test this" (p. 47).

Gilbert and Mulkey demonstrate in their study that results in research may lend themselves far more to "spur-of-the-moment" factors than what is normally suggested in researchers' discourse. Their findings concur with Kuhn's observation on the presence of intuition in research. Kuhn (1979: 89-90) relates the phenomenon to revolutions in scientific research, and suggests that

"More often no such (structure of cause-effect relations) is consciously seen in advance. Instead, the new paradigm, or a sufficient hint to permit later articulation, emerges all at once, sometimes in the middle of the night, in the mind of a man deeply immersed in crisis."

A similar point is found with Glaser and Strauss (1967), who argue that,

"the root sources of all significant theorising is the sensitive insights of the observer himself. As everyone knows, these can come in the morning or at night, suddenly or with slow dawning ..... Also, his insights may appear just as fruitfully near the end of a long inquiry as near the outset." (p. 251)

Thus, it appears an acceptable conclusion that intuition plays an important role in research. Hence, it may be argued that the constructs that emerged while travelling and while running can be perceived as being legitimate elements of the research process.

### 3.1.5.2 Lower-level and higher-level concepts

In attempting to adhere to the idea of producing grounded theory, Østerberg's (1993) distinction has been paid attention to. Østerberg distinguishes between, on the one hand, phenomena that can be labelled "same" (phenomena that can be extrapolated from past experience) and, on the other hand, phenomena that may be labelled "new" (phenomena that can not be recognised in the light of past experience). An implication of his proposition would be that the discovery of "new" phenomena can not be derived from causal reasoning, because that would presuppose use of existing experience. Hence, it has been consciously attempted not to build upon existing theory, but to allow for allow for hitherto unknown constellations to emerge in the data analysis.

This is not as easy as it may appear. I could observe in retrospect that some of the inferences drawn had been influenced by association made with theory that I had read. For example, when analysing the meeting in the management group at the airline, the term "defensive behaviour" occurred to me. At the same time, it occurred to me that the term is being used extensively by Argyris and Schön, and it is therefore possible that the inference was partly made from association with their work. The term "defensive behaviour" is the only term that seems to have been explicitly taken from the works of

others. It is less clear to what extent other findings are influenced by cognitive association with works of others as opposed to "new" findings.

Equally, because a grounded theory approach has been taken, attention has been paid to van Maanen's (1979: 541) argument that second order concepts are perhaps most interesting when they do not converge, and that it is primarily in identifying diverging concepts that the field worker may have something novel to say.

The data analysis may be considered at four levels. Level 1 consisted of selecting data from the transcripts which could be pieced together as patterns of divergence resolution. The level 2 analysis consisted of linking the concepts found in the level 1 analysis, and drawing inferences about conditions that affect divergence resolution. Level 3 consisted of summarising the level 2 inferences from the six organizations in a mapping typology. Level 4 has consisted of developing an interpretative typology from the mapping typology, and testing its usefulness.

The level 1 analysis consisted of scanning the transcripts for patterns that seemed of relevance to divergence resolution in the organizations studied. Contrary to Turner's (1988: 109) suggestion of categorising data from the transcripts, to number the paragraphs and to make a note of repetitions, odd pieces of data were searched for, in line with Miles' (1979: 118) idea of "attractive nuisance" of qualitative research, working on the assumption that contradictory explanations of events may well occur (Brown, 1981: 313), neither of which is true or false.

The level 2 analysis consisted of pulling together the selected statements in drawing inferences of conditions of divergence resolution. Level 2 represents a level of analysis, where my own repertoire of knowledge seems to have played an important role, without being used consciously. As pointed out in 3.1.1, although it was tried purposely not to draw conclusions from occurrences of data, or from hypotheses, it is difficult to assess the extent to which this was done. The process felt like a series of figure-background exercises, where the figures (the inferences) emerged from a blurred background of statements and observations.

The level 3 analysis consisted of assembling the totality of the findings and grouping them together in a mapping typology. This is a level where relatively more systematic reasoning than intuition was applied. Each of the inferences of conditions of divergence

resolution was retrieved, given a more generic term, and attributed an organizational level of analysis.

In the level 4 analysis, intuition was again significant as mentioned in section 3.1.5.1. The four core variables of the interpretative typology transpired over time, probably in part through tacit thought processes (Polanyi, 1958), because I find it difficult to trace conscious reasoning leading up to them. Nevertheless, in section 3.2.9.1, an attempt is made to justify the four core variables in the light of the data, just suggests that they could be plausibly derived through deduction.

### 3.1.5.3 Translations into English

The interviews were carried out in three different languages. In the research fellows network, the hotels and the social care centre, they were carried out exclusively in Norwegian. In the development programme and in the data company all the interviews were done in French. In the airline, they were done in English. All the quotes are translated into English for the thesis, and hence, they may be subject to distortion, owing to the fact that some colloquial expressions are not directly translatable. Some extracts from written material about the organizations have also been, when necessary, translated into English for the Thesis. However, in so far as there are distortions, they are likely to represent differences in emphasis, rather than differences in meaning.

### 3.1.6 Discussion

It might be argued that longitudinal studies could usefully have been carried out. Instead of making one round of interviews in six organizations, two rounds could have been made at different times in, say, three organizations. Apart from being difficult to negotiate with organizations studied for the thesis, there are two methodological justifications for not doing it, which relate to nature of the data gathered. Firstly, it is mentioned in section 3.1.4.3 that the interviews aimed at testing knowledge which interviewees might otherwise not have confronted. It could thus be argued that a second round of data gathering would not have been done from a comparable basis, because what was untested prior to the first round of interviews would no longer be untested. Secondly, the probing into divergent knowledge emerged through the dialogue which

was not structured in any standard way. We may legitimately assume that Denzin's (1992: 23) argument holds, that "(language is) a process, and hence never fixed in its representations or meanings", equally Durkheim's (1895: 269) suggestion that social action is (better) understood in terms of what it symbolises, and in manifestations of the human mind. Hence, the data that came out of the interviews seemed likely to be influenced by the dialogue that took place there and then, and a similar interview held at an other point in time would not have been comparable. It is worth noting, on the subject of carrying out interviews at different points in time, a reference to a research project made by Argyris (1968), where the same questions were given to respondents twice, and where the two lots of answers were contradictory to one another.

### 3.1.7 Conclusions

The way in which the interviews were conducted, has to some extent allowed for the criteria listed in section 3.1.4.3 to be fulfilled.

Triangulation between observations and interviews has been usefully, although not systematically, applied.

A case has been built for the use of interviewing as opposed to use of questionnaires as the main method of inquiry. It is uncertain if use of open-ended questionnaires might have been a useful supplement to the interviews.

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<sup>iv</sup> It is to be noted that the term "organization" may denote organizational units, projects or other forms of organizational elements or functions as well as the larger formal organization to which the members belonged.

<sup>v</sup> The term "interviewee" is employed throughout the Thesis. The term is used in the absence of a more suitable one, and reflects only partially the status that should be attributed the persons I interviewed. On the one hand, it reflects the informant function of the person I interviewed. On the other hand, it seems too impersonal to reflect cases where I feel that the other person and myself were exploring together, and where there was a sense of companionship. Some moments were emotionally charged, particularly when we probed into the relationship between the person and the collectivity, and fears that the person had of surfacing divergent knowledge. Thus, to attribute

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the status of 'interviewee' in those cases, seems somewhat impersonal. Various other alternatives were considered. The term 'informant' is used by others (e.g. Zuboff (1988)). That term, however, was discarded, because it gives the impression of separating person and knowledge, assuming that the person "informs" about the knowledge he or she has. The term 'participant' is also used by others (e.g. Elden, 1981)<sup>v</sup>, but that term seems more appropriate action research where people participate in the research process, and would thus not be applicable to the Thesis, which is largely interview based. Thus, the only possible term which does not distort too much the image I try to convey of the relationship between myself and the people I talked to, seemed to be "interviewee".

## 3.2 Description of cases and discussion of results

### 3.2.1 Introduction

Below is a description of the organizations<sup>vi</sup> studied and a discussion of the results. Each organization is considered separately. For an overview of organizational characteristics, see table 3.1.1. It should be noted that for reasons of confidentiality, the names of the organizations are not disclosed, and when considered necessary, information that could otherwise be used to identify the organization, is modified, without changing its meaning for the thesis. Likewise, titles of written documentation which could be used to identify the organization are not disclosed.

In the discussion, findings pertaining to different organizations are not analysed comparatively, although potentially interesting similarities or paradoxes between organizations were observed during the data analysis. Although this may run the risk of missing out on potentially important observations, it is considered important, in line with the argument in section 3.1.2.1, to observe the non-comparative nature of the thesis.

In the description of cases, a choice may be made between making it exhaustive on the one hand, and adapting it to the questions studied for the thesis on the other hand. The latter was chosen for the presentation of the cases. It means that omissions are made in relation to the total body of data that would be possible, for the sake of accentuating information that is thought to be particularly relevant or interesting (complete transcripts, however, may be provided on request).

The data are presented in a structure which aims at facilitating the derivation of inferred conditions of divergent knowledge resolution, as follows:

1. Nature of espoused organizational goals, members and target groups<sup>vii</sup>.
2. Organizational structure.
3. Institutionalised organizational learning systems

4. Particular organizational features, or events in the organization's recent history.
5. Formal organizational roles occupied by the persons interviewed.
6. My own relationship with the organization and research approach
7. Patterns of divergent knowledge identified in the study and inferences of conditions of divergence resolution

As the six organizations differ considerably from one another, the term organizational "goals" is taken to embody a general set aims which are espoused as applying to the organization or espoused collective characteristics of the organization.

In specifying the nature of the organizational goals, attention is paid to the extent to which they are perceived as tangible or measurable by the organization. The rationale for this is that the degree of specification is assumed to stand in relation to the level of ambiguity which the organization perceives itself to operate at. The argument is *not* that a high degree of specification implies a low level of ambiguity, or vice versa. The literature suggests that organizations, as well as individuals, impose order onto data that are otherwise ambiguous (March and Olsen, 1975; Starbuck, 1982: 5; Starbuck, 1976: 1069-1071; Thompson, 1967: 148-155), which suggests that an organization might define goals at a high level of specification in spite of operating in a highly ambiguous environment. At the same time it is argued that organizations need to rationalise (Thompson, 1967: 29; Berger and Luckmann, 1966: 74-77), and that they need to be able to assess whether or not they are making progress (Lewin, 1952: 463), which suggests a need for tangible goals and measurable criteria of assessment. The simultaneous need for reflecting ambiguity and ensuring measurability suggests that it is important to study how organizations learn from the way in which they relate to their goals, hence, it is arguably of importance to know the extent to which they perceive ambiguity.

With regard to target groups, the same line of argument is followed, and attention is paid to whether or nor they are identified and specified by the organization.



The description of organizational structure is divided into two parts, the two parts being seen as providing complementary information about the organizations' structure. Firstly, formal reporting relationships. These are included to provide a picture of vertical hierarchical dependence patterns in the organizations studied. As found by several theorists, such patterns influence, not only the type of knowledge that is passed on in organizations, but also the way in which it is analysed as a basis for action (see section 1.2).

Secondly, patterns of horizontal interdependence between members, deriving from the assumption that organizational learning presupposes a certain need for people to interact with one another, and that the nature of interaction influences the performance of the system. The assumption is based partly on Weick's (1979: 100-101) argument that it is not so much shared goals among members that holds organizations together, as long as there is a mutual structure allowing for a minimum of interlocking behaviour. It is also influenced by the work by Emery and Trist (1960: 83-97), who found, from carrying out research on work organization in coal mines, that organizational adaptation was related to job design which led to mutual interdependence, and where certain prerequisites of mutual interaction were not been met, the system tended to break down and establish itself at a less than optimum level.

The dialectical relationship between hierarchy and horizontal interdependence is discussed by Pascale and Athos (1981: 148), who argue that experiences in Japanese companies demonstrate that hierarchy may be partly replaced by horizontal interdependence. Similar suggestions are found with Burns and Stalker (1966: 234) and Moss Kanter (1983: 241-277). It could be argued that mutual effects between the two dimensions are likely to depend on several variables, and the above references are not to be taken as a sole justification. However, they seem adequate for assuming that the two dimensions of hierarchical patterns and horizontal interdependence form a sufficient complementarity for providing an overall picture of interdependence.

An overview of institutionalised organizational learning systems are included to give an idea of systems used by the organization to assess performance. Such systems are taken as the regular, formal systems used by the organizations. It should be noted that the systems were not studied and mapped exhaustively, therefore it is possible that the organizations studied employ systems that are not mentioned. However, systems that are of direct relevance to the processes studied are included in the descriptions.

The data are presented under the heading "Patterns of divergent knowledge identified in the study". The presentation of the data attempts to describe events and processes surrounding divergence, enabling inferences to be made about factors which influence the resolution of divergence in organizations. The data presentation includes the following elements:

- Point of divergence - description
- Interviewees' causal attributions
- Cognitive/emotive processes
- Behavioural manifestations

In each case, data are summarised in a figure which attempts to present patterns of divergence. The figure, which aims at providing a "visual summary" of the presentation of the data, distinguishes between "behavioural manifestations" and "emotive/cognitive processes", without suggesting causal linkages.

Following the visual representation of the findings, specific inferences are described, which are derived from the findings, and which are thought to reflect conditions of divergence resolution.

### 3.2.2 The Research Fellow Network (studies carried out in January and March 1992)

#### 3.2.2.1. Nature of espoused organizational goals, members and target groups

The espoused main goal of the research fellow network was to "contribute towards improved management practices in public and private sector" (Annual report, 1992). In order to achieve the main goal, two branches of activity were practised; development of the competence<sup>viii</sup> of the fellows; and consultancy services to outside organizations.

The research fellow network consisted of 20-25 researchers in management and organization. It was located in Scandinavia. All members and staff were Scandinavian. Members had a contract of two years, during which they were paid a full-time salary to pursue their research. The area of study was selected by the fellows themselves. Entry was restricted to ten fellows a year, out of which five were paid by the organization and the other five were sponsored by other, outside, organizations.

The fellows committed themselves vis-a-vis the organization to pursue their studies within the timeframe they had stipulated, to prepare reports, including a substantial final report, and to attend seminars (four each year) which were programmed for all the fellows.

The fellows constituted the principal target group, the personal development of the fellows being a main activity of the organization. A secondary target group was defined as managers at large, who were supposed, directly, or indirectly, to benefit from the increased competence of the fellows. Although much of the work of the fellows was research oriented, it was common to use results from the research in design of training programmes for managers, or for consultancy services to organizations.

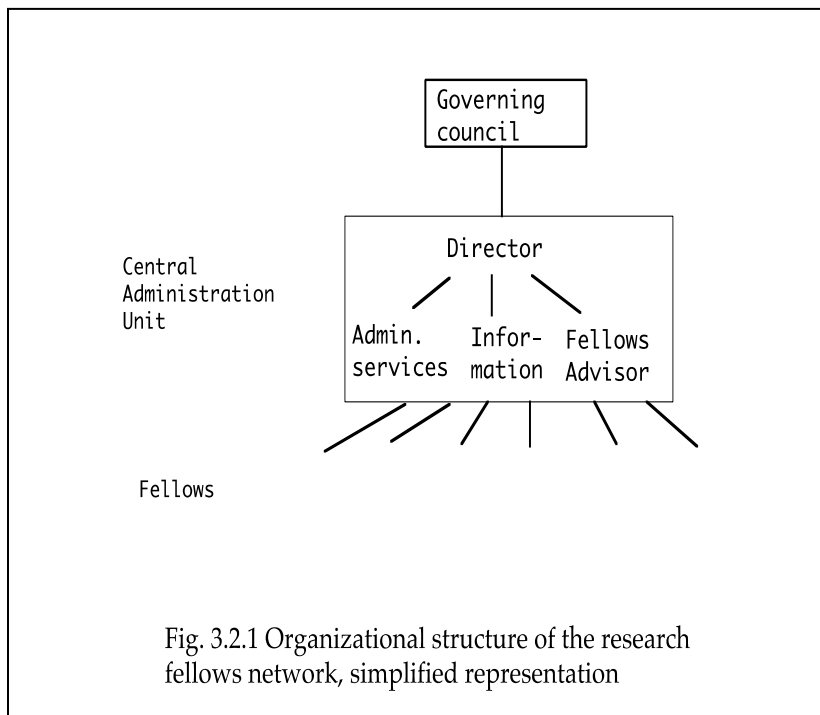
The needs of both target groups are specified as developmental. There were no formal exams, and thus no quantifiable criteria used for assessing the achievement of the goals.

### 3.2.2.2. Organizational structure

The organizational structure is shown in fig. 3.2.1.

#### Formal reporting relationships

The central administration unit employed a director, secretary, an accounts/financial person, a responsible for information and an advisor for the fellows. The researchers reported administratively to a director of the central administration unit. The advisor had as primary responsibility the follow-up and development of the fellows, including the design and organization of the seminars for the fellows.



The governing council acted as a policy making and advisory organ to the organization. It included representatives from industry and various public institutions. The governing council was not included in the study, because the members had little contact with the overall running of the organization, and they had no regular contact with research fellows.

The fellows were responsible for reporting on the progress of their own work only, thus they had no direct responsibility in the running of the organization. Sanctions were only relevant if they refused to report on progress or failed to attend seminars.

#### Patterns of horizontal interdependence

In order to understand patterns of horizontal interdependence, the organization needs to be seen in two parts; between seminars and during seminars. Between seminars there was no compulsory contact between fellows and the administration. Fellows were largely free to choose when to seek help from the fellows advisor. The fellows had virtually no contact nor obligations towards one another.

During seminars, the fellows interacted during one week at a time. Thus, the seminars can be considered temporary organizational structures, for which objectives, programmes and work methods were decided. Topics were presented and discussed, and the individual projects were subject to scrutiny in small groups. The topics to be treated and the choice of methodology, was a concern to fellows, as they had differing expectations from the seminars.

Although the purpose of the seminars was to improve knowledge and skills, fellows did not seem very dependent on each other during the seminars. Their presence was required and their contributions to the discussions were encouraged, a fellow could choose not to be active in the discussion, but to simply be present. The fellows were not required to prepare joint products as a result of the seminars.

#### 3.2.2.3 Institutionalised organizational learning systems

Financial monitoring - the organization depended on public finance, and it had to monitor its expenses.

Feedback from fellows - at each seminar fellows were given standard evaluation sheets on which they expressed their appreciations of the seminars.

Reports from fellows - used by the Administration to assess progress of fellows' projects.

#### 3.2.2.4. Particular organizational features, or events in the organization's recent history.

In 1992, the organization was threatened with extinction. A consultancy firm had made recommendations to Government to abolish the present structure and to transfer the fellowship system to another institution, but with focus on different areas of research. This led to hectic lobbying activity involving both administration staff and fellows. A counter proposal was developed as a collaboration between administration staff and fellows and presented to Government. The work of trying to preserve the organization was successful, in the sense that a final decision was made at Government level to keep the fellows systems in its existing form, and with the Administration intact.

#### 3.2.2.5. Formal organizational roles occupied by the persons interviewed.

##### Administration

The director

1 information staff

1 secretary/accounts staff

The fellows advisor

##### Fellows

6 fellows

#### 3.2.2.6. My own relationship with the organization and research approach

I was one of the fellows of the organization in 1990-92. I was sometimes part of conflicts, sometimes observer of conflicts. Sometimes I tried to mediate by discussing divergence of views with opposing parties. These discussions were held on an individual basis, they were done spontaneously, without the research in mind. This kind of

"middle-of-the-road" position may have influenced the image that other fellows had of me. It was hinted to me that "you don't take sides, and some wonder why". Nevertheless, in assessing the interviews, none of the fellows suggested that my behaviour in the organization had influenced their answers to the questions. On two occasions, interviewees hinted at conflicts where I had taken part, while expressing their disagreement with my behaviour.

It is possible that, having been a member of the organization, my questions were more influenced by personal biases arising from personal experience in the organization, than if I had been an outsider to the organization. What the bias would be, is difficult to assess, because an assessment would itself be likely to have an element of the same bias. In order to try and compensate for possible bias, I have employed two measures in the data analysis. Firstly, I have taken extra care in perusing the data to pick out data which I would be inclined to ignore at first sight. I have in particular been looking for counter evidence to data that were at first picked out as representative. Secondly, the questions and the analysis have been compared with the types of data I retained from the organizations where I was more of an outsider.

### 3.2.2.7 Patterns of divergent knowledge identified in the study

#### Divergence over topic of discussion

As mentioned above, the seminars provided an opportunity for the fellows to exchange knowledge and experiences. There were largely two modes of organization present at the seminars. Plenary sessions included all the fellows. They were conducted by the fellows advisor. In between plenary sessions the fellows worked in small groups on selected topics.

Throughout the seminars, a major point of divergence was centred on what should be the topic of discussion at the plenary sessions. More precisely, the divergence revolved around whether collective learning should be done from discussing *substance.*, or whether the social-psychological processes in the plenary group as a sort of laboratory, where learning would accrue from analysis of inter-action between fellows. In relation to fig. 2.1.11, the divergence may be described as taking place between untested and tested private knowledge.

Some wanted selected topics to be presented and discussed. They wanted to concentrate on their own projects - receive feedback and provide ideas to the projects of others.

"Several of us have asked to spend more time discussing our (respective research) projects. That way the discussion would be constructive, and we would be discussing substance".

Others preferred to study the processes of interaction that would arise from time to time.

"It bothers me that we cannot develop our knowledge through analysis of ourselves as an organization"

"When I have tried to express how I feel in this or that situation, I have had the feeling that the others have not been interested. I have probably done it in a stupid way, or the reaction has been that we're not supposed to discussing that kind of thing, because we are supposed to be discussing issues on management"

The disagreement about topic spiralled into emotionally charged conflicts, where people became increasingly frustrated about lack of progress. Fellows in favour of subject debates complained of lack of learning substance.

Fellows in favour of process analysis complained that as long as they didn't feel good about being together, subject debates would be of limited value.

"I don't see a sharp division between groupings, but there are extremes, one of which is subject oriented, and the other being process oriented. The first I would characterised as being somewhat "necrophiliac" - they look at dead things. Myself, I prefer life over dead things"

When arguments were launched in favour of one or the other topic, reactions were non-committal.

"In plenary people wear masks, I don't see them as being sincere.....they show a lot of things with their bodies, but will not talk about it"

Attempts to bring attention to processes triggered fear and discomfort among some people.



"Sometimes during a debate Roger or Annette will say "what's happening here now", and I begin to feel anxious.

Some felt that by repeating their propositions, they were put into one or the other category, which made further attempts to influence the group futile.

"I feel that I can't say anything without it being interpreted as my taking a stand on something or the other"

Several of the fellows complained that the seminars were psychologically taxing. The existence of the diverging views was generally acknowledged. However, the nature of the divergence was not addressed in the discussions, nor did any of the interviewees try to explore why "the other side" wanted different topics to be treated.

When asked why they didn't try and bring up the conflict in plenary, one response was that the organization was not important enough for them to make such an effort to try and change things.

"If (the organization) had been more important for me, I would have taken up things in order to try and change them"

An effect of this divergence was a growing conflict over behavioural norms. When fellows who were in favour of process-related issues brought up such issues, fellows in favour of subject debates felt that this was a breach of social conduct.

"I am scared of people who don't limit their need for intimacy, I am scared of taking up things, because I think that by opening up for a dialogue, I commit myself to listening to what they will want to tell me, and that scares me"

"In plenary I feel there are norms that dictate what should, and what should not be discussed"

Eventually, the social inter-action pattern became affected. People preferred to relate to people of their choice, and to avoid others.

I am part of a "clique", I feel good there, but if you're outside one, then that's not so good

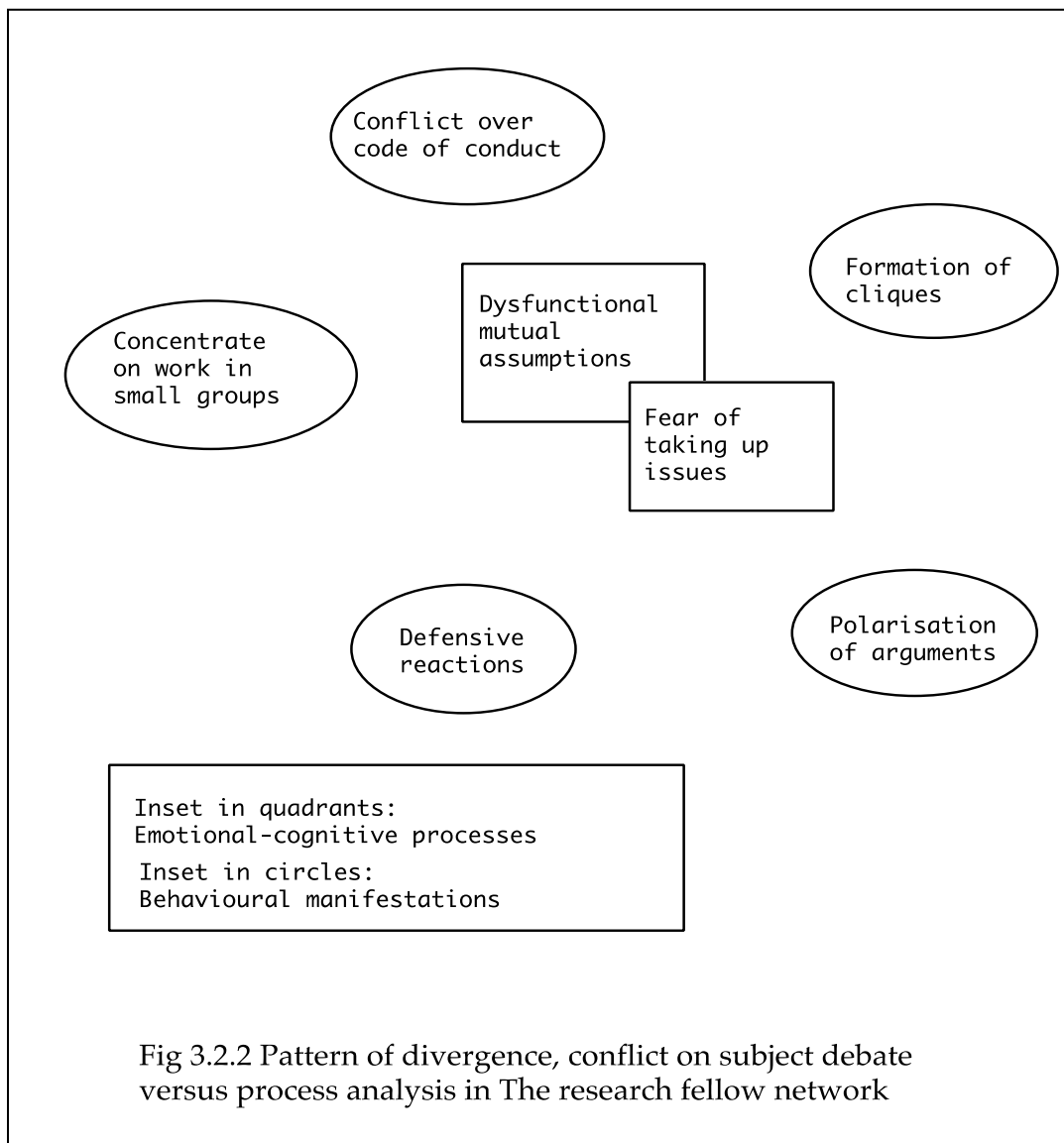
People also concentrated more on working in small groups, where most of the interviewees found that exchange of knowledge was fruitful. Both people who favoured subject debate in plenary and people who favoured process analysis in plenary talked in favour of working in small groups, though for different reasons.

"perhaps the most positive takes place in the small groups, where we work on substantial issues"

"in our (small) group, we are able to take up process issues, and I feel that I am able to influence the way we work together. I would not be able to do that in plenary"

Rather than being resolved, the divergence seemed increasingly difficult to overcome. The cognitive and emotional processes that people describe, as well as the behavioural manifestations, suggest that the divergence spiralled into a kind of social deadlock, where people sought alternative fora.

Fig. 3.2.2 below suggests a pattern of reactions in relation to the divergence of topic of debate. The positioning of boxes does not suggest an order of chronology or order of importance. The object of the representation is more to provide a useful visual impression of the pattern of reactions than to provide an exact representation.



### Inferences of conditions of divergence resolution

1. Discomfort of bringing up an issue in plenary, seemed to prevent people from bringing it up when they did not know the emotional cost of the ensuing process. The data suggest that the discomfort, although it was considerable, was relativised to the potential gains that might accrue from solving the conflict. Solving the conflict was not of crucial importance, because the duration of the seminars was limited to four weeks a year. Thus, people thought that they could live with it, and they resorted to work in small groups. It seems appropriate to label the condition "threshold of relative discomfort", as it seems possible that the problem would have been taken up and

resolved, had the potential emotional cost been lower. We cannot, however, assess whether it would have been resolved constructively, had the potential gains been higher, or if fellows had been forced to resolve it, say, to in order to ensure organizational survival.

2. Behaviour in the group manifested itself by a form of non-response to propositions, which people found to deter them from taking up problems. People felt that when they got close to a sensitive point, others braced themselves, not wanting to respond. The behaviour seems to be a means of defending themselves from the real issues of the divergence. Hence, the behaviour could be appropriately be labelled defensive behaviour. Dysfunctional behaviour was not only practised by listeners, but also by people when taking up problems. Interviewees admitted that their behaviour might have prevented them from gaining more sympathy in the group.

3. Interviewees attributed behaviour of others which they did not approve of, to things like clumsiness, hidden motives or some more or less peculiar psychological needs, without attempting to differentiate or probe into their own assumptions. The lack of differentiation can not be put down to lack of ability of the individuals to differentiate, because much of their reasoning about the organization at large may be described as differentiated. However, their reasoning about their internal conflict was not. Nor did any of the interviewees reported on attempts in plenary to explore the divergence rather than to argue in favour of a viewpoint.

#### Discontent about the organization of seminars

Some fellows questioned the effectiveness of the seminars as a means of learning. Discontent was directed against the Administration unit, represented by the fellows advisor. This is a point of divergence which triggered overt conflict, but where mutual attributions that were made between fellows and the Administration prevented it from being solved. In relation to fig. 2.1.11, the divergence may be described as taking place between untested and tested private knowledge.

Some questioned the extent to which the seminars responded to the actual needs of the fellows. Others were critical of the fact that they were not involved in planning the

seminars, and that they were obliged to accept an organization of seminar that did not respond to their needs.

I need to discuss my project with other fellows. I don't see the point of developing all these "management tools" that (the fellows advisor) wants us to elaborate. That is not why I got the fellowship.

Dissatisfaction was expressed by several fellows, though for different reasons. One person from the Administration unit confirmed this impression.

I think several people have talked to (the fellows advisor) that they would like the seminars to be organised differently

Some tried to take up the problem during plenary sessions. They felt rebuffed by the fellows adviser, and complained that it was their behaviour, and not the substance of their arguments that was attacked

I really felt put down and reprimanded for criticising the organization of the seminars.

One admitted that he had probably been a bit too abrasive in the way he had made the criticism

I did express my frustration, I guess I did it in a rather aggressive way

The fellows adviser and the director put criticism down to exaggerated sensitivity and impatience among fellows.

I think some of them are too sensitive, and that they too easily get disappointed when things don't work out to their advantage (the director)

If people were more patient, we would achieve better results at the seminars (the fellows adviser)

It was difficult for the fellows adviser to tackle critique when he was facing the whole group and some of the members challenged the organization of the seminars in front of others. When describing his feelings, he said

When you are on the floor, you may get the impression that the behaviour of a few of the fellows is representative of everyone, and you may get scared.

Fellows who were less engaged in directly criticising the organization of the seminars, took the roles of spectators, and referred to the conflict as "the thing between (the fellows adviser) and some of the guys". One put it down to a struggle for social control, where people used plenary to have a go at the fellows adviser.

What I think they (the ones criticising the organization of the seminars) really want, is to challenge the authority of (the fellows adviser).

A fellow who had openly confronted the fellows adviser in a plenary session, was aware that others thought that he was "taking on" the fellows adviser rather than being objectively critical. His awareness of their belief made it more difficult for him to take up what he considered a legitimate issue.

I realise that some think that we engage in some kind of battle with him and that. That makes it even more difficult to raise the issue in front of the others.

It seems, in other words, that his interpretation of what others (possibly wrongly) thought his intentions were, made it very difficult to pursue an issue which was conflictual.

One fellow found that he could better speak to the fellows adviser and the director in private, outside the seminars.

By taking up things this way, I sense a high degree of openness. They support me in pursuing my suggestions

Although the interview did not identify the substance of his suggestions, there is no reason to think that the substance of his propositions were less contentious than objections that were made during plenary sessions. This inference is based on other comments that he made during the interview.

Others were not as satisfied with the result from similar discussions with the director and the fellows adviser.

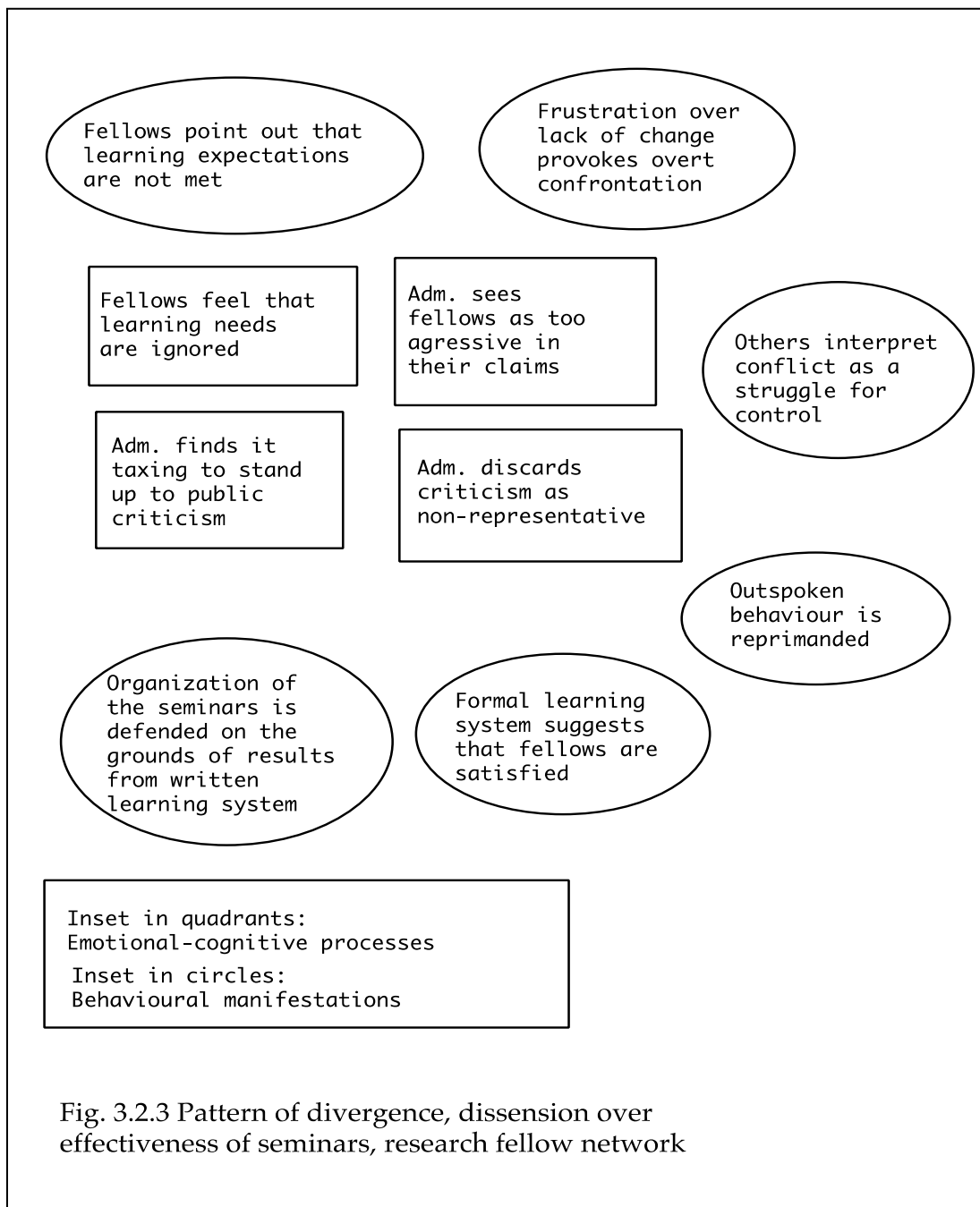
I have talked to them in private at the seminars about the organization of the seminars, but I feel that they get very defensive about it, blaming the budget situation and God knows what

In order to get a more objective assessment of the degree of satisfaction among fellows of the seminars, the fellows adviser devised a written evaluation which was filled in by everyone. The results of the written evaluation were very favourable. Scores were often between 8 and 10 out of 10. He found them useful as a means of triangulating people's opinions of the seminars. They were held up as a counter argument to the dissatisfaction expressed by fellows.

In the interviews, hardly anyone, except the fellows adviser referred to the written evaluations. One mentioned that they did not reflect the opinions of people, that they were too positive.

It is evident that fellows did give good, sometimes excellent appreciations of the seminars. The apparent contradiction between the expressed dissatisfaction and the high score on the evaluation form may be explained by the formulation of the questions. The questions were directed mainly at subject content and the quality of the treatment of subjects. As the fellows adviser possessed considerable knowledge of the subject area, and was also a good trainer, the high score from the written evaluations is hardly surprising. However, the criticism was mainly directed at the *context* of the subject, such as the usefulness of the subject in relation to people's projects. Hence, it can be argued that the written evaluation on the one hand, and verbal criticism on the other hand pertained to different aspects of the problem. It is hence likely that when the organization of the seminar was justified on the basis of a high score on the written evaluation, frustration increased further among critics, which again increased the need for the fellows adviser to defend the organization of the seminars.

Fig. 3.2.3 below attempts to depict the pattern of divergence.



Inferences of conditions of divergence resolution

1. Surfacing contentious issues in a forum where the person in authority did not feel secure, seemed to be dysfunctional in the case of the fellows advisor, who became defensive. The data suggest that a less threatening forum might have been more conducive to resolving divergence. The data are, however, not conclusive at this point, as they also suggest that the less threatening fora, such as meetings with two people did



not have sufficient formality to commit them to resolving the issue of divergence, in the sense that they made promises of resolving issues to only one member, without the presence of the other members.

2. Different methods of mapping a situation (in this case oral feedback and written evaluations respectively) may provide considerably different information on an issue. In this case, the differences in results yielded by the two methods of mapping were not made a topic of debate. The data suggest that if the complementarity of different methods is to be used constructively, it presupposes favourable socio-dynamic conditions.

3. Suspicion among members that a person brings up an issue of divergence for reasons other than those given by the person, did, in the case of the fellow who was critical of the organization of the seminars, dissuade him from pursuing a critical inquiry. He thought that this put him in a bind, because he did not feel that he had the required legitimacy vis-a-vis other fellows to bring up the issue again. It is important to note that other fellows who held this assumption about him could not be considered protagonists. They openly talked to him about their assumption, and, when interviewed they expressed similar sentiments about the organization of the seminars.

### Goal consensus

The mapping of this point of incongruence is usefully divided into two different conditions which the organization experienced in the year preceding the interviews. During a period of a few months in 1991 the organization was threatened with extinction. The condition in which the organization found itself during that period is labelled a "crisis condition". Before and after that period the organization may be described as experiencing a "non-crisis" condition. The data suggest that consensus around the organization's goals was coped with differently in the two conditions.

### "The non-crisis condition"

From the point of view of the director, the goals of the organization were unambiguous and useful. They provided him with a direction and a sense of purpose into which fitted the activities of the organization.

For my work, the goals form an indispensable tool, moreover, they are necessary means of providing a sense of direction and a strategy to the management of the fellowship programme

He acknowledged that the goals might be perceived as less concrete and relevant by the fellows, and put this down to the fellows being more interested in their own projects.

Not everybody has the goals "under his skin". There is nothing wrong with that. You can't expect holistic thinking from everyone in the organization. A fellow is expected to make the most of his project, and thinking on behalf of the organization is not the role he is given"

Feelings expressed by fellows were at odds with this perception. They regarded it as potentially important to be able to relate to a set of goals which provided sense to their relationship with the organization.

I think that if the goals had been clearer in the sense that I could relate to them, I would have benefited more from the seminars

Fellows thought that the goals were difficult to relate to. The goals were generally considered obscure, and of limited use to them.

I don't get the meaning of (the espoused goals), I am not able to relate to them.

Fellows implicitly attributed the incongruence to inability of the organization management to organise from a coherent set of goals.

The goals of the organization are ancient, we know that

I guess they are useful to the Administration

Administration staff other than the director held similar views about the goals, although they seemed to have learned "cope" with the goals.

Well, I am loyal to the goals.....they contain things that we had started doing before they were formulated.

The incongruence did not result in overt conflict, nor in public testing. A possible reason may be that most of the fellows did not experience a serious conflict between their work and the goals, a plausible reason being that the goals were not constrictive of their work.

When the goals became constrictive, avoidance, rather than confrontation was employed. One fellow was asked to participate in an activity that would serve to improve the image of the organization. Having to take part in the work was not perceived by her to form part of the expectations that had been mutually agreed when she was awarded the fellowship. Instead of refusing or evoking the initial agreement, however, she consented to participating in the work, but carried out the work at the least possible effort to herself while satisfying the needs of the organization. In other words, she chose the path of least resistance.

When asked why she had not brought up the incongruence between the agreed expectations and the task she had been imposed instead of tacitly carrying out the task at a minimum effort level, she answered,

If you are going to take up something, it is going to cost time and energy. I decided that I need that energy for my project, and that by agreeing to do this work, I would opt for the best possible solution for myself. That way, I would meet the expectations of the Administration, while use up as little as possible of my own energy

There were reasons other than incongruence between espoused goals and her expectations why she was not willing to commit herself fully to the work. She was not quite able to assimilate the goals of the activity, which she found too ambitious.

There were some elements of the (activity) that were already defined, which I was not quite able to vouch for.

It is possible that since the above statement relates to the goals of that particular activity rather than those of the organization, it is not relevant to the point of divergence treated in this section. However, it may be regarded as instructional, because the interviewee perceived the two sets of goals as producing similar reactions with her.

The director did not wish to launch a debate about the goals of the organization, although he did not think that everyone agreed with them. He was worried about the consequences of bringing up the issue.

What prevent me is the doubt; if I ask (about people's perceptions), I will receive a lot of answers. And then, what will I do?

Hence, as long as the incongruence between the espoused goals of the organization and expectations was not perceived as a major problem, the subject was not evoked. One might thus be tempted to argue that the dysfunctionality of the divergence was not of major importance, as the person for whom the goals were important (the director), found them useful, and those who did not think they were coherent, depended less on them.

However, although the absence of public debate about the goals was not evidently dysfunctional, the attributions made concerning the goals of the organization by the director, on the one side, and other members on the other side, are arguably dysfunctional. Members considered the goals to be a product of organizational incompetence, or lack of ability to change something that had been laid down previously. The director thought that bringing up the issue would not do any good, and that in any case, fellows did not feel too concerned with the goals (there is an obvious contradiction in the director's reasoning at this point, the cause of which was not pursued in the interview).

### The "crisis" condition

The above observations apply to the "non-crisis" condition, which preceded and succeeded the period in 1991, when the survival of the organization was threatened. In a "crisis condition", it seems that the organizational goals were subject to different treatment.

In 1991, there was a concerted effort between the fellows and the Administration to prepare proposals to be put to the Government for the continued existence of the organization. Two points are worth noting in connection with this work:

1. The on-going fellowships were not threatened. Hence, even if the organization were to be discontinued, the fellows would continue their work through to completion, without being much affected.

2. Several fellows gave their time voluntarily to help the organization. Some helped draft proposals of restructuring, others lobbied among politicians to have the proposals accepted.

This suggests that fellows felt genuine concern for the survival of the organization as such, in spite of several unresolved points of divergence.

The crisis period was generally perceived as constructive by both Administration staff (including the director) and fellows.

It was very constructive because everyone worked together in creating a common product. We achieved consensus because it was necessary, there and then, to arrive at a common product. That doesn't mean that we agreed about everything. Disagreements were surfaced and were argued out.

During the "crisis", work was far more constructive and very goal oriented. The same sort of conflict surfaced then, as well, but it is much easier to bring work to a firm conclusion when there is a dead-line and you have to produce a result. With concrete demands, goals and things like that, underlying conflicts sort of stay out of the way while this concrete work is being carried out

Communication with the director was found to be more frank during that period.

(The director) has kept us well informed all the time. In the beginning he wanted to do a lot of things himself vis-a-vis Government, but we told that was not the way to do it, and he had the working group set up.

The director was proud of having led the work towards a successful completion.

I have received favourable feedback on my leadership during that period

Although in the crisis period things were talked through with more frankness, after it was confirmed that Government would continue to support the organization, i.e. after the crisis was over, the divergence between espoused goals and member expectations

surfaced again. One fellow, who was actively involved in the work during the crisis complained that,

I had so much energy for the organization during (the crisis period); there was a real community spirit, and it made sense ..... afterwards, I think that it has gradually degenerated to the original state

Hence, it appears that the factors that prevented the incongruence between espoused goals and member expectations, having been put aside during the "crisis period", re-emerged once a more secure state was achieved.

### The women's group

Women constituted about half of the fellows. In 1992, the women formed their own informal group, which was set up to discuss issues of women in management. Shortly after it was set up, the group decided to write a book in the form of a collection of papers on the subject. This initiative may be considered unique, in the sense that it was the only time such a large group of fellows decided on a joint undertaking.

Reports from the work of the group were largely positive.

The women's project - the book - sort of turned up, and all of a sudden I felt that I had a lot of energy to give to it. It is something that I believe in.

The sense of togetherness is very strong in the (women's) group, we experience tremendous openness and humour.

Not everybody shared this sentiment. One of the women fellows felt that the women's group was close-knit to the point that if you were not with them, you were against them, and that it was a norm to think that it was a terrific group to be in.

It is not the sort of place to be deviant in, unless you occupy centre stage. I feel that I only have two options; either I go along with everything that is being said, or I have to quit the group.

This suggests that convergence seemed to be a norm in the women's group, and that manifestation of significant divergence was not welcome.

Compared to the organization at large, the women's group had a high task focus. It seems that the members of the group were keen on getting a book written together.

The patterns of divergence as derived from the data is described in fig. 3.2.4 below.

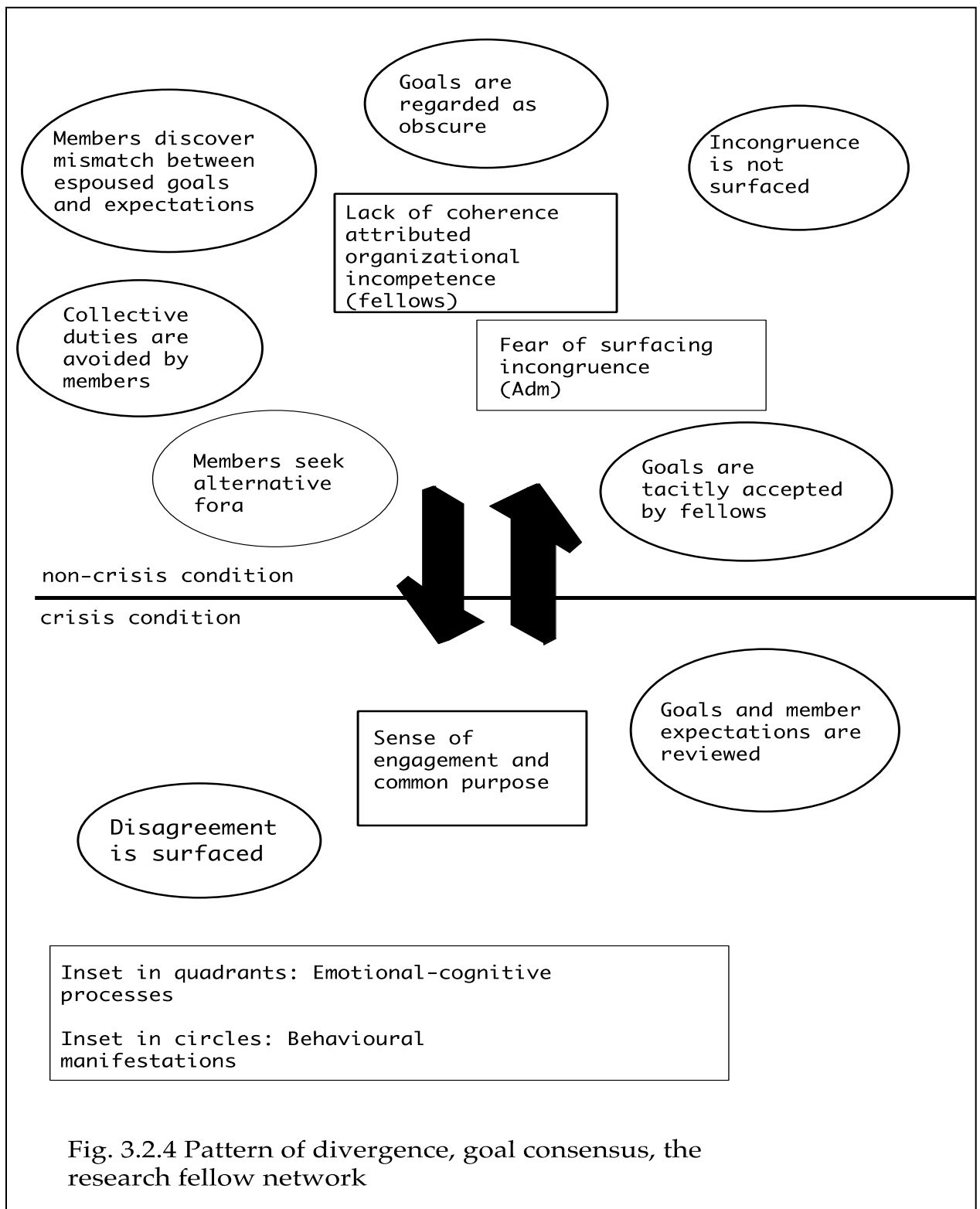


Fig. 3.2.4 Pattern of divergence, goal consensus, the research fellow network



### Inferences of conditions of divergence resolution

1. Instead of surfacing divergence, it seems that people deliberately avoided confrontation by tacitly abiding by organizational requirements, but conserving energy for their own pursuits (or contributing in other, preferred fora).
2. When a common cause was present, divergence seemed to surface naturally and was dealt with constructively, as it became a necessity for getting the work done. However, once a phase of working towards a common purpose passed, conditions under which divergence was not resolved, became again prevalent. This is implied by the passing from a "non-crisis" condition into a "crisis" condition, and back to a non-crisis condition.
3. Management may have difficulty inviting a debate on issues where there is a risk that adverse consequences outweigh the advantages of bringing it up. Thus, it seems that the idea of a threshold of relative discomfort is present in this point of divergence, as well as in the previous one. The difference is that in this case it was Management that experienced it.
4. When incongruence is resolved with difficulty, members may seek alternative fora that provide a better sense of direction of the work. This can be seen in the case of the "women's group", which provided a kind of "refuge" for fellows who felt that they could not easily take up divergent issues in the formal fora of the organization. It is worth noting, however, the forum (in this case the "Women's group") was similarly not perceived to be a forum where divergence could be surfaced, but a forum for convergence in agreement with people's beliefs. This implies that in seeking an alternative to a forum which is restrictive on divergence, people may not necessarily select fora reflecting the negation of that condition.

### 3.2.3. The Development Programme (studies carried out in April-May 1992)

The development programme<sup>ix</sup> consisted of group of United Nations project which aimed, through training and advisory services, to provide village populations in 5 countries in West Africa with technical and organization skills to become autonomous in food supply and economic development.

#### 3.2.3.1. Nature of espoused organizational goals, members and target groups

The development programme was co-ordinated from the European head office of a United Nations organization. Its field operations were implemented in Sahelian countries in west Africa, with operational management based in a West-African city. It aimed largely at providing development opportunities for poor villagers who were occasionally exposed to periods of drought, as well as to a gradual degeneration of their livelihood due to desertification.

The programme was conceived from a goal structure consisting of development objectives (i.e. objectives that were expected to be achieved in the long term, as a result of the programme); and immediate objectives, which were goals that were expected to be attained at the time when the programme would terminate.

Whereas the formulation of the development objectives reflected more general concerns, such as "fighting extreme poverty, promotion of food self-sufficiency and combating desertification", the immediate objectives were seen to provide more of a firm direction of programme operations.

The immediate objectives specified what should be achieved among the target groups, and what should be the appropriate indicators of achievement. Due to a certain complexity of the programmes design, immediate objectives of the programme were directed at different levels of intervention, the essential elements being as follows:

At village level, the project would aim, through participation of villagers, to help them ensure economic and nutritious autonomy. The programme would, through experimentation and evaluation, develop methods of intervention that could be applied on a wider scale.

At regional level, the programme aimed at influencing national governments' policy making and to training national programmes and organizations in the application of the developed methods of intervention.

The principal target group of the programme was thus villagers, and in particular traditionally disadvantaged groups, such as women. A second target group consisted of national authorities and institutions, who could ensure a proliferation of the methods that were developed by the programme.

It was stated in the project document that in order to achieve the objectives, the programme would have to make villagers change at two levels. Firstly, to introduce different ways of doing agriculture, and secondly, to modify their social structures to allow for participation of, especially women in decision making. Thus, considering that the programme operated almost exclusively in rural, Muslim societies, where the level of literacy among adults was less than 5%, there is reason to believe that the work was both conceptually and behaviourally demanding on the members. There is also reason to believe (which was confirmed by interviewees and my own observations) that the work to be accomplished by organization members, put considerable demands on the ability of the organization's structure to effectively process knowledge between members.

Two points are to be retained from the description of the objectives and of the target groups.

1. The nature of the work of the organization was test-based. Methods were developed and evaluated for dissemination. The work may be said to have been designed to proceed in an experiential learning-based fashion.
2. The function that the organization was meant to perform vis-a-vis its target groups may be labelled "developmental", in that the organization aimed at engaging villagers in experimentation of approaches.

The organization counted almost 40 members at the time of the studies, who were several different nationalities, and came from different cultural backgrounds. The majority of the field staff and at headquarters in West Africa were of West African

origin. Others were of European French-speaking origin. One was of Asian origin, but with European nationality. A large portion of the members were agronomists, and had largely been recruited on the basis of technical knowledge, combined with past experience with project work and knowledge of the Sahelian region. The working language of the organization was French.

Apart from the desk officer in Europe, who worked on a permanent contract with the United Nations organization, all members were recruited on one-year renewable contracts.

### 3.2.3.2. Organizational structure.

The structure of the programme is usefully seen as consisting of two sub-structures; one administrative command structure and a technical advisory structure. The latter does not represent a structure in the hierarchical sense of the term, but it was referred to frequently by members as representing a real structure of support to the projects, which exercised considerable autonomy. Figure 3.2.5 reflects schematically the two structures. For the sake of clarity, a third sub-structure is omitted in the figure, which consisted of administrative support units, located in each country, dealing with finance, accounting and equipment.

The "thematic experts" (this is a direct translation from the French term "expert thématique") were, together with the head of evaluation and the head of training, responsible for guiding project managers in the implementation of their projects, as well as in conceptual development. The thematic experts were selected on the basis of having gained a certain reputation in their respective technical fields. The thematic experts also managed field projects, much the same way as the project managers.

The desk officer in Europe was largely seen as the main conceptual architect behind the programme. He was also the one who made major strategic decisions.

Programme  
Manager

Head of  
administration

Head of  
training

Head of  
evaluation

Note: for the sake of clarity,

1. the number of thematic experts and of projects/project managers has been reduced in the figure
2. the number of connecting lines showing advisory relationships has been reduced

### Formal reporting relationships

It may be seen from figure 3.2.5 that formal reporting was done largely through the programme manager. However, project managers exercised considerable autonomy in the management of their projects. Neither thematic experts, nor heads of units at headquarters, were placed hierarchically above the project managers. This suggests that there was in practice only one hierarchical level (that of the programme manager) between the person working directly with villagers and the level of the desk officer in Europe, where strategic decisions were taken. Hence, the organization may be characterised as being a relatively "flat" structure.

### Patterns of horizontal interdependence

As suggested in 3.2.3.1., the overall performance of the programme was related to the application of knowledge and behaviour of the members in a demanding environment. Project managers and thematic experts were assessed according to the results they achieved in the field using innovative concepts. Hence, it may be inferred that there was considerable dependence among project managers vis-a-vis thematic experts and head of units at headquarters for acquisition of appropriate knowledge. In addition, observations from internal workshops suggest that project managers were keen to exchange knowledge with each other.

There was little evidence of operational dependence between project managers. Hence the pattern of interdependence that was observed, may be summarised as being knowledge-based.

#### 3.2.3.3. Institutionalised organizational learning systems

1. Systems of financial monitoring and budgeting.
2. Quarterly progress report were submitted by project managers. The reports summarised activities performed, technical and operational issues. The programme

manager prepared quarterly summary reports for the programme at large, which were submitted to the desk officer in Europe.

3. Once, sometimes twice a year, programme workshops were organised, at which all staff participated, and where a range of issues were discussed. Examples of important issues were proposed changes to the organizational structure, and the philosophy of intervention at village level to be pursued by the programme.

4. The field projects filled in forms sent out by the evaluation unit with socio-economic data, which was meant to give indications of the comparative viability of different methods that were tested.

5. The training unit produced material which described schematically a range of issues which the project managers were required for their work, or for training of villagers.

#### 3.2.3.4. Particular organizational features, or events in the organization's recent history.

The general climate in the organization may be described as tense, given that three particular events had taken place prior to the studies.

Firstly, a team-building workshop had been organised less than a year before, in which most of those interviewed had participated. The workshop aimed at improving communication and collaboration between members of the organization. However, the workshop triggered off underlying tensions between members, which led, at times, to violent arguments. Several months later, members still expressed emotional turmoil about what had happened at the workshop, and some were afraid that a similar event might happen again.

Secondly, there was overt conflict between the programme manager and the desk officer in Europe. Following a number of contentious issues, the desk officer had obtained support at headquarters to discontinue the contract of the programme manager. However, it seems that lobbying by the programme manager with senior officials at headquarters in Europe led to the decision being reversed. Consequently, the programme manager continued in his post, reporting to the same desk officer.

Thirdly, the resignation of the head of training, had been announced in a memo, without further information, and which was perceived by several members as being caused by manipulation by the programme manager under the pretext of moving training closer to the field.

#### 3.2.3.5. Formal organizational roles occupied by the persons interviewed.

At the UN organization's headquarters in Europe:

Desk officer

At programme headquarters in west Africa

Programme manager

Head of Evaluation

Head of administration

In four different west-African countries:

7 project managers/thematic experts

It should be noted that the head of training due to his resignation some months before the study, was not available for interviewing.

#### 3.2.3.6. My own relationship with the organization and research approach

I had on several occasion worked as a consultant with the organization, particularly on issues like internal communication (I was not involved with the team-building workshop), organizational structure and intervention methods.

It was normally the desk officer in Europe who took the initiative to bringing me in as a consultant when problems had to be solved. It is therefore possible that some interviewees withheld criticism of him, because they thought I might report to him on individual interviews. It is also difficult to assess the extent to which they purposely



withheld criticism of measures of which they perceived me as one of the instigators, such as the idea of applying principles of "organizational development" to village interventions performed by the project.

Some interviewees, expressed overt criticism of the way that some matters were handled by the desk officer. Some also questioned the effectiveness of attempts (some of which had been performed by myself) to create a climate of complete trust in the programme. However, it is not known whether the responses would have been different if I had not previously worked as a consultant with the programme.

As with the research fellow network, I have taken extra care in the analysis of data to try and reduce the effect of beliefs that I had of possible cause-effect relations prior to the studies.

Following the studies, I prepared a summary with conclusions, which was distributed to all members, and which was discussed at an internal workshop some months later, where I was present as observer/"resource person".

3.2.3.7 Points of divergence and corresponding patterns of reactions identified in the studies.

#### Programme intervention concept

It is explained in 3.2.3.1. that the work performed by members was complex and conceptually demanding. In part for this reason, the idea of a philosophical basis of intervention, or a unifying "concept" of intervention was formulated for the programme, the core of which was labelled the "participatory approach", which was meant to suggest that all intervention would involve village populations in critical analysis of the agricultural methods that were tested. This concept was referred to frequently at meetings and workshops as constituting a major specificity of the programme.

It was generally acknowledged that, since the programme intervened in social systems (villages), the results effected by the interventions, depended greatly upon the use of the concept. It was also generally acknowledged that the approach used by the

programme in large part made up its specificity in relation to other programmes, which sometimes competed for the same resources.

Whereas the importance of having a clearly defined and unique approach was emphasised at all levels in the organization, members were to a varying degree aware of how differently the concept was perceived and applied by the different project managers. The different perceptions and the different causal attribution given by members constitute this point of divergence. If positioned in relation to figure 2.1.11, the divergence may be said to be situated at two levels. Firstly, between untested and tested private knowledge, as members were applying private interpretations of the concept without testing the correctness of the concept. Secondly, between espoused knowledge (the approach was written in the project document) and untested, public knowledge, as it was generally known that the concept was applied differently, but neither the differences of application, nor the reasons for the differences were subjected to public debate.

The desk officer in Europe had the impression that, although there might be some differences in interpretations, there was overall agreement as to what the concept entailed.

I think there is broad agreement about what the concept means.

He presented headquarters briefings, the project document and interaction with other members as means of ensuring that members were thoroughly familiar with the concept.

To help staff cope with the complexity of the programme, there are briefings, the project document and help from other staff in the field.

The programme manager held similar views to the desk officer.

Among thematic experts, who were largely involved with overall conceptual development in the programme, the perceptions were significantly different. They saw the concept as unfinished, and felt that it was not dealt with in-depth.

Our approaches at large need to be defined - we have never had it up as a topic of discussion.

The "participatory approach" is poorly defined

The head of evaluation, who worked in physical proximity to the programme manager, was similarly critical.

Listen, there isn't really an approach that we can call our own, apart from some general guidelines

Thematic experts and the head of evaluation shared the belief that the approach was interpreted and applied differently throughout the projects.

Among project managers, it was acknowledged that the concept was somewhat vague, but they applied their own interpretations of it, and were less concerned about others applying it differently.

The "participatory approach" involves to a large extent provision of appropriate training to villagers

The "participatory approach" consists of discussing with the villagers.

Both these interpretations of the concept were imprecise in relation to the notions that were held by thematic experts and the head of evaluation, which supports their beliefs that interpretations as well as application of the concepts varied from project to project.

Different causal attributions were offered by thematic experts and the head of evaluation of why differences existed.

We lack an integrating function between projects

Because there is not enough harmonisation between projects, everybody may do what he thinks is best

(The programme) is at present badly organised for facilitating learning between the projects

The issue of the need for an integrating function was illustrated in an interview carried out with two project jointly, both of which working in the same country. One of them, who worked on introducing "cereal banks" to villagers, reported on extensive collaboration with other projects with the help of the thematic expert for cereal banks.

The other project manager worked on the integration of women. Due to delays in the recruitment procedure, there was not, at the time, a thematic expert for the integration of women. This project manager complained that he was not able to achieve exchange of knowledge and experience similar to that achieved by the "cereal banks" expert.

Members mentioned structural, rather than behavioural obstacles to overcoming this point of divergence. The tendency was to characterise the programme as an organization where norms did not prevent conceptual disagreement from being surfaced.

Something that attracts me to (the programme) is the openness to new approaches and new ideas

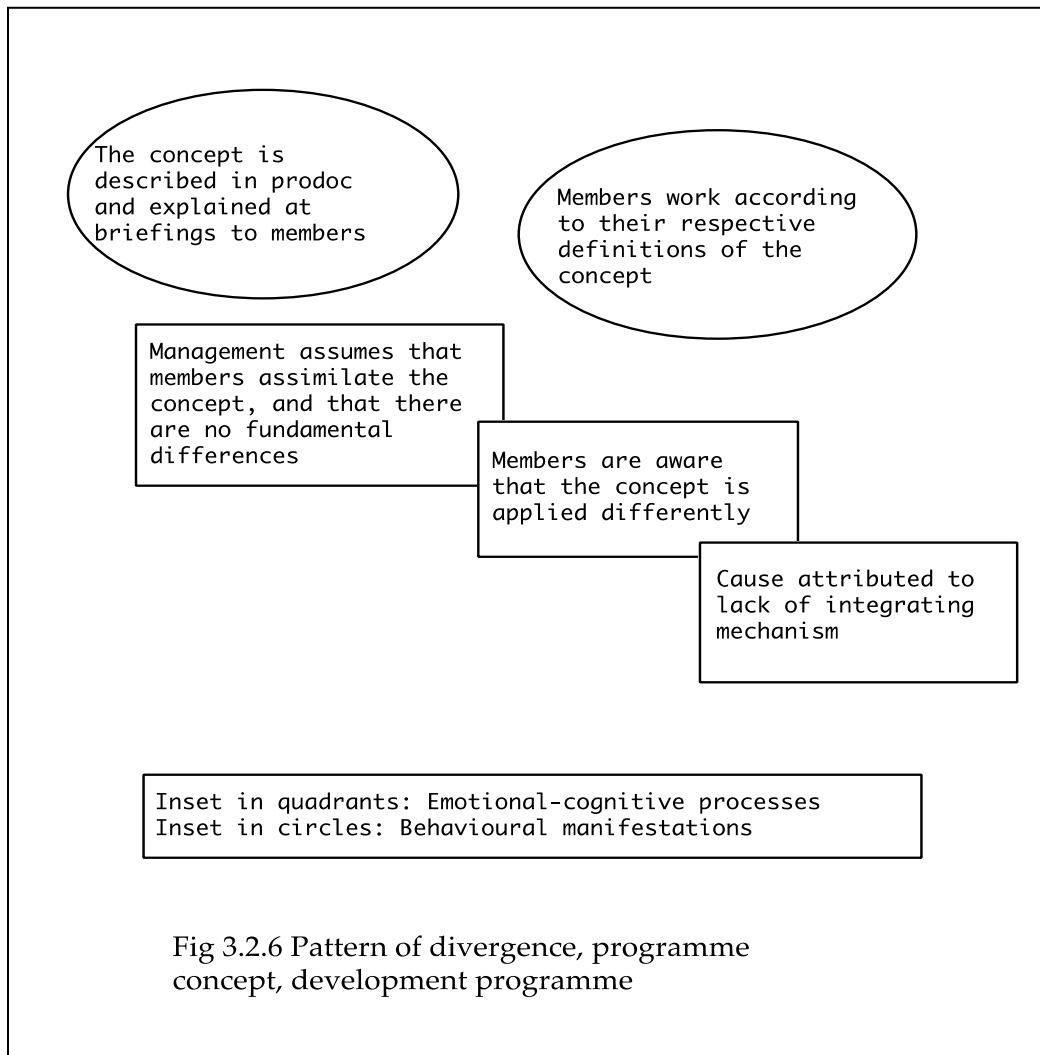
(The programme) is a forum where you really feel that you may express disagreement

In-depth discussions that I held with one thematic expert during a field visit to his project, revealed an additional, possible reason why the concept was not perceived and applied the same way by members. His statements about his own work suggested that the intervention skills he applied were difficult to codify, to the extent that he was not sure if it was possible to describe his approach on paper.

I think that I apply knowledge in my work that I am not consciously aware that I am applying.

Some of the knowledge that I apply, I am not sure if I could describe in writing.

Patterns of divergence, derived from the data, are shown in fig. 3.2.6 below.



### Inferences of conditions of divergence resolution

1. The medium of integrating functions between projects seems to have facilitated the exchange of knowledge. This is implied, firstly in the substantial demand from project managers for support from thematic experts, and secondly, in the propositions from the joint interview of two project managers suggesting that the extent of contact that a project manager has with other project managers is related to whether or not there is a thematic expert to facilitate the exchange.

2. Those who were aware that, firstly differences in perception existed, and secondly, the extent to which the differences were dysfunctional (the thematic experts and the head of evaluation), were not those who decided on the structuring of the programme, which was principally the desk officer in Europe. The data suggest that the desk officer

assumed that the differences were not "serious". Hence, it seems that those who were aware of the divergence, were not in a position to do much about it, whereas the person who had the mandate to make changes, did not think that the divergence was sufficiently important to warrant actions.

3. Skills that are "tacit", may not be transferable by word-of-mouth, nor by writing in cases where working knowledge is to be transferred, as members may have difficulty with decoding their experience.

4. Management may wrongly assume that a medium is appropriate for assimilation of knowledge. In this case, the data suggest that the assumption that the project document, briefings and general contact with other staff would suffice for new staff to assimilate the concept of the programme, was questionable.

#### Lack of trust

The subject of trust was brought up by virtually all the interviewees as being essential to the success of the programme. At the same time, the trust level was considered low by the same interviewees. It was difficult to assess causal patterns underlying the lack of trust that was felt by members, but the three events described in 3.2.3.4., and particularly the resignation of the head of training, appear to be central factors in the overall dynamics which seemed to underlie the feelings of mistrust.

It had been generally known for some time that the relationship between the programme manager and the head of training had been conflictual. When it was decided by the programme manager to "decentralise" the training function to project level, the head of training resigned. His resignation seems to have amplified a general feeling of distrust which had lingered in the programme since the team-building workshop, largely because members were uncertain about the reasons for the resignation.

This is a point of divergence, where a feeling was expressed individually, but was not, for various reasons, discussed publicly. Hence, the divergence may be considered to exist between private knowledge and untested public knowledge.

The desk officer in Europe and the programme manager seemed to be at the centre of the processes that were triggered by the perceived lack of trust, largely due to the resignation of the head of training.

At this moment in time, there is not sufficient trust between people in the project, although the trust is indispensable for us (the desk officer)

At the moment, there is a problem of trust in the programme (thematic experts)

Different reasons were attributed the lack of trust. The desk officer in Europe blamed it on the fact that the programme manager "played games".

There is no problem, as long as everybody plays by the rules of the game. Me, I communicate non-bureaucratically and informally (the desk officer in Europe).

The programme manager, on the other hand, thought that it was the informal communication between the desk officer and some staff which gave rise to distrust.

There are several signs that there is direct communication between (the desk officer) and some of the staff (the programme manager).

This made him a feel vulnerable, and in need of protection.

I find the situation unpleasant, I feel threatened, and therefore I tend to try and protect myself

The studies did not uncover actions taken by members to deal with the problem. It seems that the closer people got to conceptual/decision making functions of the programme, the more awkward they felt about taking up the issue.

When asked what he had done to solve the problem of trust, the programme manager replied,

I would feel very awkward doing that. It would require very special conditions for me to be able to take this up with (the desk officer).

Thematic experts found the situation particularly difficult to cope with, because their communication with the programme manager related to conceptual aspect of the programme. Consequently, their communication with the programme manager became awkward.

It is tricky, because the sort of issues that I discuss with (the programme manager) relate almost invariably to the way that we run the programme. It is therefore difficult to avoid talking about things with him, which are not, somehow, affected by the lack of trust

Another thematic expert pointed out that because they were perceived as knowing the background of the problem, they were forced to take a stand.

The more people know, the more they are affected by what's going on - you may then be forced to take sides

Others also felt that they could not react, because the lack of trust itself. The head of evaluation, who worked closely with the programme manager, was upset about what she perceived as manipulations from his side.

The manipulations are difficult to accept, but it is something that I feel powerless to take up

Project managers realised, by interpreting correspondence and picking up rumours, that there was a lack of trust, and that it was serious. They were affected by it, but lack of information about the problem made it difficult for them to make further inquiries. They were also in a position where they could concentrate on operational issues, which were not affected by the problem.

There are some aspects that I would have liked to react to in the programme, such as the resignation of (the head of training). But, I don't have enough information to be able to react; I don't know enough about the context of the events to be able to pronounce myself

We know there is something going on. It bothers us that we are not properly informed, but it does not affect the implementation of our projects.

The reaction to try and not get involved with something that seemed risky, was confirmed by two thematic experts.



One effect on us, is that we try and concentrate more on project matters and day-to-day issues (thematic expert)

I play "snail" tactics (meaning, "go slow, cover yourself") (thematic expert)

It is mentioned in 3.2.3.4 that a team-building workshop was organized to improve relations in the programme. The workshop methodology was largely designed around mutual characterisation of members. Although an experienced facilitator was present, and the concept may be described as well tested (the Managerial Grid, developed by Blake and Mouton, 1985), it seems that the event worsened the initial dysfunctional assumptions that members held of one another.

After the team-building it is too risky for me to enter into process issues with (the programme manager) (thematic expert)

The behaviour at the workshop was characterised as defensive.

At the team-building, we worked the problem from the wrong end, in the sense that we aimed at self-defence and putting others down (project manager).

It appears evident that the facilitator was not able to make the participants converge on any kind of objective search for causes, and that personal likes and dislikes were the focus of the interactions.

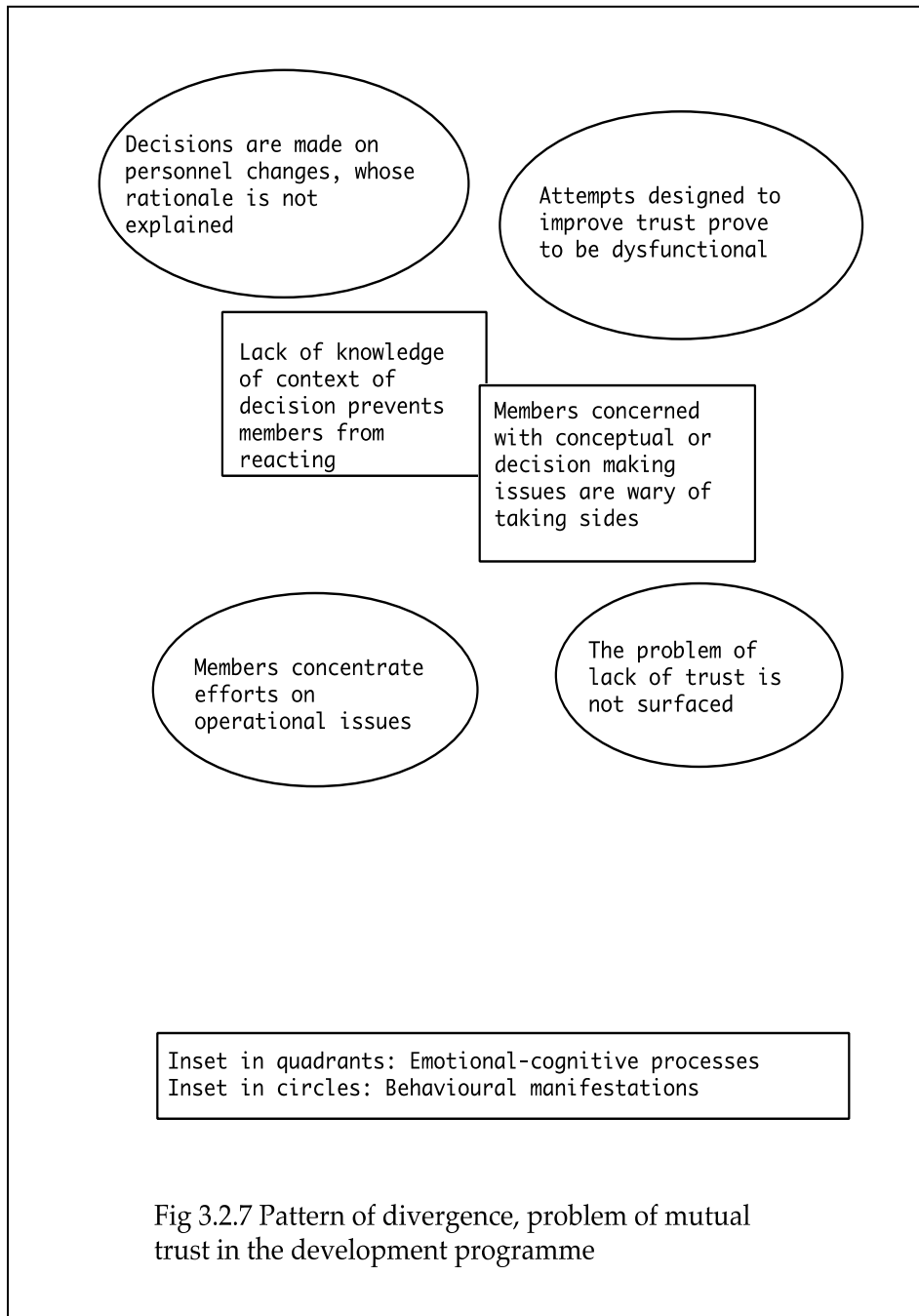
It was very bad. We ended up shouting at each other

Members felt so bad about the "team-building" workshop that they were dreading a follow-up of the workshop.

I would hate to go through that again

Thus, it seems that the initiative that was designed to improve relations, had the opposite effect.

Patterns of divergence, derived from the data, are shown in fig. 3.2.7 below.



Inferences of conditions of divergence resolution

1. Lack of trust constitutes in itself an obstacle to solving the problem of lack of trust. It seems that lack of trust not only creates fear, but also creates fear of taking up the issue of non-trust, and that this creates a vicious circle.
2. Members feel confident to take up issues only as far as their level of information goes. In this case, project managers were frustrated about not being able to react, largely because they were wary of intervening or querying about something where the context was potentially conflictually and emotionally laden.
3. Lack of transparency of rationale in decision making may create speculations, which again leads to a non-trust situation. This transpires from the interviews with the programme manager, as well as with other members.
4. The issues of trust seems more poignant when there is divergence between members who wield conceptual influence, and at the same time are concerned with decision making. Thematic experts and the head of evaluation seem to have found it more difficult to cope with the situation, because the topics of their communication with the programme manager would naturally touch upon conceptual or managerial aspects of the programme, and hence be awkwardly close to issues which gave rise to the lack of trust.

#### A project manager's perceptions of the head of training

One of the activities of the programme was to increase adult literacy among villagers. One of the project managers, who had been with the programme more than 5 years, had been practising a relatively conventional method of adult literacy training. In order to find ways of improving his method, he called on the head of training for help.

In the process of working with the head of training, they conceived together a novel method, which proved more effective, and which was later proliferated throughout the programme.

In the course of the process, the perceptions that the project manager had of the head of training, changed. Hence, in relation to fig 2.1.11, the case may be said to describe how divergence is resolved by testing of private knowledge.

The project manager explained that he was initially sceptical to the ability of the head of training to be of much help to him. He had found the schemas provided by the training unit theoretical and difficult to apply in practice.

"I was sceptical to (the head of training), because I found him very theoretical, and without our sort of field experience. However, I thought him worth soliciting for adult literacy training."

Statements made by other interviewees lend support to the initial impression of the project manager. Some projects did not solicit the head of training, partly for this reason.

The project manager and the head of training worked for several weeks on reviewing the adult literacy training. The project manager expressed pride in the new concept, which, finally, was not so much an improvement of the "old" concept as a new way of thinking about helping adults learn to read.

We ended up changing the approach radically

The project manager emphasised in the interview the surprise he had experienced at someone whom he had initially not thought competent coming in to help him review his approach. He put this down to non-defensive behaviour on part of the head of training.

When he came, he asked us questions that we had not thought about. In retrospect, I think that the success of our collaboration is largely due to his ability to question his own approach, which made me question my approach

It may be retained that assumptions appear to have changed at two levels, and at the two levels, divergence of knowledge was put to a test. Firstly, at product level, the joint product they finally arrived at, was not a compromise, but a novelty to both of them. Therefore, the process of working together changed their respective assumptions about the product.

Secondly, at the interpersonal level, the assumption of the project manager of the head of training was "Ok for theory, but of limited use in the field", changed to a recognition of the head of training as a valuable resource for practical work.

Patterns of divergence, derived from the data, are shown in fig. 3.2.8 below. It can be seen that the process is divided in two stages; before and after the collaboration.

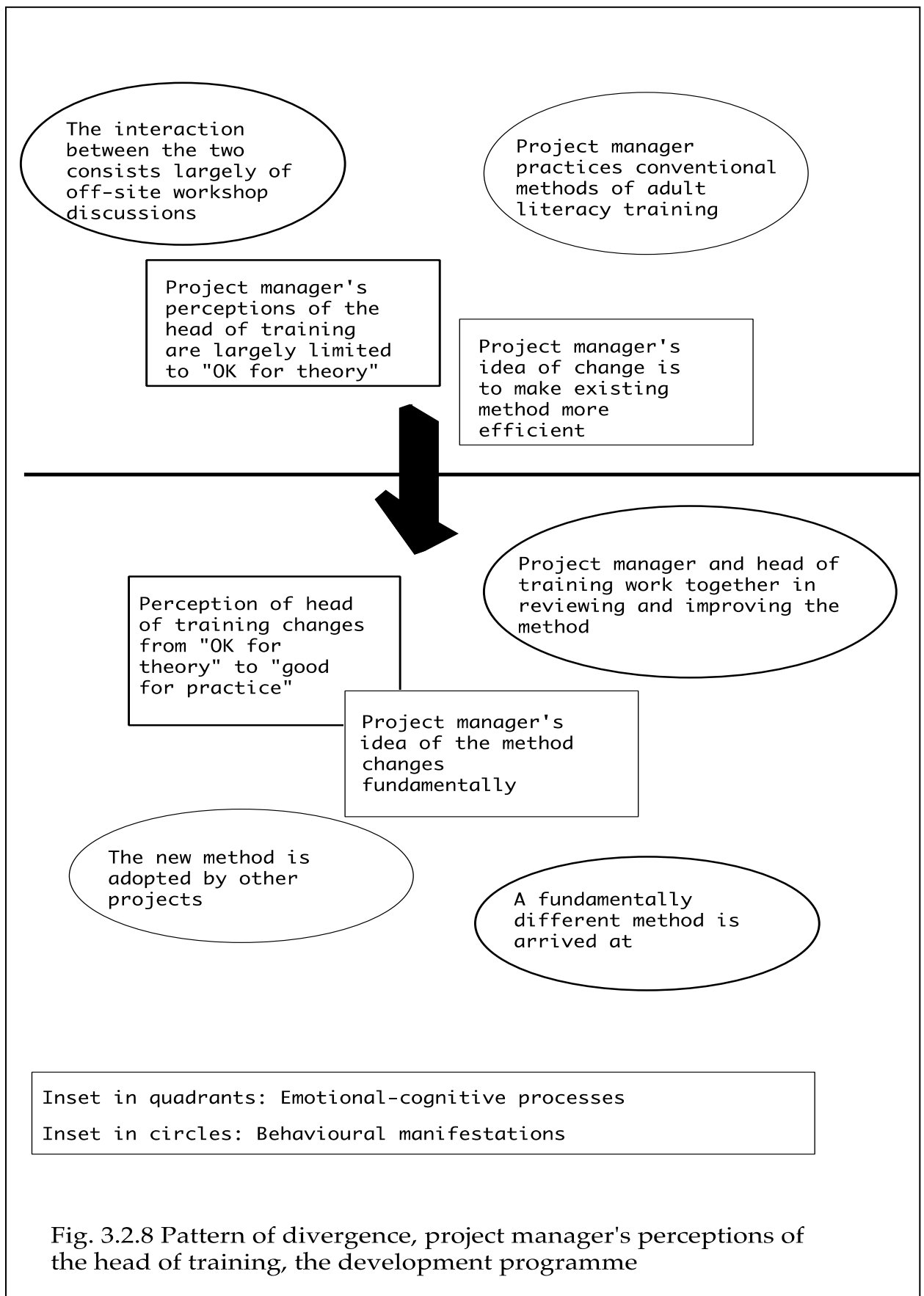


Fig. 3.2.8 Pattern of divergence, project manager's perceptions of the head of training, the development programme

### Inferences of conditions of divergence resolution

1. The project manager made explicit reference to non-defensive behaviour of the head of training, which suggests that non-defensiveness of behaviour may be significant for resolving divergence.

2. It seems worth noting that the "medium" through which they communicated prior to the process, was largely oral discussion and presentations at workshops. Some of the material used at the workshops by the head of training contained illustrations as well as text. This medium of communication had evidently not convinced the project manager.

The project manager's perceptions changed when they exchanged knowledge in a collaborative work situation. If we assume that collaborative work triggered the common discovery of the new method, two possibilities present themselves. Firstly, that the medium of work was more powerful for facilitating exchange of knowledge than off-site discussion. Secondly, that the *change* of medium facilitated the exchange of knowledge. These two possibilities are not mutually exclusive.

3. The fact that the method was adopted by other projects, suggests that the programme was efficiently organised for facilitating learning between projects, mainly through the integrating mechanisms of the thematic experts. The fact that it allowed for collaborative work, seems to make it able to cope with divergence.

3.2.4. The Airline (studies carried out in June 1992, with follow-up questions in October 1994)

3.2.4.1. Nature of espoused organizational goals, members and target groups

The organization studied was the area organization of an airline, which was located in a French-speaking part of Europe. The airline's headquarters was located in another European city.

The goal structure of the Airline has changed over the years, and is defined differently at different levels. For example, to customers, goals were presented as safety (first priority); punctuality (second priority) and comfort (third priority). Its business goals were of a different nature, aiming at becoming a member of one of Europe's biggest airline consortia. To organization members, goals were defined relating to "readiness for change", rationalization, improved efficiency and improved service to customers.

In view of the complexity of the goal structure, it seems more instructional to examine the general orientation of the goals. It also seems preferable to describe it as presented to the members of the organization, since the thesis focuses on how member relations within the context of divergence.

A review of the company's internal communication, and especially a bulletin from January 1993, suggests that the espoused message of the Airline to its members focused on the following items, extracted from the communication:

1. (On customer satisfaction) "every decision and initiative has to be assessed in the light of its value to the customer".
2. (On efficiency) "improve efficiency by at least 8% per year" (by 1995 the company must have doubled its quality and halved its costs").
3. (On work) "be ready for continuous change - change will be our lifestyle".

Something that was not emphasised in the 1993 communication, but which was still highlighted in the company up to and including the time of the interviews, was that the company prioritised business travellers, who paid full-fare tickets, as opposed to tourist travellers, who sometimes did not pay more than a third of full fare. A major element of the espoused strategy of the company was the building of an image as the



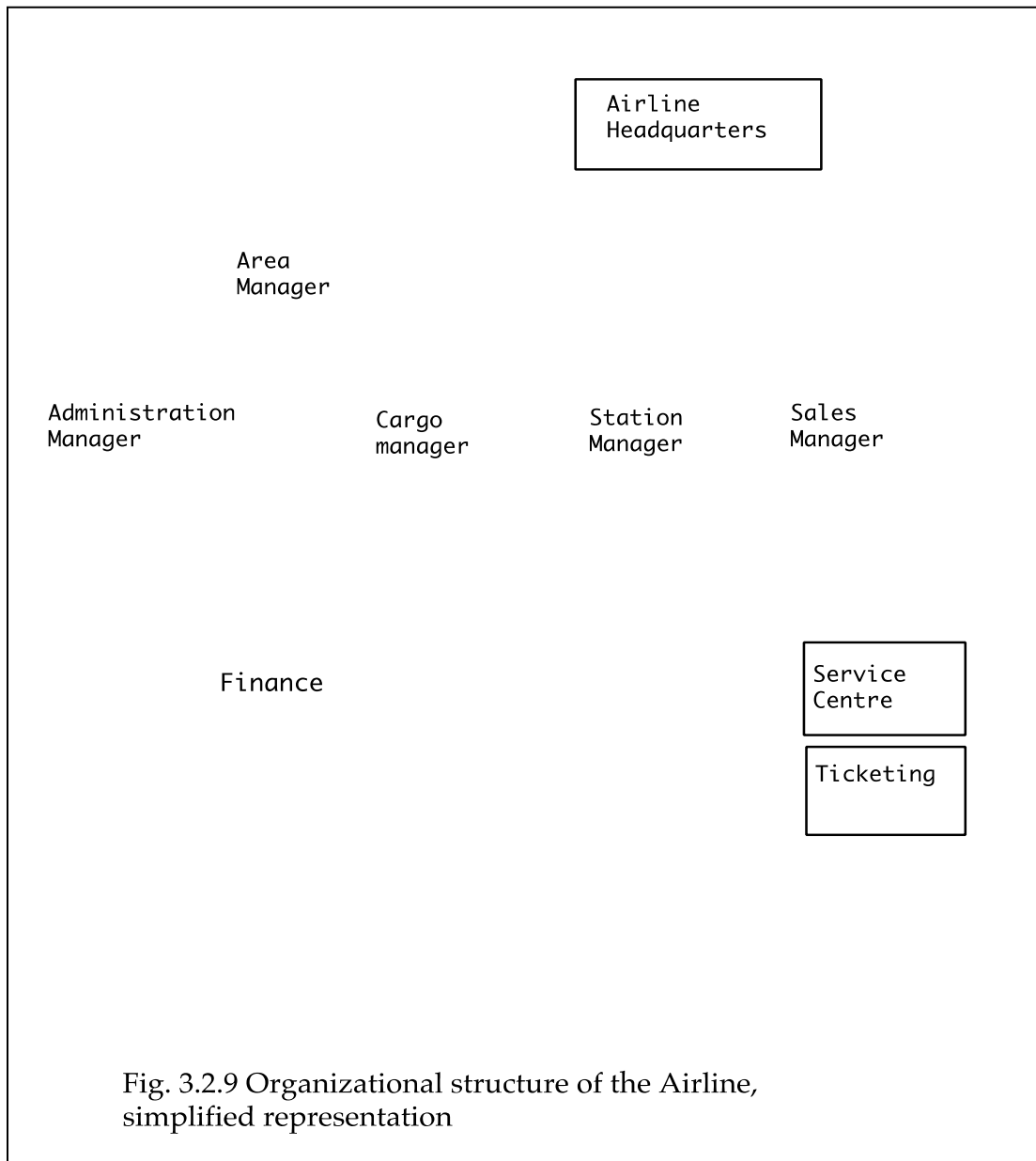
"businessman's airline". This item is added to the three points listed above, because the interviews revealed that this was a contentious issue.

The target groups of the organization are multifaceted. However, they can broadly be described in 4 different categories:

1. Travellers (business and tourist travellers)
2. Dispatchers (of cargo)
3. National authorities
4. Collaborating airlines

#### 3.2.4.2. Organizational structure.

The organization was divided into four units in a matrix structure, as shown in figure 3.2.9.



### Formal reporting relationships

This figure simplifies the actual nature of reporting relationships in the organization, which is more complex than is shown. Whereas the figure shows two dimensions of a matrix structure, the actual matrix structure of the organization consists of several different dimensions. However, the above representation is considered sufficient for the purposes of describing the divergence patterns recorded in the organization.

It may be observed from the figure that, being in a matrix structure, none of the middle managers reported to the area manager only. They reported to him principally on operational issues and matters that related to the geographical coverage of the area. For strategic and technical issues they referred to Headquarters, both for advisory support and for approval. For example, if the station manager wanted to make significant changes to routines in the station, he was expected to seek guidance/approval of Headquarters for matters that related to company policy or matters that might affect other stations. He was also expected to consult with the area manager on issues that might affect the running of the area operations.

The management group consisted of the four unit managers (personnel, cargo, station and sales), and the area manager. It met regularly to discuss issues of common concern and to make decisions concerning the area organization.

Although there was a personnel function in the area organization, the unit managers had complete personnel responsibility; for recruitment, training and development of their staff.

#### Patterns of horizontal interdependence

Each unit was considered a business unit, with separate targets. A bonus system was in operation, which allowed individual units as well as the area organization as a whole to earn credits. Hence, there were financial incentives, both for units and individuals, to collaborate in order to exceed their targets.

It transpired from my studies that other units felt that they depended particularly on the sales unit for attaining a greater revenue for the area organization. It will be described below that expectations from other units put a particular pressure on the sales manager for increasing sales.

Hence, there were two levels of financial interdependence (i.e. intra-unit and inter-unit), which were partly independent of one another. The implication of such a system was that deficiency at one level of interdependence could be compensated for by increased effort at another level. For example, if the area organization as a whole lacked bonus credits, a unit could compensate by increasing its unit credits. On the other hand, if a unit lacked credits, it became increasingly dependent on upon area level bonus credits.

Some operational interdependence was expressed between units. For example, the Cargo Unit depended on collaboration from the Station Unit for getting urgent cargo fitted into planes at short notice.

However, the pattern of horizontal interdependence between units had largely to do with the financial results of the area organization.

#### 3.2.4.3. Institutionalised organizational learning systems

The studies revealed measuring systems in three areas, as follows.

1. Finance and volume of sales. The company had a finance monitoring system which provided regularly updated figures on the financial results of the organizational units of the area organization. It also monitored changes in the volume of sales of seats and cargo.

2. Punctuality of flight departures. Delays of scheduled departures, waiting times of check-in passengers and cargo handling operations were recorded and compared to the airline's stipulated standards. Reasons for major delays were analysed and necessary actions were then taken in the area organization.

3. Customer satisfaction. Surveys were organized to assess customers' satisfaction and identify areas of improvement. The surveys were analysed at company headquarters. The data collected applied to the company as a whole, and not particularly to the area organization.

All three learning systems were quantitative in nature. Data from the first two systems; finance and volume of sales, and punctuality, were used as a basis for discussion in a management meeting at which I was present as observer.

#### 3.2.4.4. Particular organizational features, or events in the organization's recent history.

At the time of the studies, the company was in a process of cutting costs and rationalising routines, as competition from other airlines was getting increasingly fierce

and in the anticipation of a deregulated air traffic market in Europe. Compared to the financial situation they experienced in the 1980s, staff found that they had to work more for the same wages. Control of cost and monitoring of efficiency by headquarters was coming increasingly to the fore. For example, it was related to me by the personnel and finance manager that if extra staff were to be recruited, calculations had to be presented to Headquarters justifying that the additional staff would yield justifiable increase of earnings to the Airline.

The work in the area was characterised by speed and frequent urgency, especially at the station, at the ticketing office and in the cargo unit. For example, if an aircraft arrived too late for it to continue to the next destination on the same day, rerouting arrangements had to be found for passengers and cargo, accommodation had to be organised, etc.

Thus, the work was highly operational in nature, and money and time seemed to be important parameters. A consequence of the work pattern was that members had little time to think about, or resolve issues that were not immediately important or operational in nature.

#### 3.2.4.5. Formal organizational roles occupied by the persons interviewed.

The area manager

The station manager

The sales manager

The personnel/finance manager

The cargo manager

1 Sales representative

1 Ticketing staff

1 Cargo staff

2 Station staff

#### 3.2.4.6 My own relationship with the organization and research approach

I had some general knowledge of the Airline from having carried out two assignments as an external consultant in a country other than that in which the area organization is located. I had no previous knowledge of the area organization.

My access to the organization was via the station manager whom I had met previously. In return for letting me carry out interviews, I sent a report on findings and conclusions to the area manager, which he distributed to the staff in the area organization.

In addition to carrying out interviews, I was observer at one meeting in the management group. I also spent time at the airport among the people working at the Station, which allowed me to talk informally to staff of the organization. I had several discussions, particularly with the station manager about various issues related to management and organization of the airline and of the area organization.

#### 3.2.4.7 Patterns of divergence identified in the studies.

##### Performance of the Sales Unit

The area organization was losing market position due to decrease of sales volume. It was generally acknowledged by interviewees that there was potential for significantly greater earnings for the organization. The formal system of financial performance also showed that the Sales Unit was below target.

The sales manager volunteered that they were not doing enough for generating a bigger market share

We are not doing enough to exploit the particularities of the local market. We know the companies, but not the individual customer.

That they were unnecessarily losing terrain in the local market, and that the sales manager was not sufficiently active in pursuing opportunities, was privately acknowledged by managers interviewed, including himself.

(The sales manager) may be a bit passive (the area manager)

He is too conservative about opportunities for increasing sales. He is dissatisfied with the opportunities offered by the company (the cargo manager)

I will not say that I am outdated, or that I am old, I am trying to adapt to the changing situation of the airline industry, but I hope you understand that at my age (55) I don't have the same ideas as a younger person (The sales manager).

One other manager claimed that he had tried to discuss possibilities of improving sales with the sales manager, but the sales manager had let him know that he should not interfere with the sales unit,

I want to help, but there is nothing I can do, because he does not want me to touch his department.

When asked what prevented him from being more insistent with the sales manager, he gave reasons of seniority and hierarchical position

...he has been much longer with the company than I. I cannot interfere also because I am not placed above him hierarchically.

At the same time, this manager thought he had concrete ideas about how sales could be improved

I have contacts in the agencies..... I could help him

The sales manager did not refer to other managers as sources to solutions. He did, however, say that he did not think that people in his unit could contribute much to solving the problem.

I don't use much ideas from the front-line people of my unit, because I get very few ideas from them. I have myself worked at the front-line, and I know that people there are so concerned about their own work that they often don't think that other parts of the organization are in need of their ideas.

The above quotes suggest that the problem might lie with the behaviour and the perceptions of the sales manager. However, two additional pieces of data suggest that the situation was more ambiguous than the data presented thus far might suggest.

Firstly, the sales manager had made a major achievement some months earlier by elaborating a new sales strategy, which had been adopted by the Airline as a whole (this was confirmed by the station manager). When describing the process whereby the strategy was elaborated, he was particularly keen, and displayed pride.

A major particularity of the process was that a management trainee from headquarters had been posted with him to elaborate ideas for improved tourist volume. Having worked out the proposal, the trainee took it back to headquarters and presented it to senior management for approval

The ( idea) is another project, which originated with a management trainee who seconded to me for a while. I appreciate this system of young staff from Headquarters who come into the field, see the organization from the "outside", elaborate ideas together with us, and then argue them through when back at Headquarters

It was quite clear that he had enjoyed the collaboration with the trainee. It is possible that "success" of his collaboration with the trainee and the positive feelings he associated with that work have to do with the trainee being in a position which was non-threatening in relation to his work in the area organization, and that while working on marketing issues, he contributed to the Airline as a whole. Thus, although others' accounts of the sales manager suggest that he easily got into defensive behaviour, this account suggests his defensiveness of behaviour was at least conditional.

Another piece of data suggests that overall behavioural and cognitive processes in the management group contributed towards the non-resolution of the divergence. These are some of the observations from the meeting in the management group where I was observer, and where sales was one of the issues on the agenda:

1. Figures for sales showed "disastrous" results (this seemed a consensual view). The business market is declining



2. The sales manager tried to put poor performance down to company policy, which favoured a declining business market (this can not be seen as an unfounded excuse, as several other interviewees argued that the company's policy of sticking to the declining business market as dysfunctional)

3. The sales manager made suggestions for increased sales, which seemed marginal in terms of numbers in relation to the total passenger volume of the area. The reaction of the other members was to listen politely, but not to comment on his propositions.

4. The area manager showed positive interest in the favourable figures displayed by Cargo (who had doubled their figures for that month), congratulating the cargo manager on the results. However, he was reticent when the sales manager proposed solutions to the problem of declining sales, replying "we'll have to look into that", but not pursuing the issue further.

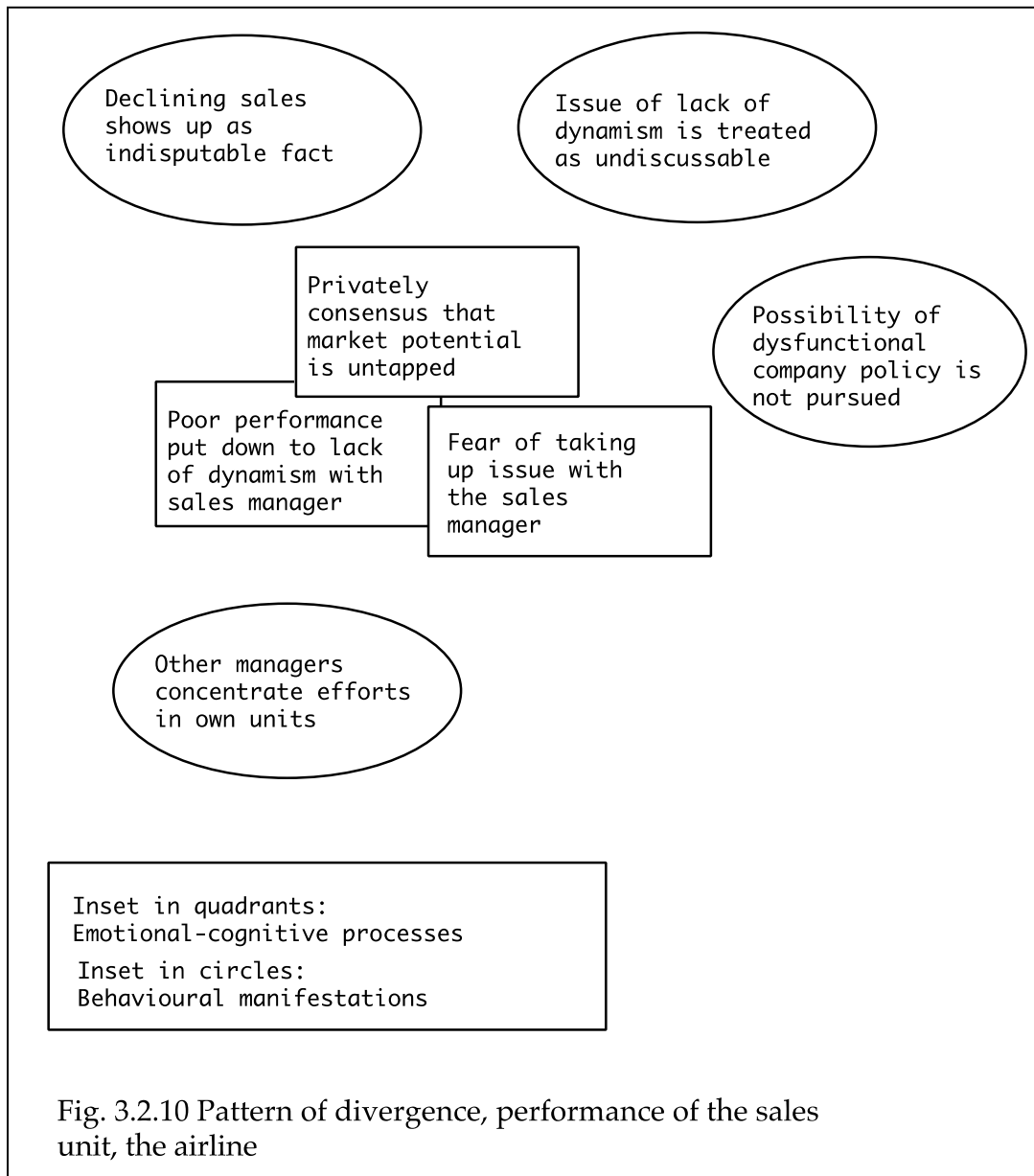
5. Possible strategic/qualitative reasons for the poor sales figures were not explored. The argument of the sales manager that corporate policy had to be probed into, was not pursued. The sales manager's dilemma of not being able to become more aggressive in the domestic market, seemed a non-discussible topic.

Thus, the managers said that failing passenger sales constituted a serious problem to them all. However, when they were together, they seemed unable to probe into underlying causes of the problem.

It appears that the members of the management group felt that they were in a deadlock. One reaction of the cargo manager was to concentrate efforts in his own unit.

We are all losing out in the area bonus scheme. I don't want to have a clash with (the sales manager). I am willing to stick around and wait the five years that remain before (the sales manager) takes retirement, for things to improve.

Fig. 3.2.10 attempts to depict the pattern of divergence.



### Inferences of conditions of divergence resolution

1. The data suggest that certain issues were publicly undiscussable, even though members attributed privately similar explanations to the same issue. The belief that the sales unit could do more, by perhaps working differently, was generally acknowledged by the members of the management group, but during the meeting, this issue seemed to be tacitly accepted as undiscussable. The data also suggest that issues, although

members attached considerable importance to them (in this case, the area bonus was at stake), might fall victim of defensive behaviour.

2. In the meeting in the management group, figures were treated as unambiguous facts. I did not witness any suspension of the "quantitative reality" in favour of a qualitative perspective. The cargo manager was "OK", because he had exceeded his quantitative targets. Likewise, the station manager, who was able to document an acceptably low percentage of delays for that month. When it came to the sales manager, he was clearly in a position in which he had to defend himself. His ideas for improving performance seemed speculative and qualitative, rather than based on quantitative data. In addition, it seemed clear that he was in a position of defensive.

This could suggest that in a given forum, arguments are required to match the nature of the institutionalised organizational learning system. That is, if the learning system is based on quantitative data, arguments are carried further if they are based on quantitative data. Further, it would seem that speculative, qualitative, arguments are responded to with more difficulty if the general basis for discussion is quantitative data.

This point warrants caution, however, because the person who offers non-quantitative explanations is also the person who is thought of as a sub-performer. We do not know what would have been the reaction if speculative propositions had been forwarded by, say, the cargo manager.

3. As noted above, there is reason to believe that the company's policy of consistently sticking to the business market was dysfunctional to improved sales. The sales manager documented during the meeting that their market share was being lost in the tourist market, more than in the business market. He made repeated attempts to bring attention to this phenomenon, but his point was not pursued by the other members of the group. It is possible that they saw his argument as an excuse for not doing better in the business market. An alternative explanation (which is not exclusive of the former) is that it was not pursued because it could not be resolved at their level. Company policy was elaborated at headquarters, and executed in the areas.

If we assume that both explanations are valid, we may derive two hypotheses about factors that hinder resolution of divergence.

Firstly, that assumptions that members hold of one another may not change, even when reasoning would suggest otherwise.

Secondly, that knowledge which is brought up in a given forum suggesting that prevailing practices are dysfunctional (in this case, corporate policy), but which cannot be changed by that forum, may become a source of defensive behaviour.

4. Defensive behaviour may be conditional to the social setting, and particularly to the manifestation of expectations from the organization, in this case the peers of the sales manager. The case of the sales manager suggests that when working in a peer environment, performance which falls below expectations may lead to defensive behaviour, which, further worsens perceptions of poor performance.

5. The matrix structure allowed for an arena on which the sales managers contributed innovative ideas. On this arena, he was credited with good ideas, but not made accountable for poor operational results. Hence, it seems that an advantage of a matrix structure is that it allows an alternative arena for exercising skills. On the other hand, the data suggest that the area organization was not able to utilise the skills that he performed corporate level, or learn from the context in which he seemed to perform well. This suggest the importance of different institutional contexts (in this case, "corporate" and "area") being able to draw upon each other.

#### Company policy and member contributions

This point of divergence contains a paradox, in that while the members management group espoused privately the belief that not enough ideas were being brought into the group, organization members were getting increasingly frustrated because they thought they had ideas, but could not voice them. It seemed that the management group was genuinely keen on getting ideas, particularly in view of the declining market share.

Some members of the management group did not think that they were good enough at exploiting ideas from members.

I don't think that we (the management group) takes sufficient care of the ideas and the knowledge of the people at the front-line (manager).

Ideas for improvement which arrive at the level of the management group come up through unit managers. There are not enough ideas. (manager)

The area manager, when asked about the extent to which they made use of ideas from subordinates, seemed to think that this was something that he had not given enough thought.

Actually, this is something which I have not thought much about. It is something we should do work to improve. How to do it, I don't know.

Others did not think that members had much to contribute with, or that they were not really concerned with the company at large.

I don't use much ideas from the front-line people of my unit, because I get very little ideas from them. I have myself worked at the front-line, and I know that people there are so concerned about their own work that they often don't think that other parts of the organization are in need of their ideas. I am not blaming them! (manager)

This belief was sharply at odds with the perception of members in the same unit.

I have plenty of ideas, but unless I am asked, I will not stick my head out. I don't know how my unit manager will react.

Thus, there seemed to be a distinction between ideas that were considered welcome, and ideas that might be construed as critique. When members thought that an idea might put their manager in a critical light, they preferred to keep them to themselves.

The fear of "sticking their necks out" applied to management level, as well. The sales manager, when travelling with the airline, identified a number of areas of improvement. However, he was wary of appearing critical to senior management of the airline, because he did not know if it might have repercussions on him.

The trouble is, I don't know where (my suggestions) would land, if they landed on the wrong desk, I might get black marks in the book.

At the same time, he acknowledged that "good ideas" would always be well received at headquarters.

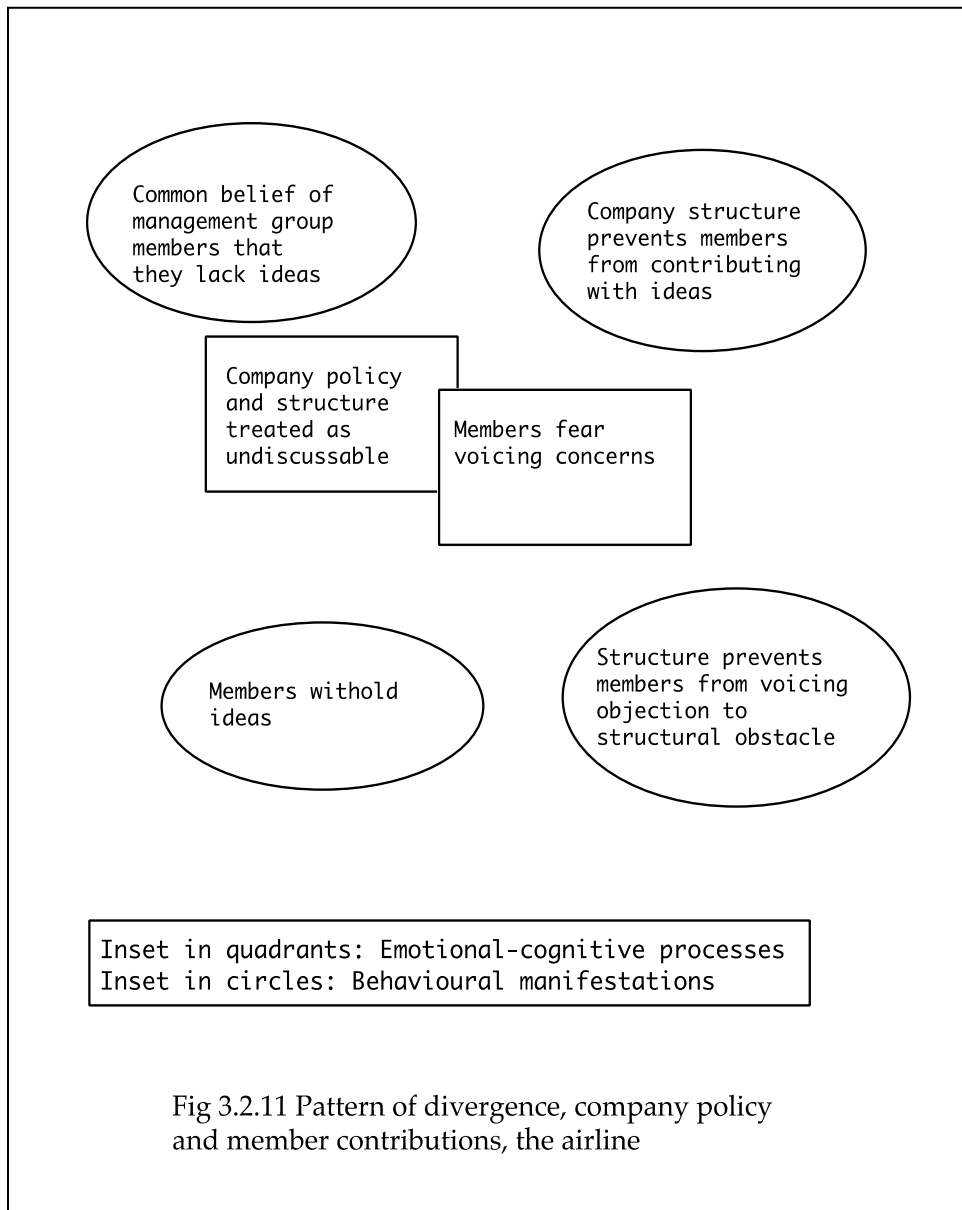
In 99% of the cases, headquarters will approve of a decent idea. (The area manager) has a lot of influence to get things his way.

A complaint among members below the unit manager level was that they did not know what went on at meetings in the management group. They had generally little knowledge of what unit managers took with them into the group from unit level, and they complained about being badly informed about what was discussed in the group.

(The decision) was taken at management group level. We were not consulted. We were just informed later on.

We know little about what happens at management group meetings.

The patterns of divergence, derived from the data, are shown in fig. 3.2.11.



### Inferences of conditions of divergence resolution

1. Lack of use of ideas from organization members may have arisen from lack of knowledge, which is implied by the response of the area manager. The question is: knowledge of what? Two alternatives seem possible. The first alternative is lack of knowledge of the ability of subordinates to generate ideas, as seems to be the case of the sales manager. The second alternative is lack of knowledge of how the organization might function as a learning system, where people who are in contact with customers function as a kind of intelligent "antennas". The data are inconclusive on which of the

two types of knowledge might be missing. However, it seems appropriate to combine the two alternatives into one category labelled "knowledge of social system intelligence".

2. It seems that the organization emitted, knowingly or unknowingly, signals of what was acceptable and non-acceptable contributions from members. In the case of some members in the area organization, they were not sure how their unit manager might react to ideas, therefore they kept them to themselves. In the case of managers vis-a-vis headquarters, they seemed to know that passing "good ideas" was not risky, whereas criticism might "fall in the wrong hands". In both cases, members implicitly indicated that they preferred to be on the safe side.

3. The problem of the management group working more or less as a "closed system" in relation to other members seemed difficult for members to react to, because there were no fora, or channels which enabled them to voice this concern. Thus, the structure seems to have compounded the problem of structure. The implication is that it may be difficult to solve a problem of structure if the same structure prevents the solution of the problem from being brought up.

#### Sub-contracting of services at the station

The area organization had decided to subcontract services from the station to a local operating company at the airport. However, the extent of subcontracting had not been decided; that was to be decided as a result of a process of discussions with the local operating company.

The station had for a relatively long time had low turnover of personnel, and the staff had enjoyed stable working patterns. Thus, the staff were applying competencies that were in their respective areas of specialisation.

The area manager and the station manager anticipated that the issue of subcontracting would be contentious, because it was expected that staff at the station would be reluctant to pass functions that they were trained to do over to another company. That was the main reason why they did not wish to stipulate the amount of subcontracting without consulting the staff.



Thus, the divergence in this case consisted of the untested anticipation of the area manager and the station manager. Referring to fig. 2.1.11, this is a case where launching actions of which members to a significant extent controlled the outcome, a sort of "bridging" between untested and tested private knowledge. The data suggest that not only was the knowledge of the station manager modified as a result of the process, but also the knowledge of staff at the station.

Comments made by the station staff interviewed confirmed that the issue was delicate.

I don't think that (the local operating company) will do as handling agent, unless we train them well

When it comes to customer handling, there is a lack of professionalism, because (the local operating company) does not have airline experience.

The station manager had worked in the area organization for less than six months. It was his first assignment as station manager, having worked as training manager and consultant for some years. He admitted that he did not have the professional competence required to make decisions, and he had to rely on his subordinates.

I can only ask "why"-questions; "why do we do it like that", "why can't we do it differently?"

His delegating style was acknowledged by his staff.

We get a lot of challenge.....It creates more work for us, but it also makes it more interesting

(The station manager) delegates a lot of responsibility

The station unit seemed to be a place where dissension was allowed, and where there was confidence between the staff that disagreement was resolved at the level of the unit, and not taken outside the unit.

At the station, we can disagree with each other, but nobody takes the discussions outside, not even to (the area manager).

At the station, we can disagree openly, and we influence the way the unit operates.

Rather than make a decision while soliciting station staff, the station manager developed the idea of labelling the transfer process a "temporary organization", consisting of staff from the unit and staff from the local operating company, which would be managed by the staff themselves. Two of the main criteria governing the process were as follows:

1. Services were to be subcontracted, but the volume of services to be subcontracted was not specified
2. Staff were to manage the process themselves. A "support group" consisting of the station manager, the area manager and representatives from the local operating company was set up to provide guidance to the process.

Thus, this "temporary organization" consisted largely of agreements and meetings which unit staff organized with staff from the local operating company.

An outcome of the work of this "temporary organization" was, to the surprise of the station manager, that the unit staff decided to subcontract a larger volume than he had hoped.

I thought they would try and keep to themselves tasks which they were comfortable with. But I was wrong. In fact, they went further with subcontracting services than I had thought they would.

The process of negotiating with the local operating company was, as one of the staff put it, a process of trial and error, where new insights were successively gained.

It was really a try-out, where no rules had been laid down. We didn't know how much to give, and how much to take.

Staff did not quite agree that the process had been decentralised as much as the station manager thought.

It is not correct that we made the decisions. But we could always influence them to a great extent.

Although perceptions are at odds with one another at this point, staff acknowledged that the process of involvement did yield new knowledge. When asked about the process two years later, one of the staff said,

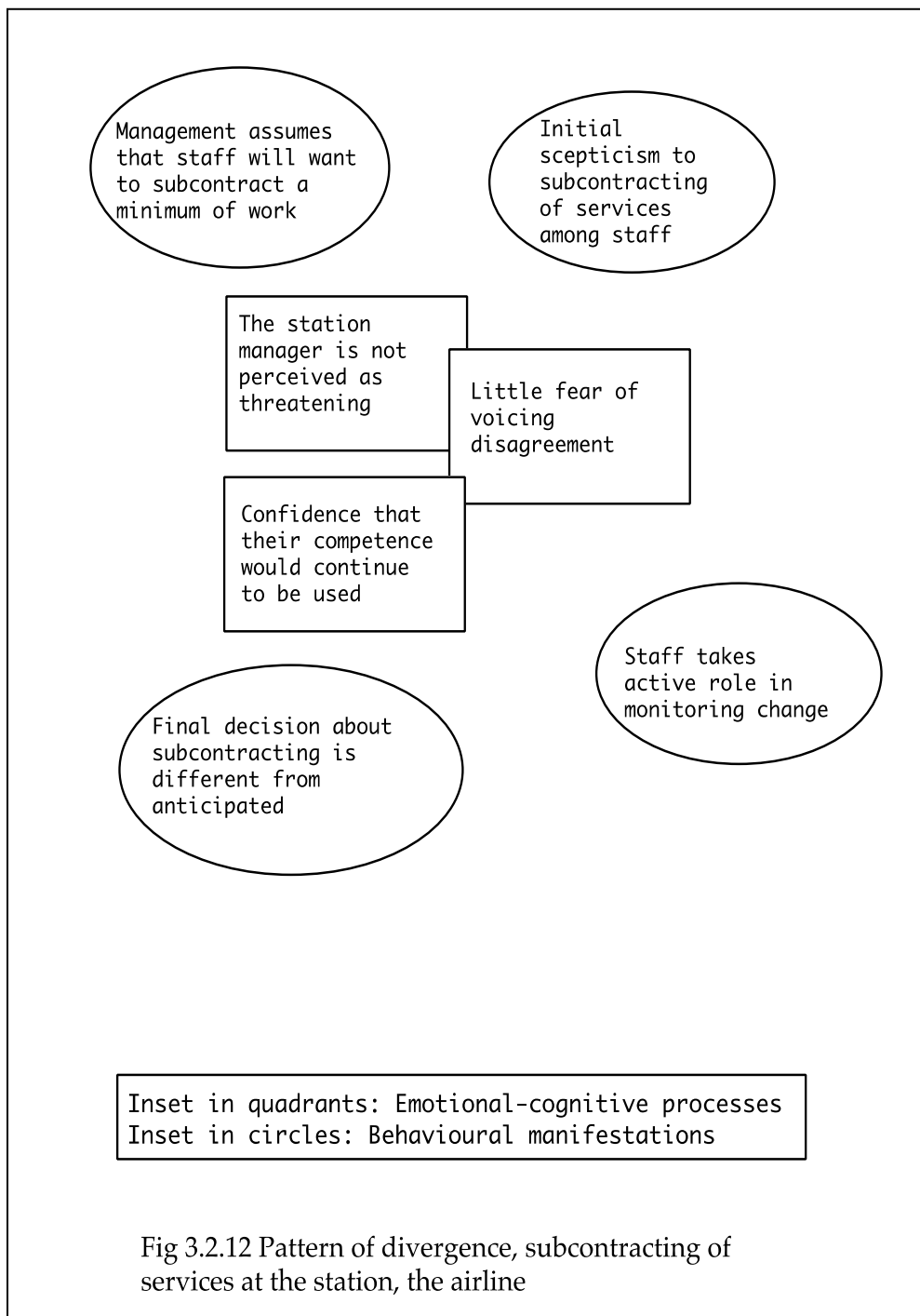
Over the two and a half years that have passed since (the station manager) started the process, we feel more involved, and I have learned more about what is important for us to prioritise in relation to other companies.

It was also confirmed that a different pattern of subcontracting was arrived at as a result of the process than was originally anticipated.

When interviewed two years later, the area manager acknowledged that there were significant contributions from staff at the station. It is surprising to note, however, that the principle did not seem to be transferred to other units, nor did it seem to influence the way the management group was being run. A station staff said,

We still don't reach beyond the station manager level with our ideas

Fig. 3.2.12 attempts to show the pattern of the divergence related to the subcontracting of services at the station.



### Inferences of conditions of divergence resolution

This is a case where the divergence was between what management thought would be the preferences of staff, and the final preferences as manifested by the staff. It turned out to go more in the direction of management's preferences than was initially expected.

1. In the "temporary organization", the station manager functioned more as a "boundary watchman" than when he performed his daily role. This may have given his staff a different "arena" for their ideas and their behaviour. The fact that they were in control of the outcome of the process, for example, may have produced manifestation of knowledge different from what the station manager perceived at the outset.

The inference is not so much that the "other" arena (the "temporary organization") is better for testing divergence than their daily organization, but rather that the *change* of arena may have helped to bridge the divergence.

2. The process whereby the divergence was tested, involved working on a specific set of issues over a period of time. Elements of the work included reflection, social contact (meetings) and action (planning, operationalisation of agreements and decisions). Hence, it seems appropriate to conclude that the knowledge was allowed to evolve over time and that it was formed/modified through work.

3. Although divergence appears to be successfully overcome in one part of the organization, this does not guarantee that it will influence ways in which divergence is dealt with in neighbouring units. The station manager expressed enthusiasm about the positive results they obtained, and the area manager acknowledged that the involvement of the staff had yielded important knowledge to him about sub-contracting arrangements. Nevertheless, there appeared to be no attempts to apply the principle of working in this way to other units.

### 3.2.5 The Hotels (studies carried out in September 1992)

The hotels (for convenience, labelled the "circle" hotel and the "division" hotel respectively) were located in a rural area of Norway. Both hotels were owned jointly by two persons, who also assumed overall management of the hotels. The hotels were distanced about 40 km apart. They were of approximately the same size (about 25 staff at each), and catered for similar customer groups.

#### 3.2.5.1. Nature of espoused organizational goals, members and target groups.

The hotels did not have a set of espoused goals, providing an explicit direction for the work of members.

The owners defined one goal as to be "a leading provider of seminar facilities in the area".

It was implicit in the propositions by members that they perceived the priorities of the owners as follows:

1. Satisfied customers is a priority
2. Costs have to be kept to a minimum

Thus, the goals of the organization may be regarded as implicit, rather than explicit.

The members represented a mixture of professionally skilled people, such as the chefs, on the one hand, and unskilled staff, such as cleaning staff, on the other hand. At the circle hotel, there was a mixture of men and women, with a slight majority of women. At the division hotel all the staff were women.

Customers may be categorised in three different groups, as follows:

1. Locals, who come to the restaurant, the bar or the discotheque
2. Seminar participants
3. "Bus tourists", mainly from Germany and Italy

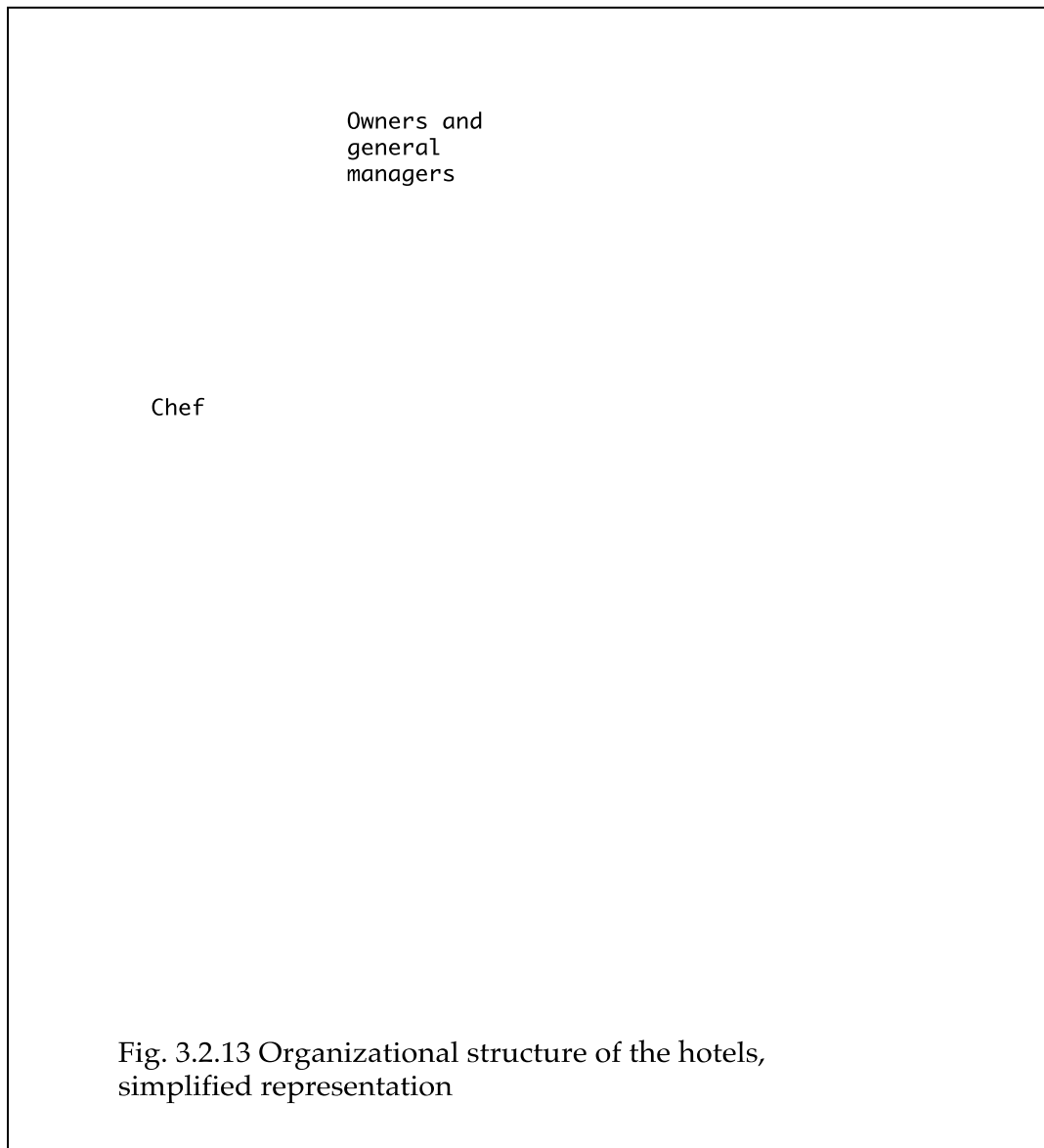
### 3.2.5.2. Organizational structure.

The overall structure is shown in fig. 3.2.13 below.

The terms "circle" hotel and "division" hotel have been used to distinguish the flatter and more "circle" shaped organizational structure of one hotel from the more segmented structure of the other.

The circle hotel tried not to separate the functions of reception, restaurant and bar. All the staff were expected to immediately step in and serve customers wherever there was a need. Thus, the functions may be described as interchangeable. For this reason, the kitchen was placed centrally, with windows out to the restaurant, the bar and to the reception. At the division hotel, on the other hand, a division of tasks was significantly more present, with physical partitioning between the reception, the restaurant and the kitchen.

It can be seen from the chart that at the circle hotel, all staff, apart from those in the kitchen and in the restaurant, reported directly to the owners, whereas those working in the kitchen and in the restaurant reported via the chef. At the division hotel, there was a hierarchical relationship between the reception and the kitchen, in the sense that the kitchen, including the chef, reported to the reception manager.



### 3.2.5.3. Institutionalised organizational learning systems

1. Staff meetings were held regularly to inform staff about the situation of the hotels, and for staff to air ideas and opinions.
2. Considerable emphasis was laid on monitoring the financial situation of the hotels. In the kitchen (at the circle hotel only), a chart was displayed on the wall, showing the previous month's expenditure. The chart was continually updated, and allowed members to have a visual representation of how they were able to keep costs down.



3. The hotels had customer satisfaction forms in the rooms, and suggestion boxes for staff.

#### 3.2.5.4. Particular organizational features, or events in the organization's recent history.

The financial situation of the hotels was close to critical, and they depended on attracting more customers for securing a sufficient volume of business.

Relations at the hotels were characterised as good by the interviewees, especially at the Circle hotel. Two staff at the Circle hotel characterised the organization as resembling more a big family than a hotel. It seemed that there was a close relationship between the owners and the staff. The owners spent considerable time talking to the staff and helping out when necessary.

#### 3.2.5.5. Formal organizational roles occupied by the persons interviewed.

The two owners

2 chefs (circle and division hotel)

1 cleaning staff (circle hotel)

1 restaurant staff (circle hotel)

2 reception/bar staff (circle and division hotel)

1 reception manager (division hotel)

#### 3.2.5.6. My own relationship with the organization and research approach

I had not had any contact with the hotels prior to the studies. While carrying out the studies, however, I stayed as a guest at the circle hotel, which allowed for a considerable amount of informal discussion, both with the owners and staff. I ate my meals at the hotel, stayed around the kitchen a lot, and spent several hours discussing hotel management with the owners. Whereas the formal data are mostly from the taped interviews, the informal discussions were a useful means of enabling me to identify pertinent questions for the formal interviews.

### 3.2.5.7 Patterns of divergent knowledge identified in the study and inferences of conditions of divergence resolution

#### Use of knowledge from members

Divergence was revealed in differences of perception between the owners and staff about how ideas from members were used to effect improvements. Whereas the owners were concerned that staff did not make more effort in suggesting changes, staff pointed out that the owners did not always make it easy to come up with ideas. This type of divergence could be positioned between untested and tested private knowledge in fig, 2.1.11, as private assumptions were not surfaced as to why they were having the problem.

The owners thought it difficult to involve staff properly.

It is hard to involve staff, and to make them come up with ideas (owner).

We do, however, have some creative souls who take initiative and who come up with ideas, which pleases me enormously (owner).

One of the owners attributed the lack of ideas to people being more concerned with their own situation than that of the hotel.

"They come to do their work, then they go home again.....some, but not all. In this respect, we probably resemble other companies.

Staff had different perceptions of this. Some explained that people did not dare speak out.

People are too timid to speak out at staff meetings

One member of the cleaning staff at circle hotel said that, although she felt that she could talk to the owners about anything, she had to be persistent in order to succeed in making them accept obvious improvements.

When we point out that things need to be done, we are often not listened to, and we have to "nag" for something to be done.

A waitress felt that because the owners stressed cost issues at meetings, she sometimes refrained from making suggestions because it might be too expensive.

Because the emphasis is laid on costs and economy, I am weary of forwarding ideas which I think will be too costly

The owners confirmed that a major item on the agenda of staff meeting was cost, arguing that if costs were not reduced, the hotels would not survive financially.

At staff meetings, we make decisions in the light of the market, economy and personnel problems (owner)

We are now succeeding at cutting costs

One of the staff did not share the perception that it was difficult to make oneself heard by the owners,

The owners are good at listening to our suggestions

However, later in the interview, he explained that he felt that they listened to him because he knew them personally.

I have good access to (one of the owners), because we train together

Two of the staff thought that because the owners had several ideas they wanted to pursue, staff were obliged to take a stand,

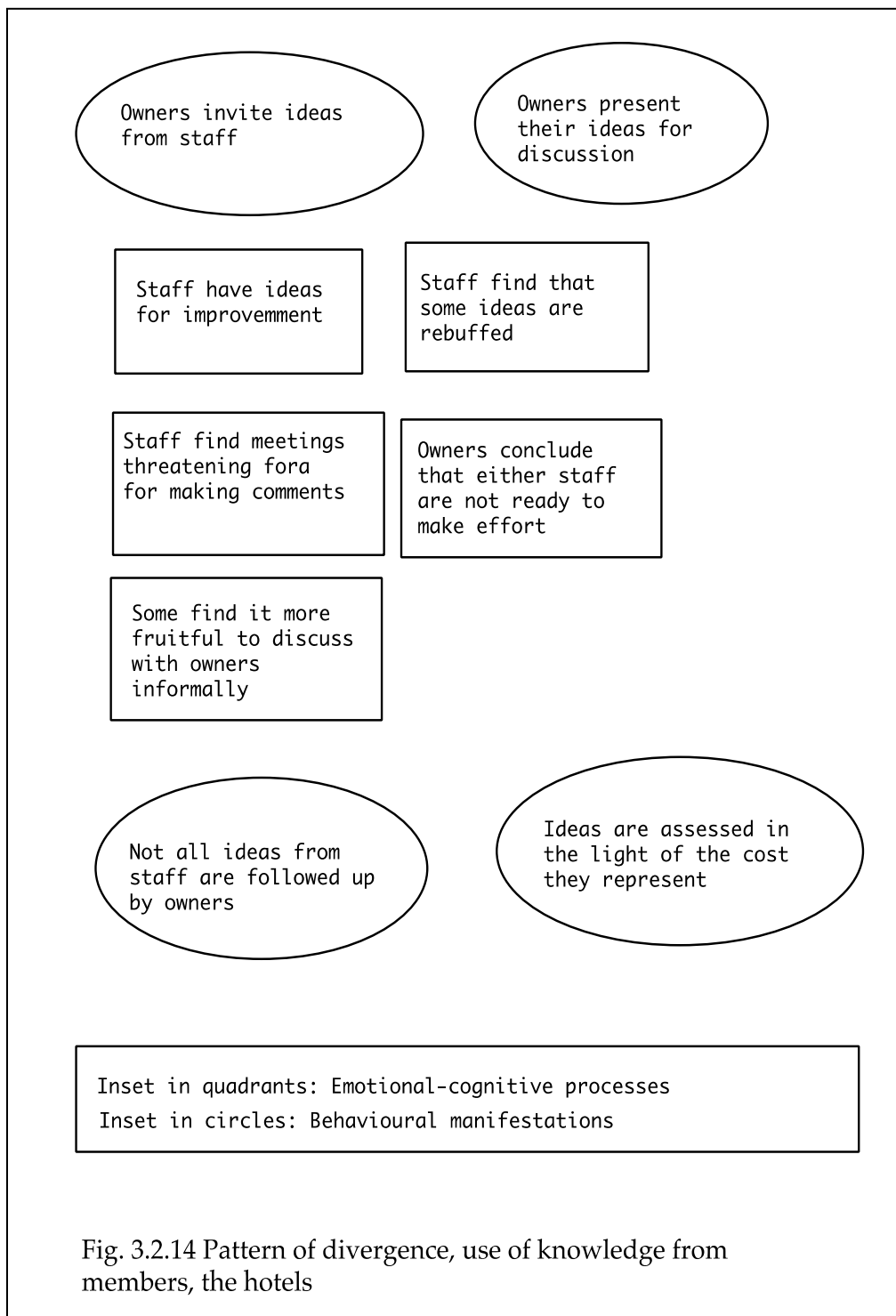
(The owners) sometimes suggest risky projects. I then tend to pull out. They then feel that I let them down

The owners admitted that they might be a bit "pushy" in their approach

We make suggestions, and they tend to agree.

"We are not afraid of talking about plans which are not yet concrete, but we do not call a meeting to discuss them, either. Actually, we may tend to be a bit too focused on our own ideas.

Fig. 3.2.14 describes the pattern of divergence, as derived from the data.



### Inferences of conditions of divergence resolution

1. It seem that management unconsciously, by focusing on a particular type of issue, "framed" contributions from staff. It seems that the "cost chart" in the kitchen (see 3.2.5.3.) and the emphasis on costs in meetings to some extent acted as a deterrent to putting forward ideas.
2. Management seemed to block ideas from members through defensive behaviour. The interview with one of the owners suggests that although he suspected that his behaviour was defensive, he was not able to change it.
3. Alternative fora, such as informal discussions seemed to be more effective for forwarding ideas than formal meetings. This seems a reasonable observation from the interview with the staff who trained together with one of the owners.
4. Interpretation of members' behaviour may led to faulty causal attributions. It seems that the owners attributed the lack of ideas from staff to unwillingness to put in the necessary effort. It seems that the owners were not able to suspend this assumption, and question causal patterns in their own behaviour.
5. It seemed difficult for decision makers to elicit ideas and comments from members if decision makers themselves were active in putting forward ideas. This inference is speculative, as there are no observations to back it up. However, there was consensus that the owners were active in launching ideas, and it was also consensual knowledge that members did not contribute freely with ideas and comments.

### Perceptions of customer quality

The issue of customers; how to please them and how to attract new customers, seemed central to all interviewees. The data suggest, however, a paradox between, on the one hand, a need to attract more customers and concentrating efforts on customers who were already satisfied, on the other hand. This latter item suggests divergence between what is shared consensually among members, and what they might discover, were they

to test their shared knowledge. Thus, in relation to fig. 2.1.11, it may be described as divergence between tested and untested public knowledge.

The espoused goal of the owners was to make the hotels the best providers of such services in the area where they were located. The importance of attracting more customers without expanding the physical premises, was emphasised.

The goal is not to be big, but to have satisfied customers (owner).

The data suggest a consensus that the service at both hotels was good, but that it could be improved.

The customers don't complain, they commend us for good service and nice rooms (reception staff, division hotel)

"Customer treatment - it is probably OK, but it could probably be better. I think that generally, we are doing OK in that respect, although I sometimes pick up the odd signal that "events" take place (owner)

We could probably improve our service (reception manager, division hotel)

When probing into how they knew what they were good at, or how they knew what to improve, members responded that things that customers complained about, were rectified, and vice versa, that when customers showed satisfaction, it was taken to the people concerned.

We respond to complaints (cleaning staff, circle hotel)

When the a customer says that the food is good, we take the compliment to the chef (restaurant staff, circle hotel)

It was pointed out that regular customers were satisfied with the hotels.

The guests who return, are good at giving us feedback

Customer issues were discussed at staff meetings. There was no overall definition of customer quality, however, which was formulated, and within which ideas could be assessed, apart from the cost issue mentioned above.

At meetings, discussions do not take place within a framework of overall customer satisfaction, but focus on specific (isolated) items.

We discuss first and foremost possibilities of improving, and the corresponding budget possibilities.

Ideas which were generated and agreed, were not always put into practice. One reception staff, who did night duty at the division hotel, said,

Sometimes late drinkers complain that there is no food available. I have taken it up, but nothing has been done about it. Instead I tell the guests that "it is not long till breakfast", and they say "OK".

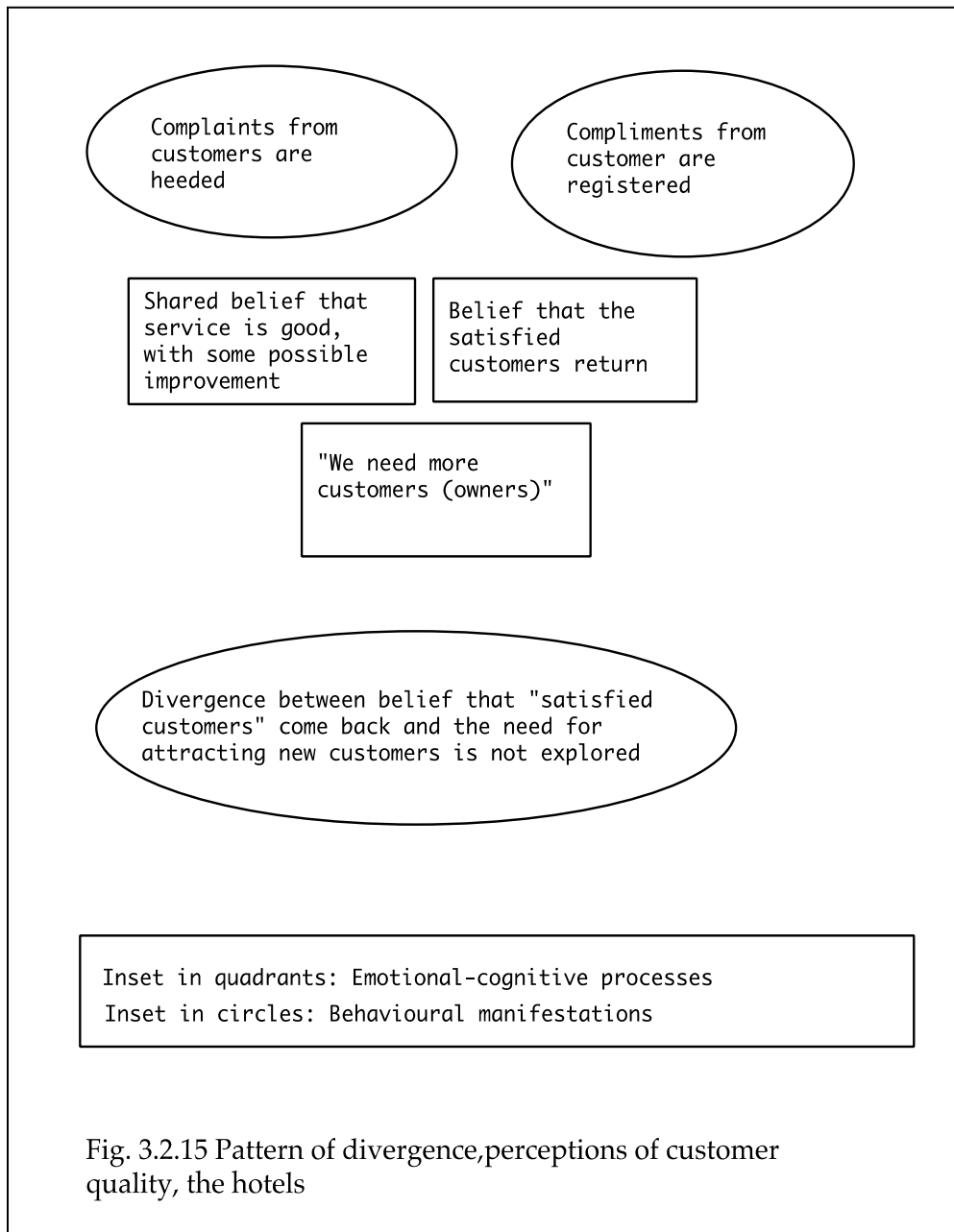
When asked if staff were purposely used as "antennas" for channelling feedback from customers, answers differed between owners and staff.

"This was stressed at a service training programme, that all shortcomings should be reported immediately, such as for example with worn out lampshades. Our experience suggests that once dilapidation sets in, it accumulates (owner).

There is no policy of gathering information from us about customers' preferences (restaurant staff, circle hotel)

We don't have a proper customer feedback system. Finding out how they think is as difficult as finding out what the staff think. (reception manager, division hotel)

Fig. 3.2.15 describes the pattern of divergence as derived from the data.



Inferences of conditions of divergence resolution

1. Shared knowledge was not be tested in the absence of a wider conceptual framework, or goals, against which the shared knowledge could be tested.



Although it does not emerge explicitly from the data, it can be argued that this is a case where shared knowledge (*existing* customers are generally satisfied) was not tested against a stated overriding need of the organization (to attract *more* customers).

2. Non-formal learning systems did not provide significant correction to shared knowledge. Customers' comments to restaurant staff did constitute an institutionalised learning system, but rather a system which is commonly practised in the industry. In this case, it seems to have limited to making corrections to existing practices at the hotels.

3. Whereas the owners questioned practices generally, they did not seem to question the system by which knowledge was fed back to the organization. Although the owners considered it important to attract new customers, it seems that they did not scrutinise their overall system of learning to see if it was congruous with their intentions and their needs, which was essentially for the hotels to be attractive to customers other than their regular customers.

#### Interpretation of knowledge and hierarchical roles

The data suggest that the two hierarchical positions; the chef at the circle hotel and the reception manager at the division hotel, influenced the interpretation of knowledge in both hotels. The discussion considers the two hotels separately.

At both hotels, members suggested that the person in the hierarchical role prevented knowledge from being correctly interpreted.

A contentious issue at the circle hotel was the type of food that was prepared. Members did not think that the food was sufficiently attractive. It was generally known that the chef was conventional, but members did not want to bring this up at staff meetings.

We could do better at exploiting the local market, our menu is too monotonous

The issue has been discussed at staff meetings, but (the chef) is too conservative (bar/reception staff)

The kitchen staff bear grudge towards (the chef), but they will not say a word at staff meetings (owner)

The owners were also concerned with the food issue, but they found it difficult to take it up with him because of close personal relations with him (he had been with the hotel for 17 years, i.e. before they had bought the hotel, and had played an supportive role, particularly in the early stages of developing the hotel).

We have talked to him about it. We are, however, weak vis-a-vis him, because we have known him a long time.

As to the chef, he reasoned differently about the problem. He thought that it was important to serve traditional food, which was in line with their image of being a "local" hotel, besides arguing that it was a question of cost.

I try and stick to traditional food

The feedback on the food is positive. I could make better food, but it is a question of cost

At the division hotel, there was conflict between the kitchen and the reception, represented by the reception manager. The interviews did not reveal the context, nor causes of the conflict. That relations were conflictual, was revealed only when probing, together with the chef, into how they interpreted feedback from customers.

At this hotel, there is a physical distance and between reception and kitchen, as well as more respect for organizational roles than at Circle hotel

The customer satisfaction sheets in the room are taken care of by reception, who do the follow-up. When we have a conflict, evaluations which come out negative on the kitchen, are used against us. (chef)

The reception manager put it differently,

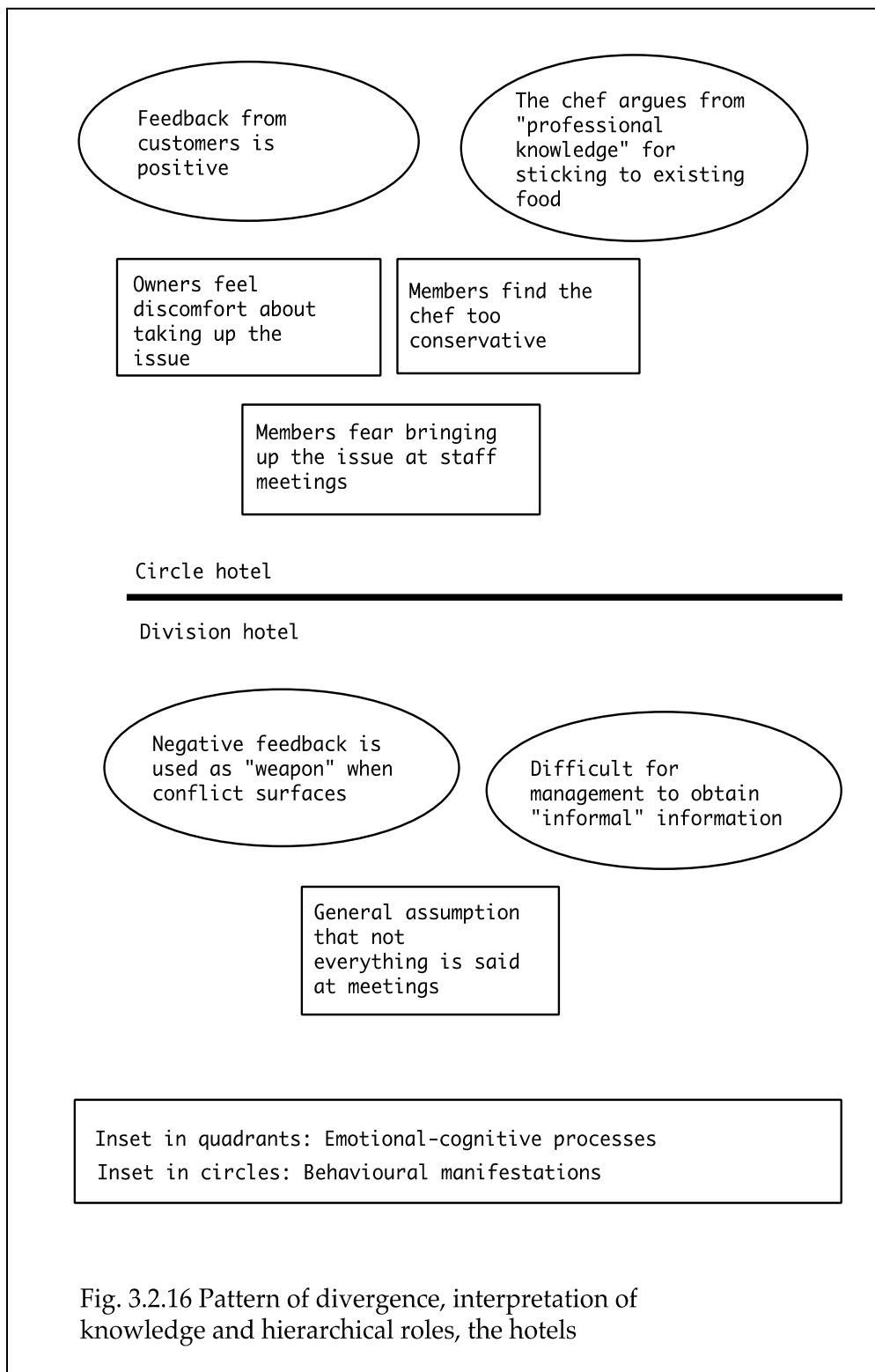
When we receive compliments about the food in the restaurant, we tell the chef right away

However, the reception manager implicitly suggested that relations were awkward.

As manager, I feel squeezed between the owners and the personnel

Before I was made manager, I got all the gossip from my colleagues. Now, when I enter the room they become quiet. I have to use other channels to get the same information. (reception manager, division hotel)

Fig. 3.2.16 suggests patterns of divergence at Circle hotel and Division hotel, respectively.



Inferences of conditions of divergence resolution

The circle hotel data suggest that,

1. In the absence of external criteria of what is right or wrong, judgements seem to have become subjective, arguments became personalised, and hence the divergence was resolved with difficulty.
2. The decision makers refrained from taking up a contentious issue, when personal relations make this difficult, even when the financial situation of the organization might dictate otherwise. It seems that this could be a case of "threshold of relative discomfort".

The division hotel data suggest that,

3. Organizational learning systems were used defensively when social relations were dysfunctional, in the sense that they were used as means to win in a conflict situation, rather than to jointly probe into ways of improving overall performance.

#### Implementation of decisions and informal knowledge

It seemed to be generally known that decisions, having been arrived at in agreement with members at staff meetings, were not followed up by members. The owners, as well as the reception manager at the division hotel, explained that a major dilemma was that they were not able to understand why decisions were not followed up. Hence, referring to fig. 2.1.11, it appears that there was divergence between what the owners held as private, untested, knowledge, and unknown knowledge.

We spend a lot of time on such things - we agree to do certain things, but then improvements do not take place. For example, when we had to cut down on costs - (wages were 10% more than at "Circle hotel). They agreed that something had to happen, and some agreed to work less hours. But, when we started implementation, we immediately had phone calls asking us to justify what we had done, in spite of the fact that we had arrived at an agreement in the meeting. (owner)

The reception manager at the division hotel suggested that meetings did not succeed in eliciting members' informal, or tacit knowledge.

Finding out what staff think is very difficult indeed (reception manager, division hotel)

The chef at the division hotel concurred

There is a difference between what staff say at meetings, and what they say privately. I can never be sure that what someone says to me one week is what I'll hear from other the following week. This creates a big problem.

Most of the decisions related to this dilemma, concerned measures that had to be taken to ensure the economic survival of the hotels. One example was that some staff at the division hotel had to "double up", such as do some reception work while working at the restaurant. In the meeting it seemed that there was agreement, but the agreed measures were not followed up by staff. When asked how they arrived at the decision, one of the owners said,

We thought that the turnover figures we presented at the meeting spoke for themselves, that they were the proof that measures now had to be taken

The owners expressed frustration at not being able to resolve the divergence, while trying to figure out underlying causes

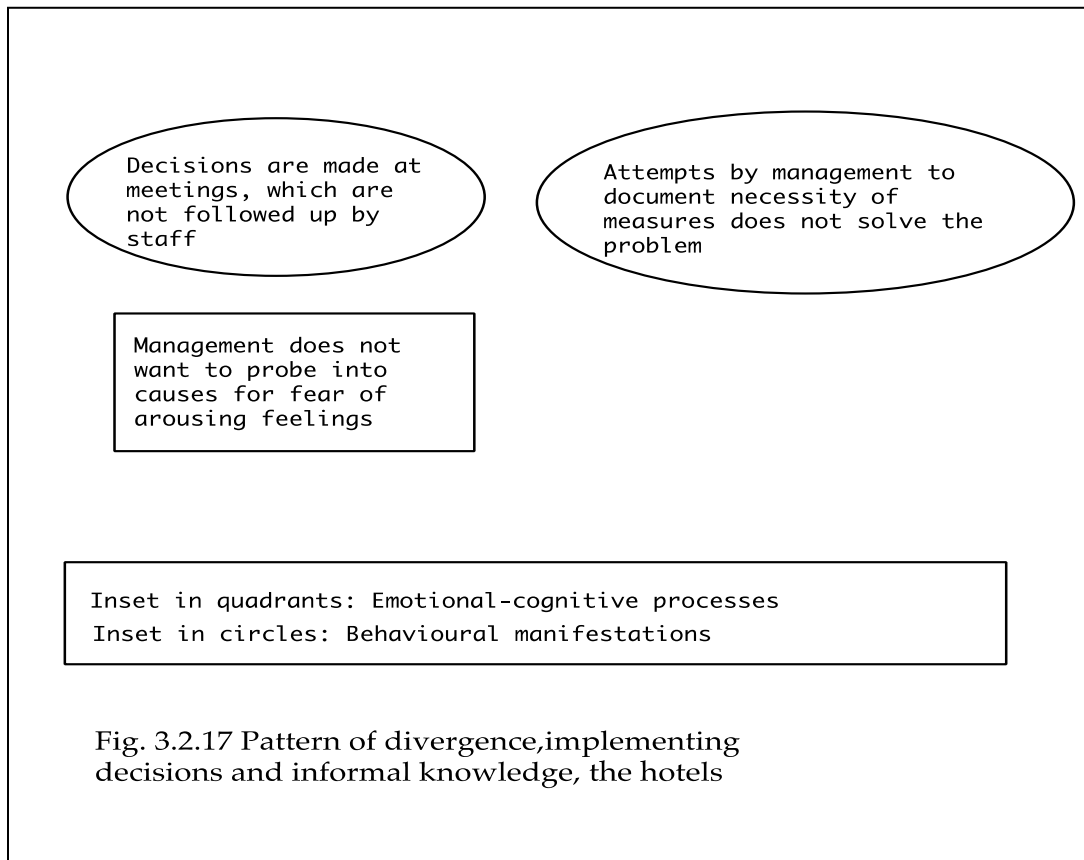
I find this very difficult to handle.

I am not able to explain why such self-contradictory behaviour occurs, but I guess it is related to group pressure."

When asked if they had probed into the seemingly self-contradictory behaviour, he replied.

It could be interesting, but I don't know how they would feel about that. We try to avoid to provoke too much feelings.

Fig. 3.2.17 describes the pattern of divergence, as derived from the data.



### Inferences of conditions of divergence resolution

1. Although there was apparent agreement about an issue, there was tacit disagreement, which became decisive in the implementation of a decision, and which was difficult for the owners to identify.
2. The owners seemed to wrongly assume that persuasion of rationale of a decision, on the one hand and ensuing tacit agreement, on the other hand, was sufficient for the decision to be accepted and implemented.

### 3.2.6. The social care centre (studies carried out in February 1993)

The social care centre was located in a Scandinavian capital.

#### 3.2.6.1. Nature of espoused organizational goals, members and target groups.

A document prepared by the deputy head in February 1993, describes the espoused goals of the organization as follows:

1. (The organization) is to perform operational work among vulnerable youth in and around the centre of the city, in order to reduce the aggravation of problems and to seek to reduce recruitment to high risk groups.
2. (The organization) has a particular responsibility for HIV preventive work vis-a-vis all its target groups and particularly among street based drug addicts.
3. By being actively present in the target groups, (the organization) shall exercise influence and mobilise resources vis-a-vis individuals and groups.
4. (The organization) shall register, analyse and document the situation and the needs of the target groups.
5. On the basis of detailed knowledge of the target groups, (the organization) shall initiate appropriate measures vis-a-vis individuals or groups, when such measures are missing.
6. (The organization) shall perform systematic development and documentation work in order to influence policy makers.
7. Through active evaluation work, (the organization) shall contribute to development of methods, internally and externally, in its area of work.

It is important to note that the role of the organization was first and foremost to identify clients and to channel them to other institutions. Hence, it did not work as an institution of rehabilitation.



The formulation of the goals specifies that the organization was perceived, and conceived, as a means of processing knowledge. This description concurs with perceptions of several of the members interviewed; that the organization was to perform a role as kind of social "watchtower" (expression used by one section head).

It is worth noting about that the formulation of the goals defines what is to be done, rather than what is to be *achieved*. It transpired from the interviews that lack of criteria of performance was perceived as a problem among members.

The organization counted approximately 30 staff, most of whom were employed on a full-time basis. Most of them were trained as social workers.

The target groups of the organization are described by the above formulation of the goals. Many were drug addicts, HIV positive, or adolescents who were considered potential recruits to social groups involved with drug abuse and/or prostitution.

Both the interviews and published literature about the organization bear evidence of the emotional strain on the staff, who regularly had to face personal trauma, disappointment and sometimes death among its clients. Some of their clients were hardly more than 13 to 14 years of age.

Although clients often came to the centre for help, the staff, while not refusing anybody, sometimes had to take a stand which was contrary to the wishes of a client. For example, staff might make assistance to, say, a drug addict conditional to the client making real efforts himself or herself to reduce the intake of drugs, or to seek rehabilitation. The policy of some of the staff not "to give in", sometimes put them at odds with clients, at least initially, which could also provoke violent reactions against staff.

Hence, compared to, say, a commercial company such as the airline, the social care centre was in a peculiar situation in relation to its target groups. Firstly, its success was to some extent measured by the number of people that they prevented from becoming assimilated in the high risk milieu in the city, and not by the number of people they were able to attract. Thus, their rate of achievement was difficult to assess, something which was confirmed by the interviews as well as by other studies undertaken on the organization. Secondly, the services they provided to their clients may be characterised as "personal development", the success of which was at best subjectively assessed by

individual members. There was no general set of criteria of achievement that was applied throughout the organization.

If the observations about the relations that the staff of the organization had with the target groups are correlated with the above observation that the goals of the organization were task- as opposed to achievement specific, it seems a justified assumption that the nature of the organization's work as well as its espoused goals made assessment of achievement ambiguous.

#### 3.2.6.2. Organizational structure.

The structure may be divided into four main components.

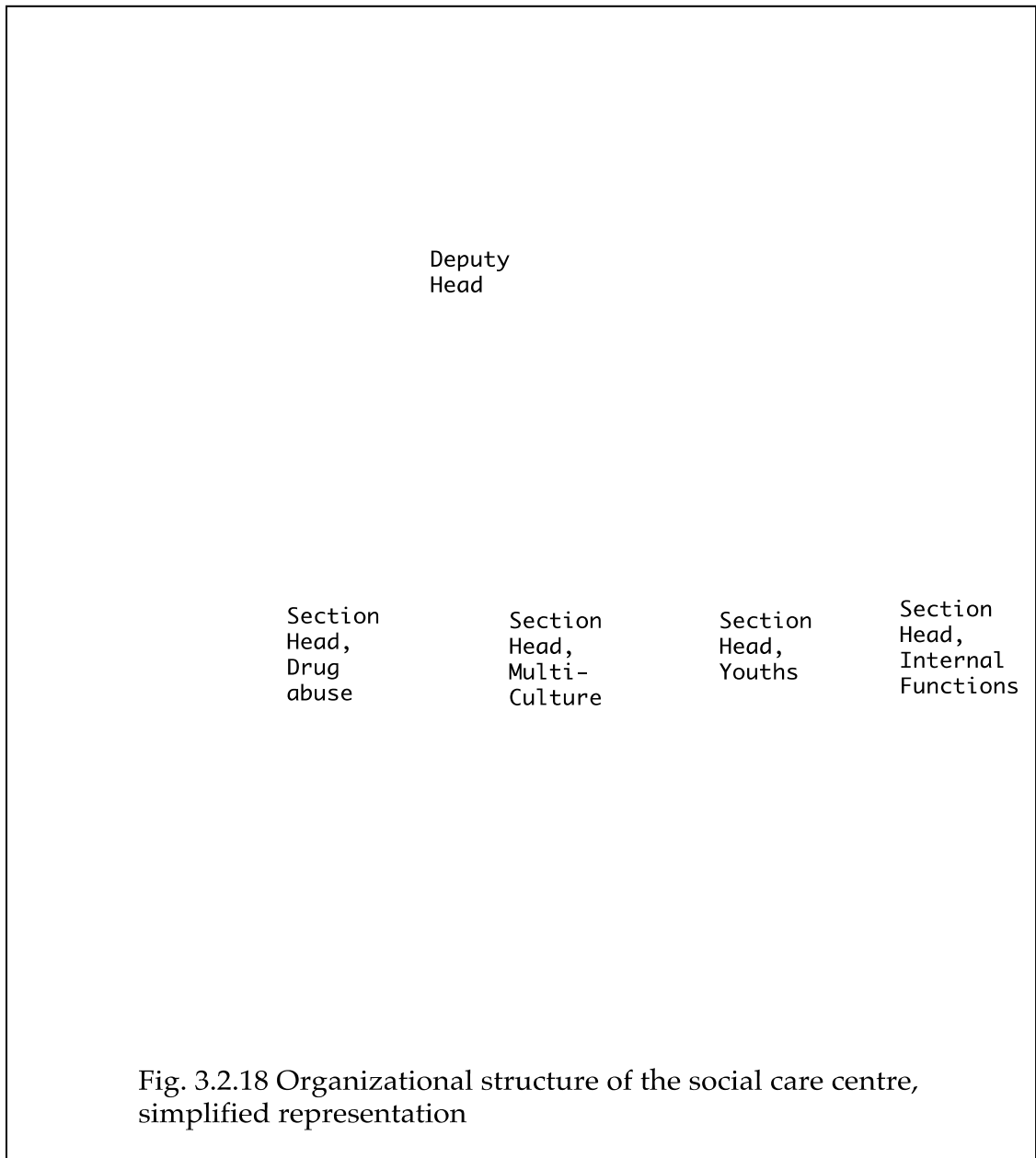
Firstly, organization management, which consisted of head and deputy head. In addition, there were two management groups forming part of the organization management. The "middle management group", which consisted of the head, the deputy head and the section heads. A "core" management group consisted of the head, the deputy head and the person in charge of the administration. The latter group is not dealt with further in the analysis, because it seemed less of a strategic/operational decision making forum than the former group, which from here on is labelled the "management group".

Secondly, a support structure, which included a doctor and a psychiatrist. In view of the emotionally demanding nature of the work, the support function was used by staff as well as by clients.

Thirdly, an operative structure, which consisted of three street patrol sections and a section which was charged with internal services, which included the reception and the night centre.

Fourthly, research projects. The centre sometimes attracted external funding for carrying out research. Although the research was carried out by staff working in operational sections, they did not report the results of their research to their section heads, but to the head of the centre.

The structure is shown schematically in fig. 3.2.18 below.



### Formal reporting relationships

The structure of reporting represented unity of command, in the sense that each member reported hierarchically to one person only.

Upwards flow of information was formalised. Requests from members were channelled to meetings in the management group, and responses from the meetings were returned to meetings at section level.

#### Patterns of horizontal interdependence

There was no formal requirement for sections to collaborate, other than when it was necessary for operational purposes, which seemed to be the exception rather than the rule. Also, because they worked with different target groups, they developed different areas of expertise, which meant that the degree of horizontal interdependence between sections was not strongly in evidence. The data suggest that, since there was not a strong need for horizontal collaboration, individual members could develop their own "niches" of work.

#### 3.2.6.3. Institutionalised organizational learning systems

Apart from the general administrative systems for monitoring of finance, personnel movements, etc., the organization kept statistics of the number and types of clients that it received. The statistics served as a political justification for continued funding. This was the only system of measuring performance that was referred to in the interviews.

The quantitative nature of the system seems surprising, considering the ambiguity that characterised the goals and the qualitative nature of the relations between the organization and its target groups.

For internal purposes, staff meetings (referred to as "house meetings") were held regularly for all the members, where management was also present. The staff meetings were organised to allow members to express themselves on various issues, as well as serving as a forum of information from the management group to the members.

#### 3.2.6.4. Particular organizational features, or events in the organization's recent history.

From the organization's recent history, three events are noteworthy.

Firstly, a year before the studies were carried out, a restructuring of the organization was carried out. The structure changed from organizing staff according to the city's geographic area of work, to organizing them according to the target groups with which they were working. An implication of this change was that the work changed from being of a generalist nature to being more sector specific.

Secondly, an elaborate process of involving staff in formulating goals and strategy of the organization was carried out. The process lasted several months, and resulted in an elaborate strategy document. This event is significant, because it involved virtually all members of the organization in elaborating the espoused strategy that was in application at the time when the studies were carried out.

Thirdly, the organization changed heads about two months before the studies were carried out. Hence, in the place of the present head, the deputy was interviewed, who had been with the organization for several years.

The organization's early history, such as in the 1970s, was influenced by political and social issues which were rooted in ideological movements of the late 1960s. Some of the people who were interviewed, characterised the early history of the organization as "unbureaucratic", "heroic" and "exciting". This appears significant, because the same members tended to describe the present state of the organization as a contrast to its "heroic" past.

#### 3.2.6.5. Formal organizational roles occupied by the persons interviewed.

Deputy head

2 section heads

1 advisory support staff

3 section staff

1 project research staff

### 3.2.6.6. My own relationship with the organization and research approach

My "entry point" was the deputy head, who put forward my request to carry out studies in the management group, who agreed to it. The studies consisted of interviews only. Because the organization had been subject to research by others, some of which has been published, I was able to draw on sources additional to my own data. After having carried out the studies, I submitted a report to the head, who distributed copies of the report to members for information.

### 3.2.6.7. Patterns of divergent knowledge identified in the study

#### Dysfunctionality of the organizational structure

The structure of the organization, which is described above as containing a certain unity of command, was subject to criticism among section heads as well as among their subordinates. As will be seen below, it was not so much the structure itself that was criticised, as the effects of the structure.

The structure is usefully seen as consisting of the following components:

1. Two temporary measures which had been introduced a few weeks prior to my studies. Firstly, the manager's day duty, which meant that section heads took turns to occupy an office near the reception area, where members had to report when going out on patrol, as well as on their return from patrol. Secondly, a morning meeting, which all operative staff had to attend. The purpose of the latter was to co-ordinate daily activities and to facilitate on-the-job learning between staff.
2. The command structure, revolving around the head, the deputy head and the management group

The type of divergence that emerges from the data, is implicit in nature, in the sense that none of the interviewees explicitly referred to it as divergence, but expressed general frustration about the three structural components listed above. The thrust of the divergence seems to lie between the inferences that members made privately of the

structure, and the topics that were discussed publicly in the organization. If the thrust of the divergence is positioned in relation to fig. 2.1.11, it would suggest that it lies between private, untested knowledge and public, untested knowledge.

At the time of the studies, the two temporary measures mentioned above, provoked several reactions among staff

According to the deputy head, a major rationale of the measures was to create better contact between management of the centre, staff and clients.

The underlying principle is to reinforce the contact between us (top management and the rest of the org) and the clients. We must be seen as an organization that stays in close touch with our users. Statistics shows that over the last 5 years, we serve a decreasing number of clients, and at a time when we are most needed.

The introduction of the measures was the result of a decision made by the head and the deputy head, and it had not been subject to debate throughout the organization.

The rationale behind the measures had been explained by writing a memo to the staff. To the question whether he thought it was clear to everyone that the measures were introduced solely to improve contact, the deputy head replied,

It has been said and written. We sketched out the general idea, then sent out a circular describing the measures, inviting comments. We presented the measures as serving our needs for co-ordinating and providing information.

When probing into the rationale of the measures, he gave a complimentary version, which suggested that it was a measure of improving relations between staff.

(The head), having talked individually to 5-6 of the staff, concluded that they tended to be happy with their personal work, but very critical of the work of others. We interpreted this as a sickness sign, that people were suspicious of one another. Therefore, having to be seen to be doing something about it, we instituted the co-ordination meeting and the manager duty.

Their assumption about dysfunctional relations between staff was not communicated to the staff. The reason for not presenting this part of their rationale to staff was not probed into in the interview.

Another feature of the measures was that they were considered by the head and the deputy head to be of an experimental nature. When asked if it was clear to staff that they were experimental, the deputy head said,

No, and I see a problem, I see the problem there. When we did it, we were probably too much in a hurry, it was done fast because the need appeared great.

Among staff, the measures were received with a mixture of apprehension and suspicion. They did not perceive the measures as experimental, but rather as something semi-permanent.

I chose to believe that this arrangement will be properly evaluated, but when I talk to people who have been here longer than me, they do not seem to assume that such will be the case.

Some did not see the point in the measures, and considered them dysfunctional.

We have just introduced morning staff meetings, which are a waste of time to me, I would rather work in my office.

The morning staff meetings take precedence over everything else. Some of my clients have to wait, and I don't think that is fair. When I bring this up, the reply is, "well, they'll have to wait."

The intentions behind the measures were not interpreted by members as being those that the deputy head describes them above,

I see this as a way of controlling us. In the beginning it didn't bother me, but now I see (the measures) more as a means of control, than something useful

A section head, who was interviewed while doing his "manager's day duty", was also negative



I think this is ridiculous. Did you see the girl who just left? She has to report at 3 different places before she goes out. This system upsets me. When I am sitting here, I end up reading magazines.

When asked why he had not taken up the problem in the management group, he explained that the measures would probably suffer "a natural death",

I don't hide my feelings about it to anybody. It surprises me that people have agreed to it. I don't think (this measure) will survive - I have seen many bright ideas come and go over the years. I give this measure a few weeks, one month at the most.

It did not seem that the deputy head was aware of the negative feelings that staff had about the meetings. Among staff, it seemed that they preferred to wait for the measures to go away rather than bring up their rationale as a public discussion.

Another level at which structural dysfunctionality was manifest, was in the management group. Its members had problems with conceiving the mandate of the group, as well as their respective roles within it.

I sense a dilemma in the management group in deciding on the mandate of the group.

It further seemed that the ambiguity of the group prevented dilemmas arising from the ambiguity to be resolved.

Being a middle manager poses a dilemma. For example, in the management group, I am both member of the management group and a spokesman for my own section. The same is the case when I chair meetings in my section. The roles sometimes get mixed up.

There is no forum where I can (legitimately) take up this dilemma.

Nor did they think that the group had a very clear profile vis-a-vis other members.

I do not think it is clear to others in the house about what we do in the management group.

Members who were not part of the group, were unsure of what went on in the group.

We don't see what happens to the issues we discuss at group meetings in the management group

It is difficult to see the decision processes in the management group

The main criticism was directed at the lack of transparent links between meetings at section level and meetings in the management group.

We sometimes ask the group leader to take an issue up to the management group. We don't see much of the effects in the management group.

The lack of transparency seemed to cause some distrust among members of the quality of the decisions in the management group.

If we could be present at management group meetings, the distance between us and them would be reduced, as would some of the suspicion and distrust.

Some did not trust their section head, and deliberately "short-circuited" the information/decision process.

I bypass my section head (and contact management directly).

I can say what I like to (the head and the deputy head). The only person I cannot speak freely to, is my own section head, because there would be implicit criticism in what I would say.

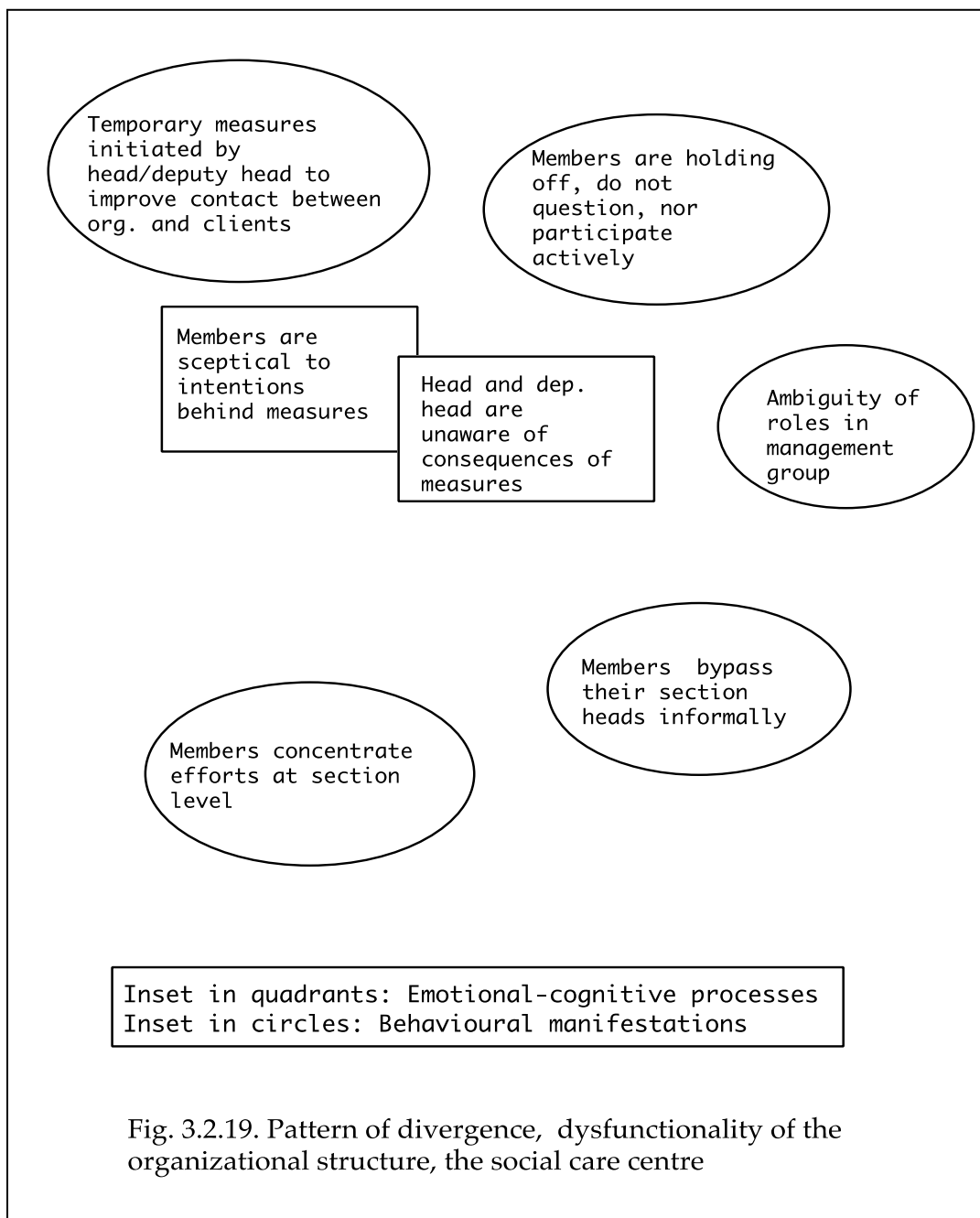
The lack of transparency of decision processes seemed to make decisions generally unpredictable to members. A behavioural effect of that was that they tried to protect themselves.

The effect (of unpredictable decision processes) is that I protect myself

A possible example of such "protection", was to concentrate efforts at section level.

My attachment to the section is stronger than my attachment to the org, so that is where I end up focusing my efforts

Fig. 3.2.19 describes the pattern of divergence, as inferred from the data.



### Inferences of conditions of divergence resolution

1. The quotes from the interview with the deputy head suggests that the managers wrongly held assumptions that their espoused justification of decisions were accepted by members. What the head and the deputy head presented as "co-ordination needs", members perceived as "control needs". It seems furthermore that because members

thought that the actual intentions were other than those that were espoused, there was not a basis for questioning the measures. This may explain why members accepted to wait for the measures to be discontinued rather than risk a confrontation.

The head and deputy head did not test the reactions to the measures. Although reasons for this were not discovered the interviews, one may speculate that they were afraid of discovering that they were, in fact, working from faulty assumptions. Another plausible explanation, which is given by the deputy head's comment "it has been said and written" is that they considered their assumption that members accepted their justification as not requiring testing.

In conclusion, it seems that when decision makers do not consciously probe into, or lack understanding of, members' interpretations, and correspondingly behavioural consequences of members' interpretations, divergence may not be resolved.

2. Measures that were considered experimental by the deputy head, were considered "semi-permanent" by members. Members thought that the measures had to "die" rather than be subject to evaluation. The deputy head's regret that they had not thought about making the measures explicitly experimental, suggests that they had not consciously thought of the measures as the organization's experiment, but rather as their own test of what would, and what would not work. It is possible that members' lack of willingness to participate constructively in the measures, and their reluctance to question them publicly, may be ascribed to their assumption that the measures being intended as "semipermanent". It appears thus that a factor preventing the divergence from being resolved is lack of conscious, public experimenting on the part of the head and his deputy.

3. It was explicitly stated by members that, because decision processes were not transparent to them, they became cautious, and they "short-circuited" the formal structure. The distrust arose particularly from lack of confidence in certain section heads. It seems that whilst the distrust, on the one side, and the lack of transparency, on the other side, compounded the issue, a "structural" cause of the problem would be a lack of transparency, because not being able to follow a decision process from section level up to management group level and back again, gives arguably limited opportunity to argue from knowledge of the process.

4. The issue of members in sections not trusting their section heads seems to have been difficult to resolve, because formally, a suggestion to resolve the problem would have to be launched through the section heads. Another example is the dilemma experienced by section heads as middle managers ("when am I a section head, and when am I a member of the management group?"). The fora in which they should have aired their dilemma were also the fora where they experienced their dilemma. Thus, it seems that structure imposed a "bind", which neither section heads, nor other members were able to resolve effectively.

#### Member concerns for an organizational rationale and manifestations of collective actions

It was expressed privately by virtually all the interviewees that they missed common criteria by which they could be able to assess the performance of the organization. In section 3.2.6.1 it is argued that the organization was exposed to considerable ambiguity as to what should be its measure of performance, and that the measure it used (statistics over number of clients treated) was employed, more as justification for further funding, than for monitoring internal performance.

The divergence of this point lies mainly in the difference between what was individually expressed as desirable and what members discussed when they were together, in the sense that the subject of public debate did not seem to address individual concerns. Hence, positioning the divergence in relation to fig. 2.1.11 suggests that the divergence manifested itself mainly between untested private knowledge and untested public knowledge.

Members expressed a general need to work from a common rationale, which could provide commonly agreed criteria of achievement.

"It is important for me to work in an organization where there is a common ideology. Here, the goals are unclear."

I would like to have criteria of achievement in my job.

We have no clear success criteria for the work we are doing.

In spite of a general consensus that this was a serious problem, public discussions did not seem to address the issue.

We do not discuss more important things, such as how we should organise ourselves. Several of us have said that it is important to discuss such things, but we end up not doing it. Why? That is a good question.

At the same time, there was fear among members of bringing up something that was considered "undiscussable".

We should review the amount of resources we spend, and see whether it really is necessary, but this is the kind of question which is risky to bring up around here.

The threshold for dealing with conflict is high in this organization (meaning conflict is dealt with difficulty).

An explanation of why the issue of acting from a common rationale was not dealt properly, was that there were not appropriate fora for dealing with it, neither at section level, nor at organization level. The following two responses suggest also that there was an element of defensive behaviour in fora at both levels.

There are a lot of assumptions about what cannot be done anything about. These assumptions are not brought up at section meetings. At section meetings we discuss mainly operational/topical issues.

The personnel meetings are not suited for taking up this kind of problem. It is difficult to take it up, because it is easily seen as criticism. When I take up things that might be seen as being critical at meetings, it is met with an impenetrable wall, by people at all levels.

One interviewee reported that issue of a common rationale had been brought up at a staff meeting, but had been rebuffed.

It has happened at staff meetings when a more fundamental issue has been taken up, that the reaction has been that "this is not the right sort of forum".

Although staff meetings were not considered effective fora of communication, the way in which they were organised, was not changed.

Nobody has ever defended the way in which the staff meetings are organised, but nobody has ever tried to change it, either.

As mentioned in 3.2.6.4. above, an elaborate process of defining goals and a strategy had been implemented a year before, in which virtually all the staff had participated. The goals that were in place at the time of my studies, were the ones that had been elaborated during that process. However, interviewees had difficulty remembering the goals that they had participated in working out. Some also thought that the process had not really addressed the most important issues of the organization, such as the clients.

I don't even remember the goals that we worked out last year

When we discussed the "new" strategy last year, the needs of the users were largely forgotten.

Thus, in spite of having been involved, members had not assimilated the rationale that they had developed jointly. One interviewee explained the reason being that in the formulation of the work, they were obliged to follow a format of expression which they were not used to.

A problem was that the language used felt alien to us, such as quantifiable goals.

In the absence of commonly accepted rationale for action, it seemed that justification for a given argument could be manipulated to suit a given situation. For example, bringing in the clients could seem to constitute a sort of legitimate "cover".

A good way of making a career for yourself is to argue from the user's perspective, although the needs of the users are not consistently in focus.

A similar mechanism seemed to work with the political bodies, that served as a source of funding for the organization.

(The goals of the organization) are discussed internally, but with negative overtones, and in a somewhat compulsory way, because we have to appear effective to (the politicians).

Frustration arose from not operationalising issues of discussion. For example, one complained that practical problems were not solved.

I am tired of taking up things that don't work, such as our answering machine. I then took it up at the personnel meeting, and someone promised to do something about it. Still, it didn't get fixed.

An objective of staff meetings was to facilitate peer learning. However, the effectiveness of the learning was considered marginal.

At staff meetings we discuss issues, but they are left there and then, the issues are not brought back to group level for further analysis

This suggests that there was also a problem of operationalising knowledge from topical debates to the work of the sections. One exception, however, was mentioned, which to those interviewees who were concerned, suggested that knowledge could be usefully transmitted through work.

Because of a temporary financial shortage, staff from two different sections were obliged to perform street patrol together. By working together, they exchanged knowledge while applying their skills.

The result of the amalgamation is that the members of the two groups have got a broader insight into the context of their activities. They have learned from each other, by working together. (section head)

I have also met others with whom I have not worked before. .... It has been useful to learn from each other. (street patrol)

Hence, it appears that whilst meetings that had been conceived for the purpose of exchanging knowledge were not perceived as being effective, members found that sharing tasks did provide opportunities for learning from one another.

However, it is worth noting that the event which provided an opportunity for learning was not designed, nor was it recognised as a means of providing extended learning opportunities.

We see it as an emergency measure



A result of the lack of success with arriving at a common rationale for action, seemed to be that members chose to concentrate their efforts in areas where their work made sense.

One result is that people tend to concentrate on their own professional areas of intervention. I observe that people are only moderately interested in what others are doing.

The result is that I concentrate on my own job, and secondly take reasonably care of our common interests.

Our group is about to establish a system of measuring achievement.

It is worth noting that in earlier years, when the ideology seemed less ambiguous, the problem had not been felt so strongly.

In the old days, individual professional issues would instantly have triggered off lively discussion.

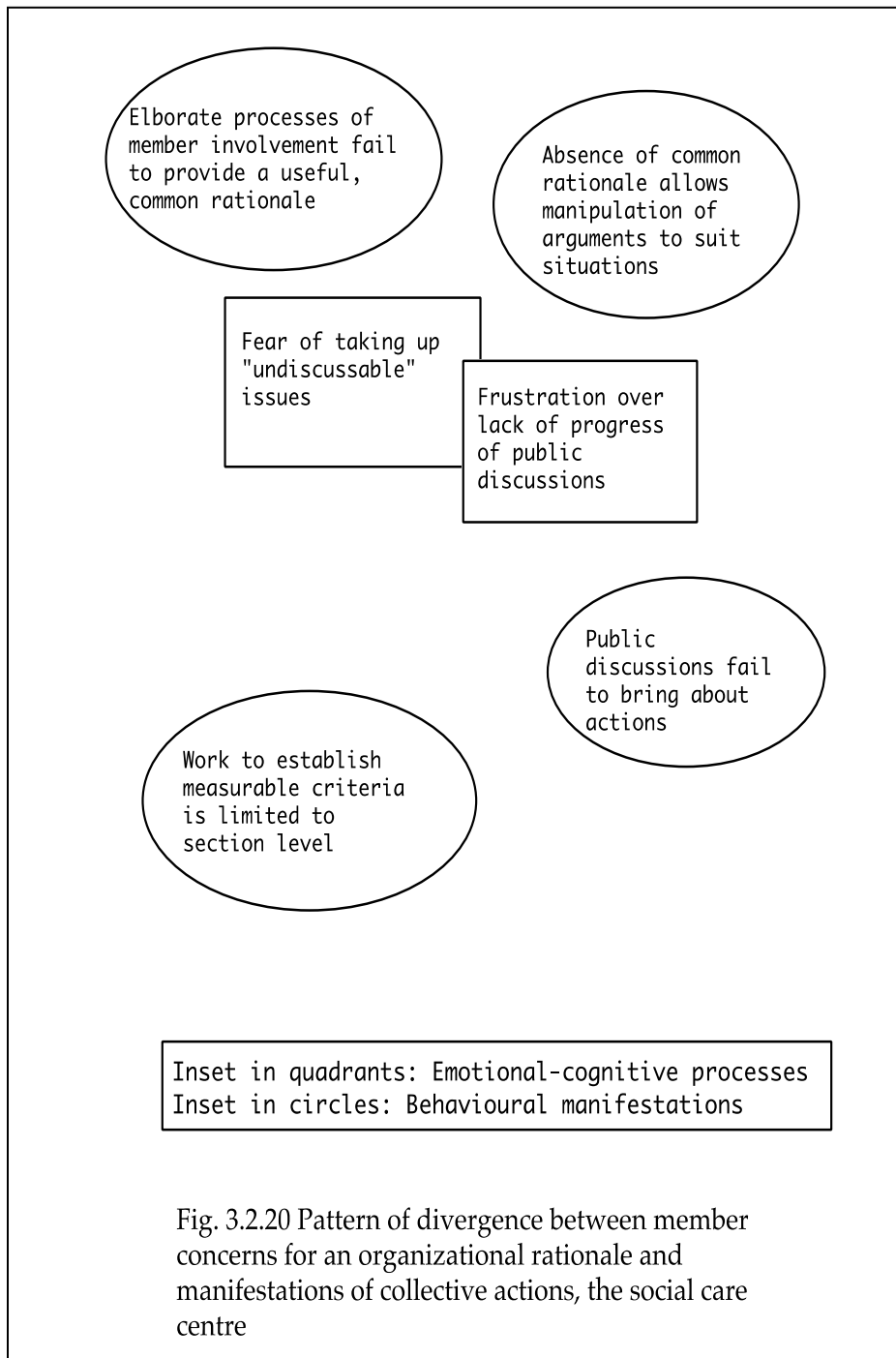
An explanation of why things were different, was provided by the same interviewee, as follows

(In those days) the clients were in the centre of attention. In the eighties to the nineties it is the institution that is focused on.

A response by another interviewee, who had been with the organization since its beginning, supports this observation,

We started 20 years ago with informal leadership. We were more action-oriented in those days, we were far more visible. We had visions that were right for society then. Things were not written down. (later in the interview: we had ideals that were right at the time).

Fig. 3.2.20 describes the pattern of divergence, as derived from the data.



### 3.2.6.8 Inferences of conditions of divergence resolution

1. That members had been engaged in formulating written goals which turned out to be inadequate as a common rationale of action, suggests that a written projection of their ideas onto paper was not sufficient as a medium of representation. It does not suggest that written goals are an inadequate representation, as much as suggesting that it appears

inappropriate for an organization, where different media are used. It is also worth noting that the language appeared alien to some members, which suggests that the way in which goals are codified, might be of importance.

2. It seems that absence of a commonly accepted rationale for action may leave room for debates that neither ensure peer learning, nor provide an operationalisation of knowledge. In this case, the statistics-based, i.e. quantitative system, was not congruous with the ambiguous, seemingly non-measurable, reality that the members experienced. It also seems that the absence of a common rationale made it possible to influence discussions by merely employing the "right" terms.

3. The situation whereby staff from two sections doing street patrol together, was acknowledged by section heads. Still, it was not considered an opportunity for improved learning, if extended to other sections. This seems paradoxical, considering that there was general acknowledgement that a major problem in the organization was lack of transfer of knowledge between sections. This suggests that the decision makers construed the organization, not as much as a learning system, where learning opportunities should were systematically explored, as a structure of decision making.

4. Staff meetings were continued to be held, although they were generally considered to be of limited use for solving the problems that members found important. This suggests that the suitability of staff meetings as media of resolving divergence was not purposely tested.

### 3.2.7. The data company (studies carried out in November 1993)

#### 3.2.7.1. Nature of espoused organizational goals, members and target groups.

The organization studied was the regional organization of a company that assisted client companies to specify needs for, and run, information systems. The regional office worked almost entirely with helping customer organizations install, run and update data systems for personnel administration.

Both the regional office and headquarters were located in French-speaking parts of Europe. The company had offices in several different countries around the world.

Similarly to the airline described in 3.2.4. above, the company espoused different sets of goals, which were not necessarily incongruent with one another, but which were presented differently, depending on the context in which they were expressed.

Thus, for the discussion of the thesis, two sets of "operating principles" have been retained from the organization's annual reports, which suggest how the organization management espoused internal relations between members, on the one hand, and between members and customers, on the other.

The first set of principles applied to relations between members and customers, and may be summarised in the following points.

1. "Our professionals speak the language of the customer's business"
2. "Our professionals draw upon a rich pool of internal expertise"
3. "Our professionals provide innovative answers to the immediate needs of the customers"
4. "We listen systematically to customers' expectations"

The second set applied to member relations and may be summarised in the following three points.

1. "Mutual respect, autonomy and trust between members"

2. "Maximum delegation of tasks with corresponding means to perform autonomously"
3. "Rigorous application and monitoring of the rules in 1. and 2."

The regional organization employed about 80 people. The company at large employed approximately 3600 people world-wide. Most of the members were engineers or data analysts, of which the majority were in the 30-40 age bracket. Less than 10% of the staff were women (not counting administrative support staff).

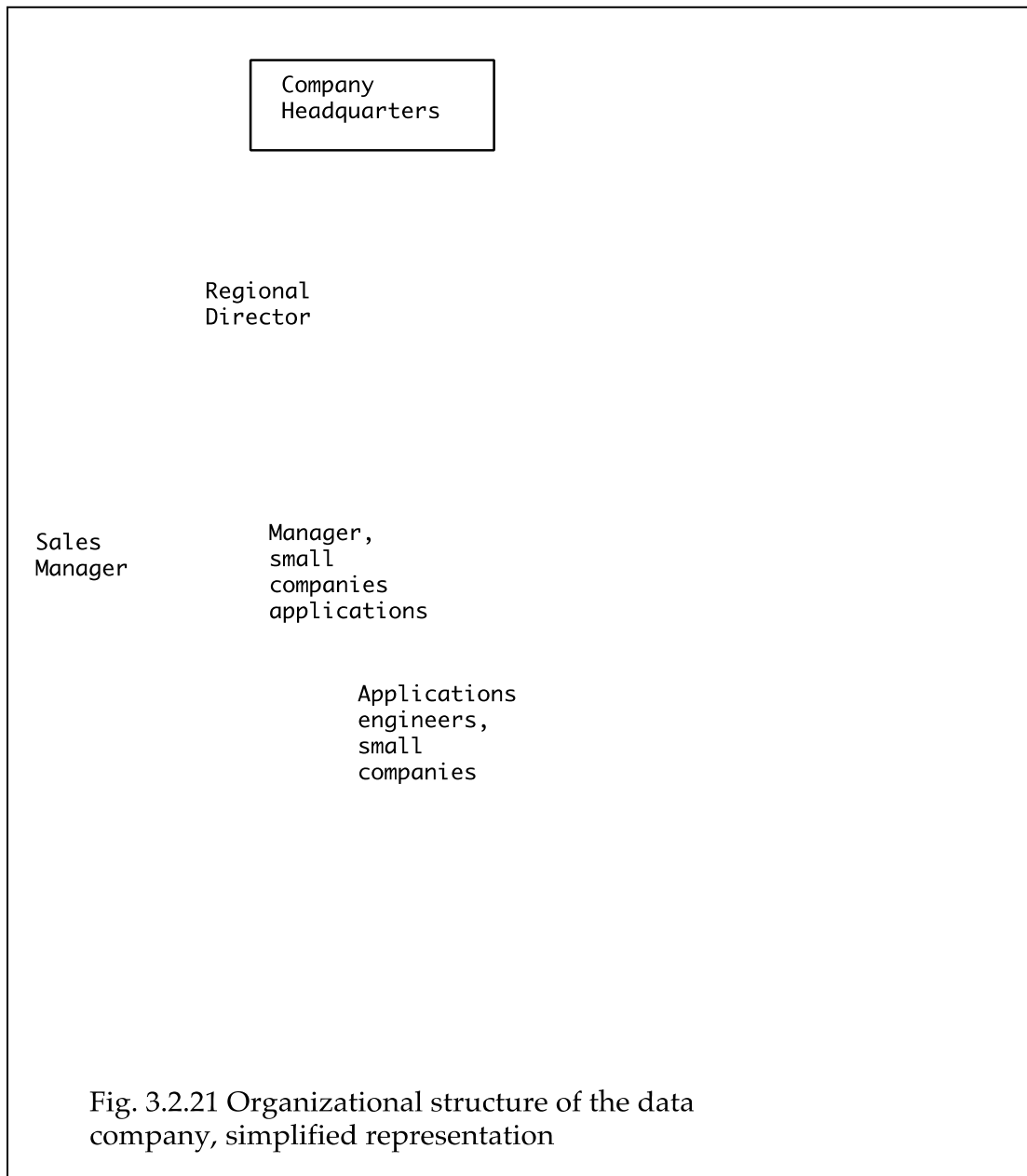
The organization operated with customers largely through its sales persons and applications engineers. The sales people did prospecting of customers and elaboration of contracts and agreements. Once the agreements were finalised, they became projects, handled by the applications engineers, who helped the customer organizations install, run and update the systems.

Their customer organizations were normally represented by the director for human resources, in the case of larger companies, and the managing director, in the case of smaller companies.

In summary, the company may be described as operating within a fairly explicitly defined set of goals. The "product" delivered to the customer organizations may be defined as "services".

#### 3.2.7.2. Organizational structure.

The company was organised in a singular reporting structure, with reporting on product application to a research and development unit, which was located in another city within the same region. The figure below attempts to present the part of the organization that was concerned with the study.



### Formal reporting relationships

The company was structured in relatively few layers, with singular reporting lines. I was told that the overall company structure, with its 3600 staff, spanned 5 hierarchical layers in all.

The singularity of the reporting relationships was a fundamental principle of the company, which is based on the idea that given high quality of the human relations between manager and subordinate, combined with a common focus on customers'

needs, a singular reporting structure should avoid weaknesses sometimes associated with hierarchy, such as distortion of upwards communication and managers' distancing from customers' needs.

#### Patterns of horizontal interdependence

Each sales person and applications engineer was expected to be autonomous in serving his or her customers. Although some interviewees reported that they held section meetings to discuss problems, and that they generally communicated considerably within sections, there was little evidence of interdependence between members for carrying out the work.

Interdependence between units was manifest between sales and applications. Practically all the work that the applications units managed, was obtained, negotiated and passed on to them by the sales unit. In addition, the success of the project depended somewhat on the quality of the agreement that was negotiated by the sales unit with the customer. The applications units were also dependent on well designed systems by the product research and development unit.

Thus, it may be argued that the applications units depended to a large extent on the other two units. The extent to which the other two units depended on the applications engineers is less clear. Once the agreement with the customer was concluded and the system taken over by the applications people, the sales people were no longer involved. Hence, their dependence on the applications units seems limited.

It should be noted that the company structure (and culture) was purposely developed for vertical interdependence. The role assigned to managers was to ensure that subordinates had the means necessary to carry out their work, given the high degree of delegation practised by the organization. Hence, members generally depended on assistance from their superiors, as much as superiors had to trust their subordinates to carry out the work satisfactorily.

### 3.2.7.3. Institutionalised organizational learning systems

A system of "bottom-up" personal assessment of managers was institutionalised, whereby managers are assessed by their subordinates.

Regular surveys were carried among staff, referred to as "staffs' voice" (la voix du personnel), to register systematically members' opinions of possible areas of improvement.

The organization organised "customer quality groups" two to three times a year, which were meetings to which around 20 customers at a time were invited to talk about their needs and describe any problems they might have with the company.

Based on regular customer surveys, the company produced charts with colour codes showing how they stand with regard to customer quality, based on customer surveys, referred to as "customers' voice" ("la voix du client").

The financial situation of individual units was continuously updated and could almost instantly be retrieved, due to a financial monitoring system.

### 3.2.7.4. Particular organizational features, or events in the organization's recent history.

The company is described by a group of sociologists<sup>x</sup> as an example of "close to excellence" when it came to combining internal member satisfaction with external responsiveness and long-term survival.

It was founded in the early 1970s. The founders, while aiming for commercial success made efforts to create an internal organization that put the individual member more in focus than they had seen elsewhere.

Almost twenty years later, the sociologists reported that it was the company they had found, which the most exhibited the following three characteristics, simplicity of structure; autonomy for people; and management by culture. The culture of the organization may be described, in line with the operating principles in 3.2.7.3., as being



one that encouraged openness of expression. Several interviewees emphasised that whatever obstacles there were, they were not afraid of voicing their opinions.

The company did not have a personnel function, the principle being that a manager should be able to recruit and train his or her subordinates, otherwise the principle of trust and delegation could not be applied. It was required that for training, for example, managers should not approve or initiate training for subordinates without having attended the training themselves.

The company had no salary structure; salaries were negotiated individually between manager and subordinate. Information was described as non-systematic and subject to whatever knowledge members wanted to share.

At the time of the studies, the company had difficulties keeping up its volume of activity. Customers were trying harder to negotiate low prices, and they were also cutting down on some of the services that were rendered by the data company.

About a year prior to the studies, the company had embarked on an extensive "Total Quality Management" programme. Members worked in cross-functional groups to try and diagnose and solve performance problems.

#### 3.2.7.5. Formal organizational roles occupied by the persons interviewed.

Regional director

Sales Manager

Manager, applications, small enterprises

2 Application engineers

2 Sales engineers

1 Manager, software distribution

#### 3.2.7.6. My own relationship with the organization and research approach

I knew the regional director from having met him at a conference. Because the company seemed exciting as a research arena, and I took a personal liking to the regional director,

I approached him and asked for access to the organization within the framework of my thesis. He consented, then changed his mind. After I had appealed to him, he agreed to let me talk to himself and seven other staff. It took almost a year from the first time I approached him about the thesis until the studies were carried out. I then had to negotiate separately every interview, as people were busy.

Three months after the interviews had been concluded, a follow-up meeting was held, which was intended for all those that had been interviewed. Finally, the participation from the organization's side was limited to the regional director, the sales manager and one other interviewee.

### 3.2.7.7. Patterns of divergent knowledge identified in the study and inferences of conditions of divergence resolution

#### Ambiguity of customer needs

There was general agreement that the organization dealt reasonably well with customers' needs as they were specified by the customer and as they related to the competencies of the applications engineers. Annual reports tended to emphasise how organization members would "speak the language of the customer". However, it seems that this espoused assumption was not systematically tested against needs that customer organizations had, which went beyond the competencies of applications engineers, or needs that were oriented towards the future.

The divergence in this case, seems to largely lie between untested and tested public knowledge (fig. 2.1.11) On the one hand, it seemed an espoused and commonly accepted assumption that the organization responded adequately through its applications and sales people to the customers' needs. On the other hand, several interviewees were of the opinion that customers had needs which they ought to respond to, but which they were not equipped to respond to. They were not able to specify the nature of such needs, but there was a general awareness that such needs were possibly ambiguous. Interviewees were not aware of systematic attempts by the organization to explore such possible needs with customer organizations. Hence, it may be described as a situation where the organization does not test assumptions on which it operates.

The idea of testing customers' needs in the light of possible ambiguity and members' competencies, came up in the first interview, which was with the regional director.

To the question of what happened if signals of needs from customers went beyond the competence of the person who is in touch with the customer, he responded,

That's a very good question - I don't know

It is clear that in our business, one person cannot be familiar with all the technologies and problems.

He implied that this is a serious issue, while regretting that their services tended to be limited to the competencies of the person who was serving the customer organization

We aim at long-term, quality relations, we should therefore emphasise long-term measures. Still, the services that we give to the customer are limited to the person who has responsibility for the customer. It is an inherent problem of our business to be able to go beyond one's own competence.

It was confirmed that members thought the organization delivered the services customer required from them.

The services we offer are more expensive, but more comfortable to the customer. We propose the "best" solution to the customer - there isn't any better. (sales person)

It was pointed out that the customer quality groups functioned well, in the sense that they allowed the applications manager, together with his staff, to experience collectively possibilities of improvement within the services they rendered to customers

At customer quality groups, we try and pick up and act on needs of customers, we may, for example, pick out 100 remarks, then we ask them to prioritise by order of importance. (applications manager)

However, issues were only resolved as far as they could be resolved at the level of that unit.

Whereas we are able, at our level, to effect changes that are within our operational sphere, signals that we don't have the means nor mandate to change, we have to send to our R&D department.

Most interviewees admitted that customers had needs for services which were not explicitly explored by the organization.

Most of the customers ask "how should I organise for the future?"

A central point seemed to be concern for the advisory skills/capacity of the applications engineers, i.e. to enable them to extend their competence from being technical specialists to being advisors on more qualitative, organizational issues.

This was seen as being important in order to preserve the competitive edge that the organization had worked up.

We have to develop our advisory capacity. The competition moves very fast today. The technical products resemble one another more and more. The differences will be seen most on the advisory side.

Honestly, between the two of us, (the company) is no longer ahead of the others, even technically. We are in a very vulnerable position, with the competitors attacking our markets. (sales person)

The product we deliver is clearly defined, yes, but the service part is not. This is not the way it should be, because we sell "adaptation to customer needs" (applications engineer)

Interviewees provided different causal attributions to the divergence. A sales person attributed it to lack of sensitive systems for picking up signals from customer organizations.

We have, neither procedures, nor methods, and frankly, we cannot continue working like this.

Similarly, on the application side, when asked what systems they had in order to identify needs that were not expressed by customers, or which belonged to the future, the answer was,

Today there isn't any, apart from the visits that I pay to customers (applications manager)

This argument was explained by the manager for software distribution, who explained that an operating principle of the company was to put a "filter" between research and development people and customers' needs.

We have learned not to try and produce whatever the client wants.

At (the company), the R&D people no longer see the clients. This is a conscious decision.

The applications manager thought that the ambiguity itself was an obstacle. When asked if, in his team, they had discussed the divergence, he responded,

No, very little.

(Question: Why?)

Because it is not clear, and because it changes enormously, (the company) has always said that "we advise", but has never said how, when, etc.

Formalising it is very difficult, it may be because of this that we haven't done anything about it.

An applications engineer, while acknowledging that customers' needs could be quite ambiguous, pointed out that how to cope with ambiguity of customers' needs was discussed informally between colleagues. To him, it was also a problem of not having the required competence

We sometimes find it difficult to understand what a customer needs in the area of HR management.

We discuss the issue of how far to go in our work with customers, but it is quite unstructured, talks with colleagues, things like that.

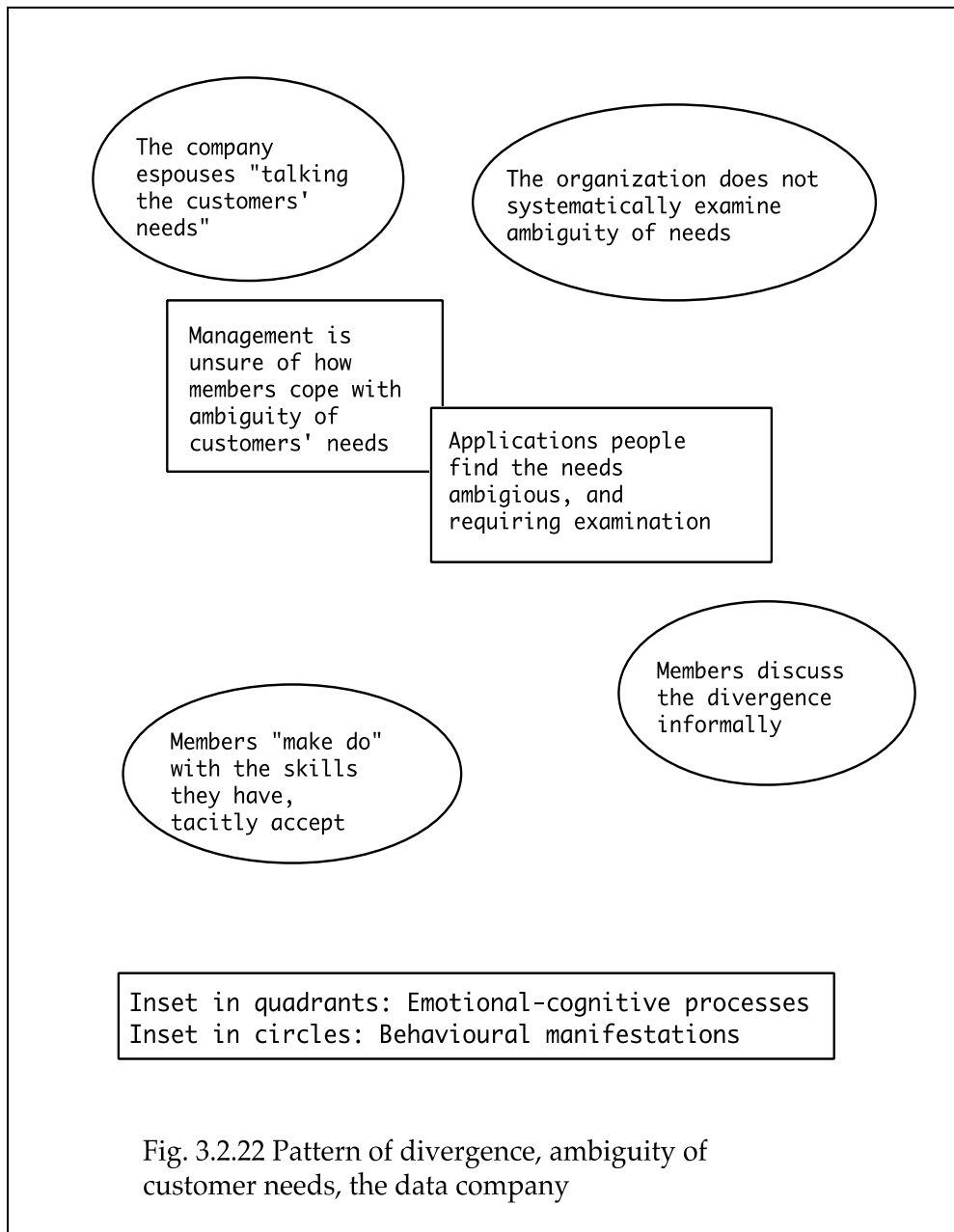
A problem is that we don't have the competence in (the organization) to deal with social issues.

The applications people's perceptions that customers' needs were ambiguous, and merited elaboration, contrasted significantly with the perception of one of the two sales engineers, who thought that customers' needs were readily definable.

Don't forget that we operate in quite an exact environment..

In summary, it seems that the organization did, for various reasons, not come to terms with the ambiguity of customer organizations' needs

The various factors emerging from the interviews are summarised in fig. 3.2.22 below.



Inferences of conditions of divergence resolution

1. The institutionalised organizational learning systems seemed able to pick up signals of non-ambiguity. It was expressed that the "customer quality groups" represented a useful means of registering opportunities for improvement of products and services. However, it does not seem that they were sufficient for resolving ambiguity, which the interviews suggest remained unresolved. We may thus infer that the learning systems used by the organization were appropriate within the governing assumptions, but were less useful in detecting signals that were not in tune with governing assumptions.

2. The fact that the director did not know how customer needs which went beyond the competencies of applications engineers were handled, suggests that he did not interpret organizational processes as much as a system of knowledge processing, as a system of task implementation.

3. It seems that ambiguity came in the way of resolving ambiguity. For example, development needs of customers were considered ambiguous by the applications manager and his team. But, although this posed a problem for them, they could not signal the existence of the ambiguity to the appropriate persons in the company. This suggests that there were no obvious channels for signalling such ambiguity.

#### Collaboration between units

One of the espoused principles of the organization was that members working with clients could draw upon a rich pool of expertise (3.2.7.1). It seems that this principle was partly implemented, in the sense that applications and sales people could call in expertise for problem solving. However, the data suggest collaboration stopped short of issues that were not confined to straight problem solving, such as developmental issues. It was generally expressed by the interviewees that collaboration between units was poor. Hence, this may be described as public knowledge. Referring to fig. 2.1.11, one may argue that there was divergence between on the one hand, espoused knowledge ("our professionals draw upon a rich pool of expertise"), and on the other hand, public knowledge that collaboration was inadequate. The divergence seems important, as it was described as detracting from the organization's performance in relation to the espoused principles mentioned in 3.2.7.1. above.

The director saw lack of collaboration between units as being dysfunctional to the organization, partly because it prevented synergy effects from taking place, partly because customers had begun to complain about it.

We lack synergy across units, particularly vis-a-vis customers

There was general consensus that collaboration was lacking between units

There is little communication between us and the applications people (sales person)

There isn't any collaboration with other units (sales person)

There is no synergy with other divisions (sales manager)

The formal channels of communication were generally routed via management

If I have something to say to the applications people, I tell my sales manager, who talks to the applications manager, who discusses it with them. Sometimes I take it up with them directly.

In order to find out more about the conditions in which this divergence took place, two different areas of operation were taken up with interviewees, both of which related to the ways in which they worked with defining customers' needs.

The first was collaboration between applications and sales people. As explained above, when customer projects had been agreed with the customer, sales people handed them over to applications engineers. Having handed over the projects to the application people, the sales persons did not monitor implementation in order to learn about what to emphasise in future sales contracts.

If we end up delivering something to a customer, which is different from what was originally prescribed, we don't necessarily inform (the sales people). (applications engineer)

Today's organization does in principle not involve the sales person in the follow-up of the implementation of the systems. This represents a discontinuity for the customers (sales person)



It transpired from the interviews that sales people did not attend "customer quality group" meetings, although they were the ones who elaborated agreements with customers about what should be done by the applications engineers.

When asked why they did not attend meetings, one answered,

Well, it's true, but it is not foreseen in the organization. Of course, I could go to a meeting, but we are not supposed to be there.

Not everyone thought that sales people should work differently with the applications engineers. The sales manager was concerned that everyone should stick to their function

(Question: do you see other ways of organising the communication between applications managers and sales people?)

No, I don't see the point. Look, this is like a football match. Some score goals (sales), and others defend the goal (the applications people). You can't be attacker and defender at the same time. Whereas we are on the offensive, the applications people are defensive in relation to the client.

Secondly, communication between applications engineers and the research and development unit.

The applications people felt physical distance to the research and development unit, which they regretted

(Question: Are you in touch with the R&D people?)

No.

(Question: Would you have anything to say to them?)

Yes.

When asked why they did not take initiatives to contact the research and development unit, different answers were given

I don't know them personally (applications engineer)

It is the structure of the company (applications engineer)

But I don't know who to contact, I need a name (sales person)

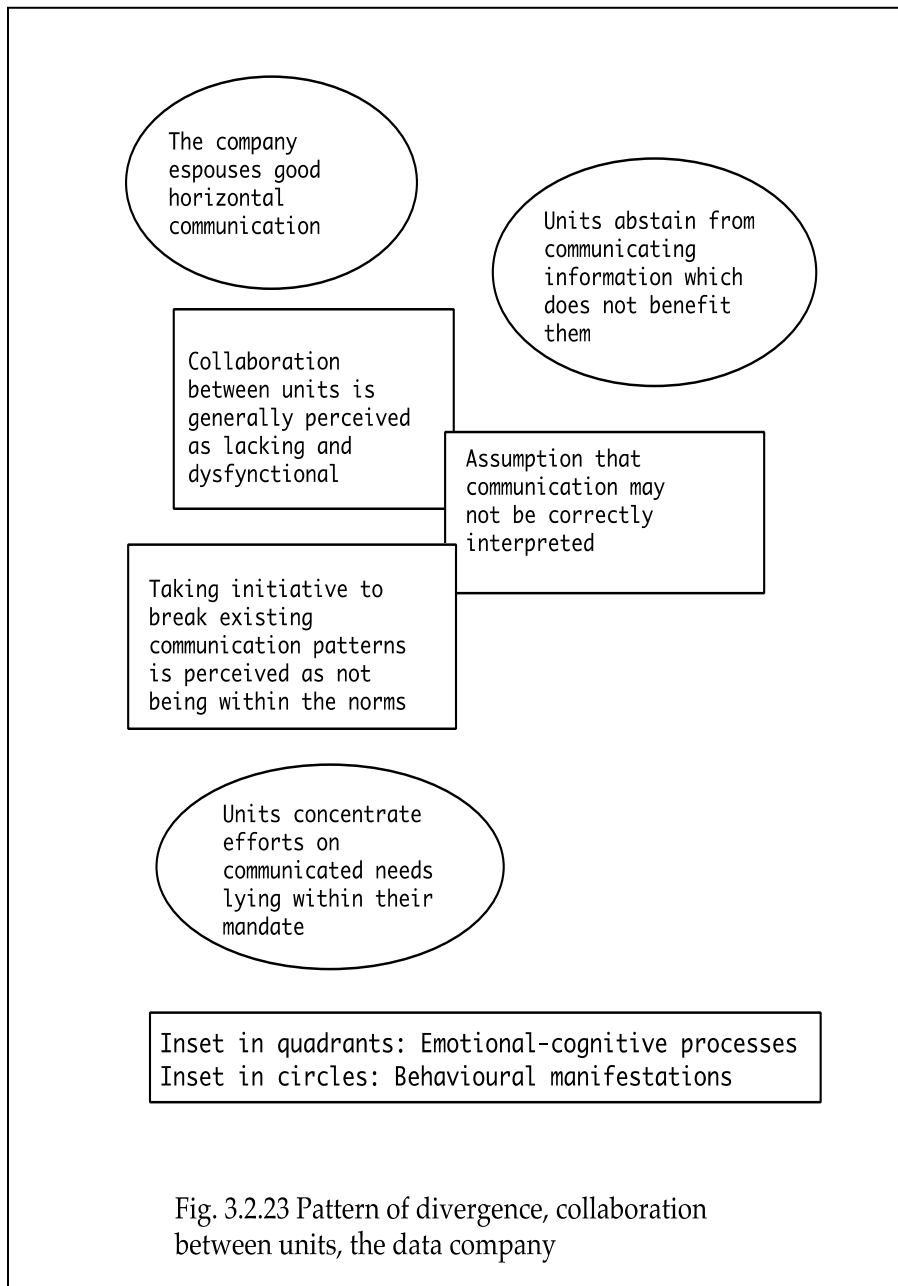
There was scepticism that even if they were to communicate with the research and development unit, they would not be understood, because their understanding of customers was different.

I sometimes think that major changes are required in the products. We can ask the R&D people to make these changes, but I am not sure if they have the same perception of customers' problems as us. I don't think they go to the field very often.

One consequence seems to have been that they simply did not transmit information to the research and development unit

Whereas we are able, at our level, to effect changes that are within our operational sphere, needs that we don't have the means nor mandate to do anything about, we have to send to our R&D unit. Until today, we have never sent anything up to them. We don't feel that they are very close to the field (applications manager)

Fig. 3.2.23 describes the pattern of divergence, as derived from the data.



### Inferences of conditions of divergence resolution

1. Both in the case of collaboration between sales and applications and between application/sales and the research and development unit, it seems that the organization relied on standard reporting procedures. However, the data suggest that this medium of communicating was not adequate for complete communication of needs. It would thus seem that too much reliance on a medium of communication yielded an incomplete

picture of the situation, which in this case related to development needs of customer organizations.

2. It seems paradoxical that the lack of communication was felt by virtually everyone, including the director, and yet the director was not solving the problem. One may speculate that the director, not being responsible for the research and development unit, was himself to some extent "victim" of the lack of communication between units, and that the structure he was in, prevented him from solving a problem that the structure was causing. One may thus speculate that the structure posed a double obstacle to resolving the divergence.

3. Those interviewed who felt strongly about the lack of communication, and who seemed to have first-hand knowledge of how it hampered performance vis-a-vis customers, did not have the mandate to solve the problem. It is mentioned above that the director did not have the mandate to solve the communication problem with the research and development unit. As concerns the communication between sales and applications, one person who could have played a role in solving that problem, was the sales manager, but he was adamant that there should not be more communication than was taking place already. Hence, it appears that the divergence was not resolved, partly because knowledge and mandate were not held by the same people, and those who had mandate were too far removed from the knowledge of the divergence; its nature and its consequences.

4. It is worth noting that the assumption of applications engineers that the research and development unit might not share their understanding of the customers' needs, prevented them from communicating with the research and development unit. Similarly, applications people did not always communicate changes to the sales people. It would thus seem that in conditions of divergence, a factor influencing communication is perceived potential benefits to the transmitter. What further seemed to aggravate this, is that there was not a system in place, which could help the (potential) receivers realise that they were not getting the information. Hence, the receivers (in this case the development unit) were not in a position to ask for it, because they appeared unaware of their own needs.

5. It can be inferred from the comment made by one of the sales persons that sales people were not supposed to attend "customer quality meetings", although she thought

attendance would have been useful to her, that social, normative regulation might have been an obstacle to resolving divergence.

6. It is inferred from the discussion about the divergence around ambiguity of customer needs that an obstacle to divergence resolution might arise from not interpreting their organization as systems of knowledge creation. The statement above made by the sales managers that "No, I don't see the point. Look, this is like a football match...." supports the idea that if a dominating interpretative schema with powerful members of the organization is, say structural/functional rather than knowledge process oriented, divergence may not attract sufficient attention to be explored and resolved.

### 3.2.8 Summary of results and discussion

Section 3.2.8 summarises the results arrived at in the different cases in the form of a typology. It compares the typology with other typologies and findings in order to assess the external validity of the results. It identifies two factors; "testing" and "double obstacles", which appear of particular interest for divergence resolution.

#### 3.2.8.1 Summary of inferred conditions of divergence resolution

The inferences of conditions of divergence resolution have been partly rephrased for the sake of making them short and explicit, and listed against each case study, as shown in table 3.2.1 below. Data from the six organizations are tabulated separately for convenience reasons.

Organization	Point of divergence	Inferred conditions of divergence resolution
1. The research fellow network	Topic of discussion	a) threshold of relative discomfort b) defensive behaviour c) untested assumptions about others
2.	Organization of seminars	a) complementary of feedback methods b) suspicion of intent
3.	Goal consensus	a) threshold of relative discomfort b) presence of a jointly perceived purpose c) threshold of relative discomfort d) search for alternative fora e) false consent

Table 3.2.1 Summary of conditions of divergence resolution

Organization	Point of divergence	Inferred conditions of divergence resolution
4. The development programme	Programme intervention concept	a) integrating functions b) simultaneous presence of knowledge of divergence and authority c) difficulty of transferring tacit knowledge d) untested assumption of a medium's effectiveness
5.	Lack of trust	a) double obstacle of lack of trust b) ability to act on issues is limited to level of information possessed c) lack of transparency of rationale in decision making d) simultaneous presence of knowledge of divergence and authority
6.	A project manager's perceptions of the head of training	a) defensiveness of behaviour b) use of alternative medium c) integrating mechanisms

Table 3.2.1 (contd.) Summary of conditions of divergence resolution

Organization	Point of divergence	Inferred conditions of divergence resolution
7. The airline	Performance of the sales unit	<ul style="list-style-type: none"> <li>a) rules of undiscussability</li> <li>b) emphasis on quantitative learning system</li> <li>c) incongruent between decision making power and knowledge</li> <li>d) untested assumptions about others</li> <li>e) structure allowing alternative arena</li> <li>f) structure requiring integration</li> <li>g) dysfunctionality of performance pressure</li> </ul>
8.	Company policy and member contributions	<ul style="list-style-type: none"> <li>a) interpretation of the org. as a system of social knowledge</li> <li>b) threshold of relative discomfort</li> <li>c) double obstacle of structure</li> </ul>
9.	Sub-contracting of services at the station	<ul style="list-style-type: none"> <li>a) use of alternative organizational structure</li> <li>b) use of alternative media</li> <li>c) integrating function</li> </ul>

Table 3.2.1 (contd.) Summary of conditions of divergence resolution

Organization	Point of divergence	Inferred conditions of divergence resolution
10. The hotels	Use of knowledge from members	<ul style="list-style-type: none"> <li>a) management's framing of use of knowledge</li> <li>b) defensive behaviour</li> <li>c) use of alternative fora</li> <li>d) assumptions of intentions</li> </ul>
11.	Perceptions of customer quality	<ul style="list-style-type: none"> <li>a) testing of reference frame</li> <li>b) untested reliance on non-formal learning systems</li> <li>c) testing of learning system</li> </ul>
12.	Interpretation of knowledge and hierarchical roles	<ul style="list-style-type: none"> <li>a) jointly perceived purpose</li> <li>b) threshold of relative discomfort</li> <li>c) defensive behaviour</li> </ul>
13.	Implementation of decisions and informal knowledge	<ul style="list-style-type: none"> <li>a) untested assumptions of medium of passing knowledge</li> <li>b) false consent</li> <li>c) problems of extracting tacit/informal knowledge</li> </ul>

Table 3.2.1 (contd.) Summary of conditions of divergence resolution



Organization	Point of divergence	Inferred conditions of divergence resolution
14. The social care centre	Dysfunctionality of the organizational structure	<ul style="list-style-type: none"> <li>a) untested assumptions of understanding of rationale of decision</li> <li>b) conscious experimentation</li> <li>c) transparency of decision making processes</li> <li>d) double obstacle of structure</li> <li>e) untested assumptions about a medium's effectiveness for divergence resolution</li> </ul>
15.	Organizational rationale and manifestations of collective actions	<ul style="list-style-type: none"> <li>a) untested assumptions of medium of communication</li> <li>b) jointly perceived purpose</li> <li>c) interpretation of the organization as social knowledge system</li> </ul>

Table 3.2.1 (contd.) Summary of conditions of divergence resolution

Organization	Point of divergence	Inferred conditions of divergence resolution
16. The data company	Ambiguity of customer needs	<ul style="list-style-type: none"> <li>a) reliance on limited learning system</li> <li>b) interpretation of org. as a social knowledge system</li> <li>c) double obstacle of ambiguity</li> </ul>
	Collaboration between units	<ul style="list-style-type: none"> <li>a) reliance on one medium of communication</li> <li>b) double obstacle of structure</li> <li>c) simultaneous presence of knowledge of divergence and authority</li> <li>d) untested assumptions of knowledge of others</li> <li>e) perceived potential benefits</li> <li>f) social normative regulation</li> </ul>

Table 3.2.1 (contd.) Summary of conditions of divergence resolution

### 3.2.8.2 A thesis' typology of conditions of divergence resolution

It can be seen from the above table that there is a certain amount of recurrence of factors. In grouping the factors, four levels of analysis have emerged; individual level; organizational structure; social dynamics; and systems. A category labelled "other" is added for elements that do not readily fall into a specified level of analysis. In order to make the presentation of data more manageable, the data in the above table have been

grouped according to the said levels of analysis and expressed in more generic terms, which are again given more general descriptions, as shown in table 3.2.2 below.

Level of analysis	Variables of conditions of divergence resolution	Description
Individual level	1) threshold of relative discomfort	resolution of divergence may not be attempted if members perceive potential discomfort to outweigh potential advantages;
	2) defensive behaviour	behaviour which serves to avoid taking up divergent issues, while pretending to be dealing with issues that appear important;
	3) untested assumptions of others	assumptions that members hold of others' knowledge or others' intentions, which may influence their behaviour, and which may not be questioned, even in the presence of evidence that the assumptions may be wrong;
	4) interpretation of the org. as a social knowledge system	members may not be aware of divergence of knowledge, and the importance of resolving the divergence if they do not attempt to, or are not able to, interpret organizational functioning in the light of knowledge processes between social actors;
Org. structure	5) jointly perceived purpose	absence of jointly perceived purpose may make it difficult to interpret and resolve divergence, because there is no agreed, common "measure" against which the divergence can be tested;
	6) simultaneous knowledge and authority	if knowledge of divergence and the authority to act on the divergence is vested with different members who do not communicate with one another, resolution may not be attempted;
	7) transparency of decision making	lack of transparency of decision making may prevent members from attempting to resolve divergence;
	8) integrating mechanisms	the use of integrating mechanisms of knowledge may serve to uncover, and deal with divergence;
	9) alternative arenas of action	alternative arenas of action may allow members to apply skills and knowledge differently, and may thus serve to resolve divergence prevailing in the original work situation;
	10) conscious experimentation	conscious experimentation may legitimise testing of divergence in the organizational context;

Table 3.2.2 Thesis typology of conditions of divergence resolution

Level of analysis	Variables of conditions of divergence resolution	Description
Social dynamics	11) rules of un-discussability	issues which are perceived as taboo may not be taken up by members, and thus, if they are related to divergence, may prevent divergence from being resolved;
Systems	12) use of alternative media of learning	alternative media of learning, such as collaborative action, may serve as a means of testing knowledge that members otherwise hold;
	13) emphasis on quantitative learning systems	emphasis on quantitative learning systems may detract from considering use of qualitative knowledge, and may affect the resolution of divergence when divergence is related to qualitative knowledge;
	14) second level testing of learning systems	divergence of knowledge may concern issues that go beyond the current organizational learning systems, and the resolution of divergence may therefore be influenced by the organization's ability to test its current learning systems against a wider framework;
	15) untested assumptions of media's effectiveness	members may wrongly assume that a medium transmits knowledge when proper transmission is, in fact, not taking place. Their assumption that the medium is satisfactory may prevent them from testing that transmission of knowledge has taken place
Other	16) dysfunctionality of performance pressure	pressure to perform at a certain level may incite members to defend their performance rather than explore issues of divergence;
	17) decision makers' framing of use of knowledge	decision makers may unknowingly establish frameworks which, members perceive as demarcating "acceptable" from "unacceptable" knowledge, which may prevent them from testing divergence involving "unacceptable" knowledge;
	18) problems of extracting tacit/informal knowledge	divergence may be embedded in tacit knowledge (which members can not articulate), or in informal knowledge (to which decision makers do not readily have access). Failure to extract such knowledge may thus prevent divergence from being resolved;
	19) double obstacles	phenomena arise in organizations, in which an obstacle seems to be at the centre of divergence, while at the same time preventing divergence from being resolved;

Table 3.2.2 (contd.) Thesis typology of conditions of divergence resolution

### 3.2.8.3 Assessment of validity: comparison of the results with other typologies

Although it is argued by Hammersley (1989) that grounded theory "involves a relaxation of the standards of evidence normally enforced in research designed to test hypotheses rigorously" (p. 173), a comparison is attempted made with other typologies developed from a similar basis, in order to get an idea of the external validity of the findings.

The thesis has not been able to identify typologies developed specifically from considerations of divergence of knowledge. Therefore typologies have been selected, which deal with obstacles to organizational learning, or with conditions for higher order learning. It has been assumed that divergence of knowledge between organizational members, which has been central to the processing of data for the thesis, would be comparative with findings based on either obstacles to learning, or higher order learning. It is assumed that both conditions hampering organizational learning, and conditions related to higher order learning, are linked, although not exclusively co-variant with, the existence of divergence. There are works that implicitly support this assumption. In section 2.1.4, Huber's (1991) speculation that diverse understanding may be a condition for higher order learning is referred to. As regards possible linkages between obstacles to organizational learning and divergence, reference is made in section 1.2 to how hierarchy may distort information flow, and thus be an obstacle to organizational learning.

It may be argued that, while acknowledging that the assumption has some support, its validity is not confirmed. However, it should be kept in mind that the assumption is not of pivotal value to the thesis, in the sense that it influences the findings, but merely forms the basis of providing indications of how the findings of the thesis compare with findings of others.

Four typologies have been selected for comparison with the typology derived above. The four typologies may be summarised as follows:

#### Typology 1: Temporal, 1978

Temporal (p. 97) suggests obstacles to individual learning. Hence, his level of analysis is focused at individual members, without considering the contextual effects of, say,

organizational structure. He suggests the following blocks to individual (non-contrived) learning:

Perceptual - "learner unable to see what the problem is, or to recognise what is happening in a situation"

Cultural - "learner denies himself (or herself) access to a range of new behaviours (and the learning that ensues from them) because he (or she) is conditioned to accept what is good or bad, right or wrong, etc."

Emotional-motivational - "learner feels insecure in certain situations, which causes him (or her) to be reluctant to take action on his (or her) ideas or beliefs".

Intellectual - "where the learner has not developed the right learning skills, the mental competence, or the experience to resolve problems and approach situations correctly".

Expressive - "where the learner possesses poor skills of communication".

#### Typology 2: Stuart (1984)

In contrast to Temporal, Stuart (p. 204) considers obstacles to the individual's learning that may be caused by the organizational context. In other words, Stuart explores organizational effects, using the individual member as unit of analysis, which correlates with the perspective chosen for the thesis (section 3.1).

Physical/structural barriers:

Experiencing - activities are routine, unstimulating.

Observing - poor communication, information, feedback.

Conceptualising - interruptions, poor planning.

Experimenting - red tape, prescribed duties, rules.

Psycho-social barriers:

Experiencing - Ivory tower, impersonal.

Observing - Secretive, mistrustful.

Conceptualising - Action oriented, pragmatic.

Experimenting - conservative, low risk.

### Typology 3: Pascale (1990)

Pascale (p. 236) takes an organization management perspective. His factors relate to conditions for achieving higher order organizational learning, which he argues, takes place in the Honda company, which he compares with General Motors, a company considered by Pascale to exhibit limited capabilities for organizational learning. Pascale suggests that the following eight factors influence organizations' capacity for higher order learning:

- 1 The extent to which an elite group or single point of view dominates decision making.
- 2 The extent to which employees are encouraged to challenge status quo.
- 3 The induction and socialization of newcomers.
- 4 The extent to which external data on performance, quality, consumer satisfaction, and competitiveness are cultivated or suppressed.
- 5 The equity of the reward system and distribution of status and privilege.
- 6 The degree of empowerment of employees at all levels.
- 7 The historical legacy and folklore.
- 8 The integrity and management processes - particularly with respect to surfacing hard truths and confronting reality.

Further on in his book (p. 252), Pascale suggests that "Once the golden triad of (1) enduring values, (2) trust and (3) empowerment are in place, an organization can begin to learn".

### Typology 4: Morgan (1986)

Morgan (pp. 89-90), in a discussion of conditions for higher order organizational learning, and taking a perspective of organizations as "brains", suggests that there are three main barriers to double-loop learning in organizations:

1. The structuring of tasks and responsibilities. Organizational goals, objectives, structures, and roles create clearly defined patterns of attention and responsibility. Thus different sub-units operate on the basis of different pictures of the situation, and can pursue sub-unit goals almost as ends in themselves.

2. When employees are held responsible for their performance within a system which rewards success and punishes failure, they engage in various forms of deception to protect themselves.

3. Differences between what people say and what they do. To avoid confrontation with the realities of the situation, people use rhetoric or rationalizations to convey to others the impression that they are in control of the situation, or to convince themselves that all is well.

In order to obtain reasonable comparability, the four typologies have been translated into the categories selected for the data from the thesis.

	Thesis typology	Temporal (1978)	Stuart (1984)	Pascale (1990)	Morgan (1986)
Individual level	<ul style="list-style-type: none"> <li>a) threshold of relative discomfort</li> <li>b) defensive behaviour</li> <li>c) untested assumptions of others</li> <li>d) interpretation of the org. as a social knowledge system</li> </ul>	<ul style="list-style-type: none"> <li>a) ability to diagnose situation</li> <li>b) ability to try alternative patterns of behaviour</li> <li>c) uncertainty about action-outcome relationships</li> <li>d) inappropriate learning skills</li> <li>e) poor communication skills</li> </ul>	<ul style="list-style-type: none"> <li>a) action oriented, pragmatic</li> <li>b) conservative, low risk</li> </ul>	<ul style="list-style-type: none"> <li>a) ability to confront negative data</li> </ul>	<ul style="list-style-type: none"> <li>a) defensive behaviour</li> </ul>
Org. structure	<ul style="list-style-type: none"> <li>a) jointly perceived purpose</li> <li>b) simultaneous knowledge and authority</li> <li>c) transparency of decision making</li> <li>d) integrating mechanisms</li> <li>e) alternative arenas of action</li> <li>f) conscious experimentation</li> </ul>		<ul style="list-style-type: none"> <li>a) activities are routine, unstimulating</li> <li>b) interruptions, poor planning</li> <li>c) red tape, prescribed duties, rules</li> <li>d) ivory tower, impersonal</li> </ul>	<ul style="list-style-type: none"> <li>a) centralised decision making</li> <li>b) equity of reward system</li> <li>c) degree of empowerment of members</li> <li>d) enduring values,</li> </ul>	<ul style="list-style-type: none"> <li>a) too much compartmentalisation</li> </ul>
Social dynamics	<ul style="list-style-type: none"> <li>a) rules of un-discussability</li> </ul>		<ul style="list-style-type: none"> <li>a) secretive, mistrustful</li> </ul>	<ul style="list-style-type: none"> <li>a) normative regulation</li> <li>b) trust</li> </ul>	

Table 3.2.3 Correlation of thesis data with data of related works



	Thesis typology	Temporal (1978)	Stuart (1984)	Pascale (1990)	Morgan (1986)
Other	<ul style="list-style-type: none"> <li>a) dysfunctionality of performance pressure</li> <li>b) decision makers' framing of use of knowledge</li> <li>c) problems of extracting tacit/informal knowledge</li> <li>d) double obstacles</li> </ul>			<ul style="list-style-type: none"> <li>a) historical legacy and folklore</li> <li>b) induction and socialization of newcomers</li> </ul>	

Table 3.2.3 (contd.) Correlation of thesis data with data of related works

The correlation in the above table may be summarised in the following points.

1. The findings of the thesis are generally congruent with the findings of the other works listed in the table. For example, for the social dynamics category, there is correlation between Pascale's finding of "normative regulation" and the thesis' finding of "rules of undiscussability". One could also argue, for example, that for the individual category, there is correlation between the thesis' finding of "threshold of relative discomfort and Temporal's point about "uncertainty about action-outcome relationships". Similarly, one could argue for the systems category that Stuart's point about "poor communication, information and feedback" corresponds to the thesis' point about "second level testing of learning systems".

2. With two exceptions, the findings of the thesis appear generally more comprehensive than the findings of the other works. Two notable exceptions can be found with the individual level category and the "other" category. Temporal emphasises to a greater extent psychological barriers with individuals than is done in the thesis. Factors in Temporal's typology, which can not be found in the thesis' typology, are "ability to try alternative patterns of behaviour" and "inappropriate learning skills". In the "other" category, Pascale includes "historical legacy and folklore" and "induction and socialization of newcomers", neither of which appear in the findings of the thesis.

3. The findings of the thesis bear to a larger extent evidence of being derived from a wider range of organizational structures than do those of Stuart, Pascale and Morgan (Temporal's work is more directly focused on individual members, and less on the structural context they operate in). This appears evident from the way that the thesis' data seem to assume that structure may contain flexibility, it may be flat, and it may be experimental, which is implied by the findings "integrating mechanisms", "alternative arenas of action" and "conscious experimentation".

4. The findings of the thesis bear evidence of being derived from explicit study of the use of knowledge, and particularly the role played by institutionalised learning systems. For example, the idea of second level testing of learning systems, and that untested assumptions of media's effectiveness may hamper divergence resolution, do not seem to have been identified by the other four works.

#### 3.2.8.4 Assessment of validity: using Reason and Rowans criteria of "new paradigm research"

It may be argued that the assessment of validity made in section 3.2.8.3 takes place within a "positivist" logic, in the sense that validity is measured against something objective and external to the findings, and that does not pay attention to what Gill and Johnson (1991) describe as the "dimension of human action, the internal logic and the interpretative processes by which action is created" (p. 126).

Given that the thesis aims to develop grounded theory, it is appropriate to consider the findings within a perspective that does not assume the type of regularity and stability which the assessment in 3.2.8.3 might represent. An alternative perspective is found within "new paradigm" research; in which Reason and Rowan's (1981) definition of criteria of assessment of validity may be summarised as follows:

(1) Can we discriminate what is actually there; can we notice, can we map the phenomena we experience?

(2) If we make changes, how can we be sure that the changes we make, bring about the outcomes we observe?

(3) On meaning: Is it meaningful, is it useful?

(pp. 242-243)

Attempts to map the phenomena have been made throughout section 3.2. Hence, I have been able to make sense of the phenomena that have been explored (fig. 3.2.3 to 3.2.23). However, the maps, representing overviews of "patterns" (of divergence resolution), have been pieced together from several, more or less inter-connected perceptions and inferences of individuals. Hence, whereas the perceptions that are mapped, belong to the interviewees, the maps are created by my own, subjective mind. One could argue that if the interviewees, instead of the researcher, were to assemble the maps, similarities between the two maps would be partly coincidental. The explanation lies in the fact that the maps have not been assembled collaboratively with the interviewees, nor have the maps been tested with them. Hence, answer to Reason and Rowan's first question may be that the phenomena may be mapped, although consistency of interpretation with interviewees can not be assured.

If we were to make changes to the reality of the persons interviewed, how could we ensure that the changes we made, brought about the outcomes we observed? Before attempting to answer the question, it should be noted that Reason and Rowan warn against asking the question in a too deterministic way, but rather "make sure that we are not kidding ourselves" (p. 243). The approach (section 3.1.3) includes partly longitudinal considerations, partly observations in the organizations studied. Some of the inferences made from the data represent intersections between observations shared by the researcher and interviewee, on the one hand, and the recorded perceptions of interviewees, on the other hand, as argued in section 3.1.3. In other words, they are derived from actions as well as from dialogue. It would therefore seem likely that, if changes were made, observable outcomes could be produced. Although it seems reasonable, there is no guarantee that this would be the case. There is still the possibility that actions, or events, were wrongly attributed significance, or that inferences were wrongly drawn. However, searching for guarantees would imply a scientific, positivist approach, ignoring the ambiguity and contradictory explanations (Brown, 1981: 313) which the "new paradigm" research stands for. Hence, criteria of validity, rooted in a different research tradition, would be applied.

Is the research meaningful, is it useful? Answers may be found, provided it is specified *who* are perceived as the assessors of validity. Three groups seem to immediately present themselves; the interviewees, the researcher (myself), and other theorists and practitioners. The latter group can only assess the usefulness of the research once the research is published. The question whether the I find the research useful, seems almost self-defeating, since the processing of the data is largely my own work, done for the purpose of creating meaning. We are left with the interviewees as assessors, and their perceptions of the usefulness of the interviews as a means of assessment. This would seem a valid means of assessment of validity, given Maruyama's (1981: 232) concern that "relevance resonance" between those studied and the researcher, i.e. the convergence of their respective goals, is a prerequisite for obtaining good information. The general feeling expressed by interviewees was, with a few exceptions, that the interviews had allowed for exploration of interesting and relevant issues concerning their work (section 3.1.4.4). This allows us to conclude that the third question on validity is satisfied, as far as one group of assessors is concerned.

Summarising the discussion of the three questions, suggests that the findings of the research are of partial validity within a "new paradigm" perspective. The extent to which they are of *sufficient* validity, however, seems difficult to assess.

It is worth noting that other criteria related to qualitative research could have been used, such as properties of grounded sociological theory suggested by Glaser and Strauss (1967: 237).

#### 3.2.8.5 Assessment of validity: comparison of the results with the findings in section 2.2

Rather than attempt an in-depth analysis of differences and similarities between the findings of the thesis, presented in table 3.2.1 and the findings in section 2.2 (summarised in table 2.2.1), a selection has been made of issues that seem most important in the correlation between the two sets of findings.

The following findings are present in both sets of data,

1. Defensive behaviour may form an important obstacle to resolution of divergence.

2. Suggestion that factors other than behaviour may influence resolution of divergent knowledge in organizations.
3. The need for testing of learning systems.
4. The necessity for members to view the organization as a knowledge processing system.
5. The problem of culture forming an obstacle to its own assessment.
6. The difficulty for members to change assumptions of other members.
7. The influence on the cognitive structure of occupying certain organizational roles.
8. That members may choose to pursue their own goals when subjected to potential discomfort of divergence resolution. In the thesis' data, this is illustrated by the figures showing "patterns of divergence", and which suggest that when experiencing discomfort, members tend to concentrate their efforts in alternative fora.
9. The idea that use of alternative media may provide for divergence resolution.
10. The importance of having a jointly perceived purpose among organizational members.

We may thus infer that there is a significant degree of correlation between the two sets of findings. The following may be seen as major differences, or complementarity, between the two sets of findings.

Firstly, the empirical work for the thesis has uncovered that not only culture may form a double obstacle, but that the same phenomenon may apply to structure and to systems. The work has, in other words, identified it as a more general phenomenon than what is suggested by the findings from section 2.2.

Secondly, the empirical work for the thesis provides more nuanced appreciation, particularly as regards structural and systemic factors influencing divergence resolution.

Thirdly, the idea of social support for non-conformity, which was identified in 2.2, is not identified as such by the empirical work for the thesis. This may be due to the relatively few observations of social dynamics that were carried out in the data collection.

Fourthly, the findings from an intervention perspective (section 2.2.6.4), from 2.2, suggesting that members may learn to suspend assumptions, was not uncovered by the empirical work for the thesis. It is possible that such a finding would have been made if, say, an action research approach had been used.

#### 3.2.8.6 Phenomena for further exploration

Two particular phenomena, which have recurred in the analysis, which seem fundamental for the resolution of divergence.

Firstly, the idea of "testing", which is mentioned in relation to the following: "untested assumptions of others"; "second level testing of learning systems", and "untested assumptions of media's effectiveness".

Secondly, the idea of "double obstacles", which was derived from the observation that phenomena like "structure", "trust" and "ambiguity" might be difficult to resolve if they were both part of divergence of knowledge and at the same time were an obstacle to resolving the divergence.

The two phenomena "testing" and "double obstacles", seem to differ in nature. Whereas "testing" would signify measures taken to explore alternative meaning, "double obstacles" would signify phenomena which make resolution of divergence difficult.

### 3.2.8.7 "Testing" and divergence resolution

It is argued in 2.1.4.3, in comparing explicit organizational learning theory with corresponding stages in Kolb et al's experiential learning cycle, that organizations' testing of implications of concepts in new situations, seems relatively little explicated in organizational learning theory.

There are suggestions that testing is central to higher-level organizational learning. Propositions to this effect are grouped using the categories of the typology used for the findings of the thesis in 3.2.8.2 above.

At individual level, Downey and Brief (1986: 171) emphasise the importance of testing, rather than developing and confirming our cognitive schemas, and Freire (1972: 85-95) brings up the issue of enabling dialectics between "real consciousness" and "untested feasibility".

At the level of social dynamics, Schön (1983: 232) argues that public testing of private assumptions allows for higher-level learning to take place. Wilensky (1967: 157) emphasises the importance of providing adversary testimony and avoiding "premature confidence in scientific testimony". It is also noted in section 2.2.7 that, say, culture can with difficulty provide the framework for its own assessment. Boisot (1983: 165-166) suggests that for knowledge to be commonly accepted from laid down in rules and regulations, people have to be open to experiences and flexibility in "the evaluation of codes".

At the level of organizational structure and systems, Shrivastava and Schneider (1984:797) emphasise the importance of undertaking reality tests, using organizational frames of reference as a framework for testing. Wildavsky (1972) argues that for the "self-evaluating organization" (which we arguably label an organization capable of higher order learning), "testing of hypotheses would its main work". Weick (1979: 211) warns against "new information getting sorted into existing pools (variables) and channels (causal relations), deepening these pools and channels."

Although theorists, a few of which are cited above, stress the need for testing, and the notion of testing seems to pertain to divergence resolution, and hence organizational learning, little is said about its nature. If we assume that the most important task of

testing is to critically examine prevailing assumptions, how such testing may be done, does not seem to have been systematically explored in literature.

The question may be asked, "testing against what"? We may legitimately assume that the effectiveness of a test depends on the background of variables against which the testing is done. Bearing in mind that the aim of testing is to resolve divergence of knowledge, it seems reasonable to expect that the variables against which testing is done, are also variables which have a bearing on the resolution of divergence. In other words, one might expect that the variables in table 3.2.3. above could be used mutually as comparative bases for testing.

#### 3.2.8.8 "Double obstacles" and divergence resolution

Limited evidence has been found in literature of this phenomenon. Argyris (1989: 9) points to a double obstacle created at the level of social dynamics whereby the mere fact that an issue is considered undiscussable may also render the undiscussability of the issue undiscussable. At a systems level, Drucker (1990: 94-102) points out the importance of control systems being based on organizational realities rather than on premises and values of the past. Beer (1981: 121), in comparing organizations with human physiology, points to the importance of a consciousness at managerial level which can interrogate the overall viability of the system. Maybe one of the most concrete and explicit findings is that of Miller and Friesen (1980: 606), who, in their study of the momentum of change in different organizations found that in the Ford company, "strategy constrained structure, and structure constrained strategy".

In the data analysis, the phenomenon of double obstacles has emerged where the *same* phenomenon is part of the divergence of knowledge and at the same time an obstacle to resolving the divergence. For example, lack of trust was as an issue was found to maybe affect the resolution of the divergence of lack of trust. This finding leaves us with an intriguing question,

"did the phenomenon of double obstacles become visible to us because the same type of obstacle "doubled up", or is it possible that patterns of *different* factors might collude in influencing resolution of divergence?"



Could one assume, for example, that two factors from different levels of analysis in table 3.2.2, such as "defensive behaviour" and "jointly perceived purpose" might in similar ways "double up" with one another to create an obstacle to divergence resolution? Conversely, is it possible that non-defensive behaviour might collude with "use of alternative media of learning" to help resolve divergence?

It would seem difficult to convincingly demonstrate that such is the case with the present case material, and at this stage in the thesis. Miller and Friesen's observation referred to overleaf, that structure and strategy may constrain one another, implies that it is plausible. We will therefore proceed on the assumption that different factors interacting with one another in influencing divergence resolution *may* be the case.

It seems logical that no pattern of factors should be restricted to two factors only, but would be extended to several factors, emerging at different levels of analysis. If such is to be allowed for in further analysis, then it must be implicit in the term "double obstacles" that it is synonymous with "patterns of interaction of factors".

If we correlate the argument developed in this section with that developed in 3.2.8.7 above, a possible pattern of divergence resolution emerges, in which "testing" appears as a means of dealing with "double obstacles" to divergence resolution, and this may take place in a process whereby variables at different levels of analysis (see table 3.2.2) are held up against each other, i.e. provide a testing ground for each other.

However, for exploring further the phenomena of testing and double obstacles, the typology in 3.2.8.2 does not seem adequate, as in that typology, the two phenomena are mere elements appearing at the same level as the other elements, without instructing us on how a possible co-variance between the two phenomena could be understood. It therefore seems necessary to explore an alternative typology, which is better suited for interpretation than the one shown in table 3.2.2. This is done in section 3.2.9 below.

### 3.2.9. From a mapping typology towards an interpretative typology

Section 3.2.9 explores an alternative typology, which is interpretative and situational in nature.

### 3.2.9.1 Identification of core variables of an interpretative typology

It may be argued that the typology in table 3.2.2 has at least four limitations when it comes to helping us understand patterns of divergence resolution in organizations.

Firstly, its categories (individual, social dynamics, systems, structure) reflect static images of what the organization "is", instead of reflecting situational dynamics of divergence resolution.

Secondly, it does not, as it stands, instruct us on a hierarchy of importance of factors, but merely lists factors that may be important to the resolution of divergence.

Thirdly, and presumably because it is derived from "raw" data, it does not exhibit ontological consistency. For example, individual level variables include the variables "defensive behaviour" and "untested assumptions of others", the former being a behavioural manifestation and the latter an underlying cognitive process.

Fourthly, it does not instruct us on possible causal relationships between the variables.

The typology, in view its comprehensiveness (argued in 3.2.8.3) is arguably useful as a tool for *mapping* of factors influencing divergence resolution. However, it might be of limited use for *understanding* how divergence resolution may, or may not work in organizational settings. It is of a similar static nature as systems models of organizational design, such as proposed by Weisbord (1978) and Galbraith (1977), the nature of which Hall and Fukami (1979: 162) argue makes it impossible to understand how organizations are diffused. Consequently, it seems necessary to explore a typology, which is interpretative and which captures better the dynamics of divergence resolution.

It seems necessary, if the typology is to be of use as a means of sense-making, to reduce the number of factors in table 3.2.2 to a small set of core variables which are of a nature as to provide meaning in a co-varying relationship.

It is possible to group 15 of the 19 different variables in table under four generic terms; "behaviour"; "topic"; "medium" and "forum", as shown in table 3.2.4 below.

Generic term	Description	Variables from table 3.2.2 assumed covered by the term
Behaviour	refers to behavioural nature of the social interaction	1, 2, 3, 4,17
Topic	the theme that is being treated	11,14,15
Medium	the means by which knowledge is being transmitted	8, 9,10,12,13,18
Forum	refers to the composite characteristics of members present in terms of organizational roles	6

Table 3.2.4 Correlation of variables, mapping typology and interpretative typology

In section 3.2.9.2-3.2.9.5 below, each of the variables (behaviour, topic, medium, forum) are explored in more detail and related to empirical findings of the thesis. Table 3.2.5 summarises the descriptions of the four variables.

The four variables that do not fall readily within the table, are the following, "jointly perceived purpose"; "transparency of decision making"; "dysfunctionality of performance pressure" and "double obstacles"

The first three variables describe specifics of organizational structure (although "dysfunctionality of performance pressure" is listed under "other" in table 3.2.2). For example, "jointly perceived purpose" was identified in the social care centre, in which members were organised for a common purpose, and where consequently, absence of commonly perceived purpose influenced their ability to resolve divergence. Bearing in mind that we are trying to develop a situational typology, which is less structure dependent than those proposed by Stuart, Pascale and Morgan, it makes sense not to include them in the interpretative typology, and assume that they will manifest themselves through the existing four variables of the typology.

The fourth variable; "double obstacles", is at the core of the phenomenon which the typology tries to resolve, and it would therefore be inappropriate to include it as a variable in the typology.

Although the four variables may be derived from the original typology, the way they have emerged throughout the work on the thesis is partly intuitive (see critique in section 3.1.5.1). For example, the idea of "medium" emerged suddenly while researching on the airline, while taking the train from the airport to the city centre, and since then, the other three variables have emerged successively. Although there has been a certain element of intuition in developing the typology, the above derivation from the mapping typology appears valid.

### 3.2.9.2 The "behaviour" variable

The variable "behaviour" is meant to cover the manifestation of cognitive processes. It is assumed that defensive behaviour may be rooted in cognitive processes, such as "untested assumptions of others"; "interpretation of the organization as a social knowledge system" and "threshold of relative discomfort". However, the "behaviour" variable should not be restricted to these three cognitive variables, but be taken as a variable, or a set of variables describing member-to-member social interaction.

The following are examples from the thesis data, where the "behaviour" variable appears to be central.

When he came, he asked us questions that we had not thought about. In retrospect, I think that the success of our collaboration is largely due to his ability to question his own approach, which made me question my approach

(from "A project manager's perceptions of the head of training", the development programme)

"In plenary people wear masks, I don't see them as being sincere.....they show a lot of things with their bodies, but will not talk about it"

(from divergence over topic of discussion, the research fellow network)

It could thus seem from the data that a major influence of behaviour on divergence resolution is the extent to which it facilitates openness to exploring privately held and/or shared assumptions.

### 3.2.9.3 The "topic" variable

Data from the thesis suggest that a major dilemma in resolution of divergence was the potential undiscussability of certain topics.

Issues that I can not take up at those meetings? Personnel matters, which could be seen as criticism by Management because staff have felt unfairly treated by Management. Management easily gets defensive about such things.

(staff, social care centre)

Similarly, the issue of lack of trust was not considered publicly discussable by members of the development programme (section 3.2.3.7). Finally, the beliefs that members of the management group of the airline held about why the performance of the sales unit was not up to the expected level, was not considered discussable (section 3.2.4.6).

The data suggest that divergence may not be resolved if a topic is not consciously chosen for discussion, which has a bearing on prevailing assumptions.

A possible reason why there are restrictions on the topic of discussion, is provided by Hickson et al. (1989: 376), who observed, from studying cases of strategic decisions in 30 public and private organizations in Britain, that the framework of power tended to fix what topics were allowable for decision and what were not. However, the data suggest that it is not just a question of power, but it is also a question of social dynamics, where group norms prevent an issue from being brought up, such as pointed out in sections 2.2.4.3. and 2.2.6.3, where divergence resolution is discussed from an organization culture and group behaviour perspective respectively.

It seems that the extent to which the selection of topic would help to resolve divergence, depends on two factors. Firstly, the extent to which it allows for probing into topics that are normally perceived as undiscussable by members. Secondly, the extent to which it allows for probing into prevailing assumptions; assumptions that are private or

collectively shared. The latter factor takes into account conditions where a topic is not necessarily undiscussable, but represents unknown knowledge (fig. 2.1.11).

#### 3.2.9.4 The "medium" variable

The variable "medium", is meant to describe a sum of contextual factors which influence how knowledge is transmitted and received. It covers a broad perspective of how people's knowledge is affected, assuming that people are capable of making sense of complex environments with large numbers of interconnecting variables, as argued by Salancik and Porac (1986: 75-99). It assumes that media allowing people to make sense of organizational realities include, but is not limited to, the following:

- working experience, such as the idea of "communities-of-practice" discussed by Orr (1990), Seely Brown and Duguid (1991) and Seely Brown (1991).

- social interaction, such as argued by Berger and Luckmann (1966: 78) and Cosmides and Tooby (1992: 183).

- visual data, such as discussed by Zuboff (1988: 79-89) and McGrath and Hollingshead (1994) in the case of information technology, and Senge and Lannon (1990: 67) in the case of modelling of the organizational reality.

- emotional shock, such as pointed out by Olesen (1992: 217) in the case of witnessing drama, and by Schein (1985: 165) in the case of organizational "marker events" - events involving high levels of emotions and/or clear cognitive redefinitions.

- other, non-working mechanisms, such as Takeuchi and Nonaka's (1986: 141-142) account of a company which has institutionalised a system whereby members are encouraged to spend 15% of their time "pursuing their dreams".

The data from the thesis suggest that the medium of collaborative work may be a means of resolving divergence.

The result of the amalgamation is that the members of the two groups have got a broader insight into the context of their activities. They have learned from each other, by working together.

(section head, the social care centre)

It may be recalled that the "temporary" organization at the airline (section 3.2.4.7) and the collaborative work between the project manager and the head of training in the development programme (section 3.2.3.7) were also considered alternative media, which influenced divergence resolution.

An example of non-working experience was also found at the hotels,

I have good access to (one of the owners), because we train together  
(staff, the hotels)

The data from the data company suggest that purposive listening to customers was a way to gain shared appreciations of areas of improvement

At customer quality groups, we try and pick up and act on needs of customers, we may, for example, pick out 100 remarks, then we ask them to prioritise by order of importance.

It seems difficult to determine if there are certain characteristics of one medium which might make it more effective for resolving divergence than other media. The above data suggest that, instead of there being some media that are universally more effective than others, it is the multiplicity and use of the media which matters. This concurs with Huber (1990: 102), who argues that the richness of media used to convey information might be a determining factor in building shared interpretation.

However, the above data convey more than "multiplicity", or "richness" of media. They also describe situations allowing members to perceive reality differently from how they normally do, without being forced to change their prevailing perceptions in the setting within which they normally operate. Put differently, the change of medium may be useful for resolving divergence in so far as it offers an arena for the formation of new insight, while allowing for relaxation of previously formed assumptions.

### 3.2.9.5 The "forum" variable

If divergence of knowledge between members is to be resolved, it seems almost self evident that it matters who is present, and what roles they hold in relation to the issue of divergence. Emphasis on who is present in solving problems, is found in management theory. An example is Mintzberg (1990: 175), who argues that,

"Managers have the information and the authority; analysts have the time and the technology. A successful working relationship between the two will be effected when the manager learns to share information, and the analyst learns to adapt to the manager's needs".

The essence of Mintzberg's argument could be interpreted as problem solving being done successfully when there is simultaneous presence of knowledge about a phenomenon and power to solve the problem. His argument concurs with one of the main findings of Lawrence and Lorsch (1967: 73), who found that in better performing organizations, the concentration of influence (decision) fit the required knowledge.

There are examples from the thesis' data that the presence of authority and knowledge should concur for divergence to be resolved. For example, in the data company, signals from customers which could not be resolved locally, were not dealt with, whereas issues that were within the sphere of authority of the unit, were resolved. In the development programme, the project manager had the necessary authority to implement changes to the literacy training approach, which served as means of resolving divergence (section 3.2.3.7). Hence, it appears that an important characteristic of the "forum" variable is the simultaneous presence of sufficient authority and knowledge.

It seems from the data, however, that the knowledge that needs to be present, should be related to the issue of divergence. This appears evident in the case of double obstacle of structure, such as when management groups have sufficient mandate to solve a problem, and sufficient knowledge to make a decision, but lack knowledge about the nature of the divergence caused by the management group. An example such as in the case of the airline (issue of divergence "Company policy and member contributions", section 3.2.4.7), where the management group missed out on alternative, potentially better ideas among members. Hence, it seems important that the knowledge which is



present, relates to the nature of the divergence, and is not limited to representing alternative insight.

This potentially represents an important finding, because it suggests that not only does the knowledge of the divergence need to be of a nature that it transcends prevailing assumptions, but the decision making power which is present in the discovery of the divergence also needs to have the mandate to penetrate to levels where fundamental changes can be made. An illustration of this point may be found in the data company, where the director did not resolve the divergence between applications engineers and the development unit, although he was aware that the divergence was dysfunctional.

The discussion of each variable in 3.2.9.1 - 3.2.9.4 above, may be summed up in table 3.2.5 below.

<b>Core variable</b>	<b>Criteria for influencing divergence resolution</b>
Behaviour	the extent to which it facilitates openness to exploring privately held and/or shared assumptions
Topic	the extent to which it allows for probing into topics that are perceived as undiscussable, or prevailing assumptions
Medium	the extent to which it offers an arena for formation of new insight, while allowing for relaxation of formed assumptions
Forum	the extent to which it allows for the simultaneous presence of sufficient authority and knowledge about the divergence

Table 3.2.5 Description of the four core variables

### 3.2.9.6 Co-variance between variables

Although the discussion about each of the four core variables may be useful, it seems from table 3.2.5 that they might be inextricably interwoven with one another, and that their individual meaning may change when they are considered in relation to one another.

For illustrative purposes, we could pay attention to an incident reported from the management literature, in which divergence within an organization was resolved, and where the four variables seem to have colluded in effecting the resolution of divergence. Pascale (1990) relates the following account of what happened when Donald Peterson, President of Ford Motor Company visited the company's Detroit design studios, following a period of some years, during which, in spite of falling sales figures and an approaching financial crisis for the company, the design policy for new cars amounted to little more than minor changes of previous years' models.

"After reviewing several prototypes, Peterson probed: "Is this the car you would like to drive?" There was a long silence. Generally, people at Ford learned not to say what they thought. "Absolutely not. I wouldn't want that car parked in my driveway," Ford's Chief Design Executive, Jack Telnack, answered frankly. Peterson inquired further. Encouraged, the engineers rolled out their clay models, their dream designs." (p. 117)

A brief analysis of the incident suggests that the core variables (behaviour, topic, medium and forum) might be described as follows:

Behaviour	questioning, confrontational, inviting openness about prevailing assumptions
Topic	testing of prevailing assumption (that models should not change much from year to year)
Medium	face-to-face dialogue, in front of a manifestation of prevailing assumptions (car prototype)
Forum	simultaneous presence of strategic decision-making power (Peterson) and knowledge about the divergence (design engineers)

Table 3.2.6 Illustration of the four core variables applied to case reported by Pascale (1990)

This is a simplified view, as the limited data available from anecdotes are likely to omit other, potentially important, information. Nevertheless, it illustrates a certain interconnectedness between variables, in the sense that the four core variables seem to have colluded in resolving divergence.

The above table (3.2.6) illustrates that a variable may change as a result of another variable. For example, one may speculate that Peterson's question had not had the same impact if it had not been asked in front of a prototype. One may equally speculate that the answer to his question would not have been formulated with the same kind of frankness, had the question not probed into prevailing assumptions.

It seems unrealistic to expect that a topic should be discussed, which is considered undiscussable by members, unless other variables are changed so as to render the topic discussable.

We may take as an example the case from the development programme, in which the project manager changed his perceptions of the head of training (section 3.2.3.7). It is quite possible that if the project manager had exposed his assumptions about the head of training not being of much practical use, verbally, in, say, face-to-face dialogue, the collaboration may not have taken place, and the divergence may not have been

resolved. It seems that the medium of work provided resolution of the topic, which would otherwise have been considered undiscussable.

In order to search for deeper understanding of interconnectedness using the data from the thesis, two cases have been selected for analysis, one in which divergence seems to have been resolved, and one in which resolution has failed to take place.

The first case relates to the issue of divergence "A project manager's perceptions of the head of training" in the development programme. The second case relates to "Dysfunctionality of organizational structure", in the social care centre.

Both issues of divergence are analysed in the light of the interpretative typology and presented schematically in fig. 3.2.24 and 3.2.25 below.

The development programme, issue of divergence : project manager's perceptions of the head of training

The project project manager's initial assumptions may be described as follows:

1. Present approach is not fundamentally flawed
2. Head of training is unlikely to make significant contribution

VARIABLE	DESCRIPTION IN RELATION TO TABLE 3.3.5
Behaviour	Questioning
Topic	Directly related to both of the initial assumptions of the project manager (see above)
Medium	Collaborative testing of work approach, which differed from the usual face-to-face dialogue about work approaches
Forum	Presence of knowledge relating to the issue of divergence (practical and theoretical). Presence of authority to change practices (with the project manager)

Outcome in terms of change:  
 Change of assumptions about work practice  
 Change of perception of the abilities of the head of training

Fig. 3.2.24 "The project manager's perceptions of the head of training" - application of the interpretive typology

It may be noted from fig. 3.2.24 that all variables conform reasonably well with the criteria for divergence resolution suggested in table 3.2.5., and that the divergence appears to have been resolved.

The social care centre, issue of divergence: dysfunctionality of the organizational structure. (The data suggest that the divergence related to dysfunctionality "unity of command" type of structure of the centre

Prevailing assumptions among members may be summarised as follows:

1. "Staff meetings are a waste of time. We do not resolve major issue, nor do we learn from each other during the meetings".
2. Formal reporting to the management group through the heads of section is done cautiously, so as not to upset the section heads
3. Informal reporting is done secretly to top management

#### Modes of communication

Variable	Staff meetings	Formal reporting	Informal reporting
Behaviour	Formal, does not invite probing into assumptions	Cautious, not to upset assumptions	Open to exploring assumptions
Topic	Operational issues, i.e. not related to issue of divergence	(not recorded)	Related to the issue of divergence
Medium	Limited to voicing opinions	Verbally via persons who may not articulate the divergence	Allows new insight, but not relaxation of assumptions of persons not involved
Forum	Presence of knowledge and authority	Knowledge of the divergence not present	Section heads, who are concerned with the divergence, are not present

Outcome in terms of change: No recorded change

Inset in quadrants: condition appearing to satisfy the criteria for divergence resolution suggested in table 3.3.5

Fig. 3.2.25 "Dysfunctionalty of the organizational structure", the social care centre - application of the interpretive typology

It may be noted from fig. 3.2.25 that if the three modes of communication are considered separately, none of them appear to satisfy the criteria for divergence resolution suggested in table 3.2.5. When considered together, the criteria seem to be satisfied, as shown by the quadrants in the figure. Nevertheless, no change of the organizational structure was recorded, which responded to the issue of divergence identified, which suggests the importance of the four variables colluding if divergence is to be resolved.

Thus, a preliminary conclusion, looking at the two analyses overleaf, suggest that all four variables may need to satisfy to a certain minimum the criteria for divergence resolution in table 3.2.5. if divergence is to be resolved.

It should be noted that the analyses are performed to test potential usefulness of the interpretative typology as a means of making sense of conditions of divergence resolution, not to test its validity. It is possible that, say, a quantitative, hypothesis testing, approach, would identify other variables, or other patterns of co-variance than is done here. However, such an approach would go beyond the scope of the thesis.

### 3.2.10 Dealing with the undiscussable - a link to higher-level organizational learning?

The discussions in section 2.1.4.4 (on explicit organizational learning theory), section 2.2.6.3 (on group behaviour) and section 2.2.4.3 (on organization culture change) converge on the on the issue of "undiscussability". Arguments by Argyris and Schön in explicit organizational learning theory suggest that by surfacing the socially undiscussable, higher-level learning may take place. Perspectives of group behaviour and organization culture change suggest similarly that clues to higher-level change could be found in issues that are considered undiscussable by members, but that surfacing undiscussability may, by its very nature, be near to impossible, or, at the least, be contingent upon members being in powerful organizational roles.

However, the arguments seem to rest on the assumption that for undiscussability to be resolved, the very topic of undiscussability has to be dealt with verbally. Implicit in the assumption is also that unless the topic of undiscussability is dealt with, it will remain more or less unaltered as an undiscussable obstacle to learning.

The findings of the thesis, represented in the situational typology, suggest that undiscussability may be dealt with without becoming the subject of discussion. The findings in the case of the project manager's perceptions of the head of training, as well as the case of the "temporary organization" at the station, suggest that with use of a different medium, a topic which is otherwise considered undiscussable, may become discussable, not merely because the medium makes its less risky to approach the topic, but because the topic changes in nature. In the case of the project manager and the head of training, for example, it seems that an undiscussable topic was the initial, dysfunctional, perceptions that the project manager had of the head of training.

If we can assume that the parameters of the situational typology may help transform topics from a state of undiscussability to a state of discussability, it follows that we are gaining understanding of factors that may facilitate higher-level organizational learning. It also follows that such a process of organizational learning emerges through an interplay of the parameters in the typology, whereby the undiscussability of the topic of divergence is resolved.

In section 1.1.1 it is mentioned that a married couple succeeded in facilitating the peace negotiation process between PLO and Israel, arguing that it illustrates the importance of not assuming institutional givens. It seems of illustrational value to point out that Corbin argues that the key to the success of the negotiated peace agreement lies largely in the difference of approach compared to previous, failed, attempts to negotiate peace between the same adversaries, and particularly in the surroundings of the talks. She points out whereas previous negotiations have been attempted in impersonal hotels, with tight deadlines and press corps waiting for results, the negotiations were in this case carried out in utmost secrecy, over several months, during a series of visits to Norwegian farms including walks in snowy Norwegian forests. Corbin reports that members of the negotiating teams talked to her about the "strange impact on their spirits of discussing death and conflict in the sunlit, tranquil surroundings of the fjords." (p. 211)

Corbin's account suggests that the medium of negotiation may have impacted the outcome. She implicitly suggests that the almost "surreal" surroundings of natural beauty and tranquillity helped the negotiators to think more about the kind of future they wanted to create, talking about their children's future, rather than concentrating on the heavily emotionally laden topic of past conflict.



The example of the peace negotiations is considered to be of illustrational, more than of validation value. It illustrates in this case that change of medium may change the nature of the topic.

### 3.2.11 Summing up the two typologies

The mapping typology, which was explored in the main data, is comprehensive, and contains a constellation of variables which is broader and different than found with other typologies derived from work on either higher order organizational learning, or obstacles to organizational learning. Its specificity seems to derive partly from having been elaborated from a perspective of resolution of divergent knowledge.

The mapping typology led to the identification of two important features of divergent knowledge resolution; the notions of "testing" and "double obstacles". The fact that these two notions are also central to theory on higher order organizational learning, implies that divergence resolution is also related to higher order organizational learning.

The mapping typology and the two notions specifically derived from it, gave rise to an interpretative typology with four core variables. The interpretative typology has not been vigorously validated within the thesis. It might contain additional variables to those identified, and other patterns of co-variance might emerge, if additional testing were to be done. However, its use in making sense of situations of divergent knowledge resolution has been demonstrated above, and it therefore merits further research.

### 3.2.12 Conclusions - are we crossing the fault line?

It will be recalled from section 2.1.5.1 that an underlying fault line between two groups of theory in organizational learning was proposed (fig. 2.1.10), and that there was little evidence that theory on one side of the fault line searched for clues amongst theory on the other side of the line. It was pointed out, for example, that Argyris and Schön (1978), who take a divergent perspective, emphasise defensive behaviour as posing obstacles to organizational learning. It was speculated that the behavioural focus might

be too limited, and that further insight into organizational learning and divergence could be gained by crossing the fault line.

The findings of the thesis support the argument that behaviour influences the resolution of divergence. Factors, such as "defensive behaviour", rules of undiscussability" and "untested assumptions of others" relate closely to findings of Argyris and Schön (1989) and Argyris (1989).

However, in addition to identifying the importance of behaviour, the thesis has uncovered other factors (tables 3.2.2 and 3.2.5.), which are significant in the influence the resolution of divergent knowledge in organizations. The work suggests that Finney and Mitroff's (1986) suggestion referred to in section 2.1.5.2, that action should be designed and taken following dissonance, has validity. However, it goes beyond the idea of action as a medium of learning, as it also demonstrates that other, alternative, media may have a bearing on divergence resolution.

The work has not uncovered a hierarchy of importance of variables for divergence resolution. Hence, it is possible that, say, that the behaviour variable lies at the root of divergence resolution, as argued by Argyris (1991: 106). That, however, has not been confirmed, nor disconfirmed by the data.

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<sup>vi</sup> The term "organization" denotes the formal, structural unit that was studied for the thesis. For structural units other than those, specification is added, such as "the sub-project", the "parent organization", etc. When the term "organization" is used in a functional sense this is also specified, such as for example "the organization of the work", "organizational routines", etc.

<sup>vii</sup> By "target group" is meant groups of non-organizational members, defined by the organization and towards whom the principal activities of the organization are directed.

<sup>viii</sup> The term "competence" means in this context a combination of intervention skills and knowledge about organization and management.

<sup>ix</sup> The term "programme" is used to denote a set of projects that are grouped under a common theme, and which have common management

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<sup>x</sup>The reference is not given for reasons of confidentiality. However, it may be disclosed that the team was led by Michel Crozier.

#### Chapter 4: Contributions to the field and suggestions for further research

Section 2.1 questions whether explicit organizational learning theory, as it has been treated up to now, could benefit from theory crossing the fault line, and search for clues among theory offering data from another perspective. The findings of the thesis suggest that this could be the case, at least in the case of divergent theory, as it has demonstrated that a number of factors appear significant for the resolution of divergent knowledge in organizations. Because organizational learning theory seems to have been largely divided between a divergent perspective and a convergent perspective, arguably the main contribution of the thesis lies in serving to demonstrate, through empirical inquiry, that by not being restricted to factors associated by a given perspective, the fault line may be crossed.

Section 2.1.5.2 questions whether convergence and divergence might form a dialectical relationship. Findings in section 2.2.2.3, from a sociological perspective, support this idea. The summary in section 2.2.7 suggests that because explicit organizational learning theory seems to be divided between, on the one hand, a divergent perspective, and on the other hand, a convergent perspective, but not considering both perspectives in the same analysis, it may stop short of exploiting its potential.

Thus, it would seem that future research could make significant contributions to the field by exploring conditions where divergence and convergence are seen to interact. Findings presented here suggest that in conditions where divergence is resolved (such as in the case of the project manager's perceptions of the head of training, and the subcontracting at the station), interesting data may be obtained. Given, however, that the thesis has consistently taken a divergent perspective, it is possible that it has stopped short of potentially important data, which could be obtained by considering dynamics between convergence and divergence. For example, it might be appropriate to study conditions under which convergent views in organizations were significantly changed. This might be done adopting a longitudinal research approach on, say, an organizational unit over time, to allow time for divergent and convergent conditions to interact. For example, the comparison of the research fellow network in the "crisis" and the "non-crisis" conditions suggests that such a study might yield useful knowledge, as the findings suggest that whilst in a crisis situation, divergence was dealt with reasonably

openly between members, but once the crisis was over, the organization seemed considerably less able to resolve divergence.

The nature of divergence has not been explored in-depth in the thesis. Although fig. 2.1.11 suggests possible modes of divergence, and the patterns of divergence summarised in various figures in section 3.2 have served the purpose of indicating how processes of divergence may manifest themselves, future research might usefully enlighten the field further by testing the modes of divergence identified, and exploring others.

It is suggested in the Introduction to the thesis that the term "resolution" be seen as embodying a number of different processes, of which arriving at consensus may be one. This somewhat broad usage has allowed for a considerable number of situations to be studied in the thesis. However, it has not allowed for a comparative study of different levels of resolution. For example, it has not provided an answer a question, such as "would generating convergence between members from divergence imply a set of parameters which were different from those needed for individual members to make new meaning of organizational issues?" It is subject to speculation whether, for instance, different levels of resolution could be envisaged, whereby a higher-level signified a more fundamental level of change than the previous one, the way organizational learning is perceived as taking place at different levels.

The findings of the thesis relate principally to groups and individuals. Although contextual factors, such as organizational structure and systems have been explored, the divergence resolution, or the learning that has been studied, may be said to have taken place locally in the organization. It could therefore be argued that the findings of the thesis stop short of instructing us on how organizations at large could improve their learning ability. This appears all the more important, as the data suggest that resolution of knowledge in parts of an organization does not automatically influence other organizational units, even though the two units are in close proximity to one another. For example, in the case of the airline, the apparent success of the "temporary organization" at the station, did not seem to influence other units, where divergence seemed to remain unresolved. Hence, it may be argued that the thesis only partially suggests how organizations can ensure that localised learning can serve as an eye-opener for the organization at large. It may not instruct us on what Klein (1989: 301) calls "parentic learning"; to create opportunities for higher-level learning of the

organization, as the context of the learning progressively becomes visible to the organization.

Exploring conditions under which organizations at large may gain insight into the ways in which they function, has an additional advantage, which would be to explore the extent to which resolution of divergence may relate to higher-level learning of the organization as a whole. Although there is a sizeable body of literature suggesting how organizations could be better organised for learning, some of which is referenced in the thesis, empirically derived theory has not been found, which explicitly demonstrates how divergence resolution may relate to higher-level learning.

The interpretative typology in the thesis seems to represent a different constellation of factors to those found elsewhere in organizational learning theory. The typology arguably merits further attention, as it reflects possible dynamics of divergence resolution, and, having been derived empirically from studying transfers of knowledge in organizations, it may be of particular interest for further development of organizational learning theory.

Further work on the typology could usefully attempt to test its validity in a number of organizational settings, which might give an idea of the respective significance of each of the four core variables. It is likely that possible patterns of interactions between the core variables could be usefully studied. It would be of particular interest to study, for example, the extent to which the four core variables may mutually influence each other, for example questioning the extent to which behaviour is influenced by the medium used for the exchange of knowledge. Zuboff (1988), for example, found that information technology as medium of communication made it easier for people to disagree and to confront each other than in face-to-face meetings.

This type of research could lend itself to an action research approach, where the core variables were used as independent variables. Variations could be introduced in the use of different media through which knowledge was transferred, such as collaborative work, electronic communication and face-to-face meetings. It is discussed in section 2.2.6.4 how interventionist methods may facilitate change of group norms, hence such an approach could provide additional clues for how the four core variables might collude in changing operating assumptions in groups.

Alternatively, an ethnographic approach could be used. By following a few members over time, it could have the advantage of being less intrusive than an action research approach. Through a process of sensemaking, it could provide major modifications to the typology, in particular to possible modes of interaction between variables.

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