Coventry University

Coventry University

DOCTOR OF PHILOSOPHY

Organisations as social systems: a study into the necessary systemic conditions for the occurrence of 'Social Resonance' to ecological issues in organisations

Bungart, Stefan

Award date:
1999

Awarding institution:
Coventry University

Link to publication

Organisations as Social Systems – A study into the necessary systemic conditions for the occurrence of 'Social Resonance' to ecological issues in organisations

STEFAN BUNGART

A thesis submitted in partial fulfilment of the University's requirements for the Degree of Doctor of Philosophy (PhD)

AUGUST 1999

Coventry University in collaboration with Fachhochschule Aachen, Germany

Table of Contents

List of Tables

List of Figures

List of Appendices

Appendices are attached as a separate document

Company Reports:

Questionnaire Survey:

A Short Autobiography Of The Author

Stefan Bungart was born on the 06. December 1963 in Euskirchen, Germany. He received his Abitur at the age of nineteen and served his army duty in a logistics battalion in Germany. He went to Cologne University and later to Aachen Fachhochschule to study business. During his time at Aachen he was offered a year of study in England. After the successful completion of the year at Coventry University he was awarded the Bachelor of Arts Honours Degree in Business Studies from Coventry University (2:1). On return to Germany he completed his German degree programme and was awarded the German equivalent of the BA degree, a Diplom Betriebswirt (ESB) with Honours.

He started working as an Assistant to the Board of Directors of one of Germany's largest trading houses and later moved on to work for a German consultancy specialising in waste management and logistics. It was then that he decided to embark on a PhD programme at Coventry University and subsequently returned to the UK to start the research project that culminated in this thesis. He was offered a lectureship in Small Business Management and International Business at Coventry University. Later he worked for Warwick Manufacturing Group, a part of the University of Warwick as a Senior Teaching Fellow in Logistics and Operations Management. At the moment the author works as Director General of the National Institute for Transport and Logistics in Dublin, Ireland.

He holds memberships of the Chartered Institute of Purchasing and Supply and the Institute of Logistics and Transport.

Acknowledgements

The author wishes to thank everybody that has contributed to the genesis of this thesis directly or indirectly. As the theory of social resonance explains, it is impossible for the author to determine who had what input at what stage of the research. But he is keenly aware that even distant events, not directly connected with this research, have nevertheless had an impact on his work.

There are some individuals that have contributed through their encouragement or constructive criticism over the years and the author would like to mention those in particular. They are Dr. David Morris and Mrs. Christine Gore, the team at Coventry University, as well as Prof. Dr. Alfred Joepen from the Fachhochschule Aachen and the team from Warwick Manufacturing Group, in particular Mike Newton and Mark Freel. A great number of researchers have helped through advice and at times constructive criticism. They are too numerous to be mentioned here, but the author is very grateful to those individuals.

The author wishes to thank those individuals that kept the pressure on him at times when his efforts seemed to flounder. In particular the author wishes to thank Miss Fabienne Lemarchand for her constant encouragement and conviction that was invaluable and towards the end the team at the National Institute for Transport and Logistics, in particular Miss Cathleen Doherty Mr. Edward Sweeney.

Finally the author wishes to thank his parents Andreas and Karla (†), without whom none of this would have been possible.

1 Introduction

Organisational research in English-speaking countries has long been focused on two main areas. Studies on micro-level have been concerned with the socio-psychological explanation of organisational phenomena, mostly on the level of the individual and groups. Macro-level studies have been concerned with structure for the explanation of organisational phenomena. Macro-level theories have mostly bracketed the individual, and neglected the psychological component or regarded the individual as an actor playing roles. Only recently has the study of organisations been extended to attempt a meso-level analysis of organisational phenomena (Rousseau 1991, 1995). These meso-level attempts have, in the eyes of the author, run into explanatory problems. These problems are mainly due to the 'new' approach being based principally on existing macro- and micro-level theory, merely marrying the two approaches and thus inheriting the apparent difficulties of the existing theory to account for the individual. Althusser and Levi-Strauss are prominent representatives of both micro- and macro-level theory.

This author agrees with the notion that organisational research benefits from a meso-level approach to organisational theory. It is in the light of this approach that the author turned to a widely unknown source of theory (in the English-speaking countries) to address the existing explanatory problems in organisational research and contribute so to the field. The underlying fundamental belief of the author is that any institution can be more successfully understood in the sociological context that defines the institution.

Introducing the metaphor of 'social resonance' and linking it to the social theory of Pierre Bourdieu, especially the notion of agents and fields, the author attempts to cross-fertilise the academic fields of sociological research in mainland Europe (namely France and Germany with their strong philosophical tradition) with the academic fields of organisational research in the English-speaking countries (namely Britain and the US).

This thesis will discuss the organisational research literature and social theory, introduce Pierre Bourdieu's theory of practice, develop the metaphor of 'social resonance', and test the new construct in an empirical research setting. The main objective of this study is thus to explore the value of Bourdieu's theory of practice for the explanation of organisational phenomena, and to operationalise it in the metaphor of 'social resonance'. To this end, a

research framework has been developed which is explained in more detail in this report.

1.1 Background to the research

The observation[1] of the apparent differences in speed and depth[2] of adoption/adaptation of ideas and concepts[3] in businesses[4] led to the formulation of the research proposal that underlies this project. The author came to observe such differences in speed and depth of adaptation during his work as a consultant in Germany. Although some companies readily accepted new concepts presented to them and responded accordingly, others rejected such new ideas or implemented changes half-heartedly. These observations led the author to the formulation of the research proposal that is at the heart of this thesis.

The main aim of the research project is the determination of the necessary social conditions[5] on the level of the individual (agent), groups (fields) both internal and external to the organisation, and the organisation (seen as a field itself) for the adoption/adaptation of new ideas and concepts in organisations. A further aim of the study is the determination of the relationship between the social conditions and the level[6] of adoption/adaptation of ideas and concepts. Ultimately, the aim of the study is the application of Bourdieu's theory of practice to the organisation, operationalised through the metaphor of 'social resonance', and the discussion of the relevance and contribution of this theory to the field of organisational research.

---

[1] Of this Researcher
[2] I refer here to Reach and Support within the Organization
[3] New to the Business, coming out of Research or the System the Organization is Part of
[4] Businesses across Industries
[5] The term "systemic conditions" will be developed as part of the development of the metaphor of "social resonance"
[6] see footnote 2

1.2   Research problem and hypotheses/research questions

The objective will be to replicate (replication is limited to the construction of the metaphor; the development of the thesis from there breaks new ground) and extend Bourdieu's work on habitus, fields and capital by transferring it into a different cultural and organisational context and operationalising it through the metaphor of 'social resonance'. The author is aware of the possibility that by taking a model out of the context in which it was originally developed, one can come across unexpected contingencies, which one was not aware of at first. Every effort was made to be aware of such possibilities and to address possible problems.

After the metaphor of 'social resonance' had been developed, five principal research questions were developed to test the author's hypotheses (from here on referred to as H_n).

Hypothesis 1:

An organisation's resonance to ecological issues manifests itself in the way such issues are approached in the annual company report.

To test this hypothesis the following research question was formulated:

Research question 1:

What is the extent of "social resonance" on an organisational level to ecological issues within the Times Top 100 UK and the Times Top 100 German companies visible from the company reports?

This question has been answered fully and hypothesis substantiated from the research. UK companies seem to address ecological issues to a lesser degree in their company reports. German companies are more responsive to ecological issues, judging by their company reports. Care has to be taken to

control for extraneous variables such as strength of ecological, legal, or political fields. The implications have been discussed.

Hypothesis 2:

Cultural differences will influence the manner in which companies tackle ecological issues, and the degree to which these ecological issues are addressed.

To test this hypothesis the following research question has been formulated:

Research question 2:

What are the main differences in "social resonance" to ecological issues on organisational level between UK and German companies determinable from annual company reports?

This question has been answered thoroughly through the research. German companies have a rich language to describe their position within the ecological field, as well as a more specific language to describe their 'investments' of varying amounts and kinds of capital[7] into the fields. UK companies have a poorer, more general language to describe their position within the ecological field, and also have a less specific language to describe their 'investments'.

Hypothesis 3:

A relationship can be established between fields internal and external to the organisation.

To test this hypothesis the following research question was formulated:

---

[7] Capital in the sense of this thesis is not limited to economic capital, but includes knowledge capital, information capital, symbolic power, relationship capital, language capital, and other forms. This notion and interpretation of capital was developed in close analogy to Bourdieu's theory of practice.

Research question 3:

Can any relationships between the variables used to measure "social resonance" be established (dependent and independent variables)?

A relationship can be established between the ecological field and the industrial and organisational fields. The causality is explored drawing on the descriptive statistics and the qualitative analysis. A causal link between the ecological field as independent variable and ecological 'resonance' can be established. A link between forms of capital and fields can be established. The analysis supports some of Bourdieu's concepts and strengthens the overall explanatory power of the metaphor of 'social resonance' for the exploration of outcomes in organisations. Bourdieu's theory has been shown to be helpful in exploring organisational 'resonance' to ecological issues.

Following the qualitative content analysis of annual company reports of the Top 100 UK companies and the Top 100 German companies, a self-administered questionnaire has been developed and sent to the chief executives of the same 200 companies. This second study was carried out to further explore the validity of the hypotheses and the metaphor of 'social resonance' that lie at the heart of this thesis. The second study was designed to link an individual (within its social context) in those companies to the annual company reports and relate individual characteristics relevant to the thesis (habitus, fields, and capital) back to the outcomes (words expressing resonance in the company reports).

Two further hypotheses were tested through the linkage between the first and the second research study.

Hypothesis 4:

The theory of habitus, fields and capital can be applied to an organisational context to explain 'social resonance' on the level of the individual within the context of the organisation.

To test this hypothesis the following research question was formulated:

Research question 4:

Can Bourdieu's theories on habitus, fields and capital be applied to different cultural and organisational contexts?

Through developing a tool for the analysis of the linkage between the individual and the organisational fields that question was answered positively. A capital investment matrix tool developed in the context of this research proofed a very powerful tool when linked to questions about the social background of the subjects under study. Bourdieu's theory of practice has proven helpful in analysing organisations through the provision of a language that allows the exploration of areas within organisational research, which have previously only been weakly defined.

Hypothesis 5:

Certain social conditions must exist at the level of the individual for social resonance to ecological issues in organisations to occur.

To test this hypothesis the following research question was formulated:

Research question 5:

What are the necessary social conditions (of habitus, fields and capital) at the level of the individual for "social resonance" to ecological issues in organisations to occur?

Through the introduction of a Likert-scale type set of statements and further questions relating to the social background of the chief executives responding to the request for participation, it was possible to develop a picture of the social history and positional habitus of the subjects under study. In combination with the capital investment matrix, which operationalised the notion of capital investment, it was possible to link social background to capital investment (in the author's interpretation of capital derived from Bourdieu's notion of capital), and thus build a bridge back to the first part of the thesis in which the company reports formed the focal point. It was then possible to link the 'social resonance' to ecological issues explored in the first part of the study through the capital investment matrix directly to the individual's social background and thus answer this research question.

1.3   Justification for the research

The research problem addressed in this thesis is important on several theoretical and practical grounds. It is evident from the literature (see chapter 2: Literature Review) that social and organisational research is strongly influenced by different philosophical assumptions and traditions. On studying the literature, one can clearly identify different philosophical traditions at the root of the major theories in sociology and organisational theory. When looking at literature with a Germanic/French background in comparison to literature with a more Anglo-Saxon background (UK and USA), it becomes evident that different language systems and philosophical traditions lie at the heart of the disagreements between researchers in sociology and organisational theory. The risk of misinterpretation (while translating literature from one language into another) further exaggerates the problems. The application of Germanic/French sociological theory in the context of organisational studies of Anglo-Saxon organisations (with a German control group) has potential for cross-fertilisation of theory. It also enriches the language in use in organisational theory, and contributes so not only to a better understanding of different philosophical traditions, but also to the

development of a common language to describe social and organisational phenomena.

Perhaps the single greatest achievement of this research work is the construction of a language and a metaphor to describe complex organisational dynamics by placing them into their socially and culturally constructed context. The metaphor of social resonance, which has been developed based on extensive philosophical discussions with social scientists from around the world, and which is the single most creative act of this thesis, crosses over the traditional boundaries of organisational and sociological theory, and the traditional boundaries of Anglo-Saxon and Germanic/French philosophical orientations. As such the creation of the metaphor of social resonance justifies this research and is a genuine contribution to the knowledge in organisational and sociological theory.

Due to the language problems mentioned earlier, Anglo-Saxon researchers (especially in the past) have often neglected the rich traditions of language and theory of Germanic/French researchers. This has in the past precluded interesting avenues of thought to be explored. This thesis goes a small way towards rectifying this situation. Germanic/French thought is applied and discussed in the context of Anglo-Saxon theory and practice.

The research carried out in the process of writing this thesis is based on a multi-method mix. Researchers often decide to pursue either a purely qualitative or a purely quantitative method of data collection and analysis. This thesis shows that a multi-method mix can be very beneficial in the analysis of social phenomena in the context of organisations. It combines the strengths of both research approaches (see chapter 3: methodology).

The language developed in this thesis to describe organisations as social systems, and to describe the actions of individuals as an outcome of certain social conditions, can be useful in theory as well as in practice. In recent years both researchers and managers in organisations have struggled to explain, in a succinct fashion, the ever more complicated relationships between organisations and their environments, and the position and behaviour of individuals within both the organisations and their environments simultaneously in time and space. The language and concepts developed in this thesis can be helpful in explaining such relationships between the

individuals, the organisation and the environments in which the organisations operate. The language developed does so in a more concise fashion without loosing any of the meaning of ideas and concepts previously developed. The metaphor of 'social resonance' enriches organisational theory and the language that is used to describe organisations.

One example of this is the apparently irreconcilable question in classical organisational theory between structure and agency. Via Bourdieu's theory of practice, developed into the metaphor of social resonance, and applied to the organisation, it was possible to combine structure and agency in one construct.

The metaphor of 'social resonance' looks at the simultaneous and temporal interaction of many individuals both indigenous and exogenous to the organisation. This is a great improvement on rational choice theory in which theorists usually look at one individual at a time or take actions as sequential.

Much of organisational theory is based on either micro- or macro-level social theory with utilitarianism and rational choice theory the predominant theoretical frameworks. This can be explained by looking at the history of development of organisational theory. Western European theory did not have a great influence on the development of organisational theory until recently. This can be traced back to problems of translation and different philosophical backgrounds. The arbitrary micro-macro division in organisational research goes back to the tradition of rational choice theory in which simplification was called for. This simplification and the subsequent division into micro- and macro-level theories was helpful at the time, but has run into great explanatory problems. Even the meso-level approaches to organisational theory suffer from the problems since they are built from building blocks of micro- and macro-level theory. Here again the metaphor of 'social resonance' can be very useful. It links micro- and macro-level theory without sacrificing the principles of simplification to an appropriate level.

To establish the legitimacy of the organisation in a way the company reports are a vehicle (information dissemination) to legitimise the organisation and its actions to targets such as the public, shareholders, the employees, and others. Pfeffer & Salancik (1978) and Meyer and Scott (1983) support this notion. As such it is interesting and worthwhile to see the perceptions of

executives as to what legitimises the existence of their organisations expressed through the company reports.

The overall research framework developed for this study has great potential for linking individuals and organisational fields through the choice of method mix utilised. As such it was possible to operationalise the notion of 'social resonance' and test it in a research study with good success.

In the course of developing this thesis several tools have been developed that are of great benefit for the exploration of the linkages between individuals and their social environments. The capital investment matrix suggested in this thesis has shown great potential in linking fields such as the shareholders, employees, environmental groups and many others with social dimensions such as upbringing, schooling, and work experience of individuals. The subsequent formulation of explanatory models based on multivariate linear regression analysis again has great potential for determining the overall agent/organisation/environment fit.

In the context of this research a rich picture of the social background and upbringing of chief executives in top 100 companies both in Germany and the UK has been painted. This background has successfully been linked to fields internal and external to organisations and to actions and other forms of resonance to external stimuli. As such the findings explain with some degree of external validity the mutual influence between upbringing and personal experiences of individuals and their expression in business decision making.

As a result of the research work and the need for clarification the author embarked on a side project to identify the use of the term 'resonance' in the existing literature from the start of record-keeping until the day of the formulation of the metaphor. As such this research also gives a review of the concept of 'resonance' established by authors in organisational and general social science literature that is to the author's knowledge the first and only such work ever carried out.

The author is confident that the research carried out by him, the language and concepts developed, and the results of these activities fully justify the research project.

1.4 Methodology

The reader will find a detailed description of the methodology developed and used in this thesis in chapter 3. This section is meant to give the reader a quick overview of the methods used for data analysis and the multi-method mix at the heart of the research.

The research falls into two distinct parts. Part I is the analysis of two hundred company reports from UK and German companies. The following methods were used to analyse the reports and collect information:

Table 1 Methods employed in analysis of company reports

	R1	R2	R3
Research Techniques	- Textual Analysis - Definition of Variables - Reporting Forms	-Textual Analysis Code Families	- Statistical Analysis Regression Correlation Distribution
Research Approach	- Deductive Framework - Inductive Development of Variables	- Inductive	- Deductive
Data Format	- Qualitative - Quantitative	- Qualitative	- Quantitative

Part II of the research consisted of a questionnaire survey of the chief executives of the same two hundred companies chosen in the first part. The reader will find detailed descriptions of the methodology chosen, the development of the final questionnaire and justifications for the methodology

in chapters 3 and 4 of this thesis. It suffices at this point to briefly summarise the methods used to give the reader an impression of the scope of methods employed. Philosophical debates about the pros and cons of each method then follow in chapter 3.

The following methods were used to analyse the returns from the questionnaire survey:

Table 2 Methods employed in analysis of questionnaire returns

	R4	R5
Research Techniques	- Definition of Variables - Questionnaire design - Statistical framework - Multivariate Linear Regression - Correlation - Descriptives	- Statistical Analysis Regression Correlation Distribution
Research Approach	- Deductive Framework - Inductive/ Deductive Development of Variables based On previous results	- Deductive Framework - Inductive Development of Linkages
Data Format	- Qualitative - Quantitative	- Qualitative - Quantitative

It is hoped that such a multi-method mix will help to better fit the nature of this research being at once organisational and sociological, individual and societal.

1.5   Outline of this report

This report falls into the introduction, the literature review, the discussion of the methodology, the presentation, analysis and discussion of the research findings and the conclusion.

In particular the literature review (chapter 2) covers the areas of organisational theory, social theory, economic theory and general systems theory as well as a discussion of the sociology of time and space and the detailed discussion of Bourdieu's theory of practice. The methodology (chapter 3) includes a justification of the research and the main methods employed and limitations to these methods. The presentation of the research findings (chapter 4) includes a detailed presentation of the descriptives for both the content analysis and the questionnaire study, a detailed discussion of the findings for both studies and general conclusions and models developed in the course of the research. The conclusion (chapter 5) sums up the research thesis and findings and determines the implications of the study for theory, practice and further research.

1.6   Definitions

The concept of "social resonance" has been introduced as a metaphor to explore the level of adoption/adaptation of ecological ideas and concepts within an organisation. The metaphor has been developed from an extensive literature review of social theory including the works of Bourdieu (1982, 1983, 1984, 1986, 1988), Durkheim (1970), Boudon (1984), Maturana and Varela (1980), Maturana (1987, 1988, 1994), Beer (1979, 1985), Espejo (1989, 1990), Giddens (1994, 1995), Galbraith (1992), Luhmann (1988), Vester

(1986), and Popper (see Giesen, B. 1995; Agassi, J. et al. 1995), among others[8].

The term "resonance" has been used by researchers and business writers before. The author carried out a detailed literature analysis to establish the extend of the use of the word "resonance" and the degree of definition of the term. "Social resonance" will be introduced to firm up the definition[9] of the term "resonance", which has been used by writers in social theory before.

The development of the concept of "social resonance" has largely been based on the work of Bourdieu, adapting his general theories on habitus, fields and capital and discussing them in the light of the metaphor of 'social resonance', with the notable extension of the theory to include the organisational outcomes into the discussion.

The working definition of "social resonance", as defined by the author initially before refinement, was:

The extent of a social agent's, group's or organisation's conscious or unconscious thoughts, words and actions, including spiritual and art-form expressions, as a result of an external stimulus in a particular context and place at a given time. This 'social resonance' is determined by the positional habitus of agents in the field, the fields themselves, and the capital available to agents or acquirable by agents in the field.

This "social resonance" is determined by the social agent's, group's and organisation's positional habitus, fields they are positioned in and capital. Habitus can be seen as socially constituted dispositions, acquired through

---

[8] A more complete list of writers will be contained in the project's literature review

[9] The term resonance has been used in social sciences before. A detailed literature review of 1600 journals in 30 languages from about 55 countries[9] was carried out to determine the use of the word "resonance" in books and articles. The search, spanning from 1974 to 1995, revealed 64 articles in which the word "resonance" had been used. In 52 of these articles the word had been used without any definition as a loose synonym for feedback or reaction from individuals, or as a synonym for comparable concepts (Author's interpretation). In 11 articles the term "resonance" was used more explicitly as observed reactions of individuals to events. Only one author used the term "resonance" in a defined way (Librova, 1992).

experience, thus variable from place to place and time to time, e.g. a pattern of speech, a way of dressing, an educational title, a dwelling place among others. A field can be seen as interests variable with time and place, a historical product, the interest being at once a condition of the functioning of the field and a product of the way the field functions. Habitus is adjusted to fields according to position and expectation. Capital (or power) can take the form of knowledge capital, relationship capital, economic capital, cultural capital, language capital, or symbolic capital (reputation, opinion and representation - if it is known and recognised).

1.7 The development of the metaphor of "social resonance"

The observation that at different points in time and under different circumstances individuals, groups and organisations react differently to external stimuli led the author to investigate possible explanations for this phenomenon. In order to be able to communicate the findings of the research clearly and unambiguously a metaphor was developed in which the author will attempt to contribute to the explanation of such phenomena. To identify the meanings and interpretations attributed to the word "resonance" in social research an extensive textual analysis of article abstracts was carried out spanning 20 years and some 2,400 journals and magazines, both scientific and general. The results of this analysis will be discussed later in this chapter.

To understand the author's thought-processes this chapter starts with a brief history of the development of the metaphor of "social resonance". It was conceived originally in close analogy to the physical model of resonance (see Luhmann 1988 for inspiration).

"Resonance is the phenomenon of forcing an object to vibrate with a maximum amplitude by supplying energy from a wave whose frequency is the same as the natural frequency of vibration of the object"

A.J. Read (1970)

In this definition, an object can only resonate to an external force with maximum amplitude when the frequency of the wave it is subjected to equals the natural frequency of vibration of the object. Thus, when the natural frequency varies from the frequency of the external force resonance will be dampened or will not occur.

Originally, it was intended to develop the metaphor of "social resonance" in close analogy to this definition. The object was replaced with the subject, the external force replaced with the stimulus, and the natural frequency replaced with the pre-dispositions of the individual, groups or the organisation.

Later, the limitations of such an analogy were realised in discussions with social scientists. It was felt that a close analogy to the physical model suffers from a lack of interactiveness and is too mechanical. Furthermore, the subjects of discourse, individuals, groups and organisations, are constantly being modified through and during the communication process. The subjects are not at the same state all the time and what is more, even the discursive context is in flux and is continually unfolding. Finally, a reaction to a stimulus might occur with delay and might not be immediate and reactions to stimuli could have positive as well as negative outcomes. The author acknowledges that these might not be the only limitations. In order to address these identified limitations the concept was extended to account for the context in which it was to be used, namely the organisational context.

Three main principles where retained from the original model. For "social resonance" to occur there must be resonator that can resonate, there must be a stimulus or a set of interacting stimuli and there must be an outcome or a number of outcomes, observable or unobservable.

1.7.1 First principle of "social resonance"

A prerequisite for resonance to be quantified or qualified in any way, and thus reportable, is the ability of the researcher to recognise when an instance of the individual's, group's or organisation's reactions (outcomes) to a stimulus

or stimuli has occurred. In developing the metaphor of "social resonance" therefore, it was necessary to identify the recognisable elements of these outcomes. When looking at the way scientific research is carried out generally (Silverman, D., 1993, p. 16), and social research in particular, three main principles seem to dominate, all linked to the sensory abilities of humans. The research question can only be quantified or qualified in one of three ways: a.) by watching and/or feeling (observation), b.) by 'talking' and/or 'listening' (interviews, questionnaires) or c.) by reading (written communication, textual analysis).

Bearing this in mind, the outcomes of "social resonance" have been identified as to be conscious and subconscious thoughts, words or language (semantics), and direct and indirect actions. The implications of the choice of these outcomes as a measure of "social resonance" on method and methodology of the research into "social resonance" will be in discussed in the chapter on methodology.

1.7.2   Second principle of "social resonance"

For "social resonance" to occur, there must be a stimulus or stimuli The figure 1 only aids to illustrate the author's findings based on the textual analysis and leads to one of the findings that are important to the metaphor of "social resonance":

Outcomes can be the result of the complex interaction of various stimuli, both present and past, at any one time.

1.7.3   The third principle of "social resonance"

For resonance to occur there must be an object or subject to resonate. This study looks at three areas: firstly, at "social resonance" at the level of the individual, secondly, at "social resonance" at group level, and thirdly, "social resonance" at the level of the organisation. The individual, within the

organisational context, will be positioned within a field, or a number of fields, at any one time, the membership of these fields, or indeed the fields themselves, are in flux depending on the positions the members of the fields take up within them. There is good evidence in organisational research (Isen & Baron 1991, Lee at al 1992, Nelson & Sutton 1990) that the characteristics of individuals influence both individual reactions to environments and how environments are construed. Fields can be formally defined by the organisational structure (such as departments or functions), or informally defined (such as cross-departmental alliances or friendships or any other form of informal association between individuals). There is evidence in the literature that context (in this study the organisation as the context of "social resonance") can constrain action (Palmer 1990, 1991; Murnighan & Conlon 1991; Smith & Berg 1987). Organisational norms seem to be important in the explanation of individual and group behaviour (Sutton 1991). Barley (1990), in his work on radiology departments and new technology, picks up on another important aspect of organisational studies. The dimensions of distance and time. He observed that distant technological changes outside the organisation nevertheless had an impact on the relationships between the individuals within the organisation. Further evidence of the importance of distance and time in explaining actions can be found in Rafaeli & Sutton (1991). An organisation is ultimately made up of its individual members, who organise themselves consciously or subconsciously into fields. The links between individuals and fields and their organisational context has been described by, amongst others, Cummings (1981) and Capelli & Sherer (1991). These authors take a psychological perspective. Pfeffer (1991) states that organisations are relational entities and takes a sociological perspective. He argues that a focus on the structural effects can lead to new research questions. This claim is supported by research from Rentsch (1990) and Rice & Aydin (1991). Barley & Knight (1992) also take a sociological perspective when looking at organisations. They focus on the cultural and sociological context to explore stress complaints. This author argues that in order to understand "social resonance", the study of what is ultimately organisational behaviour on micro-, meso-, and macro-level, one must look at the individual or agent in Bourdieu's words, fields, and the capital within the organisational

context. A sociological perspective will be adopted to explain the outcomes defined as "social resonance".

Bearing in mind the three principles established above, the working definition of "social resonance", as developed by the author, is:

The extent of a social agent's or field's (organisation being defined as a multitude of fields or interests) conscious or subconscious thoughts, words and/or actions (including spiritual and art-form expressions), as a result of the exposure to either a past and/or present stimulus or a past and/or present set of stimuli (which can interact in a complex multidimensional matrix) in a particular context and place at a moment in time. This 'social resonance' is determined by the agent's positional habitus, the fields they position themselves in, the position they take up within a field and the forms of capital available to them or acquirable by them, within the organisational context.

"Social resonance" can occur on the level of the individual or agent, and the field, or organisation. On all these levels it will be partially restricted by the structure of the system and the interaction between the fields and the individuals (Luhmann, 1988). Huber (1990) argues that the directions of the fields and the external context determine the direction of the whole system. Self-organisation of the system, according to him, does not mean self-determination of its parts, but results from the interaction of self-determination and other-determination. He concludes that one can construct a social system as being made up of sub-systems with continuously developing dynamical interactions. In the light of social theory, one writer is, in the eyes of this author, of great importance. The work of Pierre Bourdieu has greatly influenced sociology in the Western Hemisphere. Although he has contributed to the discussion in sociology for a long time, he has only recently (in the late 1970's and early 1980's) received attention in the UK and America. His work is centred around cultural reproduction, but has resulted in the development of a language for describing social phenomena that has been widely adopted in Europe (Bourdieu & Passeron, 1970, 1977). In particular he introduces the concepts of habitus and fields and extends the concept of capital introduced

by Marx (Bourdieu, P., 1986). Using the notion of habitus, fields and capital, it is the objective of this author to transfer these concepts into an organisational context and link them to the metaphor of "social resonance" to answer the research questions set out in the introduction. The "social resonance", as outlined in the working definition, is determined, so this author's theory, by the social agent's, positional habitus, fields they are positioned in, the positions they take up within the fields, and the capital available to them or acquirable by them.

Habitus can be seen as socially constituted dispositions, acquired through experience, thus variable from place to place and time to time, e.g. a pattern of speech, a way of dressing, an educational title, a dwelling place or others. A field can be seen as interests variable with time and place, a historical product, the interest being at once a condition of the functioning of the field and a product of the way the field functions. Habitus is adjusted to fields according to position, expectation and ability of the agent to adjust the habitus. Capital (or power) can be interpreted as knowledge, relationships, economic power, cultural capital, or symbolic power: reputation, opinion and representation (if it is known and recognised). The concepts of habitus, fields, and capital will be developed in the next chapter.

The organisational field

Stefan Bungart (1996)

Figure 1 The Organisational Field

The dimension of time could not be represented in a two-dimensional representation. The reader has to imagine a four-dimensional model in space and time to accurately represent the organisational field.

Ecological issues affect organisations in direct and indirect ways. This expresses itself in the social resonance of organisations as defined before. The organisation as a social system, in the context of this study, determines its resonance to ecological issues through the habitus of the agents within the organisation, the position of the agents within the fields of the organisation, which in turn influence the habitus, and the capitals obtainable or available to the agents. Since ecological issues are strongly connected to ethics and morals, values and beliefs, or culture and philosophy in the wider sense, it is anticipated that the study of the cultural capital of the organisation in particular will benefit the understanding of social resonance greatly. The purpose of this study then is to identify the fields within an organisation, the specific interests

of the fields, and the strategies of accumulation of interest and power employed by the agents within the fields.

Having defined social resonance, and explained the conception and history of the development of the term and its definition, a critical evaluation of the concept of social resonance is called for. The first criticism that might be levelled at the theory is that it is too mechanistic. Another criticism might be that it does not allow for learning, adaptation, etc. Firstly, on the use of the term resonance, it is important to note that the term is used to trigger a word association. It is a metaphor to conjure up certain images, and to allow individuals to talk about their responses to stimuli using a commonly understood term. As such, the resemblance to the mechanistic resonance as found in the physical sciences is misleading. Rather, the reader must understand resonance as observable or unobservable thoughts, actions and emotions, whether they be at the level of the conscious or subconscious. Resonance is here merely used as an image of a form of response. The reader must also understand that resonance embeds the concepts of habitus, field and capital. Habitus is variable with time, and very much influenced by learning. As such, the concept of learning is also included in the metaphor of social resonance. Indeed all of human experience and emotion, and its manifestation in thoughts, actions, or other expressions, whether immediate or delayed, directly or indirectly related, is embraced by the metaphor. As such, it is very well suited to take into account learning, adaptation, history, and other concepts of social or organisational theory. The author offers the term resonance not to restrict its meaning to the physical sense, but to offer a language term that is somewhat more universally understood and popular than habitus, field and capital. Overall, the term social resonance when understood to embrace the concepts of habitus, field and capital is more suited to explaining organisational phenomena than more mechanistic theories.

1.8 Delimitation of scope and key assumptions

This research thesis has a very wide scope. It covers the areas of organisational research, social theory, economic theory and general systems theory. It develops the theoretical construct of social resonance which is a development from social research and organisational research mainly from a German and French background applied to organisational phenomena. The research falls into two major parts with a minor study on the side. The concept of resonance and the stimuli are partially based on an extensive literature review spanning twenty years and some 2,400 journals and magazines both from the social sciences and the general management sciences. The first major part of the research thesis covers a complete contextual analysis of two hundred company reports from both Germany and the UK. The second major part of the research thesis covers the questionnaire study of the chief executives of the same two hundred companies in Germany and the UK.

One of the key assumptions of this thesis is that company reports can be seen as tools to legitimise the organisation and its actions to the various interests (or fields) and as such can be used to explore the extend of social resonance in organisations. This follows a notion by Pfeffer & Salancik (1978) and Meyer & Scott (1983). Another assumption is that although the chief executives studied in this thesis might not have written their introductory notes in the company reports themselves they would have retained final editorial control over any output printed in the company reports in their name. As such the statements of the chief executives can be interpreted as their individual social resonance to interests in fields. One further assumption is that the respondents of the questionnaire study are really the chief executives of the companies in the study and that the questionnaires have not been filled in by some other member of the organisation on their behalf without indication to the author.

1.9 Conclusion

This thesis develops the theoretical construct of 'social resonance' from social theory of German and French origin and tests the new construct in an empirical research setting on organisations from both the UK and Germany. A two-part research study has been developed to facilitate the testing of the construct. The first part of the research focuses on company reports while the second part of the research focuses on the chief executives at the helm of the same companies that were included in the study of the company reports. A set of five hypotheses has been developed to support the testing of the construct and tools have been developed to operationalise the metaphor of social resonance and to enable the researcher to detect, quantify and qualify any occurrence of such resonance.

2 Literature Review

2.1 Introduction

This thesis attempts to link social factors to organisational phenomena. As such the literature review is more an exercise in restraint than one in covering as much ground as possible. It would be no problem to write a literature review covering extensively all areas of social theory and organisational theory. Additionally possibly all organisational literature ever written and all economic literature links somewhat into the topic of the thesis. The reader can imagine that the author was posed with the important question as to how to reconcile between the vastness of literature written on organisational phenomena and social theory with the aims and scope of this research work. Careful decisions had to be made as to what to concentrate on and what to omit from the literature review. A decision was made to cover social theory and organisational theory from a general rather than specific point of view. The frameworks of social theory and organisational theory are explained and described. In addition a brief summary of general systems theory and economic theory from the social point of view are included. The reader will not find specific individual theories explaining micro-phenomena or concentrating on a very specific topic in both organisational and social theory. The more important of these theories are mentioned and placed in their context but not explained in great detail. This restraint became necessary to simultaneously do justice to the enormous body of literature available and the need for keeping to relevant theoretical explanations. The following chapter will hence concentrate on a review of the literature in the areas of organisational theory, evolutionary game theory, a review of Bourdieu's work on societies and the use of language, systems theory, and classical and contemporary social theory.

2.2 The use of metaphors in the organisational literature

Metaphors are firmly embedded within the organisational literature. The first conscious use of metaphors in organisational literature can be found in Kurt Lewin's work in 1946. His research into group dynamics, inter-personal relations and survey feedback has laid the foundation on which modern organisational research has been built. Lewin used in particular two models that are widely cited (Lewin, 1951). First, the use of 'unfreezing-change-refreezing' to convey a particular approach to organisational change relies on metaphor. Second, the development of 'force-field analysis' – a technique for plotting the tension between the driving and restraining forces of organisational change - has definite metaphorical connotations. Organisations have been described as analogous to: machins and organisms (Burns and Stalker, 1961), garbage cans (Cohen et al, 1972), icebergs (Selfridge and Sokolik, 1975), brains and psychic prisons (Morgan, 1986), and soap bubbles (Tsoukas, 1993). Pinder and Bourgeois (1982) argue that a metaphor merely represents a fanciful literary device. Conversely, it has been argued that their role extends beyond acting as a form of figurative embellishment. Morgan (1986) states that they provide ways of seeing and thinking about organisations. He argues that many of our conventional ideas about organisation and management build on a small number of taken-for-granted images, especially mechanical and biological ones. Metaphors have been used to characterise not just organisations as a whole, but also fields of organisational practice, including strategic planning (Morgan, 1993), structure (Peters, 1992; Morgan, 1993), organisation culture (Brink, 1993), organisational change (Lundberg, 1990; Morgan, 1993), and others.

The use of a metaphor in the context of organisational research goes away from more traditional methods of describing organisations and interaction. More traditional approaches, especially in the field of economic theories, have resulted often in prescriptive stage models and step-by-step guides. These treatments of organisational development tend to take a highly descriptive stance. Arguably, insufficient attention has been paid to questioning some of

the underlying assumptions on which the descriptive paradigm is built. In adopting a metaphor approach to explaining organisational phenomena it is hoped that in this thesis 'why' questions are addressed as opposed to the more prescriptive, positivist 'how' questions found in some of the traditional organisational literature. Limitations of this metaphor approach can be identified in its usefulness to management. A prescriptive, step-by-step description is much easier to follow that a metaphorical exploration into organisational issues. Managers that acknowledge the value of metaphors are faced with two key issues. First, where a plethora of negative images is used to describe their organisation, managers are faced with the task of identifying appropriate actions that they might take. But, since metaphors are experientially based, it is unlikely that simply proposing a new metaphor will significantly alter perceptions unless this accompanied by a series of changes to management and organisational practice. Metaphors that express a future desired state may be deemed visionary, but whether they are transformational depends on their becoming embedded through some preceived consistency with organisational practice. A metaphor must resonate with the experience of the person trying to apply it. Second, managers are likely to be confronted by the limits of their actions within organisational settings. Even where a particular metaphor is adopted, this can be insufficient to bridge the cognition-action gap. In order to address the limitations of the use of a metaphor for the explanation of organisational phenomena, a list of recommendations for managers has been added to this thesis. It is hoped that the mix of 'why' questioning through the use of the metaphor and the prescriptive interpretation of the results into a 'how' section for managers might go some way to alleviate the limitations of the use of metaphors. In the end, however, it is down to the reader using the metaphor of social resonance to display a degree of astuteness about the patterns of power and influence in the fields they work in.

2.3   The term 'resonance' and its use in the literature

As already stated in the introduction to this chapter, an extensive textual analysis of articles in about 2,400 journals and magazines over 20 years has been carried out. The analysis can broadly be divided into general business literature and social science literature. General business literature was identified using the ABI Inform database. Social science literature was identified using the Sociofile database. Aim of the textual analysis of abstracts was to establish a.) the use of the word "resonance", identify b.) the interpretations of the word, and classify c.) the degree of specificity or definition.

Both ABI Inform and Sociofile were searched using specific search criteria to filter out all articles that used the word "resonance" in a technical or physical sense and not related to the social world.
This included:

- Medical,
- Magnetic,
- Chemical, and
- Electrical resonance

as well as the use of the term in the context of

- Neural network(s),
- Engineering, and
- Aviation.

The remaining article abstracts were downloaded and analysed using simple interpretation and coding as well as counting methods, a mix of qualitative and quantitative methods. The author recognises, that the result of this analysis is subjective as far as the interpretation of the meaning attributed to "resonance" by various authors is concerned, and the subsequent clustering of identified meanings into families of meaning.

The search retrieved a total of 52 article abstracts from the Sociofile database and 16 article abstracts from the ABI inform database. Narrowing the analysis down to the article abstracts obviously neglects the possibility that the word "resonance" has been used in articles, but not in abstracts, a further limitation of the analysis. After a first scan of all abstracts, it was found that two abstracts from Sociofile and one abstract from ABI inform slipped through the filter, despite having a technical background, and were subsequently eliminated. The remaining abstracts were analysed by reading the abstract and coding the use of the word "resonance" in each abstract. The following variables were recorded:

- Interpretation in context (coded and citation)
- Focus of interpretation (individual, group, organisation, society in general)
- Degree of specificity or definition of "resonance"
- Year of publication
- Name of magazine
- Type of magazine (library code)

The first initial coding of the abstracts revealed 10 families of interpretation or meaning. They were in no particular order:

Resonance to/with:

(0) Morphic resonance (motor fields)

(1) event(s), process(es), action(s)

(2) oral (voice, medical)

(3) identify with, style(s)

(4) cultural, ideals, beliefs (unformed, formed), ideas, ideologies, myth, symbols, perceptions, assertions, desirability, ethics, morals, values

(5) theory, model, concepts, someone's work, writing

(6) personal (person to person)

(7) frame (organisational + ideological context), structure

(8) experience, history, circumstances of life

(9) semantic, language

(10) aura, aural

Table 3 Frequency of Code (Interpretation) Families

Code	Frequency	Percent (rounded)	Cumulative Percent
0	2	3	3
1	5	8	11
2	4	6	17
3	4	6	23
4	25	38	61
5	10	16	77
6	4	6	83
7	2	3	86
8	6	9	95
9	1	2	97
10	2	3	100
Total	65	100	

From the table above it can be seen that most writers (71%) in the social field interpret resonance to be related to fields (1), (4), (5), or (8).

Table 4 Focus of "resonance"

Focus of "resonance" (individual, group, organisation, society general)	Frequency	Percent (rounded)	Cumulative Percent
(0) no focus	9	14	14
(1) individual	22	34	48
(2) group	18	27	75
(3) organisation	1	2	77
(4) society in general	15	23	100
Total	65	100	

From table 2 it can be seen that 34% of writers connect "resonance" with the individual, 27% with a group or groups, 23% with the society in general, and only 2% relate it to an organisation.

Table 5 Grade of specificity or definition of "resonance"

Grade of specificity	Frequency	Percent (rounded)	Cumulative Percent
(0) None	45	69	69
(1) Vague	14	23	90
(2) Concept	2	3	93
(3) Metaphor	1	2	95
(4) Model	1	2	97
(5) Theory	2	3	100
Total	65	100	

90% of writers use the word "resonance" without definition or explanation of any kind merely to make use of the word-association (see table 1). This is particularly evident in marketing literature, where the word "resonance" is often used to describe a consumers' response to an advertisement. There were two theories of resonance: (1) morphic resonance and (b) one of four parts of an economic multiplier effect theory. Both authors, Arden M. (1988) and Stefanov (1977), have defined "resonance" in scientific terms, but not in sociological terms, although the biological theory of morphic resonance bears interesting features to be adapted in the metaphor of "social resonance".

As a result of the textual analysis of article abstracts mentioning the word "resonance", it can be said that most writers associate "resonance" with the individual, groups or the society as a whole. The great majority of the writers use "resonance" in a totally unqualified manner. When "resonance" is used to describe an outcome or reaction, it is mostly connected to beliefs, ideals, ideologies as one family of interpretations; theories, models and writings (e.g. the bible) as another family of interpretations; experiences or history as a third family of interpretations; and events, processes or activities as a fourth family of interpretations. Figure 1 illustrates possible families of interpretations and their potential interconnectedness leading to a **multidimensional interpretation** of stimulus.
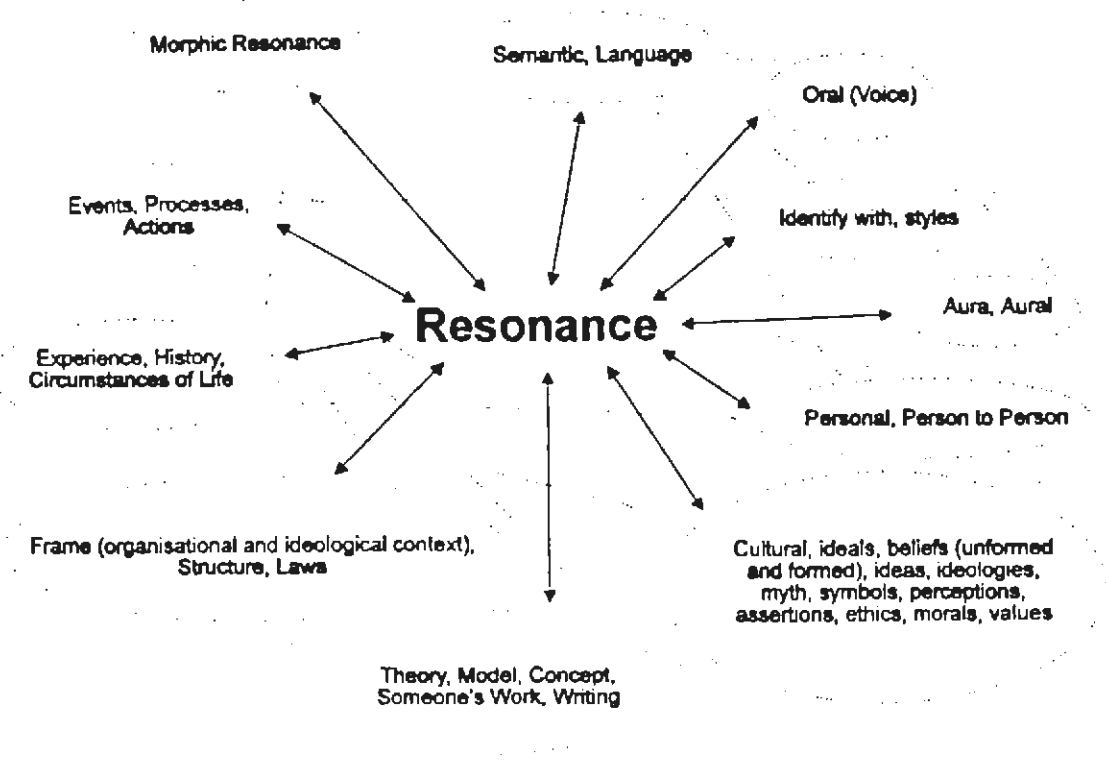
Figure 2 Dimensions of Resonance

These families of interpretations are the author's way of clustering the interpretations. It is recognised that readers may want to cluster the interpretations differently, or indeed add other interpretations.

In summary, it can be shown that the term resonance is used in the literature. However, its use is mostly outside a theoretical framework. The term resonance is most often used as a metaphor to describe or conjure up images of different forms of responses to stimuli. As such, the use of the term resoance is very much in line with the author's use as a metaphor. When used, the term refers to responses to a great variety of stimuli, leading the author to the formulation of resonance as a response to multidimensional stimuli, whether observed or observable or not.

2.4 Economic Theory

2.4.1 Introduction

Nearly all disciplines of social science have, at one stage or another debated the influence of social norms, cultural evolution, and rational behaviour on outcomes predicted by their respective theories. The fields of social science most notably discussing societal impacts on their theories are the fields of organisational studies, the fields of psychology, sociology, anthropology, and economics. The area of economics, which will be discussed in this chapter of the literature review, has more recently seen great advances in incorporating social theory into their theories. This is no more apparent than in the area of game theory. Economics traditionally took a deterministic stance on human behaviour. Most researchers understood and still understand human beings as actors playing out roles (especially so in neo-classic economics) perfect rationality an important assumption; outcomes of the actions and decisions of such actors were seen to be predictable and repeatable. The introduction of game theory in the early 1950's (Nash, 1951) allowed economists for the first time to discuss more unpredictable scenarios, taking human behaviour into account. Game theory still did not allow for the discussion of complex social phenomena. Recently advances in game theory have enabled economists to discuss economic phenomena in the light of social theory. Evolutionary game theory developed as a response to the main criticisms of traditional game theory.

The purpose of this chapter is to examine evolutionary game theory as a tool for analysing issues on diversity, interaction, and evolution of social systems and to discuss some of the results obtained in the field. Since the main thesis is not of an economic nature, the literature review is very selective in coverage of evolutionary game theory. The author has identified those papers that he perceives relevant for the discussion. The reader should be aware of the limits of this review as a survey. This paper is written by and for non-game theorists. Definitions and notation are sometimes a little imprecise in order to increase accessibility of the review.

Evolutionary game theory has been developed by those that cast doubt on the idea of perfectly rational agents, which has been widely assumed in the study of human economic behaviour. Nash equilibrium was first proposed in 1951 (Nash, 1951). Its refined concepts have been used by many researchers to capture the behaviour of perfectly rational players. As Nash equilibrium was refined by researchers over time, it became clear that the study of perfect rationality would not lead to an understanding of human behaviour (Matsui, 1996). Evolutionary game theory does not necessarily require agents to be "rational" and puts more emphasis on what has been established in a society. At this moment in time, evolutionary game theory remains at the stage of theoretical development without much application. The aforementioned feature indicates its potential usefulness in the study of different social systems. Crawford (1991), Hammerstein and Selten (1993), Mailath (1992, 1993, 1995), and van Damme (1987, 1994) should be read in detail to understand the current state of play in evolutionary game theory.

2.4.2 Social Norms and Rational Behaviour

Evolutionary game theory is important in the analysis of social systems. Issues on culture and social norms have been discussed extensively in the social sciences. Different disciplines view the issue from different perspectives. Social Norms are often viewed by sociologists as orientations by which individuals are guided. An orientation becomes a social norm if most members of that society share in it. From an economist's point of view, a social norm is sometimes considered as an equilibrium. Elster (1989) writes:

> "One of the most persisting cleavages in the social sciences is the opposition between two lines of thought conveniently associated with Adam Smith and Emile Durkheim, between *homo economicus* and *homo sociologicus*. Of these, the former is supposed to be guided by instrumental rationality, while the behaviour of the latter is dictated by social norms. The former is

'pulled' by the prospect of future rewards, whereas the latter is 'pushed' from behind by quasi-inertial forces."

Evolutionary game theory sheds light on this dichotomy. A typical model in this field assumes inertia. It takes time to adjust one's behaviour. But agents are not blind followers of customary behaviour. They adjust their behaviour as the environment changes, and the environment in turn is changed by human behaviour. Agents are "'pulled' by the prospect of future rewards and, at the same time, 'pushed' from behind by quasi-inertial forces."

Elster defines social norms by the feature that they are not outcome-oriented. The simplest norms are of the type 'Do X', or 'Don't do X' (p. 98). In the context of evolutionary game theory, social norms defined this way are viewed as the major force which makes individuals keep their past mode of behaviour. Two forces cause changes in behaviour patterns. The first is outcome-oriented behaviour, and the second is random shock. A simple example of outcome-oriented behaviour is expressed as 'Do X if X leads to Y'. Outcome-oriented behaviour includes rational behaviour; the former by no means implies the latter. The other force of change is random shock, often referred to as mutation. Sociologists often call those who induce random shock deviants instead of mutants. In sociology, deviants are those that do not conform to the social norms established in the society they live in.

Evolutionary game theory is useful in studying the diversity, interaction, and evolution of social systems. Social customs are often formed because co-ordination of behaviour is called for. Without social norms, the author would argue, a society will experience social disorder almost by definition (see literature review on social theory and organisational: here social norms). Every society has its own set of norms. In many situations, co-ordination on one behaviour is more important than which behaviour is actually taken. In such a situation, multiple equilibria arise. With multiple equilibria equilibrium selection becomes an issue[10]. Since history is an explicit factor in evolutionary game theory, it has the edge over traditional game theory.

---

[10] The purpose of equilibrium selection is not necessarily to select a single outcome no matter what the history may be. Rather, its purpose is to shed light on the mechanism by which an equilibrium is selected.

2.4.3   The development of evolutionary game theory

2.4.3.1 Nash equilibrium

In 1951 Nash proposed a solution concept, now known as the Nash equilibrium. A strategy profile is called a Nash equilibrium of no player has a strict incentive to deviate from the designated strategy given that other players will follow their prescribed strategies. Among the various interpretations of Nash equilibrium (see Aumann, 1987; Binmore, 1987, 1988; Kaneko, 1987), Nash seems to adopt the rationality interpretation (which corresponds to the eductive processes in Binmore's terminology). Players are sufficiently rational to be able to analyse a one-shot game to be played. In his paper, Nash identifies a class of games in which the equilibrium analysis is more valid than in the rest (Nash solvability), and proposed its refinement (symmetric solvability). Both Nash solvability and symmetric equilibrium are motivated by the rationality interpretation (Matsui, 1996). A game is said to be Nash solvable if each player is indifferent between his actions as long as other players take equilibrium action. No selection problem arises, and all players can play optimally if Nash's theory is believed, and if such a belief is common knowledge.

Nash defines symmetric equilibrium as a Nash equilibrium such that the same probability is assigned to any symmetric pair of actions. This notion is based on the observation (Nash's) that any identical actions, as well as any identical players, should be treated equally. Symmetric equilibria always exist. The following is an example of such a symmetric equilibrium game. In this game[11], every pair of actions is symmetric. The probabilities attached to T, B, L, and R must be the same. The only equilibrium that satisfies this requirement is the mixed strategy

---

[11] Known as a pure coordination game

Game I

A Pure Co-ordination Game

	L	R
T	1,1	0,0
B	0,0	1,1

Symmetric equilibrium is best understood in a situation where players play this game for the first time. Players who have not played this game before have no reason to distinguish between T and B. As a result, they end up playing the mixed strategy equilibrium. This equilibrium is least likely to sustain itself if the game is repeated in a large population since the behaviour pattern tends to move away from it if the strategy distribution fluctuates a little in either direction L or R. Evolutionary stable strategies (ESS) are {[T], [L]} and {[B], [R]} (see Maynard Smith and Price, 1973).

2.4.3.2 Evolutionary stable strategies

When discussing equilibrium refinement, one sets forth requirements that each equilibrium should satisfy. In such an attempt, some adjustment process is implicitly or explicitly considered. In equilibrium theory, it is unclear what forces induce an equilibrium. Binmore (1987, 1988), among others, considers the problem of classifying adjustment processes into two categories, eductive processes and evolutive processes. According to Binmore, eductive processes occur in notional time and require sufficient knowledge and ability of players to analyse a game prior to play. The game is repeated only once. An example of eductive processes is backward induction. Evolutive processes occur in real time. A certain situation is repeated many times, and players are not necessarily sophisticated enough to analyse the game. They adjust their behaviour gradually over time according to some rule. The dynamical processes considered in evolutionary game theory are close to evolutive

process. One has to point out though that there is no clear definition of "evolutionary game theory".

For the discussion of ESS the author will confine his attention to a two-person random matching model. A society is considered that consists of many (often anonymous) agents who are randomly matched to form pairs and play two-player games[12]. It is also assumed that agents are anonymous, and that any matched agents will never be matched in the future. When considering such a society, a description of the game is not sufficient to specify the situation. There are two classes of matching situations to be considered. The first is the class of situations in which two players are chosen from the same pool of individuals. The second class consists of situations in which two different types of individuals, such as male and female, are matched. The former is called a matching of type M^1, the latter a matching of type M^2. In 1973, Maynard Smith and Price proposed evolutionary stable strategies to capture stability of biological adjustment processes. To illustrate their theory, consider a matching of type M^1. The payoff matrix is often called a fitness matrix in evolutionary game theory. The first number in a payoff matrix is the fitness level of an agent who takes the corresponding row and faces an opponent taking the corresponding column. A strategy distribution $\sigma \in S$ is an equilibrium stable strategy (ESS) if for all $\tau <> \sigma$

$$(1) \qquad \Pi(\sigma, \sigma) \geq \Pi(\tau, \sigma)$$

Game II

2.4.3.3 The Hawk-Dove Game

	D	H
D	2,2	1,3
H	3,1	0,0

---

[12] The term "random matching" will be used loosely. Judd (1985) points out that formalizing this process poses an obstacle. The law of large numbers is difficult to consider in economic models since economists would like to measure fractions of people playing certain strategies, which are often endogenously determined.

and

$$(2) \qquad \text{II}(\sigma, \sigma) = \text{II}(\tau, \sigma) \text{ implies } \text{II}(\sigma, \tau) > \text{II}(\tau, \tau)$$

Condition (1) requires than an ESS is a Nash equilibrium, which is often called a symmetric Nash equilibrium in evolutionary game theory, different from the symmetric Nash equilibrium of Nash (1951) discussed earlier. Conditions (1) and (2) together imply that if a small fraction of mutants τ invade the original population σ, the original population is strictly better off than the mutants in a mixture of σ and τ. The concept is used to analyse a match such as the one given in Game II (Maynard Smith and Price, 1973). If the strict inequality in (2) is replaced with a weak inequality, then the definition of a weak ESS (Thomas, 1985) is obtained. In the sequel, the same action set for the row and the column players are used in M1, but different sets in M2. In this game, the action H yields a very high payoff if the opponent concedes to play D. It leads to a disaster if the opponent also plays H. D is a safe strategy, but it is exploited by the opponent playing H. In such a game neither H or D can be stable by itself. In the population consisting of H, agents harm each other, and playing D will be paid off in such a situation. While in the population consisting only of D, an opportunist plays H and exploits other agents. The unique ESS in this game is ½ [H] + ½ [D].

ESSs do not necessarily exist. Consider a match M1 with its game given in Game III. This game has two identical actions, L and C. Since they are identical, every strategy distribution is invaded either by L or C.

Game III

A game with redundant strategies

	L	C	R
L	2,2	2,2	0,0
C	2,2	2,2	0,0
R	0,0	0,0	0,0

If a redundant strategy C is eliminated, there is a unique ESS [L]. This is not a desirable result, since a redundant strategy should not change results in a substantial way. One way to cope with such a drawback is to consider a set-valued concept. Thomas (1985) introduces the concept of an evolutionary stable set. A closed set $F^* \subset \mathcal{S}$ of Nash equilibria, i.e. strategies that satisfy (1), is an evolutionary stable set (ES set) if for all $\sigma \in F^*$, there exists a neighbourhood $U(\sigma)$ such that for all $\tau \in U(\sigma)$,

$$II(\sigma, \sigma) = II(\tau, \sigma) \Rightarrow II(\sigma, \tau) \geq II(\tau, \tau),$$

where equality holds only if $\tau \in F^*$. Thomas's ES set is a closed set of weak ESSs that is only robust against mutation outside the set in the sense of (2). By making the concept set-valued, one avoids the problem associated with redundant strategies, but existence still cannot be assured.

2.4.3.4 Deterministic Dynamics

Evolutionary game theory has overcome a problem of some earlier attempts on learning by considering a large population in which each individual is naturally treated as a price/behaviour taker. For example, the study of fictitious play was discouraged when Shapley (1964) presented an example in which the adjustment process does not converge to a Nash equilibrium in a 3-

by-3 game, but rather forms a limit cycle[13]. It was discouraged because the very program of fictitious play was to construct an algorithm which converges to Nash equilibrium and hence to justify it. On the other hand, such a cycle is viewed as a natural consequence of the dynamics (Gilboa and Matsui, 1991). Matches other than those of the form M1 are not considered in the above framework. If one views the game as one of survival of individuals or genes, the number of individuals changes as time changes. When more than one type is considered, there is no guarantee that the relative size of the two groups will remain the same since it may happen that one group flourishes more rapidly than the other, which will change the structure of the matching. This requires a new matching technique, which requires a new model. There have been some attempts to study asymmetric contest such as territorial contests between an incumbent and an intruder. To fit the problem into the framework of evolutionary stable strategies, Selten (1980) considers a situation where each agent will play the two roles probabilistically, and two opponents always have different roles in each contest. He lets behaviour strategies represent the strategy distributions of the society and applies ESS to the match. He shows that any ESS is a pure strategy. The intuitive reason for the instability of a proper mixed strategy can be seen in the fact that it is always possible to find an alternative best response that is different from the original strategy only for one role.

In social evolution, one does not necessarily have to worry about the above problem of asymmetry since an underlying story is that people change their strategies to better ones without changing the size of the population. Therefore, one can assume that the entire population is fixed.

Another example of a deterministic dynamics model is that of cyclical stability proposed by Gilboa and Matsui (1991). Its interpretation is that only small and equal fractions of individuals of each type recognise the current behaviour pattern and change their strategies to those that are a best response to it. The best response dynamic in Gilboa and Matsui's model is different from the replicator dynamic proposed by Selten in that only the best responses

---

[13] In the process of fictitious play, each player takes a best response against the opponent's averaged strategy of the past. This process is called 'fictitious' because the process is supposed to occur in the

increase their frequency in the former, while any better response increases its frequency in the latter. The former assumes intelligent agents who know their own payoffs and the present strategy (though they cannot calculate the future change in strategy distribution), while the latter assumes units of evolution which do not think or do not know their payoffs and/or the present strategy distribution of the society. If two agents in a contest are discernible, such as incumbent and intruder, a convention is formed to favour one type or the other. Cyclical stable states (CSS) always exist. This is possible only because Gilboa and Matsui abandon Nash equilibrium as a necessary condition for evolutionary stability. In relation to static concepts, Matsui (1992) shows that a modified version of the socially stable strategy is identical to the ESS of Swinkel (1992).

The two classes of adjustment processes, eductive and evolutive, are related to different philosophical ideas when rationality of the agents is concerned. The study of the former is influenced by the Cartesian cogito. Descartes (1637) tried to prove several things, among which is the well known phrase "I think, therefore I am," based on pure reasoning, and an important goal of the eductive argument is to find a reasoning process or a criterion of judgement which exists in the mind of a "perfectly rational" agent[14]. This is a central question asked in Kohlberg and Mertens (1986), who propose one of the most sophisticated equilibrium concepts based on "strategic stability". On the other hand, the evolutive processes are related to the idea expressed notably by Hume (1739). According to him, "All our reasonings concerning causes and effects are deriv'd from nothing but custom; and ... belief is more properly an act of the sensitive, than of the cogitative part of our natures." In evolutive processes, it is not a common prior but society that conditions people so that they come and share similar beliefs about certain events and co-ordinate their behaviour.

---

mind of the player. It should be noted that Vrieze and Tijs (1982) view the fictitious play as an actual adjustment process that occurs in real time.

[14] There are two streams of thought within eductive processes. One is objectivism, and the other is subjectivism. The former considers equilibrium as an objective entity, while the latter views equilibrium or its refinement as an ideal outcome existing in the mind of a player and does not ask whether it is "really" attained. Interpretation of the Cartesian cogito is closer to the latter than the

These two ideas have an important consequence when discussing the issues associated with cultural diversity. When one adopts an eductive process and tries to find a unique outcome (solvability is very important in an eductive process), one assumes that there is a single criterion of rationality. Even if players are not perfectly rational, their intellectual level can theoretically be measured by the distance from perfect rationality. This idea would provide one with a ranking of intellectual abilities as well as a single measure to arrange different cultures according to their superiority. If one adopts an evolutive process, there is room for focusing on historical factors in determining the present situation: different histories lead to different behaviour patterns and possibly different reasoning processes, which are not directly comparable.

2.4.3.5 Perpetual randomness

A seminal paper by Foster and Young (1990) and a subsequent paper by Kandori, Mailath, and Rob (1993) have shown that models with perpetual randomness can give very different results to deterministic dynamics models. Other related papers include Young (1993) and Fudenberg and Harris (1992). Like other work on evolution, Kandori, Mailath and Rob have adaptation and mutation as sources of adjustment in this environment.

The crude logic behind their model is the following (adapted from Matsui, 1996). Suppose that the current behaviour pattern is the risk dominant equilibrium. If the number of mutants in a certain period is less than 2N/3, then the deterministic dynamics brings the system back to the original equilibrium with high probability. It is only when the number of mutants exceeds 2N/3 that the deterministic dynamics moves the system away from it. In this case, the system goes to the risk dominated equilibrium with high probability. On the other hand, only N/3 mutants are needed to go to the risk dominant equilibrium from the risk dominated equilibrium. The risk dominant equilibrium is much less likely to be upset than the risk dominated equilibrium.

The model by Kandori et. al. has been followed by various writers. Elison considers local interaction (Elison, 1993), Bergin and Lipman (1994) study

---

former. If all players have the same cogito, then they end up playing a Nash equilibrium, or at least they believe they do.

state-dependent mutation, and Matsui and Rob (1994) consider non-myopic human behaviour.

Ellison considers a neighbourhood structure and focuses on a contagious process by which a particular action spreads in the society. The simplest example is explained as follows. Consider a circle on which finitely many players are located. Each player meets with his immediate neighbours (there are two of them) and plays a game of common interest.

Game IV

The Game of Common Interest

	L	R
L	4,4	0,3
R	3,0	2,2

Note that if at least one of the neighbours plays R, then he is willing to play R, too, since R risk-dominates L. Suppose now that the initial distribution is {L, L, ..., L}. In this distribution, suppose that two neighbours mutate to R simultaneously. The system changes to

$$\{L, ..., L, R, R, L, ..., L\}.$$

After this, a contagion process starts. If there is no further mutation, the system becomes

$$\{L, ..., L, R, R, R, R, L, ..., L\}$$

in the second period after the mutation. The two neighbours of the original cluster switch to R. In the tth period after the mutation ($t \leq N/2$), the system becomes

$$\{L, ..., L, R, ..., R, L, ..., L\}$$
$$\text{(The number of R = 2t)}$$

This process continues until the distribution becomes {R, ..., R}. On the other hand, from {R, ..., R}, it takes N mutations to reach {L, ..., L}. It is much easier to attain and sustain the risk dominant equilibrium in the modal with local interaction than in the model with global interaction. This enhances the strength of the risk dominant equilibrium.

While the result of Kandori, Mailath and Rob (henceforth KMR, 1993) favours a risk-dominant equilibrium, Bergin and Lipman claim that in a uniform matching case, it depends on the specific rates of mutation that KMR assume. They consider a model with state-dependent mutation. They show that for any strict Nash equilibrium there exists a sequence of profiles of mutation rates such that the equilibrium is a long-run equilibrium.

If patient players are introduced, a different result can be obtained. Matsui and Ron (1994) construct a continuous time model in which a switch of action depends on a player's belief about the future. The following explanation is a mixture of their work and a subsequent work by Lagunoff and Matsui (1995).

In their model each player is replaced by the next player according to a Poisson process. When a newcomer comes into the society, he/she adopts some belief about the future path of behaviour patterns. Based on such an expectation, he/she takes the action that maximises his expected discounted payoff and he/she commits to it for a while. A player cannot change his action at any time, but has to wait for his revision opportunity, which arrives stochastically. If people believe that others choose L no matter what, they are willing to switch to L provided they are sufficiently patient and place a high weight on the distant future. The risk-dominant equilibrium is upset. Likewise, if players believe that others will choose R, then it is the unique best response to chose R. Therefore it is the belief system that determines the long-run outcome. If, in addition, one restricts belief formation so that each player believes that the situation that has continued for a long time will continue for a long time unless he/she him/herself switches his/her action, then {L, ..., L} will be the global absorbing state of the system.

2.4.3.6 Communication

The role of communication in a strategic setting has attracted the interest of many researchers. In co-operative game theory, unlimited communication, together with binding agreement, is assumed to lead to a Pareto efficient outcome. In spite of a wide variety of treatment of communication, one thing common to all of these analyses is that credibility of messages is fixed exogenously, and there is no room for discussing questions such as why and when a message has meaning.

To see the problem with a fixed degree of credibility of messages, one might consider the game of common interest given in Game IV. In this game, it is somewhat doubtful that the Pareto efficient outcome, {L,L} is always chosen when {R, R} is expected. If the row player wants to make a joint deviation to {L, L}, he must persuade the column player that he plans to take L with a probability of at least one half. Even if he is not sure whether she will be persuaded, he always gains by the persuasion if he sticks to R. Knowing this she might conclude that it is safe playing R. Hence, cheap-talk is not credible. On the other hand, if it is common knowledge that the column player thinks the persuasion credible, then the row player is willing to persuade her and play L. Therefore one must arbitrarily assume a certain degree of credibility of cheap-talk in refining equilibrium. It will be shown that if one adopts a societal-dynamics perspective, a high degree of credibility is attained, rather than assumed, in the course of a movement of the behaviour pattern. Matsui (1991) considers a random matching model in which two agents play a reduced normal form game of the following two-stage game.

In the first stage of each game, type 1 and type 2 players simultaneously announce (intent to take) either "L" or "R". In the second stage, knowing the announcement of both players, they simultaneously take either L or R. Each individual has five information sets. The payoff to each individual is solely determined by the actual action pair in the second stage.

Matsui (1991) shows that in this game, there exists a unique CSS (cyclical stable state), which consists of strategy distributions whose second stage outcome is {L, L}. Its logic is roughly explained as follows. Suppose that the

initial behaviour pattern is such that all the players announce "R" in the first stage and take R in the second stage no matter what is announced in the first stage. This strategy is a best response to itself. Then some people start trying a new strategy which prescribes "L" in the first stage, and L in the second stage if both have announced "L", and R otherwise. By adopting this strategy, a player gains four if he meets a person with the same strategy and gains two if he meets a person taking the original strategy. This strategy fares better than the "cheating" strategy, according to which one announces "L" and then takes R in the second stage no matter what has been announced. Once the new strategy prevails, taking R in the second stage can never be prescribed by a best response strategy. The logic of departing from an inefficient outcome is the same as that used in the "secret hand shake" by Robson (1990). In a related paper, Kim and Sobel (1992) use a static evolutionary concept called equilibrium evolutionary stable set (first proposed by Swinkel, 1992), to develop this theory further. Van Huyk, Battalio, and Beil (1993) have carried out similar experiments.

2.4.4 Biological evolution versus social evolution - an economics perspective

Though the author is not in a good position to discuss biological evolution, some mention has to be made of it and its relation to social evolution. For an extensive survey concerning biological evolution, see Hammerstein and Selten (1993). In biology, the term mutation is used in a limited way. Mutation means a change in part of a genetic code through some shock, error, or otherwise, the mechanism of which has been discussed extensively. Darwin claimed that natural selection is the source of evolution. Genetic mutation is added to this story to form a basic structure of the mainstream theory of evolution.

While many biologists hold that natural selection and mutation are very important in evolution, the theory of evolution is far from solid. One of the most important questions asked is: What is the unit of selection when we consider evolution? Here, the biologists distinguish genotype from phenotype. A genotype is a genetical type of an individual, while a phenotype is its

manifestation, i.e. what an individual appears. In evolution of genotype, Kimura (1968) set forth the idea of the neutrality hypothesis of molecular evolution. According to him, neutral mutations, the mutations that do not increase their chance of survival, are observed far more frequently than the mutations that benefit the individual: survival of the luckiest as opposed to survival of the fittest. This idea was not accepted in the beginning, since selectionism in a very strong form prevailed around the 1960s. Later experiments showed that mutations in less important parts of the DNA occur far more often than those in important parts, which basically shows that genetic drift is a common phenomenon. In 1967, Dawkins set forth the idea of the selfish gene. According to him, we organisms exist for genes' preservation, and organisms are nothing but programmed vehicles to convey genes. Later, Dawkins (1982) further relativates the importance of organisms by introducing the concept of the extended phenotype.

Within the time span considered in the social sciences, neither the gene nor the individual organism is the most important unit of change. When analysing societal evolution, one usually takes man's biological capacities as given and analyses the evolution of their knowledge, behaviour, and institutions. In social phenomena, the problem of unit selection is no less important than in biological evolution. Since in human society knowledge can be shared, people can co-ordinate their behaviour through various channels of communication, and institutions serve as co-ordination devices[15]. Generally, the individual is seen as the most important unit of selection, and it has not been proven very productive to assume the existence of such an entity as the will of society[16].
Another important aspect of societal evolution is the difference between utility maximisation and maximisation of the rate of survival. In most researchers' writings, the discussion has been divided into firms' behaviour and human behaviour. In firms' behaviour, some economists such as Friedman (1953) argue that firms maximise, or at least behaved as though they maximised their profits; for if not, they would be driven out of the market. In other words, in a

---

[15] Biology also considers group selection. See the kin selection theory of Hamilton (1964), who argues that altruistic behaviour emerges to increase the fitness level of the kin as opposed to each individual.
[16]

market with free entry, profit maximising behaviour is the fittest. This argument has been critically examined by others, including March and Simon (1958), and Nelson and Winter (1982). Recently, Blume and Easley (1992) constructed a dynamic model of asset accumulation in which several agents hold some state-contingent claims to maximise utility from a sequence of consumption. The performance of an agent is evaluated by his long-run share of asset holding. In this world, a risk neutral agent is not the fittest. If an agent is risk neutral, then he puts all of his assets in the contingent claim that gives the highest expected return. The agent will loose all his assets in the long run with probability one. It turns out that, other things being equal, the logarithmic utility function will maximise the rate of survival.

In human behaviour the relation between utility maximisation and maximisation of the rate of survival is less obvious. Here, a question is whether the utility maximising behaviour is derived from an evolutionary process, and it is doubtful that the answer to this question is in the affirmative. A bigger issue is seen in the difference in birth rates between developed and developing countries. There is a marked difference in the reproduction rates between the two groups of countries: the former has lower reproduction rates than the latter. Given that developed countries enjoy higher per capita income than developing countries, there is a discrepancy between utility maximisation and evolutionary pressure. It is not very promising to justify a particular form of utility based on evolution. See Dekel and Scotchmer (1992) and Banerjee and Weibull (1991) for related discussions.

2.4.5   Social Norms and evolutionary game theory

The evolution of social norms has been discussed among others by Binmore and Samuelson (1992), Fudenberg and Maskin (1990), and Carmichael and McLeod (1994). All of these works are based on a similar physical set-up. They all consider M1 where a matched pair plays some version of a repeated game. They then apply some concepts of evolutionary stability. Carmichael and McLeod are somewhat different from the first two papers in that they introduce an additional structure that allows people to dissolve the match they

form if they wish to do so. Since Carmichael and McLeod's work is most closely related to the formation of social norms, the author will mainly discuss their contributions in here.

Carmichael and McLeod (1994) investigate the reason why gift exchange, an inefficient form of reciprocity, is widely seen in the real world. In their model, matched players play a two stage game in which players have the option of either sending a costless message or giving a costly gift to their opponents before they actually play a prisoners' dilemma game.

Game V

Prisoners' Dilemma

	C	D
C	3,3	0,4
D	4,0	1,1

After each two-stage game, players simultaneously choose to continue their relation or to separate. If either player decides to separate, they separate and go back to the original pool of individuals. Also, a fraction of the population dies and is replaced with unmatched agents. They show that the unique weak ESS (stable equilibrium in their words) prescribes that players exchange gifts and co-operate. The logic behind the result of eliminating inefficient outcomes is the same as that used in the cheap-talk game. After sending an unused message, a player co-operates if he happens to meet another player who uses the same new message. These mutants spread in society as they yield higher payoffs.

On the other hand, inefficiency of gift exchange is needed to sustain co-operation. If every player co-operates from the beginning without exchanging gifts, then a mutant (parasite in their words) who sends the same message as the rest of the population, defects, and separates, enters a society to destroy co-operation. Exchange of inefficient gifts is necessary to sustain co-operation.

2.4.6   Interaction of Cultures

Many writers have described the observation of behavioural differences between cultures. In the science of economics and more precisely in evolutionary game theory the most notable contribution comes from Matsui and Okuno-Fujiwara (1995), who interpret the difference between cultures as a difference in the way different behaviour patterns dictate actions in various situations. They cite the example of team sports where a particular behaviour pattern is called for regardless of culture. They go on to say that in many real world situations there is no intrinsically obvious pattern of behaviour and

"Faced with such ambiguous situations, human beings try to identify what behavioural patterns would dictate, relying upon customs of their society and their own experiences."

Matsui and Okuno-Fujiwara simplify and formalise this story. In a society, there are a continuum of individuals who are boundedly rational and repeatedly face several conflict situations (games), some of which exhibit strategic complementarity.

The players, being boundedly rational, employ a general rule of thumb for decision making applicable to the entire set of games, instead of identifying the optimal strategy for each game separately. The players partition the entire set of situations according to the dictated actions, such as co-operation or competition that are called for in each situation. The behaviour of an agent in the society is described as a pair of partition of the entire situations and assigned moves to each element of the partition. A behaviour (a perception/action pair) is called a culture of the society if the majority of its members subscribe to that behaviour. A culture may or may not be in equilibrium.

An interesting question that is discussed by Matsui and Okuno-Fujiwara is what happens when societies with different prevailing cultures start interacting with each other. They show that people from the smaller society start adjusting their behaviour to the culture of the larger society. They cite the example of tribal lives in Africa modified extensively by Western culture. They

go further to speculate on the importance of the relative power and strength of the societies involved irrespective of the size (numbers) of the societies. They show that integration benefits agents in both societies if they start with "completely different" cultures, while each agent prefers to meet people from his own society. Therefore, according to them, if each agent can choose whom to meet, integration does not proceed, and no benefit of integration is internalised.

2.4.7 Summary of contribution of Economic Theory

It has been shown in the preceeding chapter that evolutionary game theory, a branch of economic theory, has contributed to the understanding of human decision making. In more recent times attempts to introduce social theory into economic theory has led to the formulation of many new theories in economics, namely the evolutionary game theories. Economics traditionally took a deterministic stance on human behaviour. Most economic researchers understood or still understand human beings as actors, playing out roles, with perfect rationality an important assumption. Outcomes of the actions and decisions of such actors were seen to be predictable and repeatable. Social theory, and particularly Bourdieu's theory of practice, however, state that the behaviour of human beings is not perfectly rational, and that responses to stimuli are not always the same for each human being and set of situations in which decisions have to be made. Bourdieu argues that responses from agents are time dependent, that is to say they vary with time, and based on an agent's feel for the game, or sense practique. Such a feeling for the game, or habitus, changes over time and with experience. Hence deterministic economic theory can not explain sufficiently the outcomes or responses to stimuli. The decision patterns are more unpredictable. In the early 1950s a new set of economic theories took shape. Nash developed game theory as a way to llok at more unpredictable scenarios using economic theory. At this juncture, game theory did still not allow for the explanation of complex social phenomena. But it can be said that game theory developed as a response to the inadequacies of traditional economic theory. Evolutionary game theory

has been developed by those that cast doubt on the idea of perfectly rational human beings or actors. Evolutionary game theory does not necessarily depend on the behaviour of human beings to be rational and puts more emphasis on what has been established in a society. At this moment in time evolutionary game theory remains at the stage of theoretical development with much application. Social theory has been taken on board, and attempts have been made to link social theories to economic theories. However, economic theory still depends on human beings or at the least systems of human beings or societies to be somewhat predictable or rational. Without a degree of probability of events occuring it becomes very difficult indeed to try and express theories of human behaviour in mathematical formulae. Bourdieu has shown in his theory of practice that the understanding of agents and their behaviour is very complex. Interpreting his theory, one might argue that a degree of probability can be assumed in predicting social behaviour or societies. However, since so many variables impact on the outcomes, it becomes almost impossible to describe those outcomes in a predictive fashion through economic theory. The preceeding chapter has shown that economic theory has contributed to the understanding of social phenomena, but is still hampered in its success by the inherent rationality in mathematical theory that lie at the heart of economic theory.

The next chapter will now look at Bourdieu's theory of practice, and will discuss his main contributions. It is hoped that it will become evident to the reader that Bourdieu's theory of practice throws some doubt over the validity of economic theory and its current ability to fully do justice to the complex phenomena that constitute the interactions of human beings in a society.

2.5 The theory of practice – habitus, field, and capital

2.5.1 An introduction to the concepts of habitus, field, and capital

The "social resonance" of individuals, groups and organisations is fundamentally a result of the conditions and complex interplay of habitus, fields, and capital within a social system. Since "social resonance" is constructed and interpreted in the context of the organisation as the system, the individuals and groups within it as the sub-systems, and the organisational environments as the super-system, it is necessary to define habitus, fields, and capital, concepts developed by Bourdieu as a result of his lifelong study of societies, in the context of the organisation. This chapter aims to introduce and explain the concepts of habitus, fields, and capital by reviewing and discussing Bourdieu's analytical model of societies, and to adapt these concepts to describe organisations as social systems. Finally, the aim is to tie these concepts in with the metaphor of "social resonance", and to describe "social resonance" as a result of the conditions of habitus, fields, and capital in organisations.

Pierre Bourdieu was born in 1930 in Bern. He studied philosophy at the Ecole Normale Superieure Paris before initiating his work in anthropology and sociology. He currently holds the Chair of Sociology at the prestigious College de France and is Director of Studies at the Ecole des Hautes Etudes en Sciences Sociales and director of the Centre de Sociologie Europeene. Since the 1970s he has become a major theoretical voice in the critical study of cultural practices. Randal Johnson as editor, introduces Bourdieu in his foreword to Bourdieu's book 'The Field of Cultural Production' (1993) as follows:

"Bourdieu's wide-ranging work cuts across established academic disciplines and provides a powerful and highly productive model for social analysis in diverse fields of activity. In the elaboration of his theory of practice he has written on linguistic exchange, the political uses of language, museum attendance, the social uses of photography, marriage rites and ritual exchange among the Kabyle and the social origins and trajectories of French

university students, academics and intellectuals, to mention only a few of the many areas he has addressed in over twenty books and hundreds of articles"

(Randal Johnson)

Bourdieu calls his way of describing societies as "genetic sociology" or "genetic structuralism". He combines an analysis of objective social structures with an analysis of the genesis, within particular individuals, of the socially constituted mental structures, which in his eyes constitute practice. In his own words:

"I wanted, so to speak, to reintroduce agents that Levi-Strauss and the structuralists, among them Althusser, tended to abolish, making them into simple epiphenomena of structure. And I mean agents, not subjects. Action is not the mere carrying out of a rule, or obedience to a rule. Social agents, in archaic societies as well as in ours, are not automata regulated like clocks, in accordance with laws they do not understand."

(In Other Words, p. 9)

He reintroduces, in his work, a notion of the agent through the concept of habitus. At the same time, with the concept of field, he grounds the agent's action in objective social relations. With this, he places his work in-between subjectivism and objectivism. Subjectivism, according to Bourdieu (1993), represents a form of knowledge about the social world based on the primary experience and perception of individuals, and includes such areas as phenomenology, rational action theory and certain forms of interpretative sociology, anthropology and linguistic analysis (see also Volosinov 1986). Objectivism on the other hand attempts to explain the social world by bracketing individual experience and subjectivity and focusing instead on the objective conditions which structure practice independent of human consciousness. It is found, according to Bourdieu, in many social theories, including Saussurean semiology, structural anthropology and Althusserian Marxism. His critique of both philosophical directions led him to the

formulation of his theory of the economics of practice. Although Bourdieu uses economical terminology, his theory cannot be reduced to economic theory. He merely uses economical terminology to illustrate his theory using language that he deems easier to comprehend.

2.5.1.1 The concept of habitus

The notion of habitus was conceived as an alternative to the solutions offered by subjectivism (consciousness and subject to name but a few), and a reaction against structuralism's 'odd philosophy of action' (Bourdieu 1993) which reduced the agent to a mere 'bearer (Trager: Althusser) or 'unconscious' expression (Levi-Strauss) of structure. He borrowed the notion of habitus from Scholastic philosophy (mainly Aristotelianism), but interpreted it differently. It attempts to account for the creative, active and inventive capacities of human agents. Bourdieu formally defines habitus as a system of:

"... durable, transposable dispositions, structured structures to function as structuring structures, that is, as principles which generate and organise practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary to obtain them. Objectively 'regulated' and 'regular' without being in any way the product of obedience to rules, they can be collectively orchestrated without being the product of the organising action of a conductor."

(The Logic of Practice, p.72)

The habitus is sometimes described as a 'feel for the game', a 'practical sense' (sens pratique) that inclines agents to act or react in specific situations in a manner that is not always calculated and that is not simply a question of conscious obedience to rules. Rather, it is a set of dispositions, which generates practices and perceptions. In Bourdieu's concept, habitus is a result of a long process of inculcation (instilling), beginning in early childhood, which becomes a 'second sense' or a second nature. The conception of habitus as

being 'structured structures' incorporates the objective social conditions of their inculcation. This leads to the notion of class habitus, as a result of similar habitae of agents from the same social class (see also Bourdieu 1984).

2.5.1.2 The concept of field

Agents do not act in a vacuum, but rather in concrete social situations governed by a set of objective social relations. To account for these situations or contexts, without falling into the determinism of objectivist analysis, Bourdieu developed the concept of field (champ). This concept is probably most fully developed in Bourdieu's (1971) work 'The genesis of the Concepts of Habitus and Field'. According to his theoretical model of practice, any social formation is structured by a hierarchically organised series of fields (the economical field, the political field, and the cultural field among others). Each field is defined as a structured space with its own laws of functioning and its own relations of force. Each field is relatively autonomous, yet structurally much the same as the others (homologous with). The structure of these fields is determined by the positions agents occupy within the fields at any given moment in time. This entails the idea that a change in an agent's position within a field changes the structure of the field. Bourdieu developed the concept of fields to accommodate the relational aspect of the social world. Each element of a system is to be seen in terms of its relationship to all other elements in the system from which it derives its meaning and function. In any given field, agents occupy the diverse available positions, or create new positions, and compete for control of the interests and resources that are specific to the field. The interests and resources are not always material (as they are in the economic field). And the competition amongst agents, in Bourdieu's eyes the universal invariant property of fields, is not always based on conscious calculation. For example, in the cultural field, competition often concerns the authority inherent in recognition, glorification and prestige. Authority based on prestige is purely symbolic and may or may not imply the possession of increased economic capital. To enter a field (the philosophical field, and the scientific field among others), one must possess the habitus that pre-disposes one to enter that field and not another. One must also possess

the minimum amount of knowledge, or skill, to be accepted into the field by the other agents already positioned within the field. Entering the field means attempting to use that knowledge, or skill, or 'talent' in the most advantageous way possible. One can liken the use of knowledge and skills to 'investing' one's capital (academic, cultural, symbolic, see next chapter) in such a way as to derive maximum benefit or 'profit' from participation. In each field, certain interests are at stake, even if they are not recognised as such. A certain 'investment' is made, even when it is not recognised as such. Without reducing these interests and investments to economics, they can be analysed in terms of an economic logic, yet although there is structural homology between fields, fields are not structurally identical and therefore any economic reductionism would miss the point.

2.5.1.3 The concept of capital

The third concept in Bourdieu's theory of practice is the concept of symbolic power or capital. These are diverse forms of capital, which are not reducible to economic capital. Academic capital, for example, derives from formal education and can be measured by degrees or diplomas held. Symbolic capital refers to the degree of accumulated prestige, celebrity, or honour and is founded on a dialectic of knowledge (connaissance) and recognition (reconnaissance). This condition for the existence of symbolic power has been referred to earlier in the introduction to this report. Symbolic power depends on other agents' knowledge of the capital and recognition of it as capital. For example, a status symbol (this could be a car, or a title among others) taken out of context, is no longer a status symbol either for lack of knowledge of agents about it being a status-symbol or for non-recognition of the status-symbol as a status-symbol. Another form of capital is cultural capital. This is probably the form of capital Bourdieu has developed most fully (Bourdieu 1984, Distinction) in his work. He defines cultural capital as a form of knowledge, an internalised code or a cognitive acquisition, 'which equips the social agent with empathy towards, appreciation for or competence in deciphering cultural relations and cultural artefacts' (Bourdieu 1984). He argues that 'a work of art has meaning and interest only for somebody who

possesses the cultural competence, that is, the code, into which it is encoded'. The possession of this code, or cultural capital, is accumulated through a long process of acquisition or inculcation which includes the pedagogical action of the family or group members (family education), educated members of the social formation (diffuse education) and social institutions (institutionalised education) (in 'Distinction', p.2). As with economic power or capital, the other forms of capital are unequally distributed among social classes and class fractions. Different forms of capital may be mutually convertible under certain circumstances, but they are not reducible to each other. For example, the proper kind and amount of academic capital may be convertible into economic capital, yet economic capital does not necessarily convert into academic capital, cultural capital or symbolic capital. Quite the opposite can sometimes be observed. Bourdieu calls the field of cultural production an 'economic world reversed', where a 'winner loses' logic might apply. Economic success might well signal a barrier to specific relationship capital or symbolic power. For example, a worker who becomes foreman suddenly finds himself on 'the other side'. It is important to notice, however, that Bourdieu's use of economic terminology does not imply any kind of economism or economic reductionism. In fact, he sees the economic field as simply one field among others. The idea that there are different kinds of capital, which are invested in different fields of activity in accordance with the specific interests of the field in question and of the agents involved allows Bourdieu to develop what he calls a 'general science of the economy of practices'. Within this science one can analyse *"all practices, including those purporting to be disinterested or gratuitous, and hence non-economic, as economic practices directed toward the maximising of material or symbolic profit"* (Outline of a theory of practice, p.183).

2.5.2 The concepts of habitus, fields, and capital in the context of the organisation

"It is up to the analyst to establish through research what the specific interests of the field are and what strategies of accumulation are employed by the agents involved."

(Bourdieu 1977)

The focus of this research project is to adapt and test the theory of practice in an organisational context. Organisations, for the purpose of this study, are defined as social systems, hierarchically structured into fields, themselves positioned in fields (economic field and ecological field among others), where social agents position themselves according to their habitus, and use their capital to maximise their material or symbolic power. The concepts of habitus, fields and capital have been developed in the previous section. Habitus pre-dispositions agents to 'invest' their capital in certain fields. In an organisational context one could say that employees position themselves within the organisation as best they can according to their pre-disposition. Different agents enter into different careers, according to their habitus and the structure of the field (or areas, departments, functions, and career among others), given by the positions of the other agents within that field. A minimum amount of capital (relationship, symbolic, cultural, academic) is required from the agent to be allowed to enter the field. In an organisation this could express itself, for example, in the recruitment and selection processes of departments, these processes themselves being part of the reproduction of the organisation. Once positioned in the field, the habitus of the agent adjusts to the field, hence positional habitus, as Bourdieu calls it. It can be observed, for example, that new employees quickly pick up a certain language (linguistic capital) characteristics, they learn to speak the language of the field. There is, however, a limit to this adjustment. The habitus is only adjustable to the extent to which the agent is capable of adjusting it, the habitus being at once

structured and structuring. And success in the competition for the interest and resources of the field will depend on the agents' habitus and capital. To stay within the context of the example set above, to become the head of the department necessitates a 'feel for the game' as well as the right kinds and amounts of various forms of capital such a relationship capital, academic capital, symbolic capital, and cultural capital among others, used as best as the agent's habitus will allow. In this context, maintaining position may be a strategy in the 'game'.

2.5.3 Bourdieu in the context of language theory

The nature of the discourse of this study demands an appreciation of the theory of language, for only if the use of language by agents is put into context, can it be appreciated as a way of exploring social systems. Especially the textual analysis of company reports as part of the study of 'social resonance' relies solely on the use of language in company reports. It is therefore that the author will consider Bourdieu's theory of language and its position within the field of language studies in the light of his wider theory of practice.

Linguistics exchanges can express relations of power. Different positions in the social hierarchy are reflected in variations in accent, intonation, and vocabulary. Individuals speak with differing degrees of authority, words are loaded with unequal weights, depending on who utters them and how they are said, such that some words uttered in certain circumstances have a force and a conviction that they would not have elsewhere. An example of this is the famous speech of John F Kennedy in Berlin shortly after the end of the Second World War, with Berlin being isolated from the rest of Germany by the Soviet Union. The 'leader of the free world' Kennedy proclaimed to the citizens of Berlin "Ich bin ein Berliner" (I am a citizen of Berlin). This sentence had strong symbolic meaning. It expressed much more than the sum of its

words. But the power of the sentence derived not from the words as such, but from the context in which they were uttered.

Language is an integral part of social life. Bourdieu's contribution to the study of linguistic phenomena, most fully developed in his book 'Language and Symbolic Power' (Bourdieu 1991), is the avoidance to a large extent of the shortcomings of some of the sociological and social-theoretical writing on language. He criticises formal and structural linguistics. The thrust of his argument is that these writings take for granted but fail to grasp the specific social and political conditions of language formation and use. The theory that informs Bourdieu's approach to linguistics is a general theory of practice that has briefly been discussed in the previous chapter. He sees everyday linguistic exchanges as situated encounters between agents endowed with socially structured resources and competencies. As such, every linguistic exchange bears the traces of the social structure that it both expresses and helps to reproduce. Bourdieu thus understands language as a social-historical phenomenon. He develops his argument by examining some of the presuppositions of Saussurian and Chomskyan linguistics (see Chomsky 1965, Saussure 1974), which have informed much of the writing of other authors from the 60's well into the 80's. Both are different in important details, Chomsky's approach is more dynamic and gives greater emphasis to the generative capacities of competent speakers, Saussure sees language as a shared 'treasure' shared by all members of the community, but are common in viewing language as an autonomous object. Bourdieu's objection to this kind of distinction is that it leads the linguist to take for granted an object domain which is in fact the product of a complex set of social, historical and political conditions of formation. Both Saussure and Chomsky have analysed linguistic expressions in isolation from the specific social conditions in which they are used. This furthers Bourdieu's critique by asking whether these distinctions do justice to what is involved in the activity of speaking. In his view, the competence that speakers possess is not merely based on the ability of the speaker (as Chomsky states) to generate an unlimited sequence of grammatically well formed sentences, but rather a capacity to produce expressions which are appropriate for particular situations. Speakers, in Bourdieu's eyes, have a 'practical sense' (sens pratique, see previous

chapter) which allows them to utter words, expressions, and sentences appropriately in the circumstances. Thus speakers have the ability to embed sentences or expressions in practical strategies, which are adjusted to the relations of power between speakers and hearers and include the *capacity* of the speaker to make oneself heard. The notion of power in this context can be interpreted in the way that those who speak must ensure that they are entitled to speak and those who listen reckon that those who speak are worthy of attention. The notion of the right to speak, and the associated forms of power and authority implicit in all communicative situations, are generally ignored by the linguist. It is with that in mind that Bourdieu turned to the works of Austin on speech acts, representative of the so-called 'ordinary language philosophers ' of the 40's and 50's (see Austin 1974). Austin identified performance utterances such as 'I do' during a wedding or 'I name this ship...' during a naming ceremony, stressing that such utterances are not a way of reporting a state of affairs, but rather ways of acting or participating in a ritual. This implies, according to Bourdieu, the existence of an *institution* that defines the conditions (such as the place, the time, and the agent) that must be fulfilled in order for the utterance to be effective. This can be illustrated by referring back to the example of Kennedy's speech in Berlin. The *institution* here can be defined as all the Berliners listening to Kennedy on that day. Only Kennedy could have had this impact with a sentence like 'Ich bin ein Berliner'. Chrustchev, on the other hand, would not have had the same impact. By this example it can also be seen that the institution does not necessarily need to be an organisation, but can be seen as a relatively durable set of social relations which endows individuals with power, status and resources of various kinds. Bourdieu appreciates the work of the speech-act theorists, but believes that they have not fully developed the consequences of their view. When an authorised spokesperson speaks with authority, he or she expresses or manifests this authority, but does not create it. Authority stems from a form of power that is part of a social institution, and does not stem from the words alone. Habermas (1984), a German social thinker, tries to build on the work of the speech-act theorists and argues, that, in exchanging speech acts, individuals are implicitly raising certain 'validity claims', such as truth and correctness. He further argues that such claims can only be made good in

what he terms an 'ideal speech situation' (the concept of ideal speaker has been used by Chomsky and Saussure before), which is a communicative situation in which participants are motivated to accept or reject a problematic claim on the basis of reasons or grounds alone. Bourdieu criticises Habermas' work for falling back into the notion of the ideal speaker, which he has already criticised in the work of Saussure and Chomsky.

In summary, it can be said that Bourdieu's contribution to linguistic theory lies in highlighting some of the social conditions of language use in a way that is largely absent from the existing literature on the theory of speech-acts. But his main achievement is that he puts forward a new approach to language and linguistic exchange. This approach is essentially a development of the theoretical framework that he has worked out in other contexts and which has already been discussed briefly in the previous chapter.

2.5.4   Bourdieu in the context of French philosophy

The previous sections served to explain the basic theory of practice. This theory is Bourdieu's main contribution to the critical study of cultural practice. He became a major theoretical voice in this field. In the following section, the author attempts to place Bourdieu in the context of the French philosophical tradition. It is helpful at this point to recall some of the main milestones in Bourdieu's life. This will help to identify the period in France during which Bourdieu grew up and gained insights into philosophical matters. It also helps to contemplate the likely theories he would have been exposed to in his forming years as a student and later as a researcher and theorist of great influence on contemporary French philosophical thought. Bourdieu was born in 1930, placing the time of his philosophical studies in the early 1950s. In the late 1950s he studied the Kabyle, a 'primitive' society, as an anthropologist. This work continued in the 1960s. He emerged as a critical voice on the French philosophical scene in the early 1970s, and has played an important part of the French intelligentsia since. It is interesting to note that most of his early writings was on the studies he carried out among the Kabyle, at the time

of the studies characterised as a primitive society. This is important to note in the context of contemporary French philosophy, especially in the context of phenomenology and structuralism, both philosophical directions that emerged during Bourdieu's formative years at university, and earlier in his career as a social anthropologist. He further wrote extensively on the use of language, and a third major area of study for Bourdieu were French university students, academics, and intellectuals. Again, the reader will find this of importance later on. In his earlier work up until the late 1970s he mainly develops his theory of practice. He calls himself a structural phenomenologist or phenomenological structuralist (also referred to as genetic structuralism). In his work he aims to reconcile these two contrary philosophical traditions. Again in earlier works, he frequently cites Levi-Strauss, Althusser and Saussure, among other. As will be shown later, Saussure represents a philosophical direction in French philosophy known as semiology, Althusser represents structuralism, as does Levi-Strauss. It can be seen from this brief introduction that Bourdieu is most likely strongly influenced by the philosophical debate that raged in the late 1950s and 1960s in France between the phenomenologists and the structuralists of the time. Evidence of this can be found in his writings, which frequently cite the main thinkers of the time, and the topics for his research, the 'primitive' society, the use of language, and the intelligentsia in France. All of these themes are enduring themes of the debate that went on during that time in French philosophical history. In order to place Bourdieu in the French philosophical tradition, and to identify the main influences on his thinking, as well as evaluate his unique contribution to the philosophical debate, the author attempts in the following to briefly outline the main philosophical directions of the late 1950s and 1960s up to the early 1970s in France. This, it is hoped, will place Bourdieu in the French philosophical tradition.

At the beginning of this necessarily brief summary, the author deems it important to list the main philosophical contributions of this time, along with listing the main theorists. Merleau-Ponty in 1942 published a book called "La structure du comportement", which proved to be a very important contribution to French philosophy at the time. Further books by him called

"Phenomenologie de la perception" in 1948 and "Sens et Non-sense" in 1948 added to the debate and formed the basis of the phenomenological tradition in France. In 1955 he published a book called "Les aventures de la dialectique". His books sparked of a series of responses from other writers of the time either in support or in contradiction of his work, most notably Sartre (1960), Derrida (1962, 1967, 1972), Foucault (1961), Althusser (1965a, 1965b), Deleuze (1962, 1969), Husserl (1962), Saussure (1974), and Lyotard (1973). The most noteworthy non-french responses to the on-going debate in France at that time were from Barnes (1956), Dreyfus (1964) and Allison (1973). All these contributions discussed the radical departure from the traditional French philosophy characterised by phenomenology towards semiology and structuralism.

To better understand the philosophical debate of these years, and to place Bourdieu within this debate, and clearly identify his contribution, the author attempts in the following to describe the main arguments of both the proponents of phenomenology and of structuralism. (both of which have influenced Bourdieu's thinking to a great extent as can be seen from the introduction and the conclusion to this section).

The ambition of French phenomenology was to have a dialectical philosophy of history, supported by a phenomenology of the body and of expression. The generation active after 1960 condemned dialectics as an illusion, and rejected the phenomenological approach to language. The opposition between phenomenology and what was soon to acquire the name of structuralism appeared total. The dialectic was the promised land of the little existential group of 1950. The greatest criticism levelled against a person was that their thinking was not sufficiently dialectical. After 1960, the dialectic continued to be at the centre of discussion. It had come to be seen as the most insidious form of the 'logic of identity' which in turn was held to be a philosophical illusion. In structuralism, the 'logic of identity' is countered with a 'thinking based upon difference'. Ultimately, the contradiction of French phenomenology lay in its effort to dispute 'objective thinking'. Both Sartre and Merleau-Ponty are proponents of French phenomenology. Phenomenology,

as its critics argue, is caught in the 'closure of representation' (as Derrida calls it), inasmuch as it retains the principle of the subject. Here the critique of phenomenology links up with the critique of the dialectic. 'Subject' is the name given to a being whose identity is sufficiently stable for it to bear, in every sense of the word (sustain, serve as a foundation for, withstand), change or modification. The subject remains the same, while accidental qualities are altered. In recent French philosophy the question of 'transcendental fields without subjects' has figured greatly. Phenomenology was the description of phenomena. It chose to confine itself to a phenomenon and to say what distinguished one phenomenon from another. Structuralism, the name given to a scientific method, found its way into the philosophical debate. The effect of this was that deconstruction took the place of descriptions. Deconstruction appears to denote a negative operation, whereas description suggests the simple acceptance of the given. The word deconstruction was first proposed by Derrida, to translate the 'Dekonstruktion' of which Heidegger speaks in Being and Time. Derrida said that it must not be understood in a negative way (to demolish), but in a positive sense (to circumscribe). It is useful here to distinguish between three forms of structuralism: 1.) as the method of structural analysis, structuralism is older than French phenomenology; 2.) in so far as it merges with semiology (the theory of the sign), structuralism throws phenomenology into crisis by setting against it another conception of meaning; and 3.) in so far as it is simply a philosophical 'orientation', structuralism is no more than the name that familiarised the public with the conversion of philosophy to the critique of both phenomenology and semiology. In itself, structuralism is only a method. This method, not tied in principle to any specific object, aroused interest outside specialist circles when it began to tackle sign systems. Semiology provoked the philosophical controversy of the sixties, the controversy concerning consciousness and the 'death of Man'. Structural analysis begins with the structure, i.e. with relations that characterise a set of elements, the nature of which is not specified. From the basis of the structure thus established, the analysis demonstrates that a certain cultural component is a 'model' of that structure or a 'representation' of it. Saussure has generally been cited as the supreme authority of structuralism. He never actually speaks of 'structure', but rather of 'system'.

He states that "... in a language there are only differences. This is why knowledge of any one element is conditional upon knowledge of the system.". When structuralism is spoken of in France, one immediately thinks of the application of this method to sign systems. Saussure's semiology is its clearest expression. If one considers linguistic phenomena as phenomena of communication, and the so-called 'natural' languages as codes employed by men for the transmission of messages among themselves, one arrives at semiological structuralism. And if one compares the whole of social life to a process of signals in exchange, one arrives at structural anthropology as defined by Levi-Strauss, or the reduction of anthropology to semiology. The opposition between phenomenology and structuralism may be summarised in the following way. For the first school the fundamental problem is that of reference (or denotation); for the second it is that of enunciation. Phenomenology asks how a statement such as 'the sum of the angles of a triangle is equal to two right angles' can be said to be true, when we know that no perfect triangle exists in the world that we inhabit. Semiology shifts the focus of attention of the speaker to the signifying system that enables him to establish certain bonds between himself and others who speak the same language - the same system.

In the context of this thesis, this very brief summary of the two philosophical directions must suffice. When looking back at the introduction to this section, some of the events and writings of Bourdieu can clearly be seen to be influenced by the philosophical debate at the time. It looks as though initially the semiology of Saussure and Levi-Strauss played an important part in Bourdieu's development. Especially his studies of the Kabyle, a remote tribe in Algeria, thought to be a 'primitive' society, clearly indicate the anthropological tradition of the time. Influenced by Levi-Strauss' semiology, Bourdieu seeks to explain the marriage rituals of the Kabyle, and the exchange of gifts among the tribespeople. Both can be shown to be studies into signs or 'symbolic power', as he later comes to describe it. During his work on the Kabyle and thereafter in his work on French university students and intellectuals, he must have found it increasingly difficult to reconcile his thoughts with the contemporary structuralist philosophy. He embarks on the

development of his theory of practice, strongly in the structuralist tradition of Althusser, Levi-Strauss and Saussure, but begins to criticise these writers for shortcomings in relation to the definition of the 'subject' within the structuralist theoretical framework. Increasingly he falls back on phenomenological thought for the explanation of the subject or agent as he calls it, attempting to reconcile the two opposing philosophies within one broader framework, his theory of practice. The introduction of habitus as the link between phenomenology (subject) and structuralism is most noted. His notion of capital, which includes symbolic power (signs), is a clear indication of the influences of semiology on his thinking, as is his notion of fields. His theory of practice and the notion of habitus can be seen as his main contribution to French philosophy. It places him firmly within the philosophical tradition of the times, yet at the same time demonstrating the contribution that his theory of practice attempts to make, by reconciling two hitherto unreconciled philosophical directions; those of french phenomenology and structuralism.

2.5.5   A critique of Bourdieu's theory of the economic of practice

Bourdieu's work on the economic of practice has been received with mixed feelings by authors worldwide. Acceptance is more widespread in France and Germany, whereas American, Canadian and British authors give his theory a more critical reception. Laberge (1995) criticises Bourdieu's theory for suffering from androcentrism and thus being potentially sexist. McCall (1992) follows this notion and finds Bourdieu unhelpful on the topic of gender relations. She argues that his approach is methodologically and theoretically sexist. Arguing about style of writing, Rosengren (1995) finds Bourdieu's conceptualisation of lifestyle and its determinants insensitive, clumsy, and unnecessarily cumbersome. He furthers his argument by looking at the statistical and graphical models of Bourdieu's theory. Hage (1994), in a review essay on Bourdieu's and Wacquant's book 'An Invitation to a Reflexive Sociology', states that Bourdieu's writing style is "long-winded, obscure, complex, and intimidatory". Shirley (1986) calls Bourdieu's writing "jargon-

ridden and convoluted". Apart from critiques of Bourdieu's style of writing, which are present in writings of both English-speaking and Non-English speaking authors, and for which some authors accuse him of elitism, other critiques are aimed at his theory itself. Rosengren argues that the notion of lifestyle is usefully defined as patterns of individual action determined by personal characteristics, primarily values and attitudes. He finds that notion more helpful than lifestyle being defined by structural characteristics of the surrounding society and by positional characteristics of the individual. Jenkins (1994) states that when one places Bourdieu's theory in context, it appears socially reductionistic, and a contradiction is revealed that centres around the question of whether sociology is located in the field of cultural or scientific production. Jenkins also critiques Bourdieu's rejection of rational choice theory. Vervaeck (1989) studied reactions to Bourdieu's work and concludes, that some critics consider him a reductionist headed in a specific, single direction, others see his thought progressing in a spiral-like form, while a third group views his work as camouflaged circular logic. Heran (1987) remarks on Bourdieu's use of the notions of "habitus", "scheme", "ethos" and "reactivation", arguing that they reveal some unsuspected links between sociological theory and established philosophical traditions. He extends his argument listing Aristotelianism and Phenomenology as areas from which Bourdieu "borrowed". He argues that this sociological reactivation of the philosophical habitus leads to problems of interpretation. Joppke (1986) earlier remarked on the apparent staticity of Bourdieu's habitus, and goes on to say that this staticity combined with his theory of culture cannot provide a systematic account for macro-level changes that result from social class conflicts.

As has been said before, Bourdieu's work has largely been received positively by European writers with the exception of British writers. One notable exception is Stuart Hall (see McCaughan 1993). He reviews the theory of practice in the light of other theoretical approaches to structure and agency, namely Marx, Durkheim, Weber, Lacan, Foucault, and Bourdieu. Caille (1987) points out that Bourdieu's regards the interdependence between material and social inequality in a more complex and less straightforward way than Marxist theory. He continues saying that this seems an advantage, which outweighs

the much-criticised tautological mechanism of Bourdieu's theory. Among the writers positive about Bourdieu are Bleicher (1990) and Miller (1989). The latter points out that Bourdieu's strength lies in ethno-sociological analysis. But, he continues, the theories of society based on components of cognitive, cultural and power sociology appear chaotic and fragmented. Muller (1986) critically evaluates Bourdieu's theoretical approach to the sociology of culture. He remarks that the strength of the theory is the explanatory power of the concepts of capital, field and habitus for the analysis of social exchanges. Finally Vester (1986) discusses Bourdieu's theory positively in the light of systems theory.

In conclusion it appears that Bourdieu's contribution is viewed differently by authors influenced by distinctively different philosophical and theoretical traditions. He receives more favourable reception where a strong sociological tradition is prevalent, and is read and interpreted differently, and more critically, where a different tradition dominates the sociological field, namely Britain and the US. Some of the criticisms might stem from the fundamental problem of translation. Most translations of Bourdieu's work, according to Bourdieu, do not or cannot convey the full and correct interpretation of the French original. The author believes that some languages might be better suited for a philosophical discourse than others, stemming from different philosophical traditions.

2.5.6   A discussion of the sociology of time

Since social resonance takes place in social space and time, the author deems it necessary to discuss the idea of time in a social context. Bourdieu in particular notes that time is a very important component or variable in the discussions of social behaviour. The idea of space is discussed elsewhere. This discussion of the idea of time will be brief, since it does not constitute the main thrust of the arguments presented by the author in this thesis. Nevertheless it is an important part of the literature discussion, since it outlines different interpretations and understandings of the concept of time in social theory or philosophy.

John Urry (1996) suggests that the notion of time has been neglected by social scientists for much of the 20th century. He continues to argue that despite this absence of a sociology of time he sees social relations as irreducibly temporal, and that there are different social times embedded within particular social structures. In his article on the sociology of time and space, he argues that no coherent research programme was established in the 20th century and early 21st century. He goes on to say that all this changed in the 1970s and 1980s. He particularly mentions Giddens' (1981) contribution and more generally the emergence of what he terms "a research programme of ["time-space"] sociology and social theory.

Many researchers have discussed the notion of time in a social context. It emerges that "time" has been conceptualised in different ways. Most accounts of time in sociology have presumed that time is in some sense social. Writers arguing this point seem to have adopted the "French" school's approach, most significantly represented by Durkheim (1912) in this particular context. In "Elementary Forms" (1912) Durkheim argues that only humans have a concept of time and that time in social societies is abstract and impersonal and not simply individual. Durkheim continues to argue that this impersonality is socially recognised. He refers to "social time". For Durkheim time is a "social institution" and the category of time is not natural but social. He concludes that time is an objectively given social category of thought produced within societies and which therefore varies between societies. Sorokin and Merton (1937) follow a similar vein in their arguments. They distinguish between societies as to whether there is a separate category of clock-time, over and above social time. Bourdieu (1990) studied the Kabyle tribe of Algeria and remarks that the Kabyle have developed a social-time system that is hostile to clock-time. They are scornful of haste in social affairs, lack any notion of precise meeting points, and have no set times for eating. Such rejections of clock-time can be found in modern society. Roy (1990) describes the rejection of clock-time in his study of a machine room. He describes the importance of a variety of times, "peach-time", "banana-time", "window-time", among others - times that he says had no particular

connection with the clock expect that some occurred in the "morning" and some in the "afternoon". Modern societies are generally viewed as being more based on clock-time than are pre-modern societies. Time in modern societies, as Urry points out, is not principally structured in terms of social activities. Clock-time is essential to the organisation of modern societies and of their constitutive social activities. Such societies are centred on a development of an abstract, divisible, and universally measurable calculation of time. Thomson (1967) argued that an orientation to time becomes *the* crucial characteristic of industrial capitalist societies. People were viewed as having shifted from an orientation to task to an orientation to time. Thomson's arguments depend on the classical writings of Marx (1848, 1888) and Weber (1904-5). Marx showed that the exploitation of labour-time is the central characteristics of capitalism. The exchange of commodities is in effect the exchange of labour time. Weber provided the first sociological analysis of such processes. In the words of Benjamin Franklin "Time is Money". To waste time is to waste money. People therefore have taken on the notion that it is their duty to be frugal with time, not to waste it, to use it to the full and to manage the time of oneself and that of others with the utmost diligence (as Urry puts it). Work and leisure are often organised in a similar fashion. It is planned, calculated, subdivided, and worthwhile. Urry terms this "rational recreation".

Heidegger (1927), Mead (1932) and Bergson (1910) have contributed to a more phenomenologically oriented social theory of time. Central to Heidegger's ontology of Being is that of time, which according to Heidegger expresses the nature of what subjects are. He argues that human beings are fundamentally temporal and find their meaning in the temporal character of human existence. Being is made visible in its temporal character and in particular the fact of movement towards death. He continues that the nature of time should not be confused with the ways in which it is conventionally measured, such as intervals and instants. Measurable time-space has been imposed on time-space relations in Western culture. One can find similar themes in Bergson. Bergson argues against a spatialised conception of time and maintains that time or duration must be viewed as "temporal". People should be thought of as in time rather than time being thought of as some

discrete element or presence. According to Bergson, people do not so much think real time but actually live it sensuously, qualitatively. An interesting notion in his writing is that memory must be viewed temporally, as the piling up of the past on the past which has the effect that no element is simply present but is changed as new elements are accumulated from the past. This notion has interesting implications for the understanding of Bourdieu's notion of habitus, a concept used in the metaphor of social resonance. Mead also adopts a "temporal" viewpoint. He focuses on how time is embedded within actions, events, and roles, rather than seeing time as an abstract framework. Mead regards the abstract time of clocks and calendars as nothing more than a "manner of speaking". Mead's view, according to Urry, is fully twentieth-century in that he emphasises the relative nature of time. There is no universal time standard but any standard is viewed as relative to the organism undergoing the measuring.

No discussion, however brief, would be complete without a brief discourse of Giddens' (see 1981, 1984, as well as 1991) work on time and space. He published a series of books in the late 1970s and 1980s, in which he placed the analysis of time and space at the heart of contemporary social theory. Drawing on Heidegger, he elucidated five ways in which, because of their temporal character, human beings are different from material objects. The following brief summary is based on a work by Urry (1996). First, only humans live their live in awareness of their own finitude. Second, the human agent is able to transcend the immediacy of sensory experience through both individual and collective forms of memory. Third, human beings do not merely live in time but have an awareness of the passing of time, which is embodied within social institutions. Some societies seem to develop an abstract concept of rational, measurable time, radically separable from the social activities that it appears to order. Fourth, the time experience of human beings cannot be grasped only at the level of intentional consciousness but also within each person's unconscious in which past and present are indissolubly linked. And fifth, the movement of individuals through time and space is to be grasped via the interpenetration of presence and absence, which results from the location of the human body and the changing means of its interchange with the wider

society. This particularly involves new communication and transportation technologies. Each of these transforms the intermingling of presence and absence, the forms by which memories are stored and weigh upon the present, and of the ways in which the long-term durèe of major social institutions is drawn upon within contingent social acts. Giddens draws on "time-geography" to investigate these latter processes more. This "time-geography" is a very interesting concept that can help to understand more fully the metaphor of social resonance and particularly its notions of social resonance occurring in time and space (social and geographical). It is therefore that the author will elaborate on this idea.

There are various sources of constraint over human activity given by the nature of the body and of the physical contexts in which human action occurs: the indivisibility and corporeality of the body; the movement of the life span towards death; time as a scarce resource; the limited capability of human beings to participate in more than one task at a time; the fact that movement in (geographical) space is also movement in time; and the limited packing capacity of time-space so that no two individuals can occupy the same point in space. These factors, according to Giddens, condition the webs of interaction formed by the trajectories of the daily, weekly, monthly, and overall life paths of individuals in their interactions with one another. Individuals moving through time-space meet at "stations" and comprise "bundles". Individuals pursue "projects" that have to use the inherently limited resources of time and space. There are "capability constraints", such as the need for regular sleep and food and "coupling constraints" which constrain activities that are undertaken with others, at least for part of the time.

The result of these constraints is that daily conduct is not simply bounded by physical and geographical boundaries but by "time-space walls on all sides". There have been major changes in the character of such walls, particularly as a result of "time-space convergence", namely the shrinking of distance in terms of time taken to move from one location to another and the advent of information and communication technology that further shrinks "time-space geography".

The concepts introduced so far have been criticised as being outdated and rooted in inappropriate notions. It is therefore necessary and important to point out the most recent writings on time-space sociology, which has, according to Urry, been subject to major revision recently. The main thrust of these arguments against the notion of time as introduced by Durkheim, Sorokin, Merton, and others centres around their distinction between social time and natural time. A notion, according to their modern critics, that was based on an inadequate understanding of time in nature. Adam (1990) has recently argued that it is necessary to carry out a thorough re-examination of time, incorporating the insights and arguments from contemporary physical and biological sciences. She argues that we should dissolve the distinction between natural time and social time. Most of what scientists have seen as specifically human, according to her, is in fact generalised through nature. The one aspect which is not, clock-time, is paradoxically the characteristic which social science has thought to be the defining feature of natural time. Thus, social science has operated with an inappropriate conception of time in the natural sciences, an almost non-temporal time, which can be described as Newtonian and Cartesian. The "discovery" of relativity theory by Einstein in particular, and the advances in chronobiology have led the way to nature as intrinsically temporal. Thus Adam argues for a notion of time which is non-spatialised, and where no strong distinction is drawn between the times of nature and those of humans. This notion is reflected in more recent analyses in the sociology of time. Two directions are noteworthy. First, there is what one calls the historical sociology of time. The debate here is mainly over Thompson (1967) and his thesis that industrial capitalism ushers in a transformation from an orientation to task to an orientation to time. The main contributors to this debate are Thrift (1990) and Lash and Urry (1994). All argue in the main that there is a greater complexity of development than the simple dichotomy expressed by Thompson suggests. The second area of theoretical debate has concerned the development of the post-modern. Here, some of the more prominent contributors are Kellner (1992), Zukin (1992), Sennett (1990), Harvey (1989), Adam (1990), and Lash and Urry (1994). Since postmodernity is discussed in the literature review of this thesis to some extend, the author will refrain from discussing it yet again.

In using the idea of time in the metaphor of social resonance it becomes necessary to qualify, to the extend that qualification of such notions is possible at all, how sociologists understand the term time and how it is used in contemporary debate. The author has summed up the debate on time and time-space in sociology to the extend that was warranted by the purpose of this chapter, namely to give a brief overview of the debate. Many texts and writers had to be neglected, and the author is aware of this.

It has been shown that sociologists have recently almost completely revised the sociology of time in the light of new findings in physical and biological sciences. The concept of a unified four-dimensional space-time has been developed, assuming that social space-time is structured in ways that parallel the organisation of space-time in nature. For the discussion of time in the context of social resonance it is important to understand clock-time as a construct of human beings and to understand time and space to be inseparably linked through the very existence of human beings. It is further necessary to understand that there is not one time, but that many times exist in nature, and that every human being has its own emotional, physical and intellectual experience of time. Such an interpretation adds a further layer of complexity to the already complex metaphor of social resonance, but helps to understand the complexity encountered in researching human behaviour in an organisational and economical context. It particularly casts doubt on rational choice theory that underpins many of the organisational and economical theories in existence today.

2.5.7 Summary of contribution of Bourdieu's theory of practice

The theory of practice with its concepts of habitus, field and capital is Bourdieu's contribution to the philosophical and sociological debate of the possible meanings and reasons for human action and interaction. The metaphor of social resonance leans heavily on these concepts, and they are incorporated into the definition of social resonance as the determinants of social resonance. If one can identify the habitus, the fields an agent is positioned in, and the forms and amounts of capital available to an agent, one

can make predictions with some degree of accuracy as to the resonance of such an agent to a stimulus or a set of stimuli. As such, Bourdieu's theory is of great importance for the understanding of social resonance. As the previous chapter has shown, habitus is an agent's feel for the game, or sense practique. Habitus is acquired through a long process of inculcation from earliest childhood onwards. The forms and amounts of capital available and acquirable.by an agent depend largely on their habitus, and the fields in which the agent positions him- or herself. The fields are defined as interests, variable over time. Bourdieu attempts to bridge the gap between two fundamental philosophical directions with his theory of practice. Phenomenology and structuralism were and are two strands of philosophical debate that have concerned French and international philosophy for the best part of the latter half of the 20th century. Both positions in themselves argue contrary positions, and Bourdieu's greatest contribution to the philosophical debate is arguably that his theory of practice tries to reconcile these apparently irreconcilable positions. For the debate in social theory he has equally greatly contributed to its development through developing a language based on his concepts of habitus, field and capital, that have bridged the language gap that exists between speakers of different languages. He offers a theory and language that is universally translatable and whose interpretation into other languages allows the discussion of social phenomena across different cultures. It is notable and can be seen from the preceeding chapter that since the introduction of the theory of practice more writers from outside the french literary and philosophical scene have engaged in a debate on the merits and drawbacks of Bourdieu's proposals. Many other contributions of french sociologists and philosphers have in the past largely been ignored in the social theory field, mainly for reasons of translation and difficulties in interpreting concepts in other than the french language (in which they were conceived). Arguably, Bourdieu's greatest contribution is the access his theories and language have given non-french speaking researchers to the wealth of ideas that have been developed in France. The next chapter outlines the main contributions to social theory in the non-french speaking world, and these two chapters are linked through Bourdieu's concepts. Many of the developments in social theory outside of France, and the relative lack of

cross-fertilisation between social theory in France and elsewhere can be explained through Bourdieu's theory of practice, namely through his concpets of habitus and fields. This is another indication of the value of his contributions in the light of social theory and philosophy.

2.6   Classical Social Theory

2.6.1 An introduction to the main streams of social theory

No literature review of the main streams of social theory would be complete without a look at the development of the social sciences until today. Yet such a task would easily go far beyond the scope of this thesis and would also not add value to the work. The author has decided to give the reader a very brief account of the development of the social sciences for a better understanding and to enable the reader to place the various sociological theories discussed later into their historical context. It is also important to note that in the light of Bourdieu's theory of practice, an understanding of the state of play in non-french speaking social theory research is essential. Hence this chapter links back to the previous chapter, where the author explained Bourdieu's theory of practice. In the following, the main contributions will be discussed, different contributions compared, and their position and value in relation to Bourdieu's theory outlined.

Holton (1996) gives a very good account of the emergence and development of social theory from the nineteenth to the twentieth century. He writes that social theory emerged during that time as a critical commentary on the major socio-economic and political processes shaping the world at that time. He continues to say that there is no clear-cut temporal or spatial definition of social theory. The object of the new science was society itself. Classical theory, in his eyes, occupies an intermediate position between the pioneering but in his words "somewhat diffuse" eighteenth century phase of social science development and contemporary post-war social theory. Classical social theory, it is said, emerged from the French and the industrial revolution.

Holton states that:

> *"[t]he interlocking themes arising from (or symbolized by) these events include processes of industrialization and capitalist development, secularization, and individualism, rationalization and the development of modern bureaucracy, and finally urbanization and the growth of mass democracy."*

Holton (1996)

Classical theory developed spatially both in Europe and the United States. It did not take identical forms either side of the Atlantic.

To conceptualise the "birth" of social theory as a process based on the "two revolutions" (in Holton's words) has a major drawback. It projects classical theory as an essentially nineteenth century commentary on a (then) very recent revolutionary transformation of social life. The French theorist Auguste Comte (1798-1857) announced around the middle of the nineteenth century the birth of "sociology" - the new science of society. Giddens (1979) points out that social theory is essentially a post-renaissance commentary on longer-term social trends. Many of those, such as the transition to capitalism (Holton, 1985) or the emergence of individualism (MacFarlane, 1978) were well advanced by the eighteenth century. These writings suggest that there was no great divide between the pre- and post-revolutionary worlds, and no great divide between eighteenth century- and nineteenth century social theory. The focus of classical theorists was not only on social change but also on the causes of social oppression and the construction of social arrangements able to realise human freedom, equality, and new forms of community. This was done through the analysis of the emergent processes of capitalism, democratisation, and individualism. Holton (1996) argues that social theory

arose out of moral and political engagement of the main theorists as much as out of social observation and intellectual analysis.

The standpoint of social theory was critical towards contemporary social change (Holton and Turner, 1986: 209-10) and, as Holton and Turner put it, also "rather ambivalent". On the one hand, the forces of capitalist industrialisation and democratisation were seen as eroding traditional constraints upon economic expansion and political freedom, enlarging the capacity of human societies to "realize the good life" (Holton and Turner, 1986: 210). On the other hand, the decline of religious authority, village life, and traditional status hierarchies was seen as deeply disturbing. Nisbet (1967) argues that a tension between "modern" and "traditional" values is fundamental to the assumptions and conceptualisations of classical sociology. He argues further that the preoccupation of key European classical theorists such as Karl Marx (1818-83), Emile Durkheim (1858-1917), Max Weber (1864-1920), and Georg Simmel (1858-1918) involve a paradoxical combination of "modern" values such as "science", "reason", and "individual freedom," with "a conceptual armoury deeply embedded in the conservative desire for order, and the restoration of community".

The American classical social theorists of the late nineteenth and early twentieth century had a similar concern to harness the values of science and reason for social reform and reconstruction. In the United States classical theory was less embedded in "Old World" conservative notions of order, and closer to secularism and moral individualism. As Horton (1996) points out, a critical standpoint towards economic or utilitarian versions of individualism remained. The works of American theorists such as George Herbert Mead (1863-1931) and Robert Park (1864-1944) showed less ambivalence towards modernity than the works of the European theorists. In addition, the work of the American theorists embraced themes more specific to the "New World" such as the impact of immigration, and the place of race and ethnic relations within social life.

Alexander (1982a) points out that the achievement of classical social theory was to identify most of the major generic issues that arise in the construction of a theory of society. The foremost issue here is the problem of structure and agency. The question is whether human beings are free to choose their

actions or whether what they do is pre-determined by some external force. What concerned the classical theorists was whether social processes and institutions such as capitalism and markets, the division of labour, and the democratic state free humankind from the deterministic constraints of the past, or whether they merely serve to constrain action and erode freedom. This poses the question as to whether structure (determinism) and agency (free will) are irreconcilable, or whether they can somehow be reconciled within a single theoretical position. The most influential contributions to the discussion of structure and action come from Karl Marx and Emile Durkheim respectively.

It is at this point of the discussion that the reader will be aware of the reason for discussing the origins of classical social theory. In operationalising Bourdieu's work on structure and agency, which essentially combines the two concepts within a single theory of society, in the metaphor of social resonance, the author has attempted to overcome many of the traditional problems associated with the discussion of structure and agency in social and organisational theory (which, as the author argues elsewhere, leans heavily on classical social theory). Through a basic understanding of the origins of this debate, the reader can now form an opinion of the value of the metaphor of social resonance for the explanation of economic phenomena in an organisational and social context, attempting to overcome classical barriers such as the fundamental debate over structuralism versus agency as the determinants of human action.

In conclusion, the development of classical social theory must be seen in the light of the historical events that shaped the world at the time. Without understanding the historical (temporal) and spatial (geographical) context within which these theories were developed, the reader will find it difficult to understand the different directions that social theory took in Europe and the United States. Since organisational theory borrows heavily from social theory, it too must be seen in the context of the temporal and spatial division that influenced much of classical social theory. The metaphor of social resonance, developed in this thesis, attempts to address some of the fundamental

questions in social and organisational theory, namely the question of structuralism versus agency as the determinants of human action.

2.6.2   Action and Praxis in Social Theory

In outlining Bourdieu's theory of the agent and the concepts of positional habitus, fields, and capital, the author has demonstrated that such theory must understand human beings as more than merely actors, acting out roles, driven by their wishes or needs, and acting merely within the external constraints. Bourdieu has dramatically extended the concept of an agent, and deliberately avoided the term actor in his writings, to distinguish his theory of agents from the traditional theory of actors still dominant in many of the writings of modern social and organisational theorists. The author deems it necessary at this point to illustrate the difference between Bourdieu's concept of the agent and the concept of the actor, prominently discussed in theories of action and praxis. This chapter outlines some of the more prominent theorists' writings on action and praxis, among which are Max Weber, Talcott Parsons, George Herbert Mead, Harold Garfinkel, and Anthony Giddens. It is hoped that this will go some way towards helping the reader to understand better the difference between the notion of agents as used in Bourdieu's work (which is explained in great detail in the chapter on Bourdieu's work) and the notion of actors.

To be able to live everyday life, every competent member of society must be able to act, interact, and understand the meanings of what they do. For early modern philosophers like Hobbes, Locke, and Kant, to understand the foundations of action was to understand basic aspects of the human condition. To them it was therefore also necessary to understand both the possibilities and limits of realising ethical principles and moral conduct. Alan Dawe's (1978) analysis of two conceptions of human nature in classical theories of action synthesises many normative arguments. Despite the fact that Habermas has revived this tradition, many of the twentieth century

theorists have been looking at the complexity of action more as an empirical phenomenon.

Prior to the twentieth century the dominant theoretical position was the utilitarian philosophy. Utilitarian theories included the idea that actors behaved so as to satisfy their wants or to minimise their losses or discomfort. Philosophers continue to advance refined versions of these arguments today. Coleman (1990), an empirically oriented utilitarian, characterises his own accounts of purposive behaviour as simplifications designed to facilitate studies of social organisation. Utilitarianism can still be found in modern social thought. Many theorists comment on the autonomy or responsibilities of the actor given various determinants or constraints on a person's acts. They also discuss the autonomy of the actor. Cohen (1996) states that "it has to be said that beyond utilitarianism, few modern theorists have developed theories of action with issues of freedom versus constraint being the foremost concern." The concept of constraint has been more extensively covered by theorists of collective structures, systems, and organisations.

Modern theorists of action typically assume (in the broadest sense) one of two basic orientations. One orientation addresses the fundamental significance of subjective consciousness in the direction of action (see Cohen, 1996). The other addresses the fundamental significance of social praxis; the enactment or performance of social conduct. Both orientations lead contemporary theorists to distance themselves from philosophical problems. George Herbert Mead, John Dewey, and Talcott Parsons transformed philosophical arguments into empirically oriented theoretical enquiries. Harold Garfinkel and Erving Goffman have taken this neglect of the philosophical underpinnings further and pay little regard for philosophical problems at all.

Theories of action identify a source that generates intelligible patterns of some kind. Social action defies all efforts to produce a broadly acceptable unifying theory. Action presents theorists with rhythms, meanings, and forms, but no consolidating principle that brings all patterns together. Theories of action must also allow for the possibility that actors may improvise new forms of conduct that depart from established routines. From the various writings in social action theory it becomes clear that writers share no common agenda. Rather they discuss around some particular problem or theme. To give an

overview over the theories in existence, the author chose to look in more detail at both subjectively oriented theorists represented by Weber and Parsons, and theorists of praxis represented by Dewey, Mead, Garfinkel and Giddens. To give a full account of empirically oriented theories of action would require a discussion of Alfred Schutz's contribution as well as that of Erving Goffman. The discussion of modern rational choice theory would include Norbert Elias, Pierre Bourdieu, and Randall Collins. The author recognises that such a discussion at this point would go beyond the scope of this chapter and lead to repetition in the thesis, and has thus decided to restrict his discussion of theories of action and praxis to the authors mentioned further above. The reader may refer to the chapter on Pierre Bourdieus' theory of habitus, field, and capital for a more extensive discussion of his theories in the light of other existing lines of thought. A discussion of the contribution of rational choice theorists can also be found in a separate chapter on social theory and rational choice.

2.6.2.1 Max Weber

Max Weber's sensitivity to the diversity and particularity of the meanings actors attach to their conduct marks a substantial breakthrough (Cohen, 1996) toward empirical analysis in twentieth century theories of action. Weber saw it as an inalienable right of social actors to define what his or her social action means for himself or herself. German cultural studies (Geisteswissenschaften), notably the writings of Wilhelm Dilthey and also Georg Simmel, contributed notably to this view (Burger, 1976). If actors, not theorists, define their own actions, then any discussion of the general properties of action must remain open to as many circumstantially contingent forms of behaviour as possible. In the opening chapter of Economy and Society (1921) Weber outlines ideal-types of action. The number of different ideal-types listed reflects Weber's attempts to itemise as many empirical possibilities as he could imagine in the meaning of action interpreted from the actor's point of view. Both the strengths and weaknesses of Weber's ideal-types analyses grow out of his generic definition of action (1921: 4) as the subjective meaning the individual attaches to his or her behaviour (Cohen,

1996). Weber defines almost all aspects of the natural environment and the human condition from the actor's existential point of view. He recognises (1921: 21-2) that much behaviour lacks meaning in his interpretation of it, but he maintains his hermeneutic interest in action by constructing ideal-types as if actors ascribed clear and unambiguous meanings to their acts.

Webers' conception of action excludes significant dimensions of conduct. By restricting sociological interest in action to conduct the actor can understand, Weber (1921: 9, 13-14, 25) reduces the sociological relevance of impulsive acts, and obscures the presence of unconscious motivation. Weber conceives (1921: 4-5, 24, 25, 29, 319-20) unreflective habit and "taken-for-granted" tradition as only marginally meaningful behaviour. He expands his account of basic forms of meaningful conduct and develops an account of social action and institutional orders consistent with his initial premise that individuals interpret their behaviour for themselves. His definition of social action (1921: 4, 22-4) places the accent on conduct the actor subjectively orients to the behaviour of others. The term "others" encompasses a multiplicity of possible orientations. Social action may be oriented to the behaviour of one person, several individuals, or to the conduct of vast populations, or organised groups. These others may be contemporaries, ancestors, or members of future generations. The actor may be personally acquainted with others whom action is oriented towards, or the other may be unknown. With the definition of social relationship (1921: 26-8) Weber takes another step towards a conception of individual action. A relationship exists when several actors mutually orient the meaning of their actions so that each takes account of the others. Actors may or may not agree on their interpretations of one another's behaviour. Weber notes that a stable meaningful content may persist in long-term relationships. This content may be understood by actors as a set of rules or norms to which they expect other actors in that relationship will orient their conduct. Such supra-individual maxims (Weber, 1921: 12) can take the form of religious commandments, bureaucratic codes, and practical rules-of-thumb as well as norms the actors subjectively associate with collectivities such as corporations or the state (see Kahlberg, 1981; Levine, 1981 for more detail). For Weber (1921: 31) the term "order" signifies any relationship that involves conduct oriented to a maxim, norm, or rule. An order acquires legitimacy to the extent

that at least some actors believe themselves duty-bound, emotionally compelled, or morally committed to follow its rules or norms. Actors may follow a maxim out of intimidation, or self-interest, or habit. They may also orient themselves to several orders in a single act. Legitimacy matters primarily because actors who do adhere to maxims out of a sense of duty or moral commitment will act in ways that stabilise the patterns of relationships in an order. The stability of a given order must be demonstrated rather than assumed. Legitimacy does not guarantee the successful execution of administrative commands among those that act expediently rather than out of a sense of duty.

Two problems point to an ad hoc status of power in his account of social action. Weber's definition of power looks at the probability that an actor in a relationship will be able to carry out his or her will even against opposition. But Weber's orientation to existential meaning lacks sensitivity to the compelling force of emotions required to pick up this central aspect of "will" (Cohen, 1996). The problem of inequality is conceptualised by Weber as specific forms of inequality such as status and class. Nothing in his basic definition of action anticipates "selection" or conflict in any way. From the point of view of meaningful action, inequality, like power, appears to be loosely underpinned from a theoretical perspective.

2.6.2.2 Talcott Parsons

Talcott Parsons called his entire theoretical program "action theory". His reputation rests primarily on his first book, *The Structure of Social Action* (1937). The author confines his discussion to this book here.

"Structure" deals with action in a highly abstract way. Parsons (1937: 43-9) analytically deconstructs action into abstract elements and reconstructs these elements as a heuristic analytical model, the "unit act". Camic (1989) writes that Parsons' theory of action in *Structure* in crucial respects depends upon his understanding of the analytical configuration of extended chains of action. Parsons appropriates the means-end structure of action from utilitarian theory. He also appropriates Weber's notion of actors determining the significance of

their actions for themselves. Parsons' "problem of order" introduces Durkheim's theories on moral integration of action.

Means-end rationality refers to action in which the actor selects a goal or purpose based upon a calculation that his or her resources are sufficient to accomplish the task. Parsons (1937: 251) believes that people ordinarily invest "effort", act on their own initiative, to mobilise their behaviour in pursuit of an end. Utilitarian theorists have trouble dealing with initiative in this sense. Many of them place brackets around the question of how actors select ends or goals. Parsons suggests that these brackets make ends appear to vary at random. Parsons opposes all views that deny that actors actively commit themselves to their own ends, such as the notions expressed in utilitarian theories of instinctive ends selection. He regards inherently valued "ultimate ends" as principles governing extended chains of rational action. Actors may be unable to offer a precise formulation of these ends, but they exist as diffuse sentiments or "value attitudes". Individual actions in the chain need not to be valued in themselves. Any act, including acts that conform to all kinds of unavoidable conditions, or acts that require obedience to another actors' commands, may be regarded by the actor as significant so long as he or she subjectively understands it as a means to some valuable purpose. Parsons is aware that material or political obstacles may impede or prevent actors from achieving their valued goals. In Parsons' "problem of order" he shifts from the actor's point of view to consider how action appears in terms of societal integration and regulation. The "problem of order" asks: what ensures that a society will maintain a manageable degree of integrated order?

He offers two choices. Either order is maintained through external force, or the ultimate ends of action are sufficiently integrated so that individual members of society have common ends. This poses the question: how can common ends provide a basis for social order? Parsons (1937: 400ff) seems to follow Durkheim's collateral idea that society provides actors with a set of normative rules for concrete behaviour. For Durkheim, these rules have a moral force. Parsons follows Durkheim in noting that the association of sanctions with norms indicates that a marginal number of actors can be expected to deviate from normative rules. He insists that enough actions are guided by moral norms to preclude disintegration of a society into Hobbesian disorder.

2.6.2.3 John Dewey and George Herbert Mead

Weber and Parsons agree that mental acts shape or direct conduct. Aspects of the world that the mind lacks the power to change are treated as objective conditions or constraints, realities the mind necessarily takes into account. Given these conditions, the relevant subjective process determines the character of the act. Theorists of praxis argue that the privileging of consciousness in subjectivist theories of action goes to far. Minds lack the capacity to perform social actions. Social praxis, rather than mental acts, makes conduct happen in the world.

The concept of interaction in Dewey and Mead encompasses more than face-to-face conduct. Entities of all kinds, from atoms and cells to members of society, interact among themselves, and interact with their environments as well (Dewey, 1925: 145). For Dewey and Mead, human beings no less than any other species strive to adjust their behaviour so as to reach stable and co-ordinated accommodations with whomever (or whatever) they interact. As the term interaction suggests, adjustments are always reciprocal processes. Dewey as well as Mead developed a three-stage model of human interaction. Broadly defined, the three steps include 1.) external stimuli; 2.) mental reactions integrated with a behavioural response; followed by 3.) a response from the source of the original stimulus. In reality, interactive adjustments may continue for many rounds.

Both Dewey and Mead, despite their close collegial relationship, have developed their respective accounts of human conduct. Both these accounts differ considerably. Given that the main reason for writing this chapter is merely to outline the basic theories in social action and praxis, the author has decided not to discuss these differences in this chapter. Interested readers might want to refer to Cohen's (1996) account of the differences between the two theorists' views. Cohen does point out that a study remains to be written comparing the theories of action authored by Dewey and Mead.

2.6.2.4 Harold Garfinkel

Harold Garfinkel (1963, 1967, and 1984) introduced an ethno-methodological image of praxis. He theorises in a way that stands in contrast to Mead's symbolic interactionism. While Mead takes philosophical questions to heart, Garfinkel prefers to reason with reference to particular empirical research. Garfinkel describes social action as an actively produced accomplishment. Social actors know how to produce social action, but sometimes they remain only tacitly aware of what they know. These "seen but unnoticed" aspects of praxis comprise his theoretical domain. The objectives of some of Garfinkel's early research were to demonstrate the presence of tacit procedures for the accomplishment of interaction. By violating, or "breaching", seemingly commonplace practices. John Heritage (1984: 70-1, 77-8) explains the results of Garfinkel's "breaching" studies in terms of a cognitive problem of order". This problem turns on the insight that normal practices produce intelligible features of social organisations, an order in events that actors take for granted in their everyday lives. The frustration Garfinkel evoked in breaching the cognitive order of, e.g. a game of tic-tack-toe demonstrates the centrality of cognitive order by withdrawing it momentarily. Cognitive order is produced by produced by appropriate, normal procedures everywhere from bureaucratic meetings, to scientific research, to construction projects, to family holiday celebrations, and all other types of ordinary, everyday events (Cohen, 1996). Conversely, Garfinkel (1963) argues, when methods for the production of cognitive order fail, the result is a profoundly disturbing type of anomie in which nothing appears to make sense (Hilbert, 1992). Garfinkel's research suggests that cognitive order is produced via reciprocal procedures. His view of reciprocity in interaction overlaps to some extend with Mead's view on the manipulation of gestures. One of Garfinkel's basic insights is that any symbol or gesture is always ambiguous until specified as meaningful by being introduced into a specific, locally constructed context.

2.6.2.5 Anthony Giddens

Anthony Giddens developed his structuration theory (1979, 1984) as a means to transcend two conceptual divisions: the division separating the conscious subject from social collectivities (subject/object dualism), and the division between agency (praxis) and collective forms of social life (agency/structure dualism). The subject/object dualism presumes a conscious agent as the locus of action while the agency/structure dualism presumes enacted forms of conduct as the locus of action. Structuration theory begins with the proposition that anything that happens or exists in social life is generated through enacted forms of conduct. Giddens, unlike Mead, Dewey, and Garfinkel, regards practices as more than locally situated behaviour. All practices also contribute to the production and reproduction of systemic relations and structural patterns. Giddens (1984) introduces insights into material conditions that shape (enable and constrain) social interaction. His observations led to his belief that sensory capabilities of the human body permit only a limited number of actors to interact at the same time, and that the physical surroundings of conduct shape the kinds of praxis actors can perform. He understood that social practices can only be reproduced if actors can take their behaviour for granted.

In structuration theory the term "system" refers to patterns of relations in groupings of all kinds, from small, intimate groups, to social networks, to large organisations. System reproduction proceeds via enduring cycles of reproduced relations in which recurrent practices constitute links and nodes. Giddens (1984) proposes the concept of time-space distanciation to analyse complex variations in relations to actors across time and space. His (1979) concept of the duality of structure keeps theoretical attention directed towards the intrinsic association of structure and praxis. The duality of structure refers to the fact that in order to reproduce a structured practice actors must draw upon previously acquired knowledge of how a practice is performed in order to reproduce it. As they perform this practice they reproduce this knowledge, advancing it into a new moment in time and reinforcing the awareness that the practice exits. Much like Dewey, but contrary to dominant themes in Weber and Parsons, Giddens' theory of the acting subject implies that actors are not inherently predisposed to sustained reasoning or existential reflection on the meaning of their conduct. Instead, what Giddens terms discursive

consciousness is mobilised only during critical breaks in routine. Critical suspensions of routine are occasions in which actors mobilise their efforts and focus their thoughts on responses to problems that will diminish their anxiety, and ultimately bring about social change.

2.6.3   Summary of contribution of classical social theory

As can be seen from the authors' account of the development of modern social theory of action and praxis, the division between theories of action and praxis has a long history that goes back to basic values in modern, Western intellectual life. There are two dimensions of conduct, emotion and power that current theories of action and praxis do not deal with well. Arlie Russell Hochschild (1979) has advanced theory of action and praxis to include notions of emotion and power. Other studies, such as Norbert Elias' (1939) account of emotional and behavioural restraint in Western Europe during the Middle Ages, as well as Thomas Scheff's theoretical analyses of connections between shame, pride, and interaction, reduce theoretical range to pursue conceptually limited themes. One possible reason for this apparent weakness of the modern theories of action and praxis might be the lack of agreement among psychological theorists on the nature of emotions.

Weber's concepts of power and domination, Giddens' account of the dialectic of control, and Parsons' account of the intermediate, instrumental orientations of action suggest possibilities for politically oriented theories of conduct. Crespi (1989) points out that a number of basic issues will have to be addressed before theories of the exercise of power in behaviour can be worked out.

In this chapter the author has attempted to summarise the main theories of action and praxis to an extend that is suitable for the purposes of this thesis. The theories of action and praxis enable theorists to make sense of what actually goes on in various social domains. It is important to understand conceptions of action and praxis in some detail because they are implicated in almost every form of social scientific research.

It becomes clear from the account given that Bourdieu in his theory of practice does not accept the notion of classical social theory of actors that merely act

out roles. His notion of agents enriches the perception of human beings within societies notably, and has a greater explanatory power overall.

The following chapter introduces rational choice theory, which lies at the heart of most modern non-french social theory. Where the previous chapter outlined the main writers and theories in the social theory field outside continental Europe, the next chapter goes deeper in attempting to give the reader an understanding of the basic underpinning philosophical roots of much of this social theory. As such, it attempts to link the chapter on Bourdieu's theory of practice with the chapter on classical social theory. The reader is particularly encouraged to compare the philosophical traditions at the heart of Bourdieu's theory, notably franch phenomenology and structuralim with the rationality argument in the following chapter. It will help to understand the fundamental philosophical differences between the two culturally diverse social theory fields in continental Europe and the non-french-speaking (or German speaking) world.

2.7 Rational Choice Theory

2.7.1 An introduction to rational choice theory

Utilitarianism and rational choice theory are at the heart of much of modern social theory. It has been demonstrated in the previous chapter on action and praxis how utilitarian theory has influenced modem (as opposed to eighteenth, nineteenth, or twentieth century) theorists such as Weber and Parsons, Dewey and Mead, Garfinkel and even Giddens. To complete the discussion of social theory the author now embarks on a discussion of rational choice theory. Theories developed under this heading have very strongly influenced modem organisational theory and also modem economic theory. It will be shown in later chapters that utilitarian and rational choice theory form the core of the theories in both organisational theory and economic theory. It is therefore useful to explore some of the issues that are of concern to theorists. This chapter will mainly use an account by Peter Abell (1996) to explore rational choice theory. The discussion will necessarily be brief, and more targeted towards the uninitiated reader than the experienced theorist. A deeper discussion of rational choice theory would go beyond the boundaries set by this thesis.

Abell (1996) uses the words of Weber (1947) to start his account:

> *"Sociology ... is a science which attempts the interpretative understanding of social action in order thereby to arrive at a causal explanation of its course and effects."*
>
> Weber (1947)

Furthermore, Weber stated that:

> *"action is social when it takes account of the behaviour of others and is thereby oriented in its course"*

Weber (1947)

Abell points out that rational choice theory may be understood as one possible interpretation of Weber's program in that it assumes the least complex analytical conception of social action in arriving at a "causal explanation of its course and effects." It departs from phenomenological theory, which tries to identify ways of conceiving (social) actions that are locally detailed, and complex. Rational choice theory can be broadly defined as the search for an understanding of individual actors as acting, or more likely interacting, in a manner such that they can be deemed to be doing the best they can for themselves, given their objectives, resources, and circumstances, as they see them. As stated in the introduction to this chapter, the discussion here of rational choice theory must be necessarily brief and superficial (given the scope of the thesis). The reader is invited to refer to Coleman's (1990) *Foundations of Social Theory* and also to Coleman and Fararo's edited volume (1992) *Rational Choice Theory*, as well as to Abell's (1990) *Rational Choice Theory*. Furthermore, Cook and Levi's (1990) book The *Limits of Rationality*, as well as Elster's (1989a) *Nuts and Bolts* can be useful. A more qualitative perspective of rational choice theory can be found in Hechter's (1987) *Principles of Group Solidarity*, or Gambetta's (1993) *The Sicilian Mafia*. As will be explored in a separate chapter, recent advances in economic theory may prove to be of great value to theoretical explorations in sociology. The reader is referred to the chapter on evolutionary game theory for further references and theoretical discussion.

2.7.2   Contemporary Social Theory and Rational Choice Theory

Utilitarianism and Marxism make use of assumptions about individual rational actors. Pareto's theories are at the core of much of contemporary rational choice theory with his systematic analysis of inter-actor exchange (Coleman, 1986). Abell (1996) also argues that Weber's theories are of central importance to the understanding of the roots of contemporary rational choice theory. Rational choice theory favours a voluntaristic theory of action, or social interaction, and is less inclined to accept the exogeneity of norms and values. Theorists like Parsons have struggled to synthesise a model that account for the richness of individual action and links into the macro-level outcomes. Parsons himself adopted a very limited model of the individual. An appreciation of how rich our micro assumptions about individual actors and their interactions need to be is of great significance to rational choice theory. Rational choice theory, in advocating "the simplest model possible" places itself at odds with several other traditions of social theory, most notably interactionism and phenomenology. Humans' (1958) attempts to clarify the relationship between four bodies of theory: "behavioural psychology, economics, propositions about the dynamics of influence and propositions about the structure of small groups." He introduces the concepts of the benefits and costs of alternative courses of actions and declining marginal effects, and a conception of equilibrium or balance in exchange. Olson's (1965) *The Logic of Collective Action* and the subsequently produced literature by other theorists based on the principles of Olson's theories, has brought the issue of public goods, externalities, and club goods from economic theory into the centre of sociological theory (see Coleman, 1990). The use of game theoretic frameworks is increasingly common. Fararo (1973) was an early advocate, and Ullmann-Margalit (1977) brought the game theoretic analysis of the genesis of norms to sociological theory. In Axelrod's (1984) *The Evolution of Co-operation* economic theory and social theory merged further (see Kreps, 1990).

A diagram used by Coleman (1990) may illustrate the four generic types of causal relationships that need theoretical treatment in social theory.

This item has been removed due to third party copyright. The unabridged version of the thesis can be viewed at the Lanchester Library, Coventry University.

Figure 3 The Coleman - Lindenberg diagram

They are (according to Abell, 1996):

1. Macro level relationships
2. Macro level to individual level (micro) relationships
3. Micro (individual) relationships (values and action)
4. Micro level to macro level relationships

From a rational point of view the explanation of type (1) relationships is usually made through the conjuncture of the other three types. In that sense, rational choice theory can be seen as reductionist or methodologically individualistic. Coleman's (1990) diagram, so Abell (1992) suggests could be extended both upwards to "higher system levels" (social groups, organisations, and society) and downwards to sub-system (pico) levels. The macro-level states at the beginning and the end of the relationship may be identical but denoted at temporally separate. Rational choice theory seeks to provide deductive models of type (2), (3) and (4) relationships and combines

them to produce an understanding of type (1) relationships. Most contemporary analysis focuses its attention on type (4) relationships. The claims of rational choice theory (according to Abell, 1996) are that:

1. interpretative understanding is to be achieved by adopting "the simplest possible" model of individual rational choice in action
2. social action is to be interpreted as "the simplest possible" model of interdependent actions (or interactions) of individuals
3. causal explanations are to be established by the elucidation of type (2), (3), and (4) mechanisms.

The critics of rational choice theory point out that rational choice theory is proffered not as a descriptively accurate (realistic) model of individuals or their interactions but as a simplification thereof designed to render highly complex mechanisms which cannot be observed directly theoretically tractable. The advocates of rational choice theory try to identify an acceptable level of simplification. Lindenberg (1992) brings up two important criteria in this respect: minimum information per actor and the adoption of models that can be systematically and progressively complicated as need be. Abell (1996) points out that the simplicity of the model theorists should adopt of both individuals and their interactions will be directly proportional to the complexity of the "system whose behaviour is to be explained." He continues to argue that simplicity will be a function of the "distinctions we wish to preserve at the system level." The states that the maxim of no emergent distinctions is central. His explanation of this is that a distinction at the system (macro) level implies a distinction in its generating mechanisms at the micro level. Simplified, it means that there are no macro distinctions without micro distinctions. The reverse, as Abell (1996) argues, is not true. There may be micro distinctions without macro distinctions. Diverse micro processes may produce equivalent macro outcomes.

The second general issue in rational choice theory is that of interdependence. Weber was satisfied with a definition of social action whereby an action by one actor "takes account of the behaviour of others." Abell argues that one needs to be more precise here. Firstly, he points out, it is often not behaviour

but the action or social action of others which is taken into account. Second, he argues, an action by one actor may depend upon what others have done (and/or not done), are doing, or are expected to do. Abell terms such interdependent actions as strategic, and says that the appropriate analytical framework for such strategic interaction is game theory. He suggests an extension to the Coleman-Lindenberg diagram to illustrate his point that in practice much of the choice involved in modelling the micro-macro bridge centres around the selection of the appropriate model of social interaction, or more generally, action interdependencies.
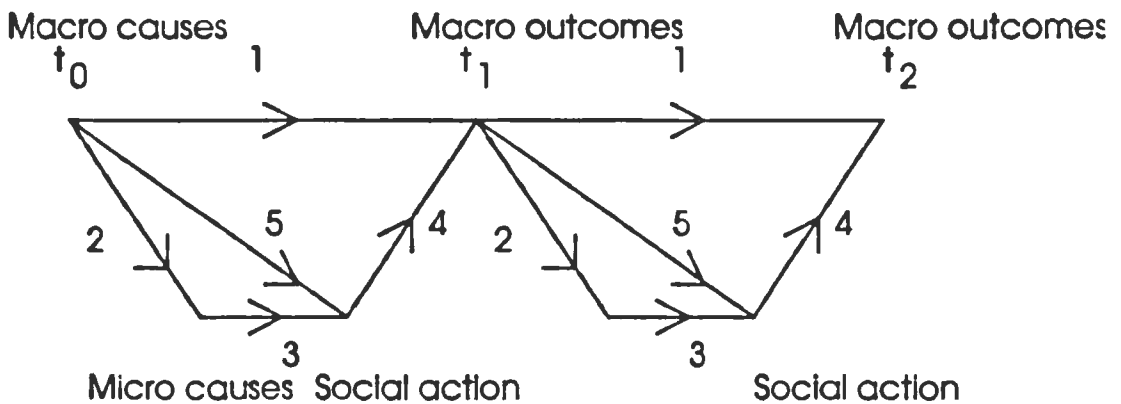
Figure 4 The Extension of the Lindenberg-Coleman Diagram

$$t_2 > t_1 > t_0$$

Abell's (1996) extension of the Coleman-Lindenberg diagram
(Corrected by the author since Abell labelled incorrectly)

The diagram helps to appreciate the many ways in which actions can be (inter)dependent upon one another.

2.7.3   Assumptions of Rational Choice Theory

The reader is referred to Moser (1990) and Elster (1989a) for a more detailed technical introduction to rational choice theory. The author will here only outline the main assumptions in no great detail. Rational Choice Theory starts out in the main with the following assumptions (as Abell, 1990, points out):

1. Individualism - it is only individuals who ultimately take actions and social actions and it is social actions that cause the macro social outcomes or events. Macro connections are established through the "causal" impact of macro social phenomena upon individual (social) actions

2. Optimality - individual actions and social actions are optimally chosen given the individual's transitive preferences (i.e. beliefs and affects) across the opportunities he or she faces

3. Self-regard - individual's actions and social actions are entirely concerned with their own welfare

Most rational choice theories make assumptions about transitivity. Usually it is assumed that if A is preferred to B and B to C, then A will be preferred to C. Abell points out that experimental evidence suggests that individuals do not always preserve transitivity (Kahneman and Tversky, 1990). Furthermore, he argues, individuals are often not able to compare options (partial ordering) or to choose between them (weak ordering or indifference). With regard to optimality, rational choice theory would be brought into question as a whole if individuals would insistently act in a way that is inconsistent with their preferences. Abell suggests three interpretations to overcome this theoretical problem:

1. individuals characteristically do not act optimally in terms of their preferences;

2. although individuals may act optimally in terms of their preferences, the preferences themselves are not optimally formed;

3. individuals do not act upon preferences at all, but are driven by forces beyond their control.

Elster (1989a) documents cases in which individuals may be said to be prevented from choosing the action which they prefer by weakness of will (i.e. smoking) - that is according to their better judgement. Furthermore individuals at times act impulsively or one can imagine situations in which desire clouds reasoning. So far the argument has only been that once preferences have been formed, the individual will pursue a course of action which is optimal for the achievement of these preferences. The next problem to be addressed is the formation of preferences, for it can be imagined that individuals form preferences that are not optimally constructed for them. These arguments could be addressed by looking in greater detail at the philosophical debate over reality. It might be that many of the rational choice theorists are caught in a philosophical dilemma over the optimality of preferences. The question has to be asked: optimal to whom? And is there such a thing as objective optimality at all? Taking the point of view that optimality is always subjective, it can be argued that any choice of preferences is optimal for the individual, although for an outside observer they may not seem optimal.

Particularly economists take the view that preferences are fairly universal and stable and are also formed in ways that resist the attentions of rational choice theory. Abell (1996) points out that an actor's preference driven actions will depend upon (1) the actor's beliefs or reasoning about the consequences of the available actions; (2) the affect for the consequences and perhaps the actions themselves. This view is consistent with utility theory (see Luce and Raiffa In Moser, 1990), on which much of rational choice theory is based. Claims about preferences perhaps not being optimally formed can be reduced

into more elementary claims. First, preferences are not optimally formed with respect to beliefs and affects. Second, that the actor's beliefs are not optimally formed. Elster (1989a) discusses the complex matter of belief formation. Abell (1996) interprets it to mean that given an actor's affects (wants), the information available/collected is sufficient to enable the actor to form beliefs about the possible courses of action available and their consequences so that a better alternative will not be ignored. Much of rational choice theory is devoted to the effect of incomplete information on social action, particularly in game theory. Boudon (1989) states that modelling both the nature and causes of the prevailing information conditions in which actors find themselves or create for themselves, and their attendant beliefs and reasoning, is often at the heart of the sociological enterprise. Simon (1982) argues that actors are satisficers and do the best they can, given their circumstances as they see them. On the question of the genesis and shaping of affects, rational choice theorists are inclined to invoke some social contagion or learning model. Kreps (1990) in particular argues that the way ahead is the combination particularly of game theory and learning theory. Elster (1989a) discusses structuralism as a special case. In structuralism actions are not driven by preferences, but that actions have some structural explanation. Social norms or institutions are sometimes deemed to operate in this manner, as Abell (1996) points out, reducing the scope of action to a fixed point. Modern rational choice theorists are prepared to adopt a rather relaxed point of view about optimality. Some idea that actors do the best they can, often in circumstances that they do not fully comprehend, is essential to the theory.

Rational choice theory does not implicitly or otherwise exclude the possibility that actors act not merely to satisfy their self-regarding preferences, but sometimes also other-regarding sentiments towards either individuals or collectives. Margolis (1982) has built altruism, malice, and more generally relative utilities into his version of rational choice theory.

2.7.4   Interdependence and Social Action

Abell (1996) distinguishes (in)dependent action and two types of (inter)dependent social actions, namely parametric social action and strategic social action. Social actions are parametric where the action of others can be taken as independent of what the focal actor does. The actor can take the actions, and consequences thereof, of others as given. The action environment of the focal actor is unreactive to what he or she does. Actors can be parametrically independent if each treats the other as an environmental given. Strategic social actions arise when an actor needs to calculate what others are doing or will do dependent upon his or her actions. The action environment is reactive to what he or she does. Rational choice theorists take a particular interest in "influence structures" when, in highly uncertain environments, it becomes rational for actor to copy those around them - rational mimetics (Abell, 1991). This links rational choice theory into theories of social contagion and network theories. Social exchange interdependencies are often studied in sociological literature. Parametric exchange models copy competitive models in economic theory. Strategic models analyse the tactics of actors in arriving at rates of exchange. Game theory then becomes central to understanding the macro outcome from a rational choice theoretical perspective.

2.7.5   Social Action and Game Theory

Game theory extends the theory of rational individual action to situations where actors take other actor's actions into account when acting themselves. The outcome of a particular action of an actor does not only depend on the actor him or herself, but also on the other actors' actions. The outcome, one of a set of possible outcomes, is generated by more than one actor. At the most general level game theory can be used to clarify the nature of strategic situations and wherever possible to point to an equilibrium solution (usually a Nash equilibrium or some refinement thereof). The equilibrium solution

predicts the actions (strategies) which each rational actor will take. In contemporary theory the distinction between zero-sum games and non-zero-sum games has been made, although most authors believe that the most fundamental division is between games of complete information and games of incomplete information. Games can be between two or more player (then usually called "n person games". Another distinction is that between co-operative and non-co-operative games. In co-operative games players can communicate with each other, in non-co-operative games no such co-operation takes place. Games in extensive form portray the sequential structure of a game and allow for the specification of imperfect information, and are now generally seen to be more important than standard or strategic games. Finally, repeated or super-games (finite and infinite times) occupy a central role in contemporary analysis. Repeated games enable concepts like trust and reputation to be handled with analytical rigor (Kreps, 1990). The reader is asked to move on to the chapter on evolutionary game theory for a better explanation of the use of game theory in social theory.

2.7.6 Summary of contribution of rational choice theory

The author's main reason for this brief discourse into rational choice theory was to explore the roots that underlie much of the social theory development in countries outside continental Europe; mostly in the UK and the USA. This was an important step in demonstrating the fundamental differences in philosophy that separate Bourdieu's theory or practice from social theories developed elsewhere. Where Bourdieu's theory is born out of an attempt to reconcile between the french phenomenology movement and that of structuralism, most of the social theories developed elsewhere are strongly influenced by rational choice theory. Rational choice theory states that human beings are principally actors, and that their actions can be understood by explaining the various roles that actors play out in different situations. In contrast, Bourdieu calls the subjects of discussion agents, and attributes a significant degree of independence and intelligence to the subject (the human being). He states that they are not merely actors acting out roles. The reader

can find here in the difference between the rational choice argument and the phenomenological structuralism of Bourdieu the fundamental reason for the difficulties that many social theorists have in reconciling between the classical and contemporary social theory as developed mainly in the UK and USA, and the social theory that comes out of continental Europe.

Social theory and rational choice theory lie at the heart of organisational theory, and much of the organisational literature in the US and the UK are greatly influenced by the philosophical traditions of these countries. Most of the organisational theory that is thaught at universities today (outside continental Europe) has its roots firmly in rational choice and classical social theory. The next chapter discusses this organisational theory. In the context of this thesis it is important that the reader has an impression of the prevailing arguments and discussions on organisations and decision making in organisations. Only with such an understanding of the traditional way of explaining organisational phenonema can the reader appreciate the difference between such attempts at explaining organisational phenomena and the authors' attempts at explaing the same phenomena through a different set of theories with fundamentally different philosophical roots.

2.8 Organisational Theory

2.8.1   Introduction to organisational theory

The study of organisations and in particular organisational behaviour has captured the attention of researchers for most of the twentieth and twenty-first century. Most of the theories that have been developed by the theorists in this area are based on social theory, psychology, and anthropology. As with much of the social theory, organisational theory is strongly influenced by utilitarianism and rational choice theory. Organisational phenomena are mostly explained using sociological terminology. As with social theory, the literature falls into several categories depending on the level of organisational phenomena that theorists have looked at. Broadly speaking the literature can be divided into macro- and micro-level studies. Micro-level theories seek to explain the actions of individuals in the organisational context, with actors mostly interpreted as rational human beings in the sociological interpretation (the reader is referred to the chapter on rational choice theory for a better explanation of the implications of this approach to explaining organisational phenomena). The macro-level studies take very much the same stance as much of macro-level or structural theory within social theory. The reader is reminded of Giddens' structuration theory as an example of this approach.

Both within the micro- and macro-level theoretical theories of organisational phenomena a great number of different variations have developed. Faced with the abundance of different theories attempting to explain organisational phenomena, the author had to make a decision on the depth and scope of the literature review in the area of organisational theory. A surface coverage of a great number of individual theories, he decided, would not meet the objectives for such a literature review in the light of the objectives of this thesis. On the other hand, an in-depth coverage of only a select number of theories would not do the field justice. The author decided on the following strategy given the objectives and constraints of the thesis: In the first chapter of the literature review of organisational theory, micro-level studies are summarised, focusing primarily on the dynamics of interaction and interdependence between actors in organisations. The author attempts to link individuals to the organisational

context and examines networks of interaction and formal structures in organisations. The latter forms a bridge from the individual to the organisational structure as a determinant of human behaviour in organisations. The second chapter then focuses on macro-level theories. In the third chapter, the concept of organisational culture is explored, and finally, in the fourth chapter, the concept of norms and the formation of organisational norms are explored.

The author would hope that it will become clear to the reader while reading the literature review of organisational theory that the metaphor of social resonance opens up new ways of understanding organisational behaviour both from a macro- and micro-level perspective. Much of the organisational theory is based on either micro- or macro-level social theory with utilitarianism and rational choice theory forming the predominant theoretical framework. This can be explained through the history of social and organisational theory development. Much of the early work was carried out in the United States and Great Britain. Parsons and other leading American authorities on sociological theory heavily influenced research here. Western European social theory (Germanic/French) did not and still does not feature greatly among the various organisational theories. The reasons for this apparent absence of such theories can be identified in the difference of philosophical traditions, making it difficult to fundamentally understand such theories, down to such issues as translation of documents, which links back into different language traditions, and through that into philosophical and cultural differences. The other important point to make here is that the micro/macro division of organisational theory, necessary in the sociological tradition of rational choice theory (simplification, see chapter on rational choice theory), has led to difficulties in linking micro with macro organisational theory. Social resonance, in this context, offers a great deal to organisational theory. On the one hand, through incorporating the rich Western European, and in particular Germanic/French sociological traditions, it opens up a new way of interpreting organisational phenomena along with a new language to describe them. On the other hand, the metaphor overcomes the traditional division between micro and macro level theories without sacrificing the principle of simplification to the level

appropriate to describe the complexity found in organisations (see Abell, 1992). The author believes that the metaphor of social resonance enriches organisational theory.

One can identify three main streams in organisational research. A micro-, macro- and most recently meso-level approach. The micro-level approach to organisational research is associated with psychological phenomena, the macro-level approach is linked to socio-economic features of organisations. The third, most recent development in organisational research is that of the emergence of a third stream, the meso-level approach. House & Rousseau (1995) first introduced the notion of meso level organisational research.

Within the micro-level theories, three main models can be identified, which inform most of the contributions either separately or by a combination of the three: a power model, a reward model, and a value consensus model. Research typically focuses on individual attitudes, cognitions, performance, and behaviours. Examples are McGregor (1960), most notably with his theory X and theory Y, Argyris (1964), Astley (1984) with his collective strategy model, Hertzberg (1959) with his hygiene factor model, Simon (1976), and more recently Morgan (1993) with his theories on creative management, Kim (1993), who looked at organisational learning, and Weick (1990) looking at stress.

Macro-level theories focus on outcomes on organisational level. Some of the areas of interest here are strategic change and structure-environment contingencies. Prominent writers in this area are, e.g. Pfeffer & Salancik (1978) with their theories based on resource dependence, Williamson (1979) with his transaction cost model, and Alchian & Demsetz (1972) with their theories addressing agency.

Meso-level theories advocate to address what House & Rousseau (1991) call the fundamental biases of non-meso work. They criticise micro- and macro-level research in particular for its overgeneralization and assumptions about similar concepts across levels, its underestimation of cross-level effects, and its reification of organisational structures. Key features of the meso-level approach as defined by House & Rousseau are: putting individual and group behaviour into context, the construction of context by individual psychological

processes and social dynamics, the expansion of units of study to include abstract organisational features (e.g. routines, procedures) as well as activities (events, cycles), and an appreciation of parallels and discontinuities in behavioural processes across individuals, groups and organisations.

Although the development of organisational research toward a notion of individuals in context comes some way in the direction of Bourdieu's theory of practice, it does not view the individual as an agent, but rather as an actor, playing roles. Too many of the notions of micro- and macro-level theory have been taken aboard to fully account for the richness of social interaction in organisations. The author hopes that by transferring Bourdieu's theory of practice into organisational research, valuable insights can be gained without falling into the old categories of micro-, macro- or even meso-level research, which in the light of Bourdieu's insights, fail to understand the individual as agent in a social context, and thus cannot fully understand organisations.

2.8.2 Interaction in organisations

From a micro-level perspective social interaction is a core process of organisational life (Stevenson, 1990). Recent conceptions of organisations have emphasised that organisations are enacted (Weick, 1979), and structured (Ranson, Hinings, and Greenwood, 1980) through interaction among organisational members. Cultural assumptions are established (Fine and Kleinman, 1979), institutional norms are established (Zucker, 1988) and political coalitions are mobilised (Pfeffer and Salancik, 1978); Stevenson, Pearce, and Porter, 1985) through interacting organisational members. Stevenson points out that organisations are unique compared to other social entities in that the individuals engaging in social interaction occupy positions in a hierarchical formal structure that specifies, to some extend, the lines of communications between individuals. Implicit in those propositions is that formal position affects the scope of interaction. The first studies of organisational interaction were descriptive (Jacobson and Seashore, 1951; Landsberger, 1961; Simpson, 1959; Weiss and Jacobson, 1955). These studies focused on individuals and the extend of vertical and horizontal ties

they engaged in. More recently, researchers have attempted to explain such ties as responses to the co-ordination needs of organisations. Hage, Aiken, and Marrett (1971) considered how variations in the Weberian characteristics of bureaucracy such as complexity, formalisation, and centralisation could be used to explain variances in communication rates. Van den Ven, Delbecq, and Koenig (1976) explored the effects of task interdependence, task uncertainty, and size of the work unit on the likelihood of impersonal, personal, and group modes of communication within the organisation. Network studies of organisational interaction have considered how individuals create their position in the organisation (Brass, 1984; Fombrun, 1984; MacKenzie, 1986). Stevenson (1990) proposes three basic models of interaction that he derived from the literature.

2.8.2.1 Hierarchical Authority

In models of hierarchical authority position gives individuals authority. The organisational chart establishes the formal lines of communication. These lines of authority are understood to be aimed at reducing redundancy in communication, eliminating overlapping spheres of authority, and ensuring that attempts at organisational co-ordination are successful. Gulick and Urwick (1937) and Weber (1947) can be seen as the principle advocates of this model. Stevenson (1990) points out that implicit in this hierarchical model is the assumption that hierarchical authority regulates the flow of interaction. Katz and Kahn (1966) state that communication flows are primarily vertically oriented, with authority-oriented communication cascading downward and information on task accomplishment flowing upward. In this model, there is no reason to expect any differences in communication patterns within and between departments, because positional authority remains constant regardless of who is the target of communication. Dansereau, Graen, and Haga (1975), Mowday (1978), and Porter, Allen, and Angle (1981) all point out that focusing on the effects of formal hierarchical authority leads to an emphasis on the upward and downward flow of communication and influence attempts, and the placing of less emphasis on coalitions and collective action.

2.8.2.2 Rational Co-ordination

Contingency theorists like Lawrence and Lorsch (1967), Thompson (1967), and Galbraith (1977) argue that the uncertainties generated by the external environment and the technology of the organisation can be reduced through the creation of organisational positions specialised to deal with specific uncertainties. Contingency theorists argue that the classical principles of theorists such as Weber are normative and contradictory (Simon, 1946). A more theoretical perspective is advocated. It is based on the limited cognitive abilities of actors that leads to a specialised division of labour necessary to overcome these cognitive limitations of actors. The main advocates of this are Simon (1957), and March and Simon (1958). Williamson (1975) added to this argument by saying that the creation of organisational structures served to facilitate the auditing of behaviour as well as addressing the problem of the bounded rationality of the actors. Thompson (1967) implicitly considered that the functions of management differed across vertical levels as managers (subject to bounded rationality) attempted to deal with environmental and technological uncertainties. He considers the assumption of Parsons (1960) that the vertical division of labour within organisations resulted in separate technical, managerial, and institutional subsystems at the bottom, middle, and top levels of management.

Parsons view of hierarchical subsystems (according to Stevenson, 1990) can be used to generate propositions about differences in interactions across levels. According to Parsons (1960), the technical subsystem at the lowest levels of the hierarchy is concerned with accomplishing the daily work of the organisation; the managerial subsystem mediates between the institutional level at the top and the technical level below; the institutional subsystem is concerned with policy issues involving the relationship of the organisation to the external social environment. Taking this point of view, interactions would not be expected to be constant across levels of the organisation. These differences in levels have implications for interaction within and across organisational units. Given that the middle is trying to co-ordinate diagonally between the bottom and the top across organisational units, a triangular pattern of communication may be observed across organisational units (Hage,

1974). Hage states further that the middle level serves to "knit together" organisational activities across units. He goes on to say that the outcome of patterns of interaction within and across units is to socialise individuals into the formal norms of the organisation or to audit behaviour to ensure the organisational compliance (as Williamson, 1975, and Galbraith, 1977, put it). This is meant to ensure that actors are less likely to engage in collective actions that may represent conflicting interests within the organisation.

2.8.2.3 Status Differentiality

Stevenson (1990) describes this model as the third principle model of interaction in organisations. The model introduces considerations for status differentials across levels of the organisation. Barnard (1946), Michels (1949), Thompson (1961), and Blau and Scott (1962) have written about the role of status in interaction. They all assumed that the prerequisite of higher-level positions, as well as a greater control of information and resources, was that upper-level positions have greater status within the organisation and the position holders are desirable interaction partners. This vein of thought links into the debate over symbolic power. The reader is referred to the discussion of Bourdieu's interpretation of capital, which can also be interpreted as symbolic capital (such as power and status). The reader is further referred to the chapter on power in organisations further on in this review of organisational literature. Blau (1977) identifies two dimensions or "structural parameters" included in formal position that constrain interaction. He considers membership in a department as a nominal parameter that constrains individuals to interact more within their departments than across departments. He further assumes that membership in a hierarchical level is a graduated parameter that leads to a diminishing of interaction as the difference in hierarchical level increases because "sociable intercourse is expected to be inversely related to the status distance between persons." (Blau, 1974: 617). Blau also considers the size of groups as a determinant of inter-group interaction. Bacharach and Lawler (1980) state that if hierarchical level is a graduated parameter, then social distance between higher- and

lower-level positions would inhibit interactions between levels at greater hierarchical distances from each other. It is assumed that occupancy of a formal position also implies that the nominal parameter of department membership would have effects on interaction (Stevenson, 1990). Lincoln and Miller (1979) state that this argument is similar to the rational co-ordination requirement that the top-level employees must co-ordinate a great deal with each other and would interact a great deal among themselves. Stevenson (1990) hypothesises that a consideration for status differentials leads to predictions for interactions across the entire organisation. The effects of social distance increase as individuals have to interact with each other outside of their organisational units. This status effect is likely to be strongest at the top (Blau, 1977), in which a small high-status group is likely to be biased towards interacting with each other when crossing sub-unit boundaries. Rytina and Morgan (1982) point out that this may lead the top-level employees to form an elite group that interacts more frequently among themselves than with others. The middle group as co-ordinators between levels would seldom interact among themselves and would lack group identification. The bottom-level may also develop some group identification among themselves and interact, but they are likely to be less cohesive than the top level due to the larger numbers of individuals in the lowest level category.

2.8.3 Interdependence in organisations

From a social theory point of view, the study of the actions and interactions of actors is of prime concern in seeking to understand macro-level phenomena. It is not surprising then that organisational theory mimics social theory in its endeavour to understand organisational phenomena by looking at actor's individual actions and social actions (interactions) and the (inter)dependencies of such action that can be identified. The theories on social interactions have been explored in the previous chapter. The next are of theories to look at is the area of interdependence. The study of interdependence of actors pervades much of the organisational theory. From the point of view of the

theorists following this notion it is fundamental to the understanding of organisations to understand the interdependencies between the actors in the organisation. It is argued (see Tjosvold, 1986) that work groups, departments, and individuals all depend on each other. He points out that even persons who work independently at their job require others to provide information and supplies to complete their work. Each organisation depends on other persons and organisations (Pfeffer and Salancik, 1978). Theorists have proposed (Allport, 1962; Barnard, 1948; Weick, 1979) that interdependence and subsequent interaction among individuals and groups are the basis for organisations. Task interdependence (Thompson, 1967; Van den Ven, Delbecq, and Koenig, 1976), co-ordination procedures and devices (Galbraith, 1973; Lawrence and Lorsch, 1967), interlocked behaviour (Weick, 1979), role interdependence (Cheng, 1983), and corporate philosophy and values (Jelinek, Smircich, and Hirsch, 1983; Wilkins and Ouchi, 1983) have been considered important ways to examine organisational interdependence. As can be seen from the discussion of interaction, leaders structuring work and expressing consideration (Kerr and Schriesheim, 1974), group processes that mediate task groups (Hackman and Morris, 1975), openness of ideas and feelings in decision making (Argyris, 1970), and supportive relationships (Likert, 1967) have all been thought to be important characteristics of organisations. As Tjosvold (1986) points out, studies of interaction seldom examine interdependence or its impact on how actors work together. The following section examines traditional approaches to interdependence in organisations.

2.8.3.1 Task Interdependence

Thompson (1967) argues that interdependence could be based on workflow or task interdependence. He assumes that organisational units are goal interdependent. Each unit's production contributes to the company and thereby affects the outcomes of other units. He goes on to say that the nature of technology needed for production affects behaviour interdependence. In what he terms pooled interdependence, units have no need to interact for they do not rely on each other's output. Units are in sequential interdependence

when one of them needs the output of the other to do their task. Units are in reciprocal interdependence when each acts on the output of the other. Van den Ven et. Al. (1976) used Thompson's distinctions to analyse interdependence within the work group and added a fourth, team arrangement, in which persons jointly work on a task. The research team extended Thompson's theory by saying that task interdependencies are related to the procedures used to co-ordinate work. With increases in task interdependence, groups continued to rely on rules, schedules, policies, and other impersonal co-ordination mechanisms, but increasingly used interpersonal and group discussions. Lawrence and Lorsch (1967) and Galbraith (1973) have argued that task and environmental uncertainties increase the need for co-ordination. When uncertainty is low (actors have all the information they need to complete the task) they rely on standard devices of rules and procedures. The more uncertainty is encountered, the greater the need for exchanges of information and interaction between individuals and groups, and the greater the need for co-ordination devices.

2.8.3.2 Role Interdependence

Roles stipulate how organisational actors are expected to act towards others. They affect interdependence (Roos and Starke, 1981). Roles may indicate that actors are to act independent or give the actors complementary or overlapping responsibilities. Research in this area has concentrated on how actors come to learn about their roles and the effects of roles on individual behaviour. Graen (1976) states that the interpersonal context and other role players are considered important for recruits to learn their roles. Cheng (1983) points out that little research has been carried out on the impact of roles on interdependence. Roles are themselves insufficient to understand interdependence and interaction. Stewart (1982) argues that roles identify behaviours that are required, prohibited, and discretionary.

2.8.3.3 Reward and Co-ordination

Rewards are important determinants of behaviour in organisations (Tjosvold, 1985). Studies comparing group and individual rewards suggest that when rewards are given to the group rather than the individuals, persons are more inclined to share information and assistance (Tjosvold, 1984a). Schuster (1984) identifies the value of profit-sharing plans in his research, and states that they can improve co-ordination across the units of an organisation. The structure and distribution of rewards significantly affect interdependence and co-ordination (Tjosvold, 1985). Campbell and Pritchard (1976) point out that despite this researchers have been preoccupied with the impact of rewards on the motivation of individuals and sometimes on a unit as a whole.

2.8.3.4 Values and Interdependence

Jelenik et.al. (1983), and Wilkins and Ouchi (1983) point out that shared values about relationships and persons in the organisation may help to forge a cohesive organisation. Pritchard and Larasick (1973) see openness and cooperativeness of the workforce as important contributors to the organisations' climate. Tjosvold (1985) states that values are embedded in stories that circulate among members of the organisation. These stories serve to alert recruits and remind long-term employees of the corporate culture. A much more detailed discussion of values can be found within other chapters of this thesis. The author will, at this point, only discuss values in the light of interdependence theories. Ouchi (1981) and Peters and Waterman (1982) have argued that successful companies develop a corporate philosophy that conveys to members that the company values them as persons and wants them to develop trusting, personal relationships with each other. These shared values are hypothesised by these researchers to bind employees to each other and the organisation, and to result in a cohesive company in which individuals and groups effectively exchange ideas and information. In that sense, values can be seen to influence interdependencies between individuals or groups in organisations. Individuals and groups place a value on

the interdependence with other individuals and groups, and will co-operate more or less voluntarily depending on the values held.

2.8.3.5 Interdependent Behaviour

Weick (1979) vehemently argues that it is behaviour that is interdependent in organisations. He gives the example of the proposition of various ideas by one person affecting the participation of others in a group meeting. He continues that these behaviours are organised into loops that may spiral or stabilise. One person's reticence may make others less likely to comment. Weick argues that when behaviours affect each other in a mixed way, stable causal loops evolve. After engaging in mutually facilitative behaviour, organisational actors may conclude that they have common ends. Frustrating behaviour may lead to the conclusion that they have diverse ends. Weick (1967) has also argued that not all interactions are equally connected. Individuals and units might be loosely coupled together. They retain their own identity, their interaction is weak, and changes in one leave other units relatively undisturbed. Weick uses the concept of loose coupling (interdependence) to explain certain organisational phenomena. For example, units are more able to change without the consent of other groups, adapt to the environment, and avoid expensive co-ordination.

2.8.3.6 Goal interdependence

Deutsch's (1973, 1980, 1985) theory of co-operation and competition is also known as goal interdependence. This theory is very prominent within social psychology. According to Tjosvold (1985), goal interdependence theory has several important advantages as a basis for a model of organisational interdependence. The theory predicts both the interaction that results from the interdependence and the consequences of the interaction. Goal interdependence is concerned with a wide range of variables such as interaction patterns, feelings and attitudes, productivity, and learning. The central proposition of Deutsch's (1949, 1973, 1980) theory is that the perceived interdependence of goals significantly affects the dynamics and

outcomes of social interactions. In positive goal interdependence, actors perceive their goals as positively related. In negative goal interdependence, actors believe that their goals are negatively related. A third possible state of goal independence can be theorised when goals appear to be unrelated, the goal of one actor neither facilitates nor hinders others from pursuing their goals. Deutsch theorised that perceived goal interdependence affects both the patterns of interaction and the consequences of interaction. These findings are supported by analyses by Johnson, Johnson and Maruyama (1983), and Slavin (1983). In their study they found that positive goal interdependence resulted in higher productivity than negative goal interdependence or non-related goals. Goal interdependence theory has been criticlsed, among others by Weick (1979), for concentrating on documenting the effects of goal interdependence on interaction, and not on "causal loops". The critics hold that taking one behaviour out of this loop and labelling it the cause, and the others' as "effects", is arbitrary.

2.8.4   Individuals and Groups in the Organisational Context

The previous two section dealt with social action in organisations from a micro-level perspective. O'Reilly's (1991) concluded that the field of micro organisational behaviour of the 1980s and early 1990s focused on the same five areas that Mitchell (1979) had already identified in his review: motivation, work attitudes, job design, tumover and absenteeism, and leadership. He identified that most studies focused on subtle conceptual refinements, on determining the boundary conditions for well established theories, and on methodological issues. Capelli and Sherer (1991) have carried out a similar review and conclude that much of the field has moved away from a contextual focus, notably in the areas of job design and leadership. Mowday and Sutton (1991) find that the field had moved away from contextual analysis towards a cognitive approach. Schneider, Staw and Sutton (1987) see the research into how individuals shape the organisational context as one of the key competencies of the field of organisational behaviour. The research discussed in this review of the literature is based on three perspectives that

explicate how the organisational context is presented to and is experienced by individuals and groups. These perspectives are informed by the work of Mischel (1977), Blau (1987), Huber (1990), Pfeffer (1991) and Staw (1985).

2.8.4.1 Context as Opportunity and Constraint

Sociologists have portrayed context in terms of the opportunities and constraints it presents to individuals and groups (Blau, 1987; Huber, 1990). Organisational researchers have relied more on individual characteristics such as motives and needs to explain behaviour. Job-enrichment techniques (Hackman and Oldham, 1980) can be viewed as methods for enhancing individual and group opportunities. In contrast, goal setting (Locke and Latham, (1990) can be seen as constraining behaviour (Staw and Boettger, 1990). Staw and Boettger's (1990) work on task revision benefits from using the distinction between opportunity and constraint. Task revision occurs when a person's action differs from the actions he or she is expected to take. Poor performance often results when people deviate from role expectations, but task revision may enhance performance when expectations are flawed. A field experiment by Greenberg (1990) further illustrates how contextual changes can create opportunities that influence behaviour. He monitored theft in two plants in a company that imposed a pay-cut. Levels of theft went up. In a manner consistent with equity theory (Adam, 1965), employees who experienced inequity saw theft as an opportunity to restore the imbalance created by the pay-cut. Two ethnographic studies by Palmer (1990, 1991) focused on how the context in which people behave constrains their actions. Palmer studied deceptive communication among lobstermen. He concluded that his findings of far fewer deceptive messages being communicated than could be expected was linked to the nature of the community the fishermen lived in. The close-knit social community acted as a constrained to behaviour which would otherwise be in the best interest of the fishermen. Murnigham and Conlon's (1991) study of British string quartets further illustrates the constraining influence of context. They found that more successful quartets had implicit but well-established rules constraining talk about sensitive issues,

which worked in the quartets' favour. Other studies by Sutton and Rafaeli (1988) and Rafaeli and Sutton (1990) support this notion further.

2.8.4.2 Context and Space and Time

Staw (1985) argued that the proximity between independent and dependent variables is a key dimension. Claims about relationships between phenomena farther apart in distance (space) or time are inherently more interesting than those about relationships between spatially or temporally more proximate phenomena. Barley's (1990) study of radiology departments is a classic in this area. He studied how technological change influenced the radiology occupation in terms of role relationships. He found that contextual change occurring at a great distance (in time and space) had a profound impact on behaviour within organisations. Barley (1990:70) suggests the notion of "technically occasioned social change". He also documented that the change in technology had implications that spanned levels of analysis, ranging from the micro (individual skills and abilities) to the dyadic (interaction patterns), the department (structure), and the organisational set-up (status structure). Rafaeli and Sutton's (1991) efforts to distinguish variations among emotional contrast strategies ("good cop", "bad cop" strategies) illustrate how the distance dimension can be used to characterise the social context. Rice and Aydin (1991) and Rentsch (1990), as well as Galaskiewicz and Burt (1991) found evidence to support the claim that distance influences context. Rice and Aydin and Rentsch adopted the social-information-processes approach and found that attitudes formed by organisation members are influenced strongly by people with whom they have frequent contact. Kahn's (1990) study of personal engagement and disengagement at work illustrates the concept of psychological distance. Kahn argues (1990:692) that "people are constantly bringing in and leaving out various depths of themselves during the course of their work days." Ancona (1990) studied teams of consultants and found that the extend to which steps are taken to increase or decrease the distance from the organisational context may influence performance. Ancona's (1990) findings suggest that teams were more successful to the extend that they took steps to decrease social distance from their organisational contexts. Eden

(1990) illustrates the temporal dimension. He studied both stress and strain levels during shutdown of computers at an Israeli university and found a temporal relationship between levels of strain and earlier events. Hackett (1989) studied absenteeism among nurses and found there to be a relationship between external events and absenteeism over temporal distances.

2.8.4.3 Similar and Dissimilar Contexts

Pfeffer (1991) argues that a person's location in the social context influences his/her contacts and experiences within the organisation. The following section discusses recent research into how behaviour in organisations is predicted by the degree of similarity among individuals who compose them. Pfeffer (1983) observed that organisations are fundamentally relational entities. Similarity between those entities can be measured along numerous dimensions. Most researchers have adopted a sociological approach and focused on demographic variables. Pfeffer (1983) argues that the demographic composition of groups and organisations has implications for behaviour above and beyond average levels of group demographic characteristics. McCain (1983) found that such characteristics as age, tenure, education, and gender influence outcomes such as employee turnover. O'Reilly (1989) found this to be true for social integration, Tsui and O'Reilly (1989) for supervisor-subordinate relationships, and Zenger and Lawrence (1989) for communication patterns. Jackson et.al. (1991) published a study that recognised that sociological approaches to relational demography complemented psychological theory on interpersonal attraction. They contend that Pfeffer's (1983) arguments from demography and Schneider's (1987) attraction-selection-attrition model led to similar predictions. Pfeffer (1983) is primarily concerned with group- and organisation-level explanatory variables. Schneider (1987) is concerned with the individual-level process of attraction to similar others as a determinant of homogeneity in organisations. He concludes that the processes of attraction, selection, and attrition increase homogeneity in organisations because those inside the organisation attract and select others like themselves and those who differ from most others in the

organisation tend to leave. Schneider (1987) emphasises similarity of personality, values, and interests; Pfeffer (1983) emphasises similarity in demographic characteristics. Jackson et.al. (1991) tested and confirmed a number of hypotheses consistent with both approaches. A series of studies on individual- organisation fit (Chatman, 1991; Caldwell and O'Reilly, 1990; O'Reilly et.al., 1991) used a new approach to assess person-organisation fit. The new measurement tool, the Organisation Culture Profile, allows individuals, jobs, and organisations to be described along identical value dimensions.

Pfeffer's (1992) book suggests that individual attributes such as energy, focus, sensitivity, and flexibility help actors to use power effectively. The organisational context may have little or no influence when individuals or groups are buffered from or simply ignore organisational context. Kaprow (1991) studied fire fighters in New York, and concluded that fire fighters had maintained control over their work despite increasing bureaucratisation, rules, and procedures, because their often heroic acts shielded them from external changes. Stevenson and Gilly's (1991) study illustrates the limited effectiveness of one organisation's efforts to control information flow. They found that location in a social structure (one dimension of context) had greater influence than the formal control system (another dimension). Staw et.al.'s (1986) study found that affective disposition early in life predicted job attitudes nearly fifty years later on. Gersick and Hackman (1990) wrote a conceptual paper discussing the nature, antecedents, and consequences of habitual routines in task performing groups. They note that routines are often dysfunctional when groups respond to a familiar stimulus but in a different context. Habitual routines insulate the group from contextual changes. All these papers illustrate that the presence of contextual variables does not mean they will shape behaviour. As Mowday and Sutton (1993) put it, "the context must act on, be noticed by, and be construed as important by individuals and groups before it can influence their behavior."

2.8.4.4 Context as a Consequence of Behaviour

The organisational context can be viewed a consequence of individual or group behaviour. Staw and Sutton's (1992) work into "macro organisational psychology" suggests at least three ways in which members' cognitions, emotions, and behaviours can shape processes and outcomes at the organisational level. First, autonomous groups or individuals take actions that reflect their own preferences but may claim that such action reflect organisational policies and procedures (Staw, 1991). The second way individuals influence organisational context occurs when powerful individuals (or groups) take actions that influence organisational structures, processes, or performance. The third occurs because the aggregation of individual thoughts, feelings, and behaviours can influence the organisation as a whole.

There has been much debate over the influence leader have on organisational attributes and outcomes (Bass, 1990). A consensus seems to be emerging that leaders have at least a small influence, although Pfeffer's (1977) earlier studies asserted that leaders have little influence over organisational performance. Miller and Droge (1986) found that CEO need for achievement was a stronger predictor of structural variables including centralisation, formalisation, and integration in smaller and younger firms than in older and larger firms. Mowday and Sutton (1993) extensively reviewed the literature on this subject and found two general paths through which powerful individuals influence organisational attributes, processes, and outcomes. (1) by making decisions that affect organisation, and (2) by shaping the thoughts, feelings, and actions of people inside and outside the organisation. Research conducted from a behavioural decision-making perspective has identified shortcomings in human information processing and judgement, including escalation of commitment to a failing course of action, overconfidence in judgement, limited perspective, and problem-framing. Zajak and Bazerman (1991) present an argument that individual cognitive shortcomings can be used to explain poor strategic decisions in organisations. They also explain why there are often "irrational bidders" (Porter, 1980:355) when two or more

companies compete to buy the same company. Their perspective illustrates how leaders' cognitive limits can lead to decisions that change organisational size and performance. Staw et.al. (1981) suggests a threat-rigidity model and argue that distress can hinder leaders' cognitive processes and cause them to make poor decisions. D'Aveni and MacMillan (1990) compare the stories of leaders from bankrupt companies with those from non-bankrupt companies and interpret their results as evidence that financial threats cause perpetual narrowing and an inability to focus on long-term planning.

The notion that leaders influence others' thoughts, feelings, and actions can be found in the vast leadership literature. Bass (1990) notes that only a few writers consider how leaders influence organisations and institutions. Schein (1990) shows in his research that the actions of a company founder can be enduring determinants of assumptions about how employees should be controlled, rewarded, hired, promoted, and fired, as well as assumptions about how to cope with critical incidents and crises. Pfeffer (1981) argues that a leaders' most important task is to provide "explanations, rationalisations, and legitimisation for the activities undertaken in the organisation". Marcus and Goodman's (1991) study provided insights into the conditions under which leaders' self-serving attributions help or hurt a firm's reputation. Their findings where that defensive signals following accidents usually had a positive influence on stock price, whereas accommodating signals when internal scandals occurred usually had the same effect. Ashford and Gibbs (1990) argue that when leaders make visible attempts to manage their organisation's image they risk being viewed as manipulative. Westley (1991) drew on published sources to explain how rock-star Bob Geldorf used "visionary" leadership to organise the live-aid concert. Westley demonstrated how Geldorf's personal background, reputation, interpersonal skills, and knowledge of the music industry allowed him to take advantage of a moment in history when the structure of the music industry could be used to mobilise and co-ordinate rock stars for fund raising around the world. Biggart (1989) suggests that having a charismatic founder who can create excitement, commitment, and effort in followers is essential to organisational success. Lindholm's (1990) book brings together views from philosophy, anthropology,

sociology, and psychology to show that charismatic relationships between leaders and followers often lead to destructive ends.

Schneider asserts that the aggregate characteristics and behaviours of individuals exert important influences on organisations. Several recent papers are consistent with his view that "the people make the place". James March's (1991) work on organisational learning and memory considers how, in the aggregate, the cognitions and actions of individual members influence the organisation as a whole. March considers how the kinds of people hired by the organisation, the rate of socialisation of newcomers, and turnover influence stability and change in the organisations' code (i.e. language, beliefs, and practices). Walsh and Ungson (1991) also consider the notion that the cognitions and actions of individual members can, in aggregate, influence the organisation. They argue that not only is an organisation's memory an individual-level phenomenon, but much (although not all) of an organisation's memory resides in the heads of its members. Walsh and Ungson (1991) argue that an organisation's culture is an aggregation of individual's shared beliefs. George (1990), in a study of retail stores, found that measures of individuals' felt emotion could be aggregated and transformed into useful measures of positive and negative affective tone.

2.8.5 Inter-organisational Relations

After having discussed the area of individual interaction and their impact on the context of the organisation, and the context's impact on individual's actions, the author now turns his attention to the study of inter-organisational relations. According to Galaskiewicz (1985), the body of knowledge in this area of organisational theory is highly fragmented, and the scholarship uneven. This author's review of the literature draws heavily on reviews by Guetzkow (1966), Van den Ven (1976), Pfeffer and Salancik (1978), Aldrich (1979), Van den Ven and Ferry (1980), Aldrich and Whetten (1981), Whetten (1981), Rogers & Whetten (1982), Mulford (1984), Galaskiewicz (1985), Gartrell (1987), Zalesny and Ford (1990), Marsden and Friedkin (1993), and

Mowday and Sutton (1993). According to these sources inter-organisational relations can be divided broadly into three categories: resource procurement and allocation, political advocacy, and organisational legitimisation. Research within these areas has been carried out at the level of the dyad, action set, and the network level. Dyadic studies are represented by, e.g. Reid (1964), Hall et.al. (1977), and Galaskiewicz and Marsden (1978). Action set research can be found in writings by, e.g. Stern (1979), Hirsch (1972), and Alford (1975). Van den Ven (1979), Galaskiewicz (1979a), Knoke and Rogers (1979), Burt (1983), and Oliver (1990), among others, have theorised inter-organisational relations at the network level.

2.8.5.1 Resource Procurement and Allocation

The procurement of facilities, materials, products, or revenues to ensure organisational survival has been cited as the most important reason for inter-organisational relations, among others, by Aldrich (1979), Hall (1982), Whetten (1981), and Laumann et.al. (1978). According to Galaskiewicz (1985), Yuchtman and Seashore (1967) wrote "the definitive theoretical treatise outlining the resource procurement position, reflecting an open system perspective". Guetzkow (1966), Gouldner (1959), and Burt (1982), among others, assume that organisations strive for autonomy. Zeitz (1980) comments that given the choice, organisations would prefer not to establish inter-organisational relations, as these relations can constrain their subsequent actions. Laumann et.al. (1979) comments that organisations can be seen as competitive, each striving to achieve its own goals. This view is in line with neo-classical microeconomic theory. Laumann, in the same article, continues to say that the final allocation of resources is the product of a large number of small decisions negotiated at the level of the inter-organisational dyad. Rogers and Whetten (1982) take the view that there are centralised redistributive structures that co-ordinate the allocation of resources to member organisations. These "inter-organisational organisations", according to Rogers and Whetten (1982) are often created by members themselves. The issue of power dependence has interested organisational sociologists, and some theorists see them central to the problem of resource procurement and

allocation process. According to Galaskiewicz (1985), in the literature on inter-organisational relations, power has been conceived in relational terms. He goes on to say that power has been seen in a social exchange framework. Early work on power can be found in Levine and White (1961), who describe barter and exchange in inter-organisational relations. For them, barter and exchange is a voluntary activity between two organisations that help them to realise their goals. In their eyes, it encompasses both co-operative and co-ordinative behaviour. Mulford and Rogers (1982) point out that co-operative and co-ordinative behaviour assume common goals and some level of joint decision making. Cook (1977) limits the use of exchange to "voluntary transactions involving the transfer of resources between two or more actors for mutual benefit". The focus was on individual goal attainment rather than joint or collective action. Aldrich (1979) notes that once exchange relations among organisations were defined in terms of resource dependence, researchers could address the power differentials that exist among exchange partners. According to Blau (1964), research could consider the conditions under which actors would be able to maintain their independence in a situation of potential dependence. Resource dependency theory has received a great deal of attention in the organisational literature (Galaskiewicz, 1985). Cook (1977) points out that a number of studies have found a strong positive association between organisations' network centrality and their reputed influence in community affairs. Studying a wider range of organisations Galaskiewicz (1979a) found that organisations receiving a greater proportion of their income from extra-local sources were more peripheral to local exchange networks of money, information, and moral support. Using data from Salancik (1976) on affirmative action compliance in the United States, Pfeffer and Salancik (1978) found that when enforcement pressures were assumed to be greatest, responses evidencing concern for affirmative action were strongly related to the degree of the organisation's dependence on the government for revenues. El-Ansary and Robicheaux (1974) point out that power dependence propositions have also been tested on leadership and control patterns within marketing channels, shifting attention from a channel member's formal authority or power resources to dependencies among actors in the network. In Galaskiewicz's (1985) review of the literature, he points out

that other resource dependency studies have been more descriptive and methodological. Their purpose has been to describe the pattern of dependency or exchange relations among structural positions within a field of organisations rather than to test for the effects or dependency on organisations' strategy, structure, or reputation. Galaskiewicz (1985) criticises resource dependency theorists for having paid little attention to the creation of groups among horizontally interdependent organisations or the effects of these groups on resource procurement and allocation processes. He points out that economic theorists have carried out a considerable amount of research on the effects of cartels and oligopolies on industry profits. He points the reader to Khandwalla (1981) for a review of this literature. Environmental constraints on strategic choice also seem to be an understudied area. Aldrich (1976) as well as emery and Trist (1965) point out that variation in the resource environment could affect the options open to decision makers. They say that as the resource environment becomes richer or leaner, more or less stable, more homogeneous or heterogeneous, or more concentrated or dispersed, the options available to organisations change accordingly. Zeitz (1980) argues that the material environment can delimit the options of organisations. Another set of environmental constraints is embedded in the institutional environment. Aldrich (1976), Hall et.al. (1977), and Schmidt and Kochran (1977) argue that a considerable number of inter-organisational relations are mandated by law and that co-operation among human service organisations is often explained by these mandates. Fennema and Schijf (1979) give another example of inter-organisational behaviour constrained by legal requirements. Pennings (1981) makes the observation that not every organisation in an inter-organisational field is a potential source of resources for every other organisation, and argues that organisational domains or product lines are another set of constraints on strategic action. The range of potential transactional partners is constrained by the inputs needed and the outputs produced by organisations. He distinguished between three types of interdependence: horizontal interdependence, symbiotic interdependence, and vertical interdependence. Firms horizontally interdependent compete with each other in obtaining similar resources and disposing of similar goods and services. Symbiotically interdependent organisations complement each other

in that they render services to one another, but do not control the resources the other needs. Pennings (1981) argues that only vertically interdependent firms are viable transactional partners.

2.8.5.2 Inter-organisational Relations and Uncertainty

Simon (1957) and March and Simon (1958) have led sociologists and organisational theorists to realise that reducing uncertainty for organisational decision makers can have as much to do with explaining inter-organisational relations as power dependency. Galaskiewicz (1985) argues that environmental uncertainty can motivate organisations to develop inter-organisational relations, both vertically and horizontally, to cope with uncertainty. Pennings (1981) distinguishes three inter-organisational strategies to manage vertical and horizontal interdependencies: forecasting, forestalling, and absorption. Forestalling, according to Pennings, is coping behaviour that prevents or controls the emergence of unpredictable behaviour of other organisations. He gives the example of horizontal mergers, vertical mergers, joint ventures, innovation, product differentiation, and regulation. Forecasting is coping behaviour that predicts or forecasts the behaviour of interdependent organisations. Examples given by Pennings (1981) include regulation, organisational intelligence, and flows of personnel. Absorption is coping behaviour that mitigates the negative consequences of other organisations. Examples given include regulation, licenses and imitations, antitrust suits, and horizontal merger. Leblebici and Salancik (1982) found that uncertainty prompts greater formalisation and control in inter-organisational relations. Galaskiewicz and Shatin (1981) found that greater environmental uncertainty prompted organisational administrators to seek out inter-organisational partners whose executives had similar backgrounds to theirs. Aldrich (1979) describes how uncertainty gives rise to boundary-spanning activities. These activities can be carried out either through boundary-spanning roles (as described in Guetzkow, 1966; Thompson, 1967; Aldrich and Herker, 1977; and Adams, 1976), interlocking directorates, or inter-organisational brokers (as described in Aldrich, 1982; Galaskiewicz, 1982). Studies looking at the relation between environmental uncertainty and board

interlocking (e.g. Pfeffer, 1972, 1973; Schoorman et.al. , 1981) found that the size of the board was related to the organisation's need for linkage to the environment determined both by its capital structure and by its size and visibility. Burt (1980, 1982, and 1983) builds on the idea that board interlocks are strategies to coopt problematic elements in the environment. Burt argues that interlocking directorates should be observed where they can eliminate constraint for corporate actors and should not be observed where there is no constraint to eliminate. Burt shows that interlocking was greatest where one industrial sector was highly dependent upon another sector for sales and purchasing and where the latter sector was highly concentrated. Ornstein (1984) argues that interlock ties established to coopt problematic elements in a firm's environment will be continued by the creation of new, or the maintenance of already existing, interlocks between the same firms when ties are accidentally broken. He further argues that are not reconstituted soon after they had been broken, they were less likely to be reconstituted at all, pointing perhaps towards a temporal interpretation or a change in the interpretation of the importance of the interlock of the firms involved. Williamson (1975, 1981) and Ouchi (1980a) focus on how uncertain environments and the bounded rationality of decision makers increase transaction costs for the organisation, and that organisational strategies (including inter-organisational strategies) are focused on reducing these costs rather than reducing the anxiety level of the executives. Ouchi in particular points out that assuming such costs can be calculated, they become a clear set of efficiency criteria upon which to make organisational decisions. This constitutes a transaction cost approach. Williamson (1981) points out that a central thesis of transaction cost approaches is that as uncertainty in transaction increases, there will be a shift from markets to firms. If transactions are highly problematic for organisations, so his argument, then they must spend considerably more time and effort harmonising relationships. Boje and Whetten (1981), Klonglan et.al. (1976), and Van den Ven and Ferry (1980), among others, point out that organisations do not know about all their prospective partners, will interact with those they are aware of, and will avoid the rest. In these studies the term "awareness" is further explored, and the authors conclude that "awareness" means a general knowledge of the goals,

services, and resources of the other organisations, or personal knowledge of those individuals who are associated with other organisations.

2.8.5.3 Political Studies into Inter-organisational Relations

Parsons (1956, 1960) points out that the ultimate authorities governing organisations' actions are the legal norms of the larger social system n which organisations function. Pfeffer and Salancik (1978) state that the degree to which the laws of a society affect any one organisation will vary depending on the organisation's goals and purposes. Palamountain (1955) speculates on the "politics of distribution" and argues that if the legislative environment affects the organisation in a significant way, the organisation will attempt to use the power of the larger organisation system and its government to pass legislation more favourable to itself. In Pfeffer and Salancik's (1978) terms "the political context is a place for formally institutionalising the survival of the organisation, guaranteeing it access to the resources it needs." Zald (1970) and Benson (1975) referred to an organisations' "political economy". Miles (1982) argues that "organisations and elements of society may be found constantly engaged in efforts to insert their interests into the mainstream of societal values and, hence, to create or safeguard the legitimacy of their definition of the 'right' social order." Mills (1956), Epstein (1969), Donhoff (1970), Jacoby (1973), Berg and Zald (1978), Miles (1982), and Salisbury (1984) focused on the political activism of organisations and trade associations. Wood (1982) examined the activities of public interest organisations. Henig (1982) looked at the political activism of community organisations. Baysinger (1984) points out that the objectives of such political organisations and coalitions are to gain special monetary favours from governments, to manage environmental uncertainty created by governmental threats to the legitimacy of organisational goals, or to resist efforts by governments to intrude into the traditionally private domains of managerial authority. Berg and Zald (1978) list among the methods used lobbying legislators and administrators of executive agencies, advertising, educational programmes, and disseminating information. In explaining the mobilisation of organisations and coalitions the classicists in political science focused on

shared values among members of the organisations and coalitions. Olson (1956) explored the difficulties organisers of public interest organisations faced, and explained in particular the problem of the free rider. Turk (1973, 1977) argued that coalition formation is dependent upon the availability of internal linkages in the community. His analysis found that where linkage availability was greater, a higher correlation existed between demand for different services and the activation of inter-organisational networks or coalitions to petition government authorities to respond to the need. He concluded that existing inter-organisational networks provided a latent structure that could be used for coalition formation and could serve as a role model for new inter-organisational coalitions. Laumann and Pappi (1976) also point out that the pre-existence of networks for coalition mobilisation is an important factor. Perruci and Pilisuk (1970) found that the mobilisation of organisations is a function of the centrality of organisations in inter-organisational networks. Galaskiewicz (1979a) also found that network centrality had a great positive effect on activation. Jenkins (1983), among others, shows that inter-organisational relations have some bearing on the success rate of organisations and coalitions between organisations as they engage in political action. Knoke (1983) found that the more numerous a social influence association's connections were with powerful community organisation actors, the more likely it was to be perceived as influential by key community informants. Useem (1984) and Galaskiewicz (1985) show that peer pressure and the threat of being excluded from business subcultures were effective stimuli in motivating greater company contributions to charity. They further point out that prestige and good fellowship are selective incentives that business people value greatly and may play a role in organisations joining political coalitions, although evidence for the latter is still sparse. Galaskiewicz (1985) points out that organisations may be "lured" into collective action because the collective actor controls resources they value and cannot get elsewhere.

2.8.5.4 Organisational Legitimisation and Inter-organisational Relations

Galaskiewicz (1985) points out that participation in legitimacy arenas is much different from participation in political arenas. He argues that in the former there is no concrete issue around which to mobilise a coalition, no decision maker or decision making body on which to target one's energies, and an organisation when it has achieved its purpose. The issue in the legitimacy arena, according to Galaskiewicz (1985), is the adequacy of the organisation's goals or operating procedures as theory. Pfeffer and Salancik (1978), Meyer and Scott (1983), and others list as the targets of the legitimacy efforts licensing boards, funding agents, intellectuals, and public opinion. Kamens (1977) and Meyer and Rowen (1977) looked at legitimacy myths which organisations create about themselves. Lee (1971) and Perrow (1961) examined how organisational elites manipulate external referents of prestige. Lentz and Tschirgi (1963) describe how business firms publicise their commitment to an ethic of corporate social responsibility. DiMaggio and Powell (1983) argue that organisations will often try to imitate other organisations in their environment in an effort to enhance legitimacy. Galaskiewicz (1985) describes one inter-organisational strategy to enhance legitimacy as to have the organisation identified with cultural symbols and/or legitimate power figures in the environment. He gives the example of organisations recruiting prestigious people to the organisations' board of directors or to have one's own executives recruited to prestigious boards. Galaskiewicz (1985) offers one interpretation of these findings in that cultural organisations are striving to enhance their own reputations by aligning with the more influential companies in the area; and firms were striving to enhance their legitimacy by aligning themselves with the more prestigious cultural organisations. Useem (1985) concentrates on charitable contributions of organisations and states that such contributions are a very effective way to demonstrate the good will of the donor and thus "win over" problematic or hostile elements in the environment. Fry et.al. (1982) presents further evidence that public relations and the need to "sell the firm" motivate contributions. Meyer and Scott (1983) speculate that the number of authorities

with jurisdiction over an organisation and the congruence in the expectations of these authorities may be critical in explaining organisational legitimacy.

2.8.6   Summary of contribution of organisational theory

Most of the theories that have been developed by theorists in the area of organisational theory are based on social theory, psychology, and anthropology. As with much of social theory, organisational theory is strongly influenced by utilitarianism and rational choice theory. Broadly speaking the literature can be divided into three main categories; macro- , micro-, and meso-level theories. Micro-level theories seek to explain the actions of individuals in the organisational context, with actors mostly interpreted as rational human beings. The macro-level studies arguably take the same stance as much of structural theory in within the social theory field. It is important to note here that french strucuralism and the structuralism developed mainly in the US and the UK have different philosophical roots. Macro-level theories focus on outcomes on the organisational level. Some of the areas discussed are strategic chance and structure-environment contingencies. Meso-level theories advocate to address what House and Rousseau (1991) call the fundamental biases of non-meso work. They criticise micro- and macro-level research in particular for its overgeneralisation and assumptions about similar concepts across levels, its underestimation of cross-level effects, and its reification of organisational structures. Key features of the meso-level approach as defined by House and Rousseau are: putting individual and group behaviour into context, the construction of context by individual psychological processes and social dynamics, the expansion of units of study to include abstract organisational features, and an appreciation of parallels and discontinuities in behaviourial processes across individuals, groups and organisations.

Depite the recent developments in organisational theory, namely within the field of meso-level theories, which go some way towards addressing the shortcomings of either macro- or micro-level theory as discussed in the preceeding chapter, there are still great differences between an organisational

sociology according to Bourdieu and the meso-level theories. At the core, meso-level theories attempt to address the gap between macro- and micro-level organisational theory through a more integrative approach. Fundamentally, however, they do not change the philosophical assumptions made about humans in classical social theory. They still regard human beings as actors in the utilitarian rational choice tradition. Too many notions of the rational choice theory based micro- and macro-level organisational theories have been taken on board. This arguably does not allow to fully account for the richness of social interaction in organisations that a theory such as Bourdieu's theory of practice addresses. In Bourdieu's words, the macro-, micro- and meso-level theories of organisational behaviour fail to understand the individual in the social context, and thus can not provide a full understanding of organisations as social systems.

The next chapter introduces another recent field which has informed organisational theory, namely that of systems theory. The title of this thesis is 'Organisations as social systems'. Structuralism as a philosophy advocates that a society can be understood as a system, or a structure. If one can identify common characteristics of the structures of different societies, one can begin to draw comparisons and conclusions about the meaning of the expressions of such structures (Saussure's semiology). In Bourdieu's theory of practice we find resonances of the structuralistic philosophy thus introduced by Saussure and Althusser, among others. The concepts of habitus, field and capital serve to link the individual with the structure, to define its place within the structure, and to identify its influence on the structure. The society is seen as a system. It is important to stress that the structuralism in the US and the UK has its origins in different philosophical traditions. In the next chapter, the contribution of systems theory to the understanding of organisations is discussed, and the origins of this systems theory are identified. This serves to demonstrate to the reader both the similarities and differences between the systems approach as discussed and the systems approach as advocated by Saussure and Althusser, or even in a moderated version of Bourdieu.

2.9 Systems Theory

2.9.1 Introduction to systems theory

General systems models or cybernetic models have emerged in recent years as a useful way of conceptualising complex human activities. Most notably, the Viable Systems Model (VSM) has shed some light on the issues related to problem solving in the light of the complexity of human interaction. In constructing a model of the organisation, the author is keenly aware that the metaphor of social resonance with the notions of positional habitus, fields, and capital overlaps to an extend with other disciplines. One of the more notable overlaps exists between the model of social resonance and the general systems theories.

This chapter will explore some general principles of systems modelling or cybernetics, and discuss the contribution of systems thinking to the authors work and vice versa. In the main, the chapter is based on a seminal paper by Raul Espejo (1992). Other papers considered in the context of systems modelling include Ashby (1964), Beer (1979, 1981, 1985), Espejo (1987, 1989, 1990), Giddens (1977), Maturana (1987, 1988), and Von Foester (1979).

Problem solving is a regular concern in organisations. Interruptions in the flow of the interactions between individuals are commonplace. Such interruptions come in various forms, sometimes as opportunities, sometimes as threats. Some of the interruptions come as major concerns; others are almost imperceptible disturbances. Some interruptions come in the form of well-defined demands; others take the form of ill-defined feelings. Individuals feel the need of responses to such interruptions in one form or another. Such responses can be likened to the outcomes of social resonance in the metaphor developed by this author.

Understanding the relationship between individual and organisation is seen as central to the understanding of problem solving. Understanding organisations and the way they work will enhance the ability of the individual to sense the complexity experienced in working in organisations.

2.9.2 First and Second-order cybernetics

Early work in cybernetics focused on teleological mechanisms. The necessary conditions to achieve particular goals or desirable outcomes were explored. The main focus of the early work was to understand how particular goals are reached. There was no questioning of the assumptions about the systems producing these goals or the goals themselves. Once a particular goal was accepted, the work focused on the necessary communication processes to achieve it as efficiently as possible. The problem situation was structured as a 'black box' producing certain outcomes, or behaviours, which had to be regulated towards the desirable goal. The better the disturbances that affected the behaviour of the 'black box' were understood, that is the better the models developed, the more likely it was that the goals would be achieved. In this context concepts like feedback and feedforward were introduced. The underlying considerations were technical in nature. The implicit assumptions were of a clearly defined 'black box' to manage and of known regulatory or communication mechanisms and goals.

Second-order cybernetics made apparent that all the assumptions were not reasonable in the context of human behaviour. (Maturana, 187; von Foester, 1979). The thinking in cybernetics developed and researchers came to understand that it cannot be assumed that everybody sees the same 'black box' or even that there is a 'black box' to be seen from different viewpoints. The philosophical understanding changed from one of naive realism to a phenomenological framework. In this new framework, communication processes were seen as the outcome of epistemological mechanisms. Communication processes are based on creating knowledge and depend on language and media to take place. People construct, through their recurrent co-ordination of actions, the language that brings forth their realities. It is in these constituted realities that people develop their understanding of stability in a common domain of interactions.

For second-order cybernetics the management of the 'black box' (e.g. organisations, situations) is not primarily the outcome of decisions based on abstract representations (models) of the box, but of processes constituting a common domain of actions. The idea of a manager pulling the input strings in

order to change the behaviour of the 'black box' is transformed into the idea of conversational processes accommodating disturbances in order to avoid situational instability.

The main problem of situational participants is to transform their knowledge of their realities into shared knowledge of a common domain of action in which the participants can operate as a community. The transformation depends on the communication processes creating this shared reality.

This view does not deny the existence of a world outside the observer. It denies that this world is independent of the observer, thus making it necessary to accept the notion of multiple realities. One independent reality would imply that there are some views about it that are closer to reality than others. With reference to objects, second-order cybernetics would suggest that we constitute them as we language them into existence. When people are thrown into action, they may need to operate as if an independent reality existed. In the long run, effectiveness in their action will need to be in need of continuous debates about multiple realities. In day-to-day action it is necessary to create a stable state or consensual domain, as well as setting the mechanisms to question the assumptions and produce new explanations for experiences. If the problem owners or analysts operate under the assumption that there is an independent reality, then their problem is, in order to understand reality, to have more and more accurate models of that reality. This view is the first victim of second-order cybernetics. According to second-order cybernetics models are not intended to be representations of an independent reality. They are intended to be conversational devices, reflecting individual realities. Models may help in the creation of a common operational domain for action. Models may also help to create a common language among participants by making apparent distinctions thus far not shared or recognised by them. Only in the context of a shared operational domain can models be used as if they were a representation of an external reality. In this context Harnden (1989) states that "the map is not the territory".

Problem solving is not necessarily helped by the construction of more and more 'accurate' models of the situations concerned. When talking about unstructured, fluid situations, the main use of models is making distinctions through which the participants create a common domain, rather than a shared

view of reality. The quality of these creative processes depends upon the quality of the communication mechanisms supporting the interaction of the participants. The quality of these creative processes thus depends upon the organisation and related structures in which the individuals concerned operate.

2.9.3 Recursive and hierarchical models

The network of interactions (in the operational domain) producing the organisation may be constructed differently by different observers. If the main form of interaction is that of formal authority, the observer is bringing forth the 'hierarchical structure'. If the distinction made is the management of complexity, then the parts and relationships are those of a 'recursive structure' (Espejo, 1990). Interpretative schemas are needed to make sense of the operational domain in the cognitive - informational - domain.

The viable systems model (VSM, Beer, 1979; 1981; 1985) is one such interpretative scheme. It provides a language to account for the complexity of the operational domain based on the assumption of organisational autonomy, or in Espejo's words, the 'recursive structure'. The key idea is to make possible an appreciation of the complexity of the operational domain based on the assumption of the transformation of purpose into structure. The VSM shows how to relate a purpose, ascribed to an organisation, to a set of parts and relationships. This modelling helps to establish whether or not there is requisite complexity to realise the ascribed purpose in a given environment (Espejo, 1989). The VSM is one way of thinking about the complexity of the organisation and of the complexity seen by the participants in that organisation. Complexity is not an intrinsic property of the organisation, but an emergent property of the interactions of its participants. Establishing this complexity will depend on the specific purposes ascribed to the organisation. The VSM makes it apparent that hierarchical structures build up organisational complexity at the expense of maintaining a low individual complexity at the lower structural levels. The structure is likely to perform well if the complexity seen in the environment is relatively low. The great interest

in the VSM is that it allows researchers and participants in organisations to talk about the operational domain and account for its complexity.

Another scheme is the hierarchical model as proposed by Jaques (1990). He suggests that the problem with hierarchies is not with the hierarchical principle, since this is necessary to structure complex organisations, but with the concrete form in which they are being implemented. Based on extensive empirical research, he concludes that an effective implementation of hierarchies would require the creation of tiers only where there is a discontinuity in the complexity that has to be managed by individuals. If the levels of hierarchy correspond with these natural breaks in complexity, then they should work well. In Jaques view, the complexity managed by top managers is much greater than the complexity managed by foremen in the shopfloor. He states that this is due to top managers dealing with problems with a much longer time horizon. He argues that any part of a hierarchical chain in which there are several tiers with no significant difference in time horizon is unlikely to work well because all the affected levels will be perceiving more-or-less the same level of complexity.

The usefulness of this model depends on how tasks are designed in the organisation. If tasks are designed so that lower structural levels deal only with the short term, then the structural conditions are created to make it impossible for individuals to develop their personal complexity. Their problem solving skills will be limited.

2.9.4 Culturally and systematically feasible change

The Viable Systems Model (VSM) is a tool to aid in thinking about recursive structures. It provides the language to appreciate the complexity of organisational tasks and the communication mechanisms underlying people's interactions. The model redresses the balance between immediate and distant interactions as determinants of human action, in favour of distant interactions. The VSM also offers individuals an understanding of the even greater complexity caused by distant actions affecting individual actions. The consideration that distant (in time, place and context) interactions between

individuals have an impact on immediate interactions between individuals in a particular context has methodological implications for effective 'problem-solving' in organisations. Effective problem solving requires an effective operational domain for problem-solvers to create issues of concern and to implement the changes implied by these issues.

This realisation stands in contrast and philosophical conflict with the Soft Systems Methodology by Checkland (1981, 1990). In this methodology the primary concern of problem-solving is the cultural feasibility of change, while systemic aspects are understood only as unconstrained cognitive processes in the mind of the problem- solver. There is no reference to the systemic complexity of the organisational domain either to support conversations or to implement change.

Realising this restriction of the Soft Systems Model, Espejo (1992) suggests a cybernetic model. The following is a summary of his cybernetic model based on an article by Espejo written in 1992.

2.9.5 The Cybernetic Methodology

The need for change is recognised through interactions. Change in organisations is the outcome of interactions. These interactions can be perceived as opportunities or threats. They trigger the need for mutual adjustment. If these adjustments lead to a breakdown in interactions then there is a problem for the participants. Problem solving is understood as the discovery and production of feasible and desirable changes to maintain and/or to achieve stability in interpersonal interactions. Methodologically, in problem solving it is essential to establish the appropriate viewpoints creating or constituting the situation, and the nature of their communication mechanisms. Problem solving in organisations depends both on the issues of concern and the operational domain constituting these issues. If the situation requires a short-term response, then the likelihood is that the overriding concern is going to be the issues themselves. If the problem situation can be seen in a longer-term perspective, then a focus on issues and structures is more likely to help in producing changes not only culturally feasible, but also systematically

feasible (implementable). According to Espejo (1992), it is this concern with action and structure in problem solving that needs methodological underpinning.

The cybernetic methodology as proposed by Espejo highlights the fact that the creation (constitution) of human activities is strongly influenced by the channel capacity of the communication mechanisms underlying the recurrent interactions of individuals. The cybernetic view is that these individuals are constrained to different degrees by the organisation structures in which they are embedded. By changing and modifying these structures (it is argued) it is possible for them to develop different appreciations of a problem situation. While some structures are likely to inhibit their action and produce poor appreciations, others are likely to liberate their views and make an effective action more likely. Therefore, in cybernetics, it is argued that effective problem solving implies the creation of an effective 'structure'. This structure will be as effective as culturally feasible.

The cybernetic methodology entails both a 'learning loop and a cybernetic loop'. The learning loop is focused in the issues of concern, the cybernetic loop in the structure. Espejo deems the 'managing [of] the process of problem-solving' as perhaps the most relevant activity of the learning loop. It is at this stage that the management of complexity takes place. Debates should permit the participants to establish what sorts of improvements are desirable, and political negotiations should permit them to establish their feasibility. Since producing feasible changes will require most likely the contributions of other people, success in problem solving relates to success in implementing the agreed transformations. While this implementation may be facilitated by an effective use of the cybernetic loop, it is likely to produce stability problems for other participants operating higher levels of resolution, for whom the same methodological approach may be useful.

2.9.6   Summary of contribution of systems theory

It has been shown that general systems models or cybernetic models have emerged as a useful way of conceptualising complex human activities. Most

notably, the Viable Systems Model (VSM) has shed some light on the issues related to problem solving in the light of the complexity of human interaction. The author has discussed some general principles of systems modelling or cybernetics, and discussed the contribution of systems thinking to the authors work and vice versa. It has been shown that the systems models as proposed by Espejo and others have some similarities with the systems as described by Saussure and Althusser, among others. Since Bourdieu's theory of practice has strong philosophical roots in both french phenomenology and structuralism, the notion of systems is not alien to Bourdieu. Yet the fundamental notion of a system as used in Bourdieu's work and systems as described in the literature in the preceeding chapter stems from different philosophical traditions. General systems theory as described above has its origins in utilitarian rational choice theory, albeit much developed, whereas Bourdieu's notion of systems stems from the french tradition. The preceeding chapter has shown the value of systems theory in the context of organisations, and has also shown the difference between systems as understood and described by Espejo and others, and systems as described and understood by Bourdieu and others in the french tradition. With that, the chapter has achieved an important contribution to the thesis. It has shown the reader that although similar terminology is used to describe organisational phenomena by both the proponents of systems theory and Bourdieu, the notion of a system and its philosophical roots are different. This is an important precursor of further discussions, especially later that of the discussion of the contribution of social resonance in the context of organisational theory.

2.10 Contribution of literature review

The preceeding chapter serves to outline and discuss the main theoretical contributions to the explanation of organisational phenomena. Social resonance is another such contribution to the explanation of organisational behaviour, and incorporates elements of Bourdieu's theory of practice, namely the concepts of habitus, field and capital. In order to place both Bourdieu and the theory of social resonance in the literature, the author attempted to identify the main theoretical contributions, and to place them into context. The title of this thesis is 'Organisations as social systems'. Within that title lies the key to the identification of the main areas of theory that have been discussed in the literature chapter, namely social theory, organisational theory, and systems theory. Given that capital plays an important role in the explanation of organisational phenomena through social resonance, it was further deemed important to include economic theory, which in the widest sense forms a subset of social theory. The discussion of the literature began with an exploration of the use of the word resonance in the literature. An extensive literature review revealed that the term resonance had been used by authors before, but that with one expection, no attempt at defining resonance has been made. Most commonly resonance was used as a metaphor to describe responses to stimuli. The most important contribution of this review was the identification that resonance can occur to a great variety of stimuli which have been identified in the course of the research, and which have been incorporated in the definition of social resonance. Following from that, an explanation and discussion of the terms habitus, field and capital served to define these terms, and discuss their use in the theory of social resonance by comparing them with the meaning that Bourdieu attributed to them. A brief summary of Bourdieu's theory of practice and other work rounded off this part of the literature review. In particular, his contributions to language theory have been explored, since language is a key element in understanding the overall contribution of social resonance to organisational theory. One of the most fundamental contributions of the literature review regarding Bourdieu and other authors is that it allows the reader to understand the different philosophical traditions at the heart of the different contributions. After

explaining Bourdieu's theory of practice and his particular interpretation of phenomenology and structuralism, which have their roots firmly in the french philosophical and social theory tradition, the author discussed the roots of most social and organisational theory in the UK and US, and highlighted the main contributions to both social theory and organisational theory. It is important here to point out that social theory and organisational theory (as understood and theorised in the US and UK) have their roots in utilitarian rational choice theory, which is distinctly different to french phenomenology and structuralism (the roots of Bourdieu's work). The literature review brought these differences to light through eploring Bourdieu's philosophical roots, and through exploring the roots of much of social and organisational theory in the UK and the US. Since the title of the thesis uses the term systems, the author rounded the literature review off by exploring the systems theories as proposed by Espejo and others, and contrasting these interpretations of systems with the interpretation of systems in Bourdieu's theory of practice. All in all the literature review served to place social resoance and Bourdieu's concepts of habitus, field and capital in context of the social and organisational literature, and to explain and discuss the differences in philosophical roots of much of these theories and the french tradition. This is an important contribution to the thesis, as it allows the reader to distinguish between the philosophical roots of social resonance and much of traditional and contemporary social and organisational theory as proposed in the UK and the US.

3 Methodology

3.1 Introduction

This chapter will outline the main methodology used for this project and justify the research approach chosen in the light of the research objectives. When undertaking research, a researcher must inevitably make choices between the various research approaches available. This researcher has chosen to follow a mainly deductive approach. The metaphor of 'social resonance' was constructed and research questions developed based on this metaphor. These research questions will be addressed using qualitative and quantitative methods available to researchers.

3.2 Justification of methodology

The study will follow a mainly deductive route, following Popper's (1967) notion that the source of one's theory is of little importance. A conceptual and theoretical structure has been developed prior to its testing through empirical observation. This structure is expressed in the metaphor of "social resonance". In the research context, the metaphor of "social resonance" is linked to the concepts of habitus, fields, and capital as developed by Bourdieu. The main assumption of this research metaphor is that the conditions of habitus, field(s), and capital in the organisational context will be a determinant of the "social resonance" of the organisation. This assumption will be tested by developing measurable variables and comparing the results of statistical analysis based on these variables against the assumptions made, thus operationalising the metaphor.

In evaluating a research strategy, questions of validity have to be answered. The literature (see Gill & Johnson 1991) suggests three criteria that might be used in the evaluation.

The first criterion is that of internal validity. Here the question must be answered whether or not what has been identified as the 'cause(s)' or 'stimuli'

produce what has been identified as the 'effect(s)' or 'responses'. In this study, the 'social resonance' to ecological issues, that is the 'response' to an ecological stimulus or ecological stimuli, has been identified as the 'effect'. It has to be clarified whether the stimuli as identified in the metaphor of social resonance (see relevant chapter) produce the 'effect' or 'social resonance' as developed by the author. This will be tested by regressing and correlating the variables already developed or to be developed at a later stage (see implications of research).

The second criterion is that of external validity. This is sub-divided into (1) population validity and (2) ecological validity. Population validity refers to the extend to which it is possible to generalise the research findings. This will be tested by means of probability statistics (t-test) for both sets of research variables R1 to R3 and R4 to R5. Ecological validity asks the question whether the findings of the research can be generalised from the social context in which the research has taken place to other contexts. The concepts of habitus, fields, and capital have been developed in different social contexts and are to be applied to the organisational context in this study. This study will test the ecological validity of Bourdieu's theoretical model. If the model is applicable to (or replicable in) an organisation, the ecological validity of Bourdieu's theory has been strengthened. In doing so, and in the knowledge that Bourdieu's work has already been successfully applied to different social contexts, the ecological validity of this study will be successfully established, if the findings of this study support Bourdieu's theory of practice.

The third criterion is that of reliability. This criterion refers to the consistency of results obtained in research. The methods used will be developed more fully in the data description chapter. Aim of this study is the development of a methodological framework that is consistent and replicable.

Although quantitative to a large degree, the research strategy for this project is principally one of methodological pluralism (Blumer 1967, Fay 1975, and Trow 1957 among others). Variables will be measured using (1) appropriate reporting forms for the analysis of the company reports and (2) self-

administered questionnaires for the analysis of habitus, fields, and capital in organisations. Some key variables to be measured in the analysis of the UK Top 100 and German Top 100 company reports will be developed from a textual analysis based on qualitative research methods using appropriate coding techniques and the development of code families (see Silverman 1993). The development of the variables to be measured is described in detail in the data description chapter, the variables themselves can be found in appendix 4.

The questions for the self-administered questionnaire, coding the variables to be measured is based on Bourdieu's theoretical framework and the textual analysis as described before. The validity and quality (strength of explanation) of the questions in relation to the variables are tested using Chi^2-tests. The questionnaire to be used was piloted in the collaborating establishments and amended according to the results of the pilot studies. The detailed description of the development of the questionnaire and pre-testing procedures, as well as subsequent changes to the design of the questionnaire can be found in chapter four under descriptive statistics for the questionnaire survey.

In using code families for the construction of some of the variables to be measured, possible information equivocality as described by Weick (1990) has to be taken into consideration. Koestler (1978) points out that agents are capable of varying responses and interpretations, adjusting their language to fields, in Bourdieu's words. The chosen research strategy to answer R4 and R5 (survey research using self-administered questionnaires) can be seen to possess a high degree of population validity and reliability, but a lesser degree of ecological validity. Furthermore, the suggested statistical analysis including correlation and regression does not prove causation. The presence of a correlation is a necessary but not sufficient proof of a causal relationship. From a statistical theory point of view, correlation and regression provide sufficient evidence of causality only for situations in which there are only two variables, and in which dependent and independent variable are clearly defined. The fact that a relationship exists between two variables does not prove which variable influences the other. In this study, however, it is nearly

impossible to account for all the potential extraneous variables that might have an indirect impact in the variables to be correlated or regressed. In this sense there can be no sufficient proof of causality at all.

The findings of the study will have to be evaluated in the light of these limitations.

This project is firmly rooted in the deductive tradition, yet for the development of some of the important variables inductive methods (see Glaser & Strauss 1967) have been used. It is hoped that this 'methodological triangulation' (Campbell & Fiske 1959, Denzin 1970, Jick 1979a) can overcome some of the bias inherent in a single method approach. This multi-method mix is founded on what is known as 'realist' assumptions about the ontological status of social reality. Burell and Morgan (1979) describe this perspective:

"... For the realist the social world exists independently of an individual's appreciation of it. The individual is seen as being born into and living within a social world which has a reality of its own. It is not something that the individual creates..."

and further

"... For the realist, the social world has an existence which is as hard and concrete as the natural world."

(Burell & Morgan 1979)

This is fully in the tradition of Bourdieu, who himself adopts a realist perspective. Following the notion of a 'realist' perspective, the operationalisation of the hypotheses, or in this case the metaphor of 'social resonance', is legitimate and the effects of ecological stimuli on an organisational level can be measured and interpreted. The author rejects the notion of 'positivism', that human action is based on automatic responses excited by external stimuli. Instead, the author follows Bourdieu's notion of

'genetic structuralism' or 'structural realism' that allows for human action to be meaningful, yet at the same time, through the notion of habitus, pre-disposed to some extent. The concept of habitus re-introduces the social dimension of human behaviour (see chapter on Bourdieu's work - here concepts of habitus, field, and capital).

Finally the author will consider very briefly the question of truth in the context of the limitations outlined earlier on. Keat and Urry (1975) adopt a 'consensus' approach. Scientific statements are not seen to be true or false descriptions of some external reality, but are creations of the scientist. Sayer (1984) points out the danger of this approach as being too idealistic. This author agrees with the pragmatic view as outlined by Law & Lodge (1984). If a theory allows people to interact satisfactorily with their environment, it is reinforced. When their environments become unpredictable and uncontrollable, the theory is undermined and is likely to change. The author will include in his study a clear guide to the practical ramifications of the metaphor of 'social resonance' and will outline subsequent practices that would test that theory.

3.3   The unit of analysis, subjects and sources of data

This research study falls into three parts. Two main research studies and one extensive literature content study.

The literature content study, which forms part of the process of developing the metaphor of 'social resonance' looked at the entire social science literature and general business literature spanning from 1975 to 1995. This included 842,354 article abstracts in 2,403 journals or magazines worldwide. In every case the abstract of the article was used to identify the use of the word resonance in the social science literature. In all 52 article abstracts were retrieved from the social science literature and a further 16 article abstracts from the general business literature. For this literature search use was made of the ABI Inform database (that has been renamed to ProQuest since) to find general business literature and the SocioFile database was used to identify

social science writings. In all cases the unit of analysis for this content study was the article abstract.

Of the two main research studies undertaken as the core of this thesis the first study was a content analysis of company reports. Using the Times Top 1000 Company Index of the Year 1996 a total of 100 UK companies and 100 German companies were identified to be included in this study. The Times Top 1000 Index ranks companies according to the sum of 'total capital employed' as the key index category. A second ranking takes place between companies of equal capital employed by annual turnover of the companies in question. In both the German and UK cases the top 100 companies from both the UK Index and the European Index were chosen for analysis. The unit of analysis in all cases was the company report that was obtained by writing to the Public Relations department of all two hundred companies in the study and asking for the most recent company report. The financial year for most companies in the UK ends in April. The publication of the company report for the same year will not take place before the end of that year. It was therefore necessary to ask for the 1995 company reports in all cases even though some German companies already had the 1996 company reports published due to different financial years. In all cases the 1995 company report was obtained through the PR departments of the participating companies. A detailed description of all participating companies can be found in the appendices.

The second main part of this research study consisted of a questionnaire survey targeted at the chief executives of the same 200 companies for which company reports were obtained. Since this study was carried out in 1997 it was found that of the 200 chief executives featuring in the company reports 12 UK chief executives and 8 German chief executives had since taken new appointments. In these cases the questionnaire was sent to the new chief executives in those companies. It was found that only one chief executive of a German company that was not mentioned in the 1995 company report of that company took part in the questionnaire study. This questionnaire was subsequently eliminated from the analysis (see data description and next chapter: prior treatment of data). The unit of analysis for the questionnaire

study was the chief executive working in the companies identified for the company report content analysis. These chief executives were sent a postal self-administered questionnaire.

3.4 Instruments and procedures in data collection

3.4.1 Part I: Company Reports

In answering the research questions R1 to R3 of this study,

R1.) What is the extent of "social resonance" on an organisational level to ecological issues within the Times Top 100 UK and the Times Top 100 German companies visible from company reports?

R2.) What are the main differences in "social resonance" to ecological issues on organisational level between UK and German companies?

R3.) Can any relationships between the variables used to measure "social resonance" be established (dependent and independent variables)?

a multi-method mix has been chosen. The following table illustrates the various methods used to answer the research questions:

Table 6 Methodology for R1 to R3

	R1	R2	R3
Research Techniques	- Textual Analysis - Definition of Variables - Reporting Forms Descriptive Statistics	-Textual Analysis Code Families	- Statistical Analysis Regression Correlation
Research Approach	- Deductive Framework - Inductive Development of Key Variables	- Inductive	- Deductive
Data Format	- Qualitative - Quantitative	- Qualitative	- Quantitative

The testing of the hypotheses expressed in the metaphor of 'social resonance' will take place in two principal steps. Step one will consist of an in-depth content analysis of two hundred company reports. Step two will consist of a self-administered postal questionnaire distributed to the chief executives of these same two hundred companies. Since the research falls into these two distinct parts, the following discussion of the methods used in the research will also fall into two distinct parts, with a general introduction to some philosophical considerations that have a profound impact on the understanding of the results from this research. This brief discussion of the methodology will therefore mainly refer to the methods used to research R1 to R3. The discussion of the methods chosen for the second part of the study, the postal questionnaires, will follow later.

3.4.1.1 Method of Collecting Information for the Company Report Study

In part I of this research study the aim was to answer the research questions:

R1.) What is the quality and extent of "social resonance" on an organisational level to ecological issues within the Times Top 100 UK and the Times Top 100 German companies visible from company reports?

R2.) What are the main differences in "social resonance" to ecological issues on organisational level between UK and German companies?

R3.) Can any relationships between the variables used to measure "social resonance" be established (dependent and independent variables)?

To answer the research questions R1 to R3, which were developed from the metaphor of 'social resonance', the author chose as a first step to analyse a random sample of 35 company reports from each country. The analysis included reading all textual information given in the reports and identifying all statements relating to:

- Business Success
- Community
- Employees and
- Environment

These statements were coded and grouped into code families. The families identified were:

- **Business Success**
  General References, Specific References

- **Community, Employees, and Environment**
  Legal Requirements, Recognition of Involvement,
  General References, Specific References

For the purpose of this report, only the results relating to environmental (ecological) references will be discussed in great depth, since this is the focus of the thesis. The resonance to the other fields will be discussed more briefly.

To minimise the effects of personal bias a sample of 35 (UK and German; each) company reports was taken and coded and the coding mechanism refined based on the findings of this sub-sample of reports. Coding is ultimately a statistical process and as such has a degree of scientific rigour. A triangulation of a comparative coding exercise carried out by two other researchers independently on the same sub-set of company reports was aimed at reducing personal bias by averaging out the effects of any one persons interpretation. The full analysis of all 200 company reports was carried out by the author based on this triangulation exercise and the coding techniques developed from it.

All textual information was re-analysed for all 200 company reports (100 German, 100 British) counting all incidents of statements relating to the code families mentioned above. In addition, financial and structural information was recorded. Appendix 4 contains a list of all the variables recorded. All information identified was recorded using a data record sheet developed by the author based on the previous exercise of testing the research framework on a sub-set of 35 company reports. The data record sheets were developed based on the coding framework developed in this exercise.

3.4.2   Part II: Self-administered postal questionnaire

The following methods were used to analyse the returns from the questionnaire survey:

Table 7 Methods employed in analysis of questionnaire returns

	R4	R5
Research Techniques	- Definition of Variables - Questionnaire design - Statistical framework - Multivariate Linear Regression - Correlation - Descriptives	- Statistical Analysis Regression Correlation Distribution
Research Approach	- Deductive Framework - Inductive/ Deductive Development of Variables based On previous results	- Deductive Framework - Inductive Development of Linkages
Data Format	- Qualitative - Quantitative	- Qualitative - Quantitative

The main instrument in collecting data for the second part of the research study was a postal questionnaire which was developed using inductive methods for the development of Likert Scale statements and the construction of a new research tool, the capital investment matrix. This questionnaire was extensively pre-tested using participants from the collaborating establishments. This procedure was justified by selecting individuals for the pre-tests that had similar career profiles as the envisaged target group. The author was fortunate in this respect since Warwick Manufacturing Group (for which the author worked at the time) employs around twenty such individuals.

After pre-testing the questionnaires and refining the instruments used for data collection the questionnaires were then sent to the chief executives of the 200 companies targeted in this study.

3.4.2.1 Method of Collecting Information for the Self-Administered Postal Questionnaires

The questionnaires were sent to the target group using the UK mail system. In each case the questionnaires were accompanied by a covering letter briefly outlining the size of the study and asking for participation. In all cases a self-addressed pre-paid return envelope was included. All letters were printed on Warwick Manufacturing Group letterhead paper. Warwick Manufacturing Group is part of the University of Warwick and a University Logo featured on all correspondence. To improve the chances of questionnaires being returned a differently coloured form was included in all postings that allowed participants to order a summary of the key findings. A separate self-addressed envelope was included for the return of this order form. In all thirteen respondents asked for such a summary report. It subsequently turned out that this form was also a good indicator for the honesty of the questionnaires returned. In all cases the hand-written address and name of the chief

executive of the company was found on the order forms. This in itself is not proof of identity but at least some reassurance for the identity of the response group. Since all questionnaires were anonymous there is ultimately no way of telling whether the chief executives authored the returned questionnaires.

3.5 Administration of instruments and procedures

See methods of data collection for part I: company reports and part II: self-administered postal questionnaire above.

3.6 Limitations of the methodology

Ultimately any methodology has its limitations whether it is qualitative or quantitative, inductive or deductive. In deciding on the methodology for this research the author was well aware of the advantages and disadvantages of either methodological approach (see chapter 3). By choosing a multi-method mix for the research the author hoped to minimise the disadvantageous effects of either approach while taking advantage of the creative potential of qualitative and inductive techniques and the scientific rigour of quantitative deductive techniques.

For the literature content analysis that formed an integral part of the development of the metaphor of 'social resonance' a quantitative approach was chosen. In developing the filter statements for the database search the author was aware of the potential that such filtering might result in filtering out potential abstracts that should have been included in the analysis. Through extensive testing of the filters developed it was hoped that such effects were minimised. By concentrating solely on abstracts a further limitation was that an article contained in the database might have included the word resonance but that the abstract describing the article did not contain the word, and would subsequently be excluded from the analysis. It was felt that this potential

filtering effect would have a minimal impact on the overall analysis since any article which developed a concept of resonance would lead to the abstract containing the word at least once. Finally, a possibility exists that an article might have been written in a journal or magazine that was not part of the database set of article abstracts. Since the database contained some 2,400 journals and magazines such effects were again seen to be minimal. In coding the meaning and use of the word resonance in the abstracts which were retrieved a further limitation of this method lies in the principally inductive way of developing the coding mechanisms. As such the coding and subsequent analysis of all abstracts is a personal interpretation and different researchers might code the data differently. The author tried to minimise the effects of this inductive coding technique by studying in great depth the various coding techniques suggested by authors on qualitative methodology. In the end Silverman's (1993) coding methods were seen to be sufficiently rigorous and were subsequently applied. Ultimately any such coding exercise is based on statistical principles (Glaser and Strauss, 1957). As such the effects of personal bias are controlled to some extend. Ultimately any such method can not rule out personal bias completely and the method chosen is limited to this extend.

For the content analysis of 200 company reports from the top 100 UK and top 100 German companies the selection of companies for inclusion in the study forms the first basic limitation. Companies included in the study had to be registered as PLCs (Public Limited Companies) and file reports with company house. This excludes all companies that are not registered as PLCs or that do not file reports with company house (sole ownership). A further limitation is that companies have been chosen by capital employed since this is the principal ranking method used by the Times Top 1000 Index. This biases the sample to some degree in that companies with fewer assets employed (predominantly service companies) might have been excluded from the study although their performance (judged by performance ratios) would have included them in a sample of top performing companies. Furthermore the Top 100 companies in Germany and the UK are not representative of all companies in the respective countries. As such any generalisation of findings

would be limited to companies of equal size and structure in similar cultural contexts. In choosing an inductive technique for the development of the codes at the heart of the analysis personal bias can not be ruled out. This method of data gathering is prone to personal bias which will only be limited by the extend to which the coding techniques have been rigorously applied. Any creative act is in the final analysis a personal product of the work of the researcher and as such limited in the degree of generalisation that is possible from the findings. To minimise the effects of personal bias a sample of 35 (UK and German; each) company reports was taken and coded and the coding mechanism refined based on the findings of this sub-sample of reports. Coding is ultimately a statistical process and as such has a degree of scientific rigour. A triangulation of a comparative coding exercise carried out by two other researchers independently on the same sub-set of company reports was aimed at reducing personal bias by averaging out the effects of any one persons interpretation. The full analysis of all 200 company reports was carried out by the author based on this triangulation exercise and the coding techniques developed from it. The fact that all coding was ultimately carried out by the author is a limitation of the methodology used. A further limiting factor could be that in analysing 200 company reports in their entirety statements that should have been coded were omitted and statements that should not have been coded or differently coded were included. Although the author is not aware of such errors they might nevertheless have occurred and might limit the internal validity or data integrity of the content analysis to a fractional degree (although in the scheme of things probably a negligible effect). The subsequent analysis of the resulting data sets for both German and UK companies have been treated with statistical techniques such as correlation and regression analysis. Correlation and regression analysis deliver necessary but not sufficient evidence of causal links. Controlling for extraneous effects and variables in this analysis is impossible. No statistical data exists on societal and especially environmental influences on companies for either strength or direction of influence. As such the methods chosen and results found for the analysis of the contents of company reports are limited to the extend that they do not completely control for the effects of extraneous variables and that such effects cannot be ruled out completely. Some effort

has been made to control for the influence of extraneous variables (see chapter 4).

Furthermore, the definition of dependent and independent variables depends to a large degree on the author's interpretation of the research question, and the understanding of the context of the research. What is a dependent, and what an independent variable, is subject to the author's interpretation. This limits the validity of the chosen variables and introduces a strong element of subjectivity. Such subjectivity is inherent in all research work, and can not be excluded. The definition of variables to be measured as either dependent or independent variables, and the choice of the variables that were finally chosen and measured is again down to be critizised for subjectivity. The choice of variables measured and the definition of what constitutes a dependent and what constitutes an independent variable are at the discretion of the researcher. It can not be assumed that all relevant variables (both dependent and independent) were identified and measured. There might well be a number of variables that have an indirect impact on the dependent variables and yet have not been measured. In the final assessment only the reader can decide whether the author has chosen adequate variables, and then the definition of what constitutes an adequate variable is subject to continuous discussion and refinement.

Finally and perhaps most importantly a limitation exists with reference to the authorship of any information in the company reports. The author assumes for this research study that any information contained in the statements of the chief executives and chairmen of the board of directors were either written directly by them or written by a person instructed to write these statements on their behalf. In any case it is assumed that the chief executives or chairmen would retain at least editorial control over the content of any such statement. As such the statements can be viewed as being representative of the opinions of the persons under study and to contain information that the persons deemed important. Since the author has himself worked as assistant to the board of directors of a large German trading house he has extensive experience of such processes and is reasonably sure that any such statements reflect the chief executives personal opinion of what is important to include or exclude. Extensive discussions with individuals from similar

backgrounds confirm this opinion. However, ultimately there is no direct proof of ownership or control over any statement included in the company reports and the method chosen is limited to this degree.

Finally, in choosing a self-administered questionnaire for gathering further information to be linked to the previous study of company reports the author deliberately chose a different research method again. This method itself has important limitations. In developing a questionnaire personal bias cannot be excluded. The questions and statements developed for the questionnaire and the capital investment matrix developed as a tool for eliciting information were based on the framework of analysis developed for the content analysis of reports, and as such is limited to the degree that the first analytical framework is limited. Personal bias in phrasing questions and statements cannot be ruled out. In fact in developing the research questions for the questionnaire the author used a principally inductive method which is never immune to personal bias since it is again a single creative act on behalf of the researcher. Any effects of personal bias were controlled to the degree that extensive pre-testing of the questionnaire sought to identify weaknesses in the make-up of questions or indeed identify omits. As such the questionnaire represents not only the authors input but also the input from the pre-test group (some twenty individuals) and it is hoped that this pre-test has somewhat alleviated the effects of personal bias on the questionnaire design. A further limitation of the method chosen lies in the self-selection bias of the respondents. Any questionnaire returned has been returned because the individual responding found the questionnaire of value and participation worthwhile. Self-selection bias is inherent in all studies utilising this method of data collection. The results from the questionnaire are further limited to the degree that interpretation bias cannot be fully excluded. Pre-testing allowed for all questions and statements to be clarified in terms of interpretation to some degree. It cannot be ruled out that some respondents nevertheless interpreted questions differently and that this interpretation subsequently affects the outcomes of the analysis. The exclusion of open statements in the questionnaire design further limits the method. Any data gathered will only represent the researchers understanding of the important issues and only ask

around these issues. Information is limited to the understanding of the researcher of the important issues to be addressed in the research. Any other information that could have been elicited by asking open-ended questions was lost due to the restraining questionnaire design. The method of instrument administration does not allow for control of authenticity of the group of respondents. Although all questionnaires returned seemed to have been originated by the target group of chief executives there is no way of controlling whether the respondent filling in the questionnaires really was the chief executive him- or herself. The method chosen is limited to the extend that is trusts the respondents to be honest in identifying themselves as the chief executives. One further limitation lies in the desirability of giving a certain impression through answering questions on a desirability scale rather than on a true opinion scale. When confronted with questions of origin and upbringing or social background in general respondents might answer with the statement that expresses their desire rather than real situation. Every effort was made to build into the questionnaire a number of mechanisms to control for such desirable answers. The internal consistency of answers was measured and a good internal consistency was found for all replies. Principally such a limitation and possibility cannot be fully excluded.

3.7   *Special treatment of data prior to analysis*

For the analysis of the abstracts, each abstract passing through the filter statements developed (see chapter 1) was downloaded from the database onto a floppy disk medium and then printed out on paper. No other treatment of the data was carried out prior to analysis.

For the content analysis of the 200 company reports a data collection sheet was developed and all data entered onto these sheets. A separate reporting sheet was used for each company report. The data was then entered into a statistical package and analysed using various statistical treatments. Any information that could not be found in the company reports of all the companies was subsequently eliminated from the examination. This was the

case for the information relating to income and bonus structures of chief executives and members of the board of directors which could not be found in all company reports or was disguised heavily making interpretation very difficult. Some German company reports in particular contained information on annual spending on environmental activities (protection among others). Such information could not be clearly identified for all two hundred company reports and data relating to this spent was subsequently eliminated from the analysis. All other information was entered into a statistical package and analysed using various statistical treatments.

The data from the self-administered questionnaires was treated as follows prior to data analysis. In deciding which returned questionnaires to use for analysis a first filtering eliminated those chief executives from the analysis that were not in place at the time the company reports (analysed in the first step within this research framework) were written. This eliminated one response from a German company. In a second step those questionnaires were eliminated from the analysis that were either incomplete or where questions or statements were altered. This procedure eliminated a further two UK questionnaires from the analysis. All additional information written on the side or as an explanation was disregarded. The remaining questionnaire data sets were entered into a statistical package and analysed using various statistical treatments.

3.8 Computer programs used in data analysis

The main software package used in data analysis was SPSS. This statistical package was used in an earlier DOS version running on a 486 PC for the statistical analysis of the abstracts. A later version of SPSS (Version 5) running under Windows 3.11 was then used for the analysis of the company report data. Finally, in the analysis of the questionnaire data, SPSS for Windows Version 7 running under Windows 95 on a Pentium 266 MHz with 64 Meg RAM was used. Despite this increase in computing power an ANOVA model analysis of the entire data set was not possible due to memory

limitations. It was calculated that for such an analysis the memory requirements would have exceeded the physical capabilities of any PC and a larger machine of the type Cray or IBM 400 would have been required to which the researcher had no access.

4   Analysis of data

4.1 Introduction

The author has divided his thesis into three main studies. Together they form the heart of the research. The first study concentrated on identifying the use and meaning attributed to the word "resonance" in the literature. To this extend an extensive literature survey was carried out, and the meanings and uses of the word "resonance" were identified and classified. The results of this survey have already been discussed earlier on. In a second step the author analysed 100 German and 100 UK (chosen from the Times Top 1000 Index) company reports to identify social resonance as defined earlier, and to measure the extend of social resonance that could be identified from the reports. This ultimately served to answer the research questions R1 to R3. In a third research step a survey questionnaire was developed and sent to the chief executives of the top 100 UK and top 100 German companies identified from the Times Top 1000 index. This questionnaire was analysed and the results served mainly to answer the research questions R4 and R5. A description of the survey samples for both company report analysis and survey questionnaire and the main findings of the data analysis using various statistical processes can be found in this chapter.

4.2 Descriptive Statistics

4.2.1 Survey of UK and German Company Reports

4.2.1.1 Sample Description

For the purpose of this study it was decided to carry out a qualitative and quantitative analysis of the company reports for 1995 of the Top 100 UK and the Top 100 German companies according to the Times 1000 Index published

yearly. A justification for this textual analysis is represented in the figure below:

'Social resonance' to ecological issues in annual reports
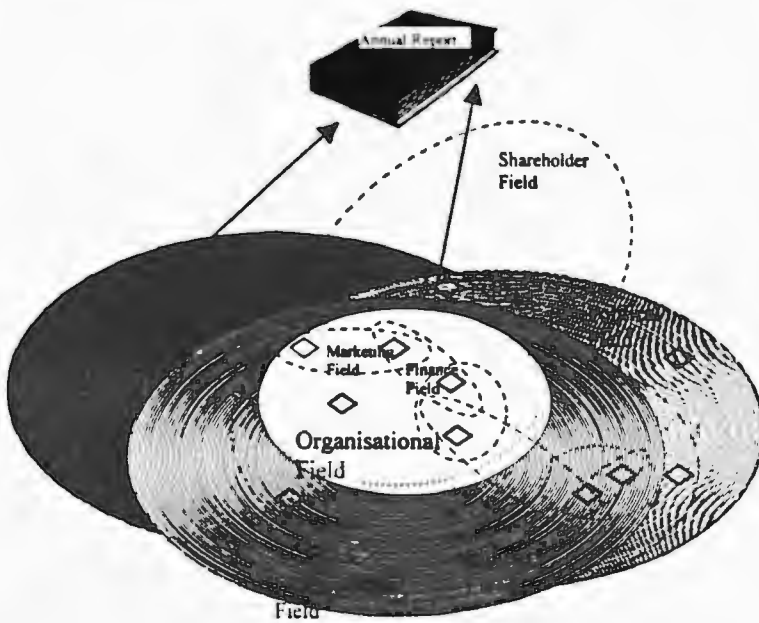
Figure 5 Social resonance in Company Reports

The main argument here is that the company reports and the statements made in them are a deliberate information act on behalf of individuals in the company to legitimise the existence and actions of the company and the individuals therein. As such the reports are a mirror of the opinions held by various individuals within the company and can usefully be interpreted (see chapter 3 for a detailed justification).

The ordering of companies in this report is by capital employed. All companies were classed according to the Standard Industry Classification System (SIC), a copy of which can be found in Appendix 1.

The following distribution pattern emerged for the Times Top 100 UK companies:

Table 8 Distribution of Times Top 100 UK
companies according to SIC

SIC	Frequency	Percent	Cumulative Percent
1	11	11	11
2	11	11	22
3	3	3	25
4	19	19	44
5	2	2	46
6	10	10	56
7	9	9	65
8	24	24	89
9	11	11	100
Total	100	100	

The Mean SIC is 5.42, the Median is 6.00 and the Mode is 8.00. That means that the top of the normal distribution curve is on the right of the Mean, indicating a stronger element of companies in the service sector than in the primary or secondary sector in this sample. 66% of companies in this sample are in the service sector.

Looking at the distribution of the Times Top 100 German companies, with a mean of 3.96, a Median of 3.00 and a Mode of 3.00, one can see that the distribution of companies across the SI Classification is almost the opposite to the UK distribution. 10% of the Times Top 100 German companies are in the primary sector, 60% in the secondary sector. Only 30% of companies in the German sample are in the service sector.

Table 9 **Distribution of Times Top 100 German companies according to SIC**

SIC	Frequency	Percent	Cumulative Percent
1	10	10	10
2	20	20	30
3	23	23	53
4	17	17	70
5	6	6	76
6	5	5	81
7	5	5	86
8	12	12	98
9	2	2	100
Total	100	100	

For the purpose of this report, 100 UK and 100 German company reports were analysed. This was deemed a sufficiently large sample to verify the variables measured and their explanatory power for answering the research questions R1 to R3.

In order to speed up preliminary analysis of the company reports and pre-test the research methodology chosen, the author decided to assess whether a random sample of 35 ('first mail in' basis) would be representative of the total of 100 UK and 100 German companies. For this it was necessary to compare the distribution of companies in the random sample with the distribution in the total population (100 UK and 100 German companies). Table 3 shows the results of this comparison. Although there are no companies falling into SIC 3 in the random sample, this is of little significance since SIC 3 companies accounted for only 3% of the total number of companies in the Top 100 UK companies. The same is true for the absence of SIC 5 companies in the sample, which accounted for only 2% of the original 100 Top UK companies.

Table 10 **Comparison of cumulative frequencies of Random UK sample with UK Top 100 across SIC**

SIC	Cumulative Percent 100 Top UK	Cumulative Percent 35 Random UK
1	11	5.7
2	22	11.4
3	25	11.4
4	44	37.1
5	46	37.5
6	56	51.4
7	65	57.1
8	89	88.6
9	100	100

As can be seen from table 3, the distribution of companies across the SI Classes in the random sample is similar to the distribution of the 100 Top UK across SI Classes. This allows the conclusion that the random sample of 35 UK companies is representative of the total 100 UK companies. In addition, the Mean Times position of the companies in the random sample is 48.3. Further evidence of the representativeness of the random sample.

A similar sample of 35 German companies from the Top 100 German companies was chosen (again by rule of 'first mail in'). Table 4 shows the comparison between the distribution of the Top 100 German companies across SI Classes and the Random Sample of 35 Top 100 German companies across SI Classes.

Table 11 Comparison of Cumulative Frequencies of Top 100 German and Random Sample across   SIC

SIC	Cumulative Percent Top 100 German	Cumulative Percent Random Sample
1	10	5.7
2	30	20
3	53	42.9
4	70	60
5	76	65.7
6	81	68.6
7	86	74.3
8	98	94.3
9	100	100

The main variation in the random sample from the Top 100 companies lies in a 10% lower representation of SIC 2 companies in the random sample compared to the Top 100 German companies. Other than that the distribution is almost identical. The Mean Times position for the German company random sample is 40.4. This indicates a slight skewedness of the sample in relation to the parent population. Despite this it can be assumed that the random sample of 35 German companies is representative of the total of 100 Top German companies.

The author assumed, based on these findings, that the notion of a preliminary exploratory statistical treatment of the first 35 company reports from the UK and Germany would yield comparable results to the total sample and would allow to test the research techniques. The subsequent analysis of the data based on the first 35 reports from each country showed the validity of the chosen tools and techniques for analysis and led to a refinement of the

research techniques employed for this part of the research. Based on this finding the author then proceeded to analyse the entire 200 company reports.

4.2.1.2 Code Families

The analysis and coding of all statements relating to ecological issues resulted in the following findings for the 'social resonance' of the sample companies (from now on the word sample refers to the sample of 100 German and 100 UK companies) to ecological issues:
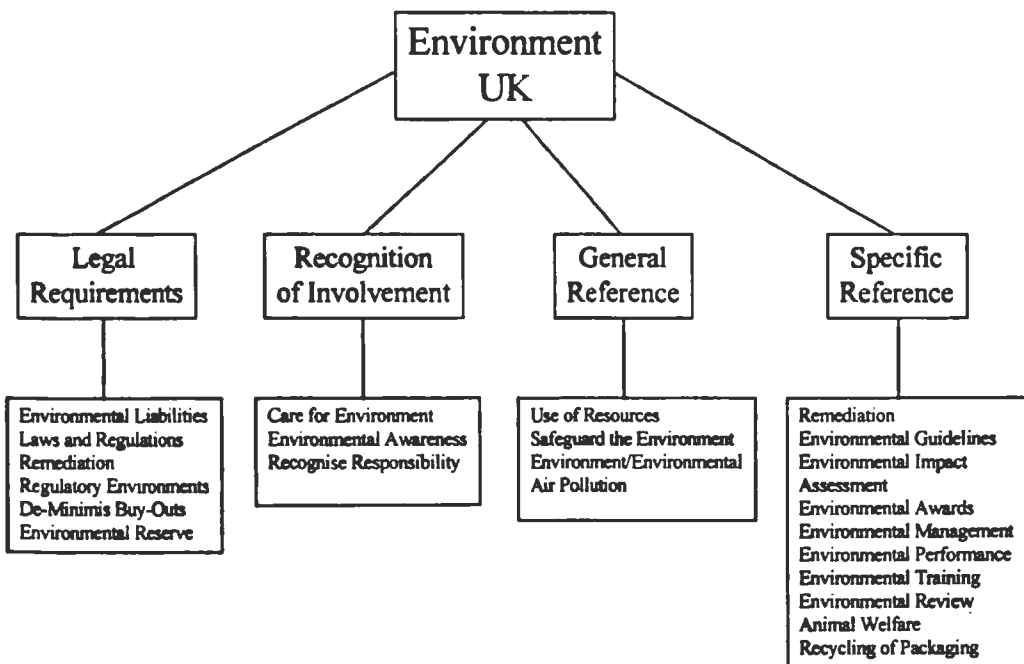
Figure 6 Code Families for Environment found in UK Company Reports

All other code families and the findings for those families can be found in appendix 2. For the purpose of this report the author will refrain from discussing these findings in great detail since the focus of the entire study is the identification of 'resonance' to ecological issues. All interested readers

may refer to the appendices for more detailed information on 'resonance' to other than environmental stimuli.

The same analysis of the German Sample resulted in the following graph:
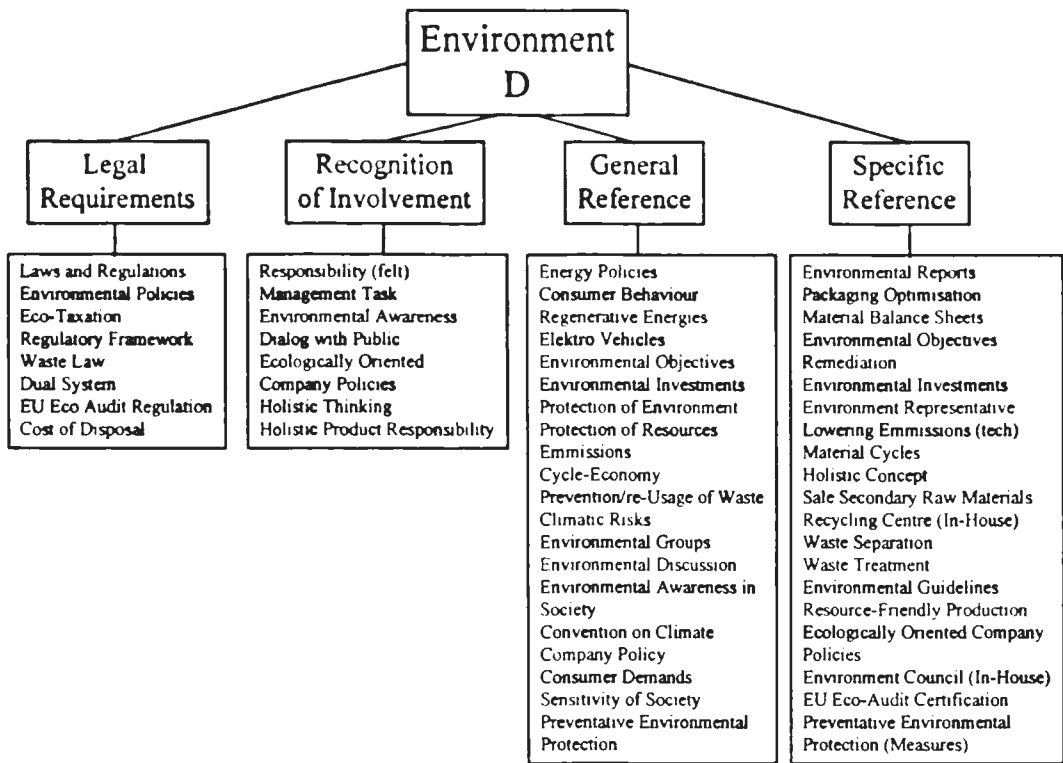
Figure 7 Code Families for Environment from German Company Reports

An overview of the variables measured can be found in appendix 4. The results of the distribution statistics for the variables measured can be found in the appendix 5. The next paragraph will highlight the most interesting findings.

The UK sample showed the total number of instances in which a reference was made to the code family 'community' to be on average 8.4, the respective German total number of instances is 3.2. The total number of instances in which a reference was made to the code family 'employees' was on average 8.9 for the UK sample and 35.7 for the German sample. Finally, the total number of instances in which a reference was made to the code family 'environment was on average 7.5 for the UK companies and 23.0 for the German companies. The average cost of staff in the German sample was £42,700, the respective figure for the UK sample was £23,200. In the sample,

the average cost of staff in Germany was 1.84 times higher than the UK average cost of staff.

It has to be noted, however, that such comparisons of salary in absolute terms make little sense without accounting for purchasing power parity. A comparable good might cost £1 in Britain, and the equivalent of £2 in Germany. Hence, when purchasing power parity is taken into account, the salary levels in Germany might suddenly no longer show such great discrepancies. Since in the following analysis the variable salary has not been used in any way, the author hopes that this brief section illustrates that one can not directly compare salary levels without taking into account purchasing parity.

The profitability of the companies in the UK sample was on average 18 per cent. The profitability for the German sample was on average 2.7 per cent. UK company profitability was on average 6.7 times higher than the German company profitability. On average, 55.1 per cent of the managers serving on the Boards of Directors of German companies held a title, 48.5 per cent of those titles were higher academic titles (either PhD or Professorships). In the UK sample, an average of 24.9 per cent of managers serving on the Boards of Directors held a title, 4.8 per cent of those were academic titles, 12.6 per cent held a Knighthood, 3.5 per cent were Members of Parliament, and 4.0 per cent held a royal title. Whereas the UK sample showed an average of 5.8 per cent of females serving on the Board of Directors, the German sample showed no (0.0 per cent) females serving on the Boards of Directors in the sample.

4.3   Regression and Correlation Analysis

Since most of the recorded variables were discrete, the useful correlations were calculated using the Spearman correlation coefficient. The Pearson correlation coefficient is only applicable if all the variables are continuous. Appendix 6 shows the regressions and correlations calculated in schematic

form. In all the cases, the regression coefficient [R] was calculated, and the overall explanatory power of the model was assessed calculating the multiple coefficient of determination [R^2]. The statistical significance of the overall explanatory power, or overall model fit, was calculated using the F-test. The possibility of choosing a wrong functional form for the regression analysis was anticipated and linear as well as curve estimation regression analysis was carried out. The results showed that a linear regression showed the better explanatory power and overall model fit for all the variables in the model. The effects of multi-collinearity (explanatory variables correlate with one another) are thought to be low, since individual correlations were calculated and showed no significance. There is, however, the possibility of errors in the variables. A t-test carried out on three key variables showed a 80 per cent probability of the sample results being representative of the parent population.

In correlating the results of the German sample (see appendix 6), only one result was statistically significant. When correlating SIC Code (industry code) with the number of instances in which reference was made to 'environment', R was 0.60 and C was -0.67. R^2 was 0.36, and the F-test showed a very significant result ($f = 0.0$).

Looking at the results of the UK sample regression and correlation one can identify two significant and two vaguely significant results. When correlating SIC Code with the number of instances in which reference was made to 'employees', a weak negative correlation was found, explaining only 3 per cent of the total variance in the dependent variable. When the number of managers with titles on the Board of directors was correlated with the number of instances in which reference was made to 'community', a weak positive correlation was found, explaining 6 per cent of the variance in the dependent variable. Again, SIC Code correlated with the number of instances in which a reference was made to 'environment' and 'community', a weak negative correlation could be found in both cases. Since the F-test resulted in rejection ($f=0.07$ with 0.05 being the threshold), the hypothesis of a relationship between the two variables has to be rejected at this stage.

Finally, the combination of all variables as independent variables for the explanation of the number of instances in which reference is made to either 'environment', 'community', or 'employees' shows significant results for the UK

and German samples. The total explanatory power of the recorded variables is 32 per cent for 'environment'. The other two hypotheses, 'community' and 'employees' being explained through the variables had to be rejected on the grounds of the F-test.

In the German sample, 36 per cent of the variance in 'environment' could be explained through the chosen variables. But the explanatory power of SIC Code in combination with the number of managers holding a title on the Boards of Directors showed a more significant result with 37 per cent of the variance in the variable 'environment' being explained by the variance in these two variables with a high overall fit for the model (f = 0.0). The hypotheses of a relationship between 'community' and 'employees' and the variables had to be rejected.

4.4   Discussion of findings

Key assumption of the study was, that annual company reports of Top 100 companies mirror the agents' (within the companies) views of what the fields, at which the annual report is aimed, expect of the reports, and subsequently the company. These fields include the shareholder field, the economic field generally (analysts specifically), the legal field, and the field of the interested public. The interests of all these fields, as perceived and prioritised according to the agents' positional habitus or 'feel for the game', will have influenced the outcome, namely the style and contents of the reports. It is **another assumption** of the author, based on his practical experience at board level that while various individuals in the organisation will have an input to the outcome, editorial control remains largely with the Board of Directors. As such, annual reports can be seen to reflect the 'social resonance' at board level.

It is useful, at this point, to recall the first two research questions:

R1.) What is the extent of "social resonance" on an organisational level to ecological issues within the Times Top 100 UK and the Times Top 100 German companies?

R2.) What are the main differences in "social resonance" to ecological issues on organisational level between UK and German companies?

The variables recorded to answer R1 can be found in appendix 4, the results of the statistical analysis in appendices 5 and 6.

To answer R2, a qualitative textual analysis was carried out, the results of which can be found in appendix 2. When looking at the findings of the qualitative textual analysis of the Chairman's statement, the CEO's statement, and other chapters in the report, it becomes evident that UK companies 'resonate' differently from German companies to ecological issues and 'resonate' to different concerns within the ecological field (defined as the collective interest in the ecology). German companies (in this study) have a richer language both in acknowledging their position in the ecological field, and in describing their actions to maximise their interest in this and the economic field. The language is also more specific. They show a significantly richer language to address the legal field. UK companies have a poorer language to describe their position in the ecological field, and a poorer language to describe their actions to maximise the interest in the ecological and economic field. The language is more general. The vocabulary to address the legal field is poorer than the German vocabulary. This becomes evident when comparing the graphs showing UK and German code families as constructed from the textual analysis. This result strengthens one of the fundamental principles of 'social resonance', that of multi-matrix stimuli as 'causes' for 'effects' or outcomes in organisations. It can be seen from the evidence, that German as well as UK companies address various fields with their language, and various interests within those fields. Those interests can be interpreted as the stimuli that ultimately 'cause' the 'effect' or 'social resonance'. Inasmuch as that the metaphor of 'social resonance' gains explanatory power by this finding. Looking at the statistical evidence, German companies address the ecological field much more often in the company reports. Comparing the total number of references to the environment or ecological field, they reference three times more often than the UK companies in the sample. Looking in more detail at the Chairman's and CEO's

statements, it becomes evident that the German Chairmen and CEO's reference two and a half times more often to the ecological field. UK chairmen referenced more than three times more often to the community or charity field than German companies. This can be interpreted in several ways. Controlling the extraneous variables ecological field or charity field is difficult. Reliable measures for the strength of the influence of the ecological field on other fields, such as the political and legal field, or indeed the economic field in general and the organisational field in particular, are difficult to formulate. One indicator of a strong ecological field could be the strength of the legal field with regards to ecological issues. Germany has many more regulations and laws regarding the environment than the UK. Regulation of the industries in legal terms is stronger in Germany. Handler (1994), in a European survey of environmental legislation, states that in Germany "the protection of the environment has become one of the prime concerns of policy makers, of the business community and of the public at large". The number of charities in the UK is higher than the number of charities in Germany. The qualitative analysis of references to the environment (ecological environment) shows, that German companies reference to both the legal and the ecological field much more often and much more specific than UK companies, and UK companies reference more often and in a more developed language to 'community' issues. This is evidence of the interconnectedness of, and exchange between, fields.

To answer the research question R3,

R3.) Can any relationships between the variables used to measure "social resonance" be established (dependent and independent variables)?

A set of variables was developed to qualify the fields companies are positioned in, and possible forms of capital available to agents (in this context members of the Boards of Directors).

To discuss the research findings in the light of R3, it is helpful to look back at findings to answer question R1 and R2. Much the same results as for references to the ecological environment can be seen where German and UK

companies reference to the employees. Again, the German vocabulary is more specific and addresses the legal and other fields, such as the field constituted by all the employees in a company, or the general field of all workers in Germany. Reference to specific action is more detailed in the German companies. Overall, German companies referenced four times as often to employees than UK companies. This finding, combined with the higher average cost of staff found in the sample (staff in Germany is on average nearly twice as expensive as in the UK), and the anecdotal evidence that trade unions in Germany are much stronger (representation of employees in companies is much stronger), goes some way towards identifying a link between fields and 'social resonance'. At the same time, a link can be established inductively between the interests of fields, and the outcomes (linguistic) of agents' appreciation of that interest (reflected in annual reports addressing these interests to varying degrees).To test the hypothesis that companies 'resonate' to interests of strong fields in the society they are positioned in, references to the charity field (or community field) were also recorded, knowing that in the UK there is a strong interest in charitable causes in the society, much more so than in Germany. In Germany, much of the work that charities cover in Britain, is covered by the state itself. In Britain, much of the responsibility of social welfare rests with individuals or groups of individuals, representing the charity field (authors impression). When looking at 'social resonance' to the interest of charity fields, the UK companies displayed a much more elaborate language to describe their involvement, and also referenced nearly two and a half times more often to community involvement than German companies. Inductively, a link can thus be established between the fields and the outcomes of 'social resonance'. A further link can be inductively established between the forms of capital available and invested in fields, and with that to positional habitus. German companies have a more developed language to describe their 'investment' in ecological or political fields, UK companies have a lesser developed language to 'invest' in those fields, but a more developed language to 'invest' in, for example, the 'community' field. This can be interpreted in the way that UK companies' agents invest their language capital in other fields than German companies. Following the concept of fields as developed by Bourdieu, agents

invest capital in order to maximise 'return'. UK companies expect a higher return from the 'community' field than the 'environment' field, German companies expect the opposite.

Since in the UK companies the majority of titles were non-academic, more socially constituted (Sir, Rt. Hon., Lord, and others), it can be said that in the UK organisational fields have a higher affinity to the positional habitae of these agents. In the German companies, 95 per cent of titles held were academic titles. German organisational fields seem to have a stronger affinity to the positional habitae of these agents.

Over and above the inductively constructed link between outcomes of 'social resonance' and the interest of fields, variables were constructed to attempt to link 'social resonance' to capital, positional habitus, and fields. These variables were statistically analysed using regression and correlation analysis. To quantify capital as used in Bourdieu's theory of the economic of practice, various forms of capital were identified, variables developed and then tested for relationships. As variables for economic capital of the organisation, capital employed and profitability were recorded. Symbolic capital, as well as academic capital, and cultural capital at board level was recorded through the titles held by the members of the boards of directors, positional habitus was recorded through titles use of language by the chairman and CEO. The possible influence of the position of the organisation within fields was tested by recording the industry the organisation operated in, according to SIC Code, and regressing it against the number of references (or strength of resonance) to environment, employees, and community.

The result of the analysis of the company reports showed, that members of Boards of Directors (BOD) in the UK companies sampled held much more cultural capital (in the form of social titles such as Sir, Lord, Rt. Hon., and others) than their counterparts in Germany. In Germany, academic capital (PhD, Prof.) was much more important, with 55 per cent of all members on BODs holding an academic title, and 95 per cent of those titles being doctoral level academic titles. This leads the author to the interpretation that in Germany symbolic power at board level is strongly connected with the right kinds of academic capital, whereas in the UK, symbolic power at board level stems mainly from the right kinds of cultural capital. Bourdieu (1991), when

writing about the use of language, states that authority is connected to language capital. For a speech act to be authorised by an institution (such as an organisation), it requires the acceptance by the members of the institution that the speaker is worthwhile listening to. In the UK, institutions, such as organisations, seem to 'trust' speakers with cultural capital more to be best suited to represent the interests of the institution (or field). Another interpretation of this finding comes from one of Bourdieu's studies (Bourdieu & Saint Martin 1978). Data of 216 of France's largest companies indicated, that heads of industrial firms often came from families of high officials or members of the upper class and owed their position to social relations. Viewing the results of this study in the light of Bourdieu's findings, they can also be interpreted in that way. UK membership of Boards of Directors seems to be based on the same social relations concept as in French companies. In Germany, a different concept is evident. Academic capital seems more important in the selection and authorisation of the agents as speakers do.

A link between the kinds of capital of agents and the 'social resonance' to ecological issues at board level could not be substantiated from the sample data. Although positive correlation was evident, the overall model fit was too low to accept the hypothesis of a link based on the data collected to day.

When correlating SIC Code (representing industry type) with the number of references to environment, community and employees, a link between the position of the company within the economic field and the 'social resonance' to ecological issues could be established for the German sample, but had to be rejected on the grounds of overall model fit for the UK sample. The author attributes this to the narrow sample size at present, especially as the model fit for the UK sample was only outside the threshold by 0.01 per cent. The established link between fields and 'social resonance' in German companies shows a negative correlation between number of references to environment and SIC Code, indicating that companies in the primary and secondary industries in Germany 'resonate' stronger to ecological issues, and companies in the service sector 'resonate' less to ecological issues. This can partially be explained by the nature of production. Primary and secondary sector companies usually have a higher direct impact on the environment than service sector companies. Since the interest of the ecological field is mainly

directed at the improvement of direct environmental impacts, a stronger 'social resonance' of organisations in sectors with greater impact can be expected. This finding, however, supports Bourdieu's theory of practice, inasmuch as he expects agents to invest capital where they expect it to yield maximum returns. Agents on BOD in Germany seem to invest language capital according to the position that the institution takes up in the economic field. 36 per cent of the variation in the number of references to environment can be explained by variations in the SIC Code, giving the model a reasonable explanatory power.

A relatively strong correlation of SIC Code and number of references to environment was found for the UK companies. The hypothesis of a relationship, however, had to be rejected on the grounds of the overall model fit.

When correlating the variables for the number of references to environment, employees, and community with each other, the UK sample showed a relationship between the number of references to environment and the number of references to community and employees. This supports the inductively constructed link between the interest of fields and the investment of language capital by the agents positioned on the BOD in companies. Since UK companies 'resonate' stronger to the community field, and the qualitative textual analysis showed the language for describing the involvement in the ecological and work field to be generally less developed, the conclusion can be drawn that UK companies 'invest' language capital more in the community field, than to describe their position in the ecological and the work field. Another interpretation of the results of the analysis could be that companies in the UK have varying degrees of sensitivity to fields. The higher the sensitivity to one field, the higher the potential sensitivity to other fields.

A similar relationship between the references to environment, employees, and community could not be established for German companies. This supports the view, that German companies regard these three areas as separate fields in which they invest different amounts and kinds of language capital, whereas in the UK the distinction between the ecological field and the community field are not so clear-cut.

A weak negative relationship between the economic capital of an organisation (expressed in profitability (as an indicator for success in gaining economic capital) and capital employed) and the number of references to environment and community could be established for the UK sample. The author interprets this to mean that companies more successful in the economic field are not as sensitive to the interests of the ecological field, or the community field. They invest most of their language capital in the shareholder field.

Interestingly, when analysing the language used in the description of business success, both German and UK companies had a similar degree of language definition, yet the UK companies referenced to the shareholder and economic field twice as often. Following the notion of Bourdieu, this can be interpreted in the way that UK companies expect a higher 'return' from 'investing' language capital in the shareholder and economic fields. This is supported by the finding that UK chairmen and CEOs reference twice as often to business success, than the total number of times they reference to any other field recorded in this study.

In the German companies, more references were found to relate to other fields (1.3 times as many), than to business success. Further evidence of the differences in 'investments' of language capital.

A final analysis of the variables included the multiple regression and correlation of all the variables identified from the company reports, to explore the overall explanatory power of the recorded variables, for the explanation of the variance in the number of references to environment, employees, and community. In the UK sample, the explanatory power and correlation of the chosen variables to explain variance in the number of references to the ecological field, grew with every independent variable added into the regression. Maximum correlation was achieved by regressing all the chosen variables (see appendix 7) against the dependent variable (references to the ecological field). The overall explanatory power of the chosen model was 32 per cent, which is reasonable. No such correlation could be established for the variables community and employees. This finding further strengthens the metaphor of 'social resonance'. 'Resonance' to ecological issues seems to be affected by various kinds of capital and fields found in the organisation.

In the German sample, a positive correlation could also be established. The explanatory power of the overall model for the explanation in the variance in references to environment was even stronger, with 36 per cent of the variance explained. A higher level of explanatory power still was achieved by regressing only SIC Code and number of directors with titles against the number of references to environment. 37 per cent of the variance could be explained that way. The hypotheses of a relationship between the variables and the number of references to community and employees had to be rejected on the grounds of the overall model fit (F-test).

In summary, a difference in 'social resonance' to ecological issues answering the research question R1 has been established and described. A quantification of the differences in the extent of 'social resonance' between German and UK companies has been established. Furthermore, a relationship between the economic field, the ecological field, the community field, and the organisational field could be established. A link between available forms of capital and 'investment' of these kinds of capitals in fields could be established. Finally, a link between positional habitus and capital and field could be established, thus linking the metaphor of 'social resonance' successfully with Bourdieu's theory of economic of practice and supporting his main findings.

4.5   Descriptive Statistics

4.5.1   Questionnaire Survey of 200 Top German and UK companies

4.5.1.1 Sample description

In response to the questionnaire twelve chief executives from UK companies and six chief executives from German companies returned useable questionnaires (questionnaires with all questions answered). In addition the author received twelve letters apologising for non-participation. The main reasons mentioned for non-participation where a.) no time, and b.) general policy of non-participation. Of these twelve non-participating companies nine

were from the UK and three from Germany. The author will discuss the significance of even a non-participation decision in the light of the theory of social resonance in his analysis of the questionnaire survey.

Table 12 Response Rates for Questionnaire

Number of Questionnaires distributed	Number of questionnaires returned	Letters of non-participation	Non-response	Total response rate
100 UK	14	9	77	23%
100 German	7	3	90	10%

Table 13 Useable Responses from Questionnaires

	Number of questionnaires returned	Useable questionnaires returned	% Rate of useable questionnaires returned
UK sample	14	12	85 %
German sample	7	6	85 %

A total response rate of 23% for the UK sample and 10% for the German sample was achieved. Of the total number of questionnaires returned 85% of the UK questionnaires returned were useable and 85% of the German questionnaires returned were useable.

4.5.1.2 Survey Questionnaire Description

The questionnaire contained a total of 25 questions. The total number of variables measured was 89 different variables.

4.5.1.3 Development of Questionnaire

In a first step the author identified from the analysis of company reports the main fields that were addressed in the writing and identified from the survey. These fields were then extended through a brief literature survey of stakeholder analysis literature. This resulted in a list of fields that the subjects of investigation would typically encounter in their business dealings. It has been argued earlier that stakeholders in a company can usefully be described as fields in themselves. Since the main purpose of the questionnaire survey was to answer R4 and R5, it was important to develop a framework that would allow the author to tie the capital (in Bourdieu's interpretation) invested by the chief executives (the form of which is really an expression of the importance attributed to the fields) to the social background and core beliefs of the subjects of the investigation (i.e. the chief executives). To this end the author developed a number of statements that would explore the social background of the subjects under investigation. A summary of the final fourteen statements used can be found in the table below. The statements were chosen so that a grouping of statements testing the same opinion could be statistically treated to test for the consistency of answers. By formulating each statement in a group slightly differently, yet ensuring that the meaning was largely the same, such a test of consistency could be performed. In addition a number of additional variables was developed to identify the social background of the subjects under investigation further.

The questionnaire was formulated and then pre-tested using twenty members of staff of the Warwick Manufacturing Group. The evaluation of this pre-test led to the re-formulation of some of the statements and the elimination of other statements. The pre-test also identified a certain ambiguity with regards

to the forms of capital and respondents interpretation of them. It was deemed necessary to add guiding comments to the forms of capital identified. These comments were phrased in the form of a question that would help the respondents to understand the meaning of the question 21. The pre-test furthermore identified missing categories for both the academic qualifications held and the social background of the parents, which were subsequently added.

A second pre-test with twenty more members of staff of the Warwick Manufacturing Group showed much better results in clarity of understanding of the questions and interpretations. From this second pre-test, the classifications for non-academic titles were developed.

The questionnaire was finally formulated based on the findings of the first and second pre-test and were then posted to the target group.

The final variables measured were:

Table 14 Variables developed for Questionnaire

Question Number	Variable Measured	Variable Scale
1	Age	Ordinal
2	Sex	Nominal (1=male; 2=female)
3	Position	Character
4	Length of time Position held	Ordinal (conversion to months)
5	Academic qualifications held (highest recorded)	Character converted to ordinal scale 1=PhD; 2=Masters/Honours; 3=Diploma/HND; 4=Certificate; 5=A-levels; 6=O-levels
6	Non-academic titles held (Memberships of Professional Institutes, Peerage, and others) (Highest recorded)	Open character field converted to nominal scale variable 1=Peerage 2=Professional Institute 3=Other
7	Parents had great influence on actions even today	5-point Likert scale (nominal) 5=Strongly agree

		4=Agree 3=Uncertain 4=Disagree 5=Strongly disagree
8	Upbringing influences actions today	Ditto
9	School influenced development/action greatly	Ditto
10	Time at university influenced me greatly	Ditto
11	Work experience strongly influences my actions today	Ditto
12	Had very strict upbringing by parents	Ditto
13	Still have regular contact with fellow students and friends from university	Ditto
14	School had very strict rules and punishment	Ditto
15	Work experience is much more important than degrees	Ditto
16	School was one of the best in the area	Ditto
17	University was one of the best in the country	Ditto
18	High level of education is very important for career	Ditto
19	Right school is important for career	Ditto
20	Right university is important for career	Ditto
21	Capital investment matrix	Total amount of capital available 10 units to be distributed between:
21.1	Relationship capital	Board of Directors

		Shareholders
	(Which relationships are most important for you?)	Employees
		Business Friends (internal)
		Business Friends (external)
		Competitors
		Professional Institutes
		Industry Groups
		The Arts
		Environmental Groups
		Charity/Society
21.2	Knowledge capital (Which area should most benefit from your knowledge?)	Ditto
21.3	Money (Which area would you most like to give money to?)	Ditto
21.4	Words/Writings (Which area would you most like to address?)	Ditto
21.5	Reputation/Opinion (A good reputation/opinion of you is particularly important to you in which area)	Ditto
21.6	Representation (Where would you most like to be represented?)	Ditto

22	Eliminated in final questionnaire	None
23	SIC Code	Nominal Top Classification Level only (see Appendix)
24	I went to private/state-run school Eliminate as appropriate	Character converted to nominal scale variable 1=private 2=state-run
25	How would you describe your parents background?	Character converted into nominal scale variable 1=Working Class 2=Middle Class with working class roots 3=Middle Class 4=Upper Class

4.5.1.4 Survey questionnaire sample characteristics

The following table is a summary of the key sample characteristics of the questionnaire survey. For a detailed description of all sample characteristics the reader might want to refer to the appendix.

4.5.1.5 UK sample

Table 15 UK Sample Descriptives

Variable	Number of useable responses	Minimum	Maximum	Mean	Standard Deviation
Age	12	47	70	54	6.3
Length of position held (months)	12	3	370	52	101.9
Sex 1=male 2=female	12	1	1	1	0
Highest Academic Title held	12	1	5	2.25	1.42
Highest Non-academic title held	10	1	2	1.2	0.42
State or Private School 1=Private 2=State	12	1	2	1.75	0.45
Background of parents	12	1	3	1.83	0.72
SIC of company	12	1	8	3.33	2.7

4.5.1.6 German Sample

Table 16 German Sample Descriptives

Variable	Number of useable responses	Minimum	Maximum	Mean	Standard Deviation
Age	6	46	61	53.8	5.34
Length of position held (months)	6	9	120	74.6	47.93
Sex 1=male 2=female	6	1	1	1	0
Highest Academic Title held	6	1	3	1.33	0.81
Highest Non-academic title held	0	0	0	0	0
State or Private School 1=Private 2=State	6	2	2	2	0 .
Background of parents	6	1	4	3	1.09
SIC of company	6	1	4	2.66	1.36

4.6   Chi² analysis

4.6.1   Group sizes and degree of generalisation possible from results

A Chi² analysis was carried out for both the German and UK groups of respondents to evaluate the degree of generalisation possible from the results of this study based on the sample size of the questionnaire respondents. All variables in the analysis were analysed for sample size and the reader can find the full results of this analysis in the appendices.

This goodness-of-fit test compares the observed and expected frequencies in each category to test either that all categories contain the same proportion of values or that each category contains a user-specified proportion of values.

The results of the Chi² test shows that for both the German and UK group of respondents there are a number of fields for which the expected frequency is lower than 5. This means that the group of respondents and subsequent results were not representative of an imaginary infinite group of possible respondents in a normally distributed parent population. Based on these results of the Chi² test some of the findings of the subsequent analysis valid only for the respondent group and can not be generalised beyond a significance for this group of respondents.

The Chi² test assumes an infinite normally distributed parent population. The total number of chief executives in the world running multinational operations of the size in this study amounts to a few hundred at best. Chi² is the only non-parametric test that can be applied to the data since the variables are discrete in nature. As such the goodness-of-fit test given by Chi² gives a distorted picture of the real significance of the sample population for predictions regarding the parent population. Given this and the fact that despite this the Chi² test gives satisfactory results for the majority of variables included in the study it can be assumed that the data collected and sample size allow a cautious generalisation of the results.

4.7 Comparison of main sample characteristics (UK and German sample)

When comparing the UK and German samples of questionnaires returned it becomes apparent that the characteristics resemble to a large extend the characteristics of the company report analysis. Some of the significant characteristics are almost identical (see further above).

The average age of the UK Chief Executives was 54 years with a standard deviation of 6.3 years. The average age of the German Chief Executives was 53.8 years with a standard deviation of 5.34 years. Both samples are almost identical in this characteristic. When asked for the length of service, the UK respondents had served an average of 52 months as chief executive. The standard deviation however was 101.9 months. On closer examination of the data it was found that an outrigger with 370 months service was responsible for the large standard deviation. The average length of service of the German respondents was 74.6 months with a standard deviation of 47.93 months. It looks as though the German Chief Executives have served on average slightly longer (around 1.5 years longer) than their colleagues in the UK. All respondents in both sets of responses were male. When re-examining the sample data for the company report analysis one can see that the total number of women serving as Chief Executives in the Top 100 German and Top 100 UK companies is zero. The highest academic title held on average by the UK respondents was 2.25 (which is between Masters/Honours and Diploma level). The standard deviation of 1.42 would indicate that the majority of respondents hold a Masters or lower qualification. The German respondents hold on average an academic qualification of 1.33 (in-between PhD and Master/Honours level). The standard deviation of 0.81 indicates that in fact the majority of German chief executives hold a PhD title, a significantly different result to the UK respondents who on average hold either first degrees or lower. The number of respondents in the UK sample with PhD

degrees is zero. This result again ties perfectly with the result from the company report analysis in which it was found that the two samples (UK and German) differed greatly in the area of academic qualifications of chief executives. This has been confirmed in the survey questionnaire here. The German respondents indicated no membership of professional institutions, and in fact there is no history of individual membership in professional institutions in Germany (Authors personal experience). The UK respondents held on average non-academic qualifications of 1.2 (in-between membership of professional institution and peerage). The standard deviation of 0.42 would indicate that the majority of respondents hold professional memberships and the minority hold peerage. And indeed on closer examination of the data only one respondents was found to hold peerage. All respondents in the German sample went to state-run schools, whereas an average of 1.75 and a standard deviation of 0.42 in the UK would indicate that the majority of respondents went to state-run school, but a significant number also went to private schools. The parents of the German respondents came predominantly from a middle class background (the average was category 3), with very few respondents stating the background of their parents to be middle class with working class roots. One respondent in the German sample characterised his family background as upper class. In the UK group of respondents, an average of 1.83 would indicate that respondents either described their background as working class or as middle class with working class roots. A standard deviation of 0.72 would further support that interpretation. This result must be viewed in the light of the different social histories of both Germany, and the UK. Whereas in Germany a strong middle class has firm roots in the society (the Mittelstand has been described in numerous sociological papers), a Protestant working class ethic has been predominant in the UK (or England to be more precise). Respondents might have wanted to be seen to have working class roots, as this is more desirable in this society. In the German society working class roots are seen as less desirable (and again, the literature is full of examples of this). It will be interesting to see how this interpretation fits with the theory of social resonance when it comes to the linkage between social background and social resonance. Finally, the Standard Industry Classification for the German sample has an average of

3.33 with a standard deviation of 2.7. This would indicate that the majority of chief executives answering the questionnaire came from Manufacturing Industries, with some from the utilities sector. The UK respondents' SIC code of 2.66 with a standard deviation of 1.36 would indicate that the number of utilities represented in the group of respondents is higher than in the German sample, and that there is a much stronger element of companies belonging in the field of oil and mineral extraction. The number of companies in the manufacturing sector seems to be low. And again, this result ties in with the findings of the company report analysis. Whereas the German companies in the company report analysis came predominantly from the manufacturing sector, the UK companies came predominantly from the service sector and utilities.

4.8   Likert Scale Profiles

As mentioned earlier a Likert Scale was constructed and statements developed that tested the respondents' opinion of the importance of certain characteristics of their upbringing. With this Likert Scale it was also possible to add to the picture of respondents' upbringing and social background. Fourteen statements were formulated and tested. The following is a graphical representation of the results of the Likert scale profiles for the German and the UK group of respondents. The author is aware of the fact that in constructing a Likert scale with nominal variables it is strictly speaking impossible to calculate arithmetic means and standard deviations, since a respondent answers either with one statement or another, and an arithmetic mean of the sum of the statements is not meaningful in itself. The arithmetic mean can be usefully employed in the construction of the following graphs that in turn can be usefully employed to interpret the opinions held by the group of respondents, since it gives an indication of the weight and distribution of opinions expressed.

The statements in the following table have been re-arranged to group the statements that are testing the same or similar opinions. Through this exercise

it is possible to measure the degree of consistency in the opinions expressed by the respondents.

4.8.1 UK and German Respondents – Comparison Table

Key:

5=Strongly agree

4=Agree

3=Uncertain

2=Disagree

1=Strongly Disagree

Table 17 Likert Profiles Result Statistics

	(5)	(4)	(3)	(2)	(1)
I have had a very strict upbringing by my parents				2.58 UK 2.66 G	
My parents had/have a great positive influence on my development/actions even today		4.08 UK	3.50 G		
My upbringing still influences my actions today		4.08 UK 4.16 G			
The school I went to greatly influenced my development/actions			3.66 UK 3.50 G		
My school was one of the best in the area			3.50 UK 3.33 G		

The school I went to had very strict rules and procedures for punishing pupils				2.83 UK 2.33 G	
Going to the 'right' school is very important for a career				2.00 UK 2.66 G	
My University was one of the best in the country		4.09 UK	3.83 G		
My time at University influenced me very much		4.09 UK 4.16 G			
I still have contact with many of my fellow students and friends from University			3.33 G	2.63 UK	
Going to the 'right' University is very important for a career			3.00 G	2.25 UK	
A high level of education is very important for a career		4.00 G	3.83 UK		
Work experience is much more important than degrees		4.16 G	3.66 UK		
My work experience strongly influences my actions today	5.00 G	4.58 UK			

4.8.2 Graphical Representation of Profiles

Comparison UK - German Likert Scale Profile

Figure 8 Likert Profiles Graphical Respresentation

As can be seen from the chart above, the UK and German profiles are remarkably similar. The main differences are in statements 2,6,7,10, and 11. The UK respondents felt that their parents had a stronger influence on their development. They also stated that the school they went to had more severe punishment rules. The German chief executives stated that going to the 'right' school was important for a career more so than their UK counterparts, and they also said that for the 'right' university, and again more so than their UK counterparts. Finally, the German respondents felt that work experience was more important than degrees. And although the UK respondents felt the same way, the German chief executives felt slightly stronger about this.

Going through the statements one by one, the following picture emerges. Asked whether the respondents had a strict upbringing by their parents both the UK and German respondents tended towards disagreeing with the

statement. The UK average was 2.58 and the German average 2.66. The next statement tested whether the respondents felt that the parents had a strong positive influence on them. Whereas the UK respondents agreed with the statement outright (4.08), the German respondents were uncertain, but tended to agree (3.50). The respondents were then asked to indicate their agreement or otherwise with the statement that their upbringing influences their actions today. Both sets of respondents agreed with this statement, with the German respondents agreeing slightly more than the UK respondents (4.16 vs. 4.08). Asked whether they believed that their school influenced their actions, the respondents were uncertain. The UK respondents were slightly more positive with 3.66; the German respondents averaged at 3.5. The next statement asked whether their school was one of the best in the area. Again, both sets of respondents were unsure about this. The UK respondents average was 3.66; the German respondents averaged at 3.5. Both the UK and German chief executives agreed to disagree with the statement that their schools had strict rules and procedures for punishment. The UK responses were slightly more uncertain about this (2.83) than the German responses (2.33). Is going to the 'right' school important for a career. Both the UK and German respondents denied this. The UK respondents were slightly more negative (2.0) than the German respondents (2.66). When asked the same question about their universities the picture changes. The UK respondents agreed that going to the 'right' university is important for a career; the German respondents were uncertain (3.83), although some agreed with the statement. Asked whether the time at university influenced the respondents, both the UK and German respondents positively agreed. The German executives were marginally more in agreement (4.16) with the statement than the UK executives (4.09). The next statement tested whether the respondents still maintained contact to their friends and colleagues at university. The UK executives were on average uncertain (3.33). On closer examination of the raw data the author found that three of the respondents in the UK still maintained contacts, whereas the other respondents were either uncertain or did not maintain contacts. The German respondents disagreed with the statement (2.63), saying that they did not regularly maintain contact to their colleagues from university. Asked whether a high level of education was

deemed important for a career, the German respondents agreed (4.0), whereas the UK respondents were uncertain (3.83). Asked further whether they felt that work experience was more important than degrees, the UK respondents were uncertain (3.66), whereas the German respondents agreed (4.16). The final statement asked the respondents whether their work experience influences their actions today. The German respondents agreed strongly with this (5.0); so did the UK respondents, if to a lesser degree (4.58).

4.9   Capital Investment Matrix

The capital investment matrix proved a very powerful tool for the exploration of the respondents' opinion about the importance of various fields. Through the introduction of a scarce resource (the amount of capital available to the respondents) it was made possible to gauge the relative importance attributed to each field in the study. Participants were given 10 credits that they could invest in any field for maximum payback. The number of fields exceeded the number of credits, and decisions had to be made as to which field would yield a higher payback in relation to other fields. With this capital investment matrix it became possible to operationalise Bourdieu's notion of capital investment and to find out about the strength of affinity to the fields in the study. The results from this exercise can be linked back to the company report analysis and comparisons can be made. This makes it possible to answer the question whether a company report analysis can yield useful information about an individual that participated in the compilation of such a company report.

4.9.1 Capital Investment Matrix Comparison UK – German Respondents

Table 18 Investment Statistics German-UK versus fields

	Board of Directors	Shareholders	Employees	Business Friends (internal)	Business Friends (external)	Competitors	Professional Institutes	Industry Groups	The Arts	Environmental Groups	Charity/Society
Relationships	*1.5*	*1.2*	*2.5*	*1.5*	*1.0*	*0.3*	*0.0*	*1.2*	*0.3*	*0.0*	*0.5*
	2.2	2.5	2.8	0.6	0.5	0.3	0.1	0.2	0.1	0.3	0.3
Knowledge	*1.7*	*1.8*	*3.3*	*1.0*	*1.5*	*0.0*	*0.2*	*0.5*	*0.0*	*0.0*	*0.0*
	2.3	2.5	2.8	0.6	0.2	0.4	0.0	0.4	0.1	0.3	0.4
Money	*0.3*	*2.1*	*4.7*	*1.2*	*0.2*	*0.7*	*0.3*	*0.0*	*0.2*	*0.2*	*0.2*
	1.1	3.7	3.1	0.3	0.3	0.0	0.3	0.3	0.1	0.2	0.7
Words/Writings	*2.2*	*1.7*	*3.5*	*0.3*	*1.5*	*0.0*	*0.2*	*0.3*	*0.0*	*0.0*	*0.3*
	2.0	2.8	3.0	0.3	0.1	0.3	0.1	0.4	0.1	0.5	0.5
Reputation/ Opinion	*2.2*	*1.8*	*2.5*	*1.5*	*1.2*	*0.2*	*0.2*	*0.5*	*0.0*	*0.0*	*0.0*
	2.2	2.7	3.0	0.8	0.5	0.2	0.0	0.3	0.1	0.3	0.2
Representation	*2.3*	*1.8*	*2.8*	*1.5*	*0.7*	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*
	3.0	2.2	2.2	0.3	0.4	0.3	0.0	0.3	0.1	0.3	1.1
Total Capital invested	*8*	*10.4*	*19.3*	*7*	*7.8*	*1.4*	*1.1*	*2.7*	*0.8*	*0.4*	*1.2*
	12.8	16.4	16.9	5.8	4	1.5	1	1.9	0.6	1.9	3.2

(Key: German respondents <u>0.00</u>; UK respondents **0.00**)

The greatest sum of capital invested by all respondents was invested in the employee field, with the UK respondents placing slightly less weight on this field than the German respondents. When looking at the cumulative percentage distributions, the following picture emerges:

Table 19 UK respondents: investment matrix cumulative percentage distribution

Field	Sum invested	Percentage	Cumulative Percentage
Employees	16.9	25.60%	25.60%
Shareholders	16.4	24.85%	50.84%
Board of Directors	12.8	19.39%	69.84%
Business Friends (internal)	5.8	8.80%	78.64%
Business Friends (external)	4	6.06%	84.70%
Charity/Society	3.2	4.85%	89.55%
Industry Groups	1.9	2.88%	92.43%
Environmental Groups	1.9	2.88%	95.31%
Competitors	1.5	2.27%	97.58%
Professional Institutes	1.0	1.51%	99.09%
The Arts	0.6	0.91%	100.0%
Total	66	100.00%	

The UK respondents invested the majority of their available capital in the employee field, followed by the shareholder field and the board of directors. This means that the participants deemed these fields to yield the highest returns in relation to the various forms of capital invested. 69.84% of all

available capital was invested between these three fields, with the majority concentrated on the employee field, very closely followed by the shareholder field. Almost equal sums of capital overall were invested between the two fields. A large amount of capital (19.39% of all available capital) were also invested in the board of directors. The next two fields in order of size of investment were the business friends (internal) with 8.8% of capital invested , and the business friends (external) with 6.06% investment, although the capital invested was considerably lower than for the first three fields. Next followed the charity/social field with 4.85% of all capital invested in it. Industry groups and Environmental groups tied for investment with 2.88% respectively. Professional institutes won 1.51% of the available investment, indicating a very weak interest in them. Finally the Arts field attracted 0.6% of all available capital. The first fields up and including business friends but excluding all other fields together accounted for 84.7% of all capital invested, leaving only 25.3% for all other fields together.

Table 20 German respondents: Investment Matrix Cumulative Percentage Distribution

Field	Sum invested	Percentage	Cumulative Percentage
Employees	19.3	32.11%	32.11%
Shareholders	10.4	17.30%	49.41%
Board of Directors	8.0	13.31%	62.72%
Business Friends (external)	7.8	12.98%	75.70%
Business Friends (internal)	7.0	11.65%	87.35%
Industry Groups	2.7	4.49%	91.84%
Competitors	1.4	2.33%	94.17%
Charity/Society	1.2	2.00%	96.17%
Professional Institutes	1.1	1.83%	98.00%
The Arts	0.8	1.33%	99.33%
Environmental Groups	0.4	0.67%	100.0%
Total	60.1	100.00%	

The German respondents invested the majority of their capital into the employee field (32.11%). The shareholder field was the next biggest field of investment with 17.3%. The two fields together accounted for nearly 50% (49.41%) of the invested capital. Business friends (internal) and Business friends (external) attracted 13.31% and 12.98% respectively. Up and including these fields, the total capital invested amounted to 87.35% of the total capital available. Industry groups accounted for 4.49% of all investment and competitors attracted 2.33% of the capital investment. Next came the charity/society field with 2.00% and the Professional Institutes with 1.89%.

Finally, the Arts field attracted 1.33% of all investment and the Environment field (environmental groups) attracted a low 0.6% of all investment. All the fields up and including the competitors can be interpreted as directly related to the business the chief executives ran, and the total capital invested in these fields amounted to 94.17% of all available capital.

When comparing the capital investment matrix of the UK respondents with that of the German respondents one can see that the ranking of the top three fields is exactly the same. The highest investment (interest shown) was made in the employee field, although the German representatives invested a good deal more of their capital in the employees (32.11% versus 25.60%). The shareholder field was the next big winner in both sets of respondents with the Germans investing 17.30% and the UK respondents investing 24.85% (significantly more) in it. Thirdly the Board of Directors was deemed important by both sets of respondents. The UK respondents invested 19.39% of their capital compared to the German respondents with 13.31% (significantly less than the UK respondents). The field of internal business friends was seen to be very important by both the UK and German respondents and stands at rank number four in both sets of investment matrices. The German executives invested 12.98% of their capital, whereas the UK executives invested 8.8%. Next follows the field of external business friends in both the UK and German responses. The Germans invested 11.65% of their capital compared to 6.06% by the UK respondents. The fields of both internal and external business friends were seen to be more important to the German respondents than to the UK respondents, whereas the fields of shareholders and board of directors were seen to be more important from the UK perspective. For the remainder of the fields the picture is less clear and the ranking differs between the German and UK responses. The UK matrix ranks charities/society fields (rank 6), whereas the German responses indicate Industrial Groups on rank six. Both groups attract almost identical investment with the UK respondents investing 4.85% and the Germans investing 4.49%. Environmental Groups hold rank seven in the UK matrix, whereas they rank eleven in the German matrix. Competitors are on rank seven in the German matrix, whereas they

are on rank eight in the UK sample. Charity/society ranks eight on the German matrix as compared with rank six in the UK matrix. The Arts rank very low in both matrices. They come last but one in the German matrix and rank last in the UK matrix. Professional Institutes rank nine in the German matrix and ten in the UK matrix.

4.10 Correlation and Regression Analysis

4.10.1 Correlation Analysis

In carrying out a correlation analysis it is recognised that correlation is a necessary but not sufficient condition for a relationship between the variables under investigation. The regression analysis will answer questions relating to strength and direction of the relationships. To avoid wrong model assumption, both linear and curve estimation methods have been used to test the data, and a linear relationship was found to have the better model fit. The variables used in the questionnaire are discrete in form and not continuous, despite the appearance of some of the variables. This is particularly true for the capital investment matrix. Since the variables are discrete in nature, the Spearman correlation coefficient was calculated rather than the Pearson correlation coefficient. Pearson assumes continuous variables, whereas Spearman allows for the correlation of discrete variables. Many variables showed high levels of correlation, and a two-tailed significance test at the 0.01 and 0.05 level was carried out to test the significance of this correlation. The 0.01 level significance test indicates that any correlation is significant within a 99% confidence interval. The 0.05 level significance test indicates a significant correlation within a 95% confidence interval. Both these tests assume a normal distribution of the type bell-shaped, which can be assumed for the distribution of variables in the total population (all chief executives in companies).

The correlation analysis in conjunction with the two-tailed significance test at both 0.01 and 0.05 level eliminated many high levels of correlations might

have been random or freak correlations. In the following summary of the correlation analysis only those correlations between variables with high correlation and significance at either the 99% confidence level or at least the 95% confidence level are discussed. A complete list of all correlations carried out can be found in the appendix.

4.10.2 Description of findings: Correlation Analysis

The total number of variables in the questionnaire was eighty-six. Calculating all possible combinations of variables meant that in total there were potentially seven thousand three hundred and ninety six possible combinations and correlations. It is hence necessary to eliminate all correlations that do not fall within the 95% confidence interval tested with a two-tailed significance test. All remaining correlations must then be "reality checked". The author, to identify all possible interpretations of such correlations, examined every remaining correlation, and all correlations that did not make sense in the context of the study were henceforth eliminated from the analysis. In doing so the author recognises that any remaining correlations and subsequent interpretation of the results are, like in qualitative research, a personal interpretation of the results of the statistical analysis. The reader is referred to the chapter on methodology for a more extensive justification of this procedure (particularly the paragraphs on research choices). It suffices here to state that the author interprets all research, whether it is qualitative or quantitative in nature, at the end of the day to be a result of the personal construction and interpretation of the results and to be a highly individual creative act by the creator of the study. As such any research is subjective in nature. This fact is often hidden behind elaborate mathematical and statistical models that have a pseudo objectivity.

The complete list of the results of the correlation analysis can be found in the appendices. It would be impractical and without added value for the study and analysis of the results of the questionnaire to include these results in the main

body of this thesis. Instead the author constructed a framework for the analysis of the correlations that addresses the research question to be answered by the questionnaire study. Can any significant relationships be established between the upbringing of an individual and the significance it attributes to the fields it interacts with or is exposed to both within and external to the organisation? Eleven fields were constructed and tested in this study. Additionally four social dimensions were constructed and two more variables introduced (age/length of service and standard industry classification). The following table shows the fields and social dimensions in an interpretation matrix that addresses the research question.

	Standard Industry Classification	Work Experience	University	School	Upbringing	Age/Length of Service
Board of Directors						
- Relationship						
- Knowledge						
- Money						
- Words						
- Reputation						
- Representation						
(Capital invested; every field)						
Shareholders						
Employees						
Business Friends (Internal)						
Business Friends (External)						
Competitors						
Professional Institutes						
Industry Groups						
The Arts						
Environmental Groups						
Charity/Society						

Figure 9 Field versus Social Dimension Matrix

The social dimensions that were tested in the questionnaire were:

- Age/Length of service
- Upbringing of individual
- School influence on Habitus
- University influence on Habitus
- Work experience influence on Habitus
- Standard Industry Classification

The social dimensions were constructed by grouping together statements from the Likert scales described earlier (see page 148 ff. for exact wording of statements). The following scale items (abbreviated wording) were grouped into the social dimensions:

Upbringing

> Had strict upbringing by parents (Item 12)
> Upbringing influences actions today (Item 8)
> Parents had great influence (Item 7)
> Social Background of Parents (Question 25)

University

> University influenced me very much (Item 10)
> Still contact with friends from University (Item 13)
> University best in country (Item 17)
> 'Right' University important (Item 20)
> Highest academic title held (Question 5)

School

> School had strict rules for punishment (Item 14)
>
> School best in area (Item 16)
>
> School influences actions today (Item 9)
>
> 'Right' school important for career (Item 19)
>
> Private/State School (Question 24)

Work

> Work experience influenced greatly (Item 11)
>
> Work more important than degrees (Item 15)
>
> High level of education important (Item 18)
>
> Highest non-academic title held (Item 6)

It has to be noted that in constructing the social dimensions subsequent results from analysis led to the re-grouping of item 18 from social dimension University to social dimension Work. It was found that there was a strong correlation between Item 15 and Item 18. The scale for Highest Academic Title held starts with value 1 for the highest academic title and increases in value for decreasing levels of qualification. This is important to note for the interpretation of correlations. Negative correlations between this scale item and other items must be interpreted to mean strong positive correlations between level of academic qualifications held and the correlating variable.

The fields constructed in the study were:

- Board of Directors
- Shareholders
- Employees
- Business Friends (Internal)
- Business Friends (External)
- Competitors
- Professional Institutes
- Industry Groups
- The Arts
- Environmental Groups
- Charity/Society

These fields were then further sub-divided into the various forms of capital invested into them. For each field the respondents had the choice of investing

- Relationship Capital
- Knowledge Capital
- Money
- Word/Writing Capital
- Reputation/Opinion Capital
- Representation Capital

In addition to this matrix a second matrix was constructed to explore the relationships between the social dimensions constructed themselves. The question to be answered through this exercise was whether there were correlations between the social dimensions themselves that could be usefully interpreted. The following is a representation of the second matrix:

	Age/Length of Service	Upbringing	School	University	Work	SIC
Age/Length of Service						
Upbringing						
School						
University						
Work						
SIC						
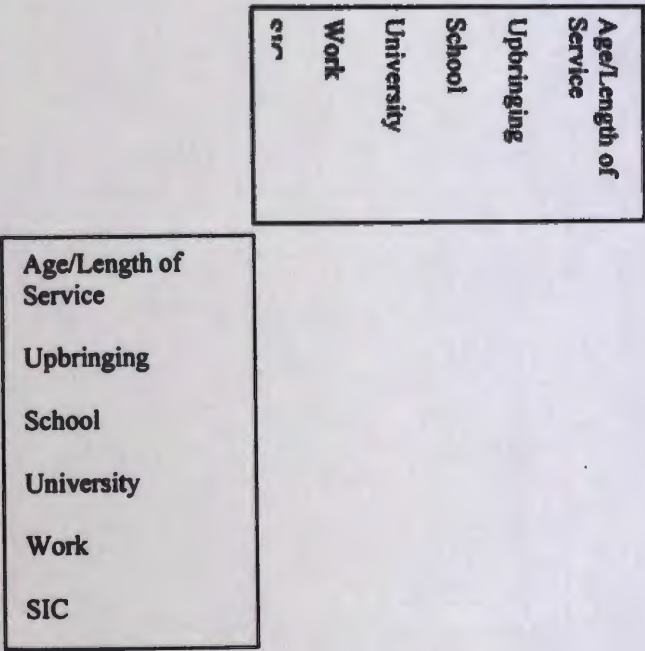
Figure 10 Social Dimension versus Social Dimension Matrix

The detailed matrices for both the UK and German response sets can be found in the appendices. Following is a summary of the findings from the analysis of the questionnaire data applying this framework of analysis.

4.10.2.1   Social Dimensions versus Fields Matrix – German Respondents

All correlation coefficients described in the following section are of the type Pearson. All correlations have been found significant at the 95% or 99% confidence level calculated through a two-tailed significance test. Correlations were found between the Age of respondents and the amounts of money capital invested in the Board of Director field (BOD field). A strong positive correlation of 0.83 significant at the 95% level was found. An equally strong positive correlation was found between the Length of Service and the moneys invested in the BOD field (0.84). Further strong positive correlations were found between the social dimension school and the BOD field. Positive correlations of 0.955 for the amount of Word/Writing capital invested (indicating that respondents said they would very much like to address the BOD field with either words or in writing) and 0.98 for the amount of money capital invested were found. Strong positive correlations were also found for the social dimension "work" (subsuming all Likert scale items belonging to that dimension) and the amount of relationship capital invested in the BOD field (0.816) as well as the amount of word/writing capital invested in the BOD field (0.837). No further correlations between social dimensions and BOD field could be found for the German respondents.

Correlating the social dimensions with the shareholder field (SH field) gave the following results. There was a strong positive correlation between the social dimension University and SH field (0.84 for investment of money in SH field and 0.82 for investment of word/writing capital in the SH field). A strong negative correlation was found between the SH field and the social dimension school both for relationship capital invested (-0.871) and for Reputation capital invested (-0.94). Reputation capital invested must be interpreted as the importance the individual attributes to having a good reputation in the field.

In correlating the Employee field (EMP field) with the social dimensions the following correlations were found. A negative correlation exists between the social dimension University and the amount of relationship capital invested in

the EMP field (-0.845). A strong negative correlation exists between the social dimension School and the EMP field (-0.94). Strong negative correlations also exist for the Standard Industry Classification and the EMP field (-0.849 for relationship capital invested and –0.837 for Money capital invested.

When linking social background to the field Business Friends Internal (BFI) the following picture emerges. A strong positive correlation was found between the social dimension School and the BFI field (0.853 for Reputation capital invested). Very strong correlations also exist between the social dimension work and the BFI field. A positive correlation coefficient of 0.876 was found for the amount of word/writing capital invested in the BFI field and an even stronger 0.926 coefficient for the amount of relationship capital invested. Strong negative correlations were found for the social dimension work and the BFI field for the Item 18 (High level of education important for career). For the relationship capital invested (-0.837) and the Knowledge capital invested (-0.923) negative correlations were found. The more weight the respondents placed on education, the less capital they invested in the BFI field.

The Business Friend External field (BFE) yielded the following results. Strong negative correlations were found against age and length of service. For relationship capital invested in the BFE field the coefficient was –0.812 and for the word/writing capital invested the coefficient was –0.857. With rising age and length of service participants invested less capital in the BFE field. Another strong negative correlation was found between the relationship capital invested in the BFE field and the social dimension School. This correlation was against item 19 (right school important for career). A coefficient of –0.82 indicates that the less respondents felt that going to the 'right' school influenced their career the less they invested in the BFE field.

The Competitor field (COMP) correlated against the social dimensions resulted in the following picture for the German respondents. There was a strong negative correlation for age and length of service against relationship capital (-0.828 and –0.84 respectively) invested in the COMP field. A high

positive correlation (0.894) was found between the amount of relationship capital invested in the COMP field and the social dimension work (here against item 15: work experience is more important than degrees).

There were no significant correlations between the social dimensions and the field of Professional Institutes.

The amount of capital invested in the Industry Groups field (IND) correlated against the social dimensions as follows. A strong positive correlation was found between age and length of service and the amount of knowledge capital invested in the IND field (0.878). The only other correlations between a social dimension and the IND field were found for the social dimension University and the amounts of relationship capital (0.912), knowledge capital (0.933) and reputation capital (0.823) invested in the IND field.

For the Arts field correlations were found against the age and length of service for reputation capital invested (0.828 and 0.84 respectively). The social dimension school correlated positive against the Arts field for the amounts of relationship capital (0.92) and reputation capital (0.98) invested.

No significant correlations were found between any of the social dimensions and the Environmental Groups field (ENV) for the German respondents.

Finally, a strong negative correlation was found for the social dimension Work and the Charity/Society field (CHARSOC). The less importance the respondents placed on education the more relationship capital they invested in the CHARSOC field.

4.10.2.2   Social Dimension Correlation Matrix German Respondents

The social dimensions constructed in this study were correlated against each other to test for internal validity and consistency of responses. A complete list of all correlations can be found in the appendix. For the purpose of this study,

only correlations that were significant at the 95% or 99% confidence level were noted. A second aim of this correlation of the social dimensions against each other was to explore the mutual influence these dimensions had on each other.

When constructing the social dimension correlation matrix for the German respondents the following was found.

Age correlated strongly positive with length of service in the company (0.928) indicating that with increasing age respondents tended to stay with the same company for longer. There was a significant correlation between the age of respondents and the social dimension upbringing. A positive correlation of 0.88 was found for age against the influence parents had on respondents actions today as perceived by the respondents themselves. With rising age respondents were more likely to attribute more weight to going to the right university as a positive correlation of 0.88 for age against 'right' university indicates. Also with rising age respondents placed more weight on having been at the 'right' school. A correlation coefficient of 0.845 was found. Finally, with rising age the correspondents placed less weight on work experience and more weight on degrees, as a negative correlation of –0.926 indicates.

Similar findings were made for the length of service and the correlation with weight placed on the right school (0.857) and work more important than degrees (-0.939). This is not surprising since there is a strong correlation between age and length of service. The result does however point towards a high consistency in the expression of opinion in the respondent group.

The indications of a strict upbringing correlated positive with the social background of the correspondents (0.874). It also correlated positive with the industry the respondents were working in (SIC code). A correlation of 0.862 for strict upbringing versus SIC code was found.

When correlating the social dimension University against all social dimensions the following findings were made. The influence of parents as seen by

participants correlated strongly positive with the fact that respondents still had contact with friends from university (0.832). A similarly strong positive correlation was found for respondents indicating that the right university was important for a career and the influence their parents had on them (0.871).

A strong positive correlation was found between the statement that participants still had contact with friends from university and the statement that the school they went to influenced them (0.877).

Those that indicated that work was more important than degrees tended to disagree with the statement that the right university was important for a career which can be seen from the strong negative correlation between the two statements (-0.82).

Finally, the standard industry classification indicating the respondents industrial field correlated strongly positive with both a strict upbringing by their parents (0.862) and the parent's social background (0.904).

Having described the correlations between social dimensions and fields, and between the social dimensions themselves the following graph illustrates the relationships identified. Weak lines indicate weak correlations (or few correlations), strong lines indicate strong correlations (or many correlations). A plus/minus sign for either positive or negative correlation indicates the direction of the correlation.

4.10.2.3 Relationship model between social dimensions German Respondents
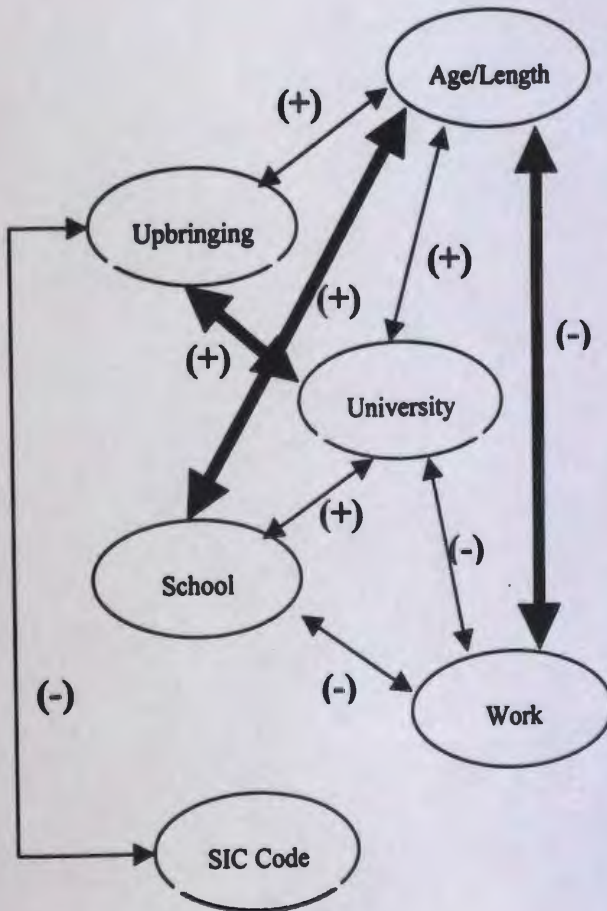
Figure 11 Relationship Model Social Dimensions German Respondents

4.10.2.4   Relationship model between social dimensions and fields

German Respondents

(Strong Lines indicate strong or multiple correlations, weak lines indicate weak or single correlations. The direction of the correlation has been omitted for clarity. Lines indicate relationships between social dimensions and fields)

Figure 12 Relationship Model Social Dimensions versus fields German respondents

4.10.2.5   Social Dimensions versus Fields Matrix UK Respondents

Similar to the German respondent matrix analysis, the UK respondent questionnaire data was analysed using the same framework for analysis. Again, the Likert scale statements in the questionnaire were grouped together for analysis. The detailed statistics can be found in the appendices. The following is a summary of the findings of the correlation analysis similar to the one before (German sample).

When correlating Age and Length of service with the fields in the study a correlation was found between the Age and the Board of Directors (BOD). There was a positive correlation between Age and the amount of word/writing capital invested (0.579). Negative correlations were identified for the relationship between Age and the investment of various forms of capital in Industrial Groups (IND). Word/writing capital (-0.733) and Relationship capital (-0.649) correlated with age. The sum of all forms of capital invested also correlated negatively with age (-0.611) for the investment in the industrial field. Finally, a number of correlations were found for the relationship between age and the investment in Environmental Groups (ENV). Relationship capital (-0.585), money capital (-0.586), representation capital (-0.595) and the sums of all forms of capital (-0.65) all correlated negatively with age. This is indicative of a strong relationship between age and the importance attributed to the ENV field among the UK respondents.

When correlating the social dimension Upbringing (all the Likert scale items relating to upbringing) with the fields, the following picture emerged. There is a strong positive correlation between the strictness of upbringing by the parents and the representation capital invested in the BOD field (0.739). A negative correlation can be found for the investment of knowledge capital in the BOD field when correlated against the item Background of parents (-0.764). Strong positive correlations exist between the social dimension Upbringing and the investment of capital in the Business Friends Internal (BFI) field. Respondents

indicating stronger agreement with the statement that their parents had a great influence on them invested more reputation capital (0.627), money capital (0.588), and representation capital (0.756) in the BFI field. This is also mirrored by a strong positive correlation between the sums of capital invested in the BFI field and the social dimension Upbringing (0.664). A positive correlation could also be established between the social dimension upbringing and the money capital invested in the Business Friends External (BFE) field (0.588). A further positive correlation exists between upbringing (here Background Parents) and the representation capital invested in the IND field (0.599). Finally, the background of the parents seemed to play a part in the decision to invest money capital in the Environmental Groups (ENV) field. A positive correlation was found (0.591).

The social dimension University correlated positively with the sums of capital invested in the BOD field. The representation capital invested seemed more for respondents that stated that their time at university influenced them very much (0.739). A strongly negative correlation exists between the background of the parents and the knowledge capital invested in the BOD field (-0.764), indicating that the higher the social standing of the parents, the lower the regard for the BOD field. Respondents indicating that the 'right' university is important for a career invested significantly correlating amounts in the BFI field. Money capital (0.588), representation capital (0.756), and the sum of capital invested in the BFI field all correlated positively with the statement 'right' university. This is also true for the money capital invested in the BFE field. A significant correlation (0.588) was found when correlating the statement 'right' university with money capital invested in the BFE field. The same is true for representation capital invested in the IND field by respondents that stated that the 'right' university was important for a career (0.593). Finally, strong positive correlations were found for a number of forms of capital invested in the ENV field against the statement that the 'right' university is important for a career. Relationship capital (0.616), money capital (0.725), representation capital (0.722), knowledge capital (0.593) and the sum of capital invested (0.591) in the BFE field all correlated against the statement.

The social dimension school correlated strongly negative for relationship capital (-0.768), money capital (-0.593) and the sum of capital invested (-0.631) in the BOD field against the statement that respondents went to a school with strict rules for punishment. There were strong positive correlations for the relationship capital invested in the BOD field (0.729) and the sum of capital invested (0.591) against the statement that the school the respondents went to was the best in the area. Strong negative correlations were found for the word capital (-0.842) and relationship capital (-0.616) invested in the EMPL field against the statement that the school the respondents went to was the best in the area. Further strongly negative correlations exist between the reputation capital (-0.591) and the sum of capital invested (-0.63) in the BOD field against the statement that going to the 'right' school is important for a career. A negative correlation can be found between the reputation capital invested in the BFI field against the statement that the school the respondents went to had strict rules for punishment. Another correlation exists between the type of school respondents attended (private or state) and the amount of relationship capital invested in the COMP field (-0.587). The scale for measuring private (=1) or state (=2) school attendance means that the result must be interpreted to mean that respondents that attended a private school tended to invest more relationship capital in the COMP field than respondents that attended a state school. Finally, a negative correlation between the amount of knowledge capital invested in the ENV field against the statement that the school influenced the respondents very much was found (-0.592).

For the social dimension work a number of correlations were found. Firstly, a positive correlation was found between the highest non-academic title held and the amount of relationship capital invested in the BOD field (0.667). A further positive correlation was found between the highest non-academic title held and the knowledge capital invested in the SH field (0.667). A positive correlation could also be found between the respondents that said that their work experience had influenced them very much and the amount of money capital invested in the EMP field (0.586). Respondents that stated that work experience was more important than degrees tended to invest more reputation capital in the BFE field. A positive correlation was found (0.605). A

negative correlation was found between the reputation capital invested the BFE field and the statement that a high level of education was important for a career. These two correlations in combination can be interpreted to reflect respondents with lesser degrees of education investing more capital in the BFE field. The opposite picture emerges from the correlation of the social dimension of work against the capital invested in the COMP field. A negative correlation between the statement that work experience is more important than degrees and the investment of knowledge capital in the COMP field was found (-0.655). A positive correlation exists between the amount of knowledge capital invested in the COMP field and the statement that a high level of education is important for a career was found (0.771). Finally, a positive correlation was found between the highest non-academic degree held and the amount of relationship capital invested in the PROF field (0.667).

Lastly, the SIC Code representing the industry the respondents worked in positively correlated with the amount of reputation capital invested in the BOD field. A negative correlation was found between SIC Code and amount of money capital invested in the ENV field.

4.10.2.6   Social Dimension Correlation Matrix UK respondents

As with the German response set a correlation of the social dimensions constructed in this study against themselves was carried out for the UK set of responses. This procedure was aimed at gaining a better understanding of the relationships between the social dimensions themselves.

A correlation was found between the social dimension age and the social dimension work. Age correlated positively against the highest non-academic title held (0.698).

Another correlation was identified between the respondents stating that their parents had a great influence on them and the more general statement that

their upbringing influences their actions today (0.599), linking the parents influence to present day actions. Further correlations were found between the social dimension upbringing and the social dimension University. Strong negative correlations exist between the degree of contact respondents felt they still had with friends and colleagues from university and the degree of influence their upbringing has had on their present day actions (-0.698). Another negative correlation exists between the strict upbringing of respondents and the highest academic title achieved (-0.599). Since the scale for highest academic title held starts with the value 1 for the highest possible academic title, this result must be interpreted as a positive correlation between strict upbringing and level of degree held. The stricter the upbringing, the higher the indicated degrees held by respondents. The upbringing of respondents in the UK set correlated positively with the social dimension school. Those respondents that indicated that their school was the best in the area usually came from a higher social class background (0.642). Further positive correlations were found between upbringing and work. When respondents stated that a high level of education is important for a career they also had a higher tendency to state that their parents had a great influence on them (0.61). Finally, a relationship exists between the strict upbringing by parents and the highest non-academic title held. Respondents that claimed a stricter upbringing tended to hold higher non-academic degrees (0.787).

When correlating the social dimension university with the other social dimensions, a relationship can be established between the upbringing and the influence university has had on the respondents. Those respondents indicating a more liberal upbringing tended to state that university influenced them very much (0.805), whereas those that claimed a stricter upbringing tended to state that university did not influence them as much. Another correlation exists between the social dimension school and the social dimension university. Those respondents indicating that they went to the best school in the area tended to have more contact with their friends from university (0.651). A negative relationship exists between the highest non-academic title held and the degree to which the respondents agreed with the statement that university influenced them very much (-0.771).

The social background of the parents correlated positive with the tendency of respondents to state that their school had strict rules for punishment (0.642). When linked to social background and quality of school this indicates that the higher the social class of respondents' parents the more conservative the values held (and hence school children are sent to). This will be discussed in greater detail in the chapter on interpretation of results. A strong positive correlation was found between the respondents' statement that the 'right' school was important for a career and the statement that the 'right' university was important for a career (0.866).

When correlating the social dimension work with the other social dimensions the following picture emerges. A negative correlation exists between the statements that school influenced the participants very much and the statement that work influenced them very much (-0.629). Further negative correlations can be found to exist between the degree to which the respondents agreed with a high level of education being important for a career and the statement that work is more important than degrees (-0.586) and the statement that work experience influences their actions very much (-0.896).

No correlations of significance at the 95% or 99% confidence level exist between the SIC code and the social dimensions.

4.10.2.7   Relationship model between social dimensions UK Respondents
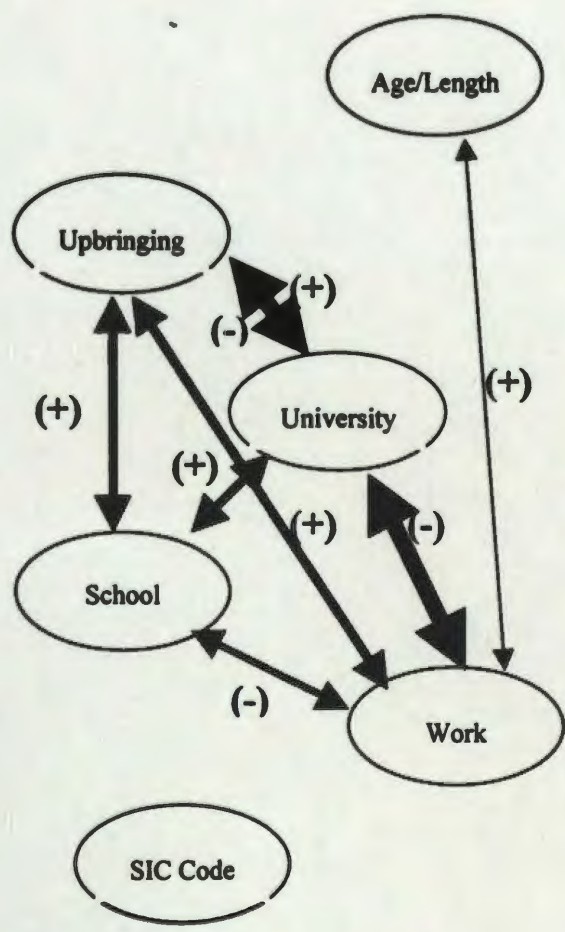
Figure 13 Relationship Model Social Dimensions UK Respondents

4.10.2.8   Relationship model between social dimensions and fields

UK Respondents

(Strong Lines indicate strong or multiple correlations, weak lines indicate weak or single correlations. The direction of the correlation has been omitted for clarity. Lines indicate relationships between social dimensions and fields)
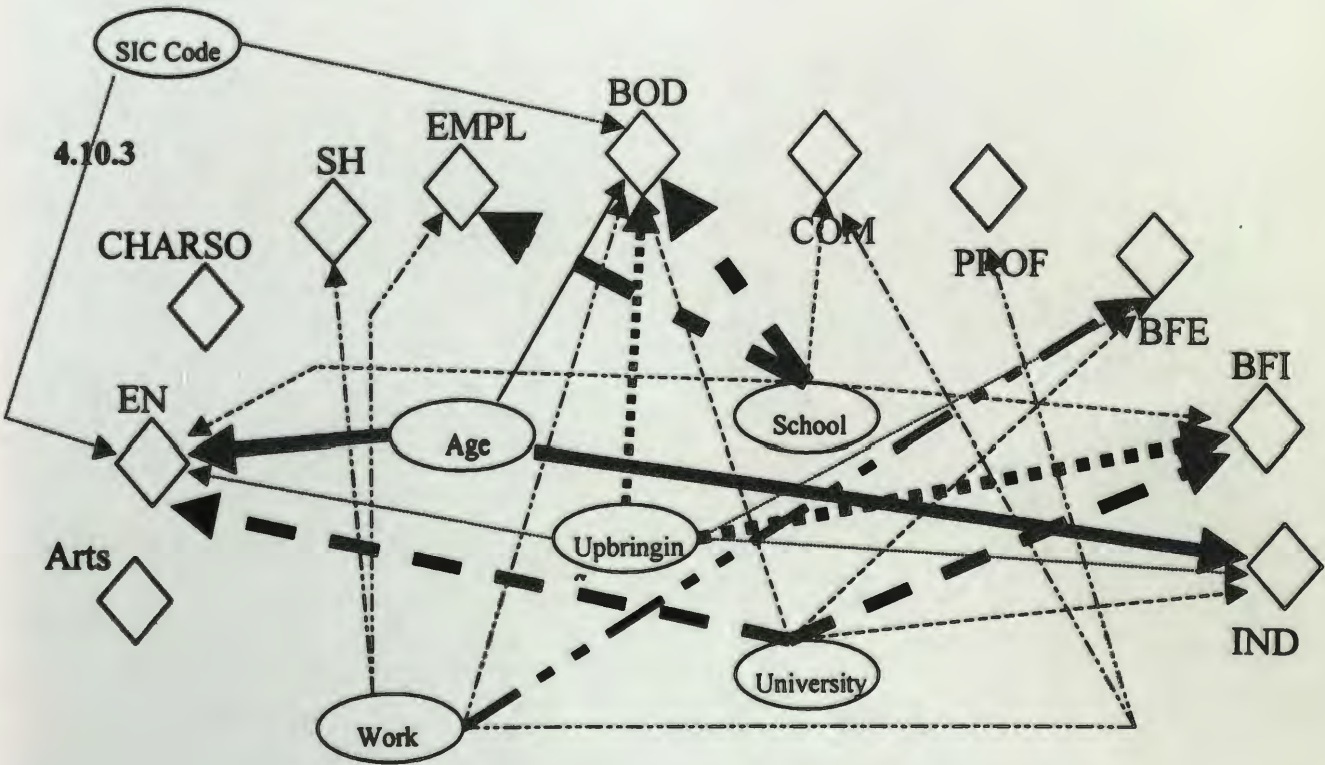
Figure 14 Relationship Model Social Dimensions versus Fields UK Respondents

4.10.3   Multivariate Linear Regression Analysis

To assess the overall model fit and explanatory power of the correlations found between the social dimensions and the fields constructed in this study a multivariate linear regression analysis was carried out for both sets of respondents.

The detailed statistics for each model can be found in the appendices. The model building exercise will yield information that allows a judgement on whether the social dimensions have a high degree of explanatory power for the investments of capital in the fields.

4.10.3.1   Multivariate Linear Regression Analysis UK Respondents

In order to assess the overall model fit and explanatory power of the influence of the constructed social dimensions on the fields all social dimensions were entered into a multivariate regression analysis against all the sums of capitals invested in the various fields. Although strictly speaking the forms of capital are not measured numerically on equal scales it is possible to judge the strength of interest in the fields by summing up the various forms of capital invested in them. The following table shows the result of the regression analysis and ANOVA model fit for the social dimensions and fields in this study for the **UK group of respondents.**

Table 21 Multivariate Regression Results Social Dimensions/Fields UK

Social Dimension		BOD	SH	EMPL	BFI	BFE	COMP
Age	R	0.464	0.566	0.330	0.582	0.273	0.206
	R^2	0.216	0.320	0.109	0.339	0.074	0.043
	Sig.	0.335	0.176	0.595	0.156	0.706	0.822
Upbringing	R	0.699	0.519	0.507	0.831	0.470	0.678
	R^2	0.488	0.270	0.257	0.690	0.221	0.460
	Sig.	0.260	0.647	0.671	0.057	0.741	0.302
Univ.	R	0.611	0.218	0.558	0.693	0.761	0.284
	R^2	0.374	0.047	0.312	0.481	0.580	0.081
	Sig.	0.521	0.987	0.631	0.342	0.204	0.965
School	R	0.832	0.726	0.829	0.588	0.403	0.713
	R^2	0.692	0.530	0.688	0.345	0.163	0.509
	Sig.	0.055	0.203	0.058	0.501	0.843	0.231
Work	R	0.510	0.218	0.368	0.143	0.331	0.619
	R^2	0.260	0.047	0.136	0.020	0.109	0.384
	Sig.	0.467	0.938	0.745	0.982	0.806	0.252

Social Dimension		PROF	IND	ARTS	ENV	CHAR/ SOC
Age	R	0.182	0.362	0.242	0.353	0.095
	R^2	0.033	0.131	0.058	0.125	0.009
	Sig.	0.860	0.532	0.763	0.548	0.960
Upbringing	R	0.556	0.437	0.384	0.335	0.517
	R^2	0.309	0.191	0.148	0.112	0.267
	Sig.	0.571	0.794	0.876	0.919	0.653
Univ.	R	0.476	0.703	0.448	0.790	0.618
	R^2	0.227	0.494	0.200	0.623	0.382
	Sig.	0.776	0.321	0.819	0.153	0.506
School	R	0.493	0.655	0.457	0.538	0.412
	R^2	0.243	0.429	0.209	0.290	0.170
	Sig.	0.698	0.351	0.762	0.608	0.831
Work	R	0.442	0.421	0.470	0.498	0.422
	R^2	0.195	0.177	0.221	0.248	0.178
	Sig.	0.606	0.648	0.548	0.492	0.646

4.10.3.2   Multivariate Linear Regression Analysis German respondents

Table 22 Multivariate Regression Analysis Results German

Social Dimension	BOD	SH	EMPL	BFI	BFE	COMP
Age R	0.504	0.395	0.710	0.861	0.861	0.660
R²	0.254	0.156	0.504	0.741	0.740	0.435
Sig.	0.644	0.775	0.349	0.182	0.182	0.425
Upbringing R	0.839	0.999	0.966	0.997	0.930	0.894
R²	0.703	0.999	0.934	0.994	0.865	0.798
Sig.	0.736	0.049	0.378	0.112	0.526	0.628
Univ. R	0.942	0.749	0.919	0.599	0.938	0.700
R²	0.887	0.561	0.844	0.359	0.881	0.489
Sig.	0.484	0.849	0.561	0.944	0.497	0.889
School R	0.927	0.740	0.984	0.984	0.911	0.801
R²	0.860	0.548	0.969	0.968	0.831	0.642
Sig.	0.536	0.857	0.262	0.264	0.583	0.790
Work R	0.940	0.685	0.733	0.158	0.836	0.513
R²	0.883	0.469	0.538	0.025	0.698	0.263
Sig.	0.170	0.679	0.606	0.996	0.416	0.865

Social Dimension	PROF	IND	ARTS	ENV	CHAR/ SOC
Age R	0.342	0.511	0.477	0.342	0.471
R²	0.117	0.261	0.228	0.117	0.222
Sig.	0.830	0.635	0.679	0.830	0.687
Upbringing R	0.861	0.914	0.787	0.861	0.848
R²	0.741	0.835	0.620	0.741	0.719
Sig.	0.698	0.575	0.808	0.698	0.720
Univ. R	1.000	0.999	1.000	1.000	0.760
R²	1.000	0.999	1.000	1.000	0.578
Sig.	0.000	0.056	0.000	0.000	0.837
School R	0.971	0.971	0.975	0.971	0.676
R²	0.943	0.942	0.950	0.943	0.457
Sig.	0.352	0.354	0.330	0.352	0.905
Work R	0.829	0.953	0.830	0.829	0.784
R²	0.687	0.908	0.688	0.687	0.615
Sig.	0.431	0.134	0.429	0.431	0.518

The results for the multivariate regression analysis of social dimensions against fields yielded some very significant findings and a justification of the model construction for some areas. The explanatory power of the constructed models has been very high. In some cases the degree of variation of investment in fields has been explained to over 90% by the variation in the items that make up a social dimension. Despite this high explanatory power of the chosen categories for social dimensions to explain the variations in the investment in fields, the author will only concentrate on discussing those relationships that showed not only a high degree of explanatory power (measured through R), but also a high degree of overall model fit (measured through R^2), and a high degree of significance (measured through ANOVA Sig.). The lower the Sig. Coefficient shown in the table the higher the overall model significance of the chosen items for the explanation of the variations in investments in fields. The author chose to eliminate all models from further discussion that did not show a Sig. (ANOVA) of 0.2 or lower. This ensures that only those models that showed a high degree of overall significance are included in any further discussion.

For the UK group of respondents this procedure yields the following results. The social dimension age showed a 56.6% explanatory power and 32.0% overall model fit for the investments in the shareholder field. The significance of the social dimension age to explain the investments in the shareholder field was 0.172. This is a high degree of significance. The social dimension age also showed a 58.2% explanatory power and a 33.9% overall model fit with a significance of 0.156 for the investments in the business friends (Internal) field.

The social dimension upbringing showed a very high explanatory power of 83.1% and an overall model fit of 69.0% for the explanation of investments in the business friends (Internal) field. The significance of these results was very high (0.057).

The social dimension university explained 76.1% of the variations in the levels of investment in the business friends (External) field with an overall model fit of 58.0%. The significance of the results was 0.204. Although this was outside the cut-off value of 0.2 by 0.004 the author chose to include this result in the interpretation of results. 79.0% of all variations in the investment in the environment field could be explained by the social dimension university with an overall model fit of 62.3% and a high significance of 0.157.

Finally the social dimension school showed very high explanatory power for the investment decisions in the fields board of directors, shareholders and employees. The explanatory power for the investment in the BOD field was 83.2% with an overall model fit of 69.2% and a significance of 0.153. School as a social dimension also showed a high explanatory power for the investment of capital in the shareholder field with an explanatory power of 72.8% for the model and an overall fit of 53.0%. The significance of the results was 0.203. Again this is outside the cut-off value of 0.2 by 0.003 and the author chose to include the result because it was so close to the cut-off value. Finally school had high explanatory power for the investments in the employee field with an explanatory power of 82.9% and an overall model fit of 68.8% and a significance of 0.058.

For the German group of respondents the following picture emerged. The social dimension age showed high explanatory power for the investments in the business friends (Internal) field with 86.1% of the variations in investment levels explained by age. The overall model fit was 74.1% with a significance of 0.132. Age as an explanation for the investments in the business friends (External) field explained 86.1% of the variations with a model fit of 74% and a significance of 0.132.

The social dimension upbringing explained 99.7% of the variations in investments in the business friends (Internal) field and the model had 99.4% fit with a significance of 0.112. Upbringing also explained 99.9% of the variations in the levels of investments in shareholders with a 99.9% overall model fit and a very high significance of 0.049. The social dimension work as

constructed from the items in the Likert-scale profiles explained 94.0% of the variations in the investments in the board of directors with an overall model fit of 88.3% and a significance of 0.170. Work experience also had a high degree of explanatory power for the investment in Industry Groups with 95.3% of the variations explained and an overall model fit of 90.9% and a significance of 0.134.

University as an influence on investments showed a 100% explanatory power for the investments in the Professional Institutes field, the Industrial Groups field, the Arts field and the Environmental field. This social dimension also had a 100% model fit and a significance of 0.00 for the investments in all these fields except from the Industrial Groups field for which the significance was 0.056. The author explored the original data set for an explanation of this very high explanatory power and model fit with absolute significance and found that only two respondents had invested any forms of capital in those fields and had chosen to invest almost identical amounts in each field. That would explain the very high result and model fit, which has to be seen in the light of the number of responses to the questionnaire. The model university can only be interpreted to have 100% explanatory power and model fit for these two participants and not for the group of respondents as a whole.

A graphical representation of the results can be found below.
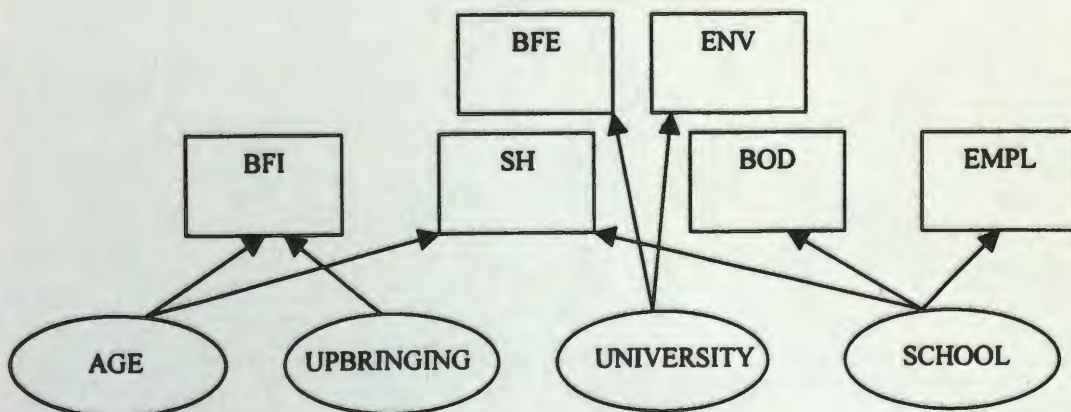
Figure 15 Result of multivariate regression analysis for the UK respondent group

The same graphical representation for the German group of respondents shows the following result:
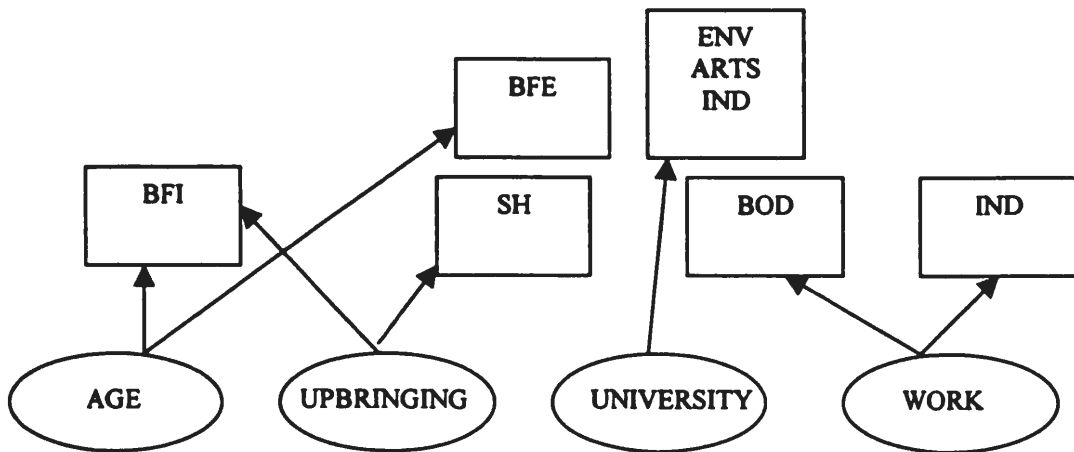
Figure 16 Result of multivariate regression analysis for the German respondent group

4.10.4 Interpretation of Results from Questionnaire Survey

It was hoped that by collecting information through a questionnaire type survey a link could be established between the habitus of an agent (in Bourdieu's interpretation of habitus) and the forms and amounts of capital invested in various fields. In this respect the questionnaire study has been a resounding success. After an initial analysis of the data collected using descriptive statistics and correlation statistics the author found that beyond the scope of the initial analysis the questionnaires had proven useful in more than one way. Not only had a link between habitus and the investment in fields be established. The data also allowed the author to develop and describe a rich picture of the social constitution of the habitus of the respondents and how that social constitution affected their decisions to invest their capital in fields.

In the following chapter the author outlines the main findings from the questionnaire survey and the interpretation that the author gave these findings in the light of the overall thesis. The chapter opens with a comparison of the main social characteristics of both the German and UK sample. Then follows a description of the social constitution of habitus in the two groups as interpreted from the results of the analysis. In a third step this habitus is then linked to the capital invested in the various fields under investigation in this study. Finally an overall model fit is discussed using the results from the multivariate linear regression analysis and the extend of explanatory power and statistical significance of the findings are explored.

4.10.4.1 The main social characteristics of both German and UK respondents

The average age and range of ages found in the two groups of respondents was surprisingly similar. All respondents were male with an average age of 54 years in the UK group and 53.8 years in the German group. The German chief executives held on average higher academic titles than their UK counterparts. This links back into the first part of this research project (content analysis of company reports) in which it was found that German chief executives and members of board of directors held much higher academic titles than their UK counterparts. This finding indicates that academic titles are seen as more important by German respondents than by their British counterparts. Another significant difference between the German and UK groups of respondents was the social class of their parents as indicated by them. The UK respondents mainly claimed their parents to have a working class background whereas their German counterparts mainly claimed to have a middle class (Mittelstand) background. This might be explained through a different cultural perception of the importance of background for the achievement in society. It has been well documented in many social science writings that in Britain a protestant work ethic is dominant. A working class background is seen as something desirable especially if one self was able to achieve the crossover into a higher social

class. In Germany the Mittelstand (or middle class) has been seen as the driver of cultural development and as such claiming Mittelstand roots might have the same meaning as claiming working class roots in Britain. The difference in academic qualifications might also be explained by different cultural perceptions about the value of such qualifications. Germans see high academic qualifications as a key indicator for achievement and persons bestowed with such qualifications are admired for it. In Britain high academic qualifications are not seen in the same light. In fact anecdotal evidence has it that individuals with high academic qualifications are suspect and deemed too academic to qualify for high level positions. Although this might not be universally true it would fit with the protestant work ethic that says that one must work ones' way up the social ladder. This latter part of the interpretation of the social class claimed is speculation but fits with the observations the author has made while living in both Germany and the UK for a long period of time.

The questionnaire was designed to elicit the respondents opinion about whether they felt that their upbringing, schooling, time at university and working life have influenced their actions today. Although a certain desirability bias (respondents giving desirable answers) cannot be fully excluded mechanism were in place to control for internal validity and consistency of the answers given. It is hoped that the findings reflect to a large degree the real opinions of the respondents. Upbringing was seen by the respondents both in Germany and the UK as a very important contributor to present day actions. Both groups agreed with statements that tested whether their parents had a strong influence on their actions today. Both groups were also in agreement that they did not feel that they had a strict upbringing by their parents. It will be discussed later how the differences in answers to these questions can be interpreted in the light of the relationships between upbringing and other social dimensions such as schooling and work and the investment decisions made that can be attributed to upbringing. When it came to assessing whether the participants felt that their time at school influenced their actions today, the picture was less certain. On average (although the author is aware that on a discrete scale there can be no true average) both the UK and German

participants in the study were uncertain whether to agree with this statement or not. When it came to assessing whether participants believed that their school was one of the best in the area the UK participants were slightly more inclined to agree with this statement whereas their German counterparts were mostly uncertain. When linking this statement with the statement on social background it can be seen that respondents that claimed a higher social class background would tend to agree with this statement more than participants claiming a lower social background do. This will be explored more fully in the next chapter. Both sets of respondents agreed that their school did not have strict rules for punishment. Such rules would be an indication of a more conservative institution. When asked whether they felt that going to the right school was important for a career the Germans were slightly more uncertain about this but tended to disagree. The UK respondents disagreed more with the statement. And again when linking this statement to social class a different picture emerges. University seemed to be very influential both for the German respondents and the UK respondents. Both sets of respondents agreed with the statement that the university they went to was one of the best in the country. This could be indicative of a social desirability to be seen to be from the best university or a result of social reproduction (i.e. chief executives are chosen from certain backgrounds and university is a strong selection criterion). Both sets of respondents also agreed with the statement that their time at university influenced them very much. This is a further indication of the importance university has played in the formation of their habitus. When correlating the university influence against the various fields in the study interesting observations can be made that will be more fully explored later. When asked whether going to the 'right ' university was important for a career the German respondents tended to agree more than the UK respondents did. This can be interpreted in several ways. One of the possible explanations is that the UK respondents on average held fewer and lower academic titles and that any result from this question was biased through this. Another possible explanation is that they genuinely did not believe that the 'right' university was important for a career. As soon as this statement is correlated against other social dimensions a different picture emerges and social reproduction is more evident. This idea will be explained in more detail in the following chapter. A

final area that was tested through various statements in the questionnaire was the area of work experience influencing the respondents actions today. When asked whether work influences their actions today the German respondents strongly agreed. In fact every respondents in the sample agreed fully with the statement. The statement only slightly less impressed the UK sample with the majority agreeing fully and only some being uncertain. The question whether work was seen as more important than degrees was again agreed with by both the German and UK respondents. The Germans agreed slightly more whereas the UK respondents were more uncertain. Which is interesting in the light of the earlier finding that the German respondents held higher degrees than the UK respondents did. Agreement with the statement that a high degree of education was important for a career was higher for the German respondents and slightly more uncertainty showed in the UK respondent group. When cross-referencing these statements against the investment in fields and other social dimensions an interesting picture emerges. In summary the German and UK respondents on the surface seemed to have very similar profiles when it comes to upbringing, schooling, time at university, and work experience and seemed to also have similar opinions about the importance of work against degrees. The next chapter will now explore the relationships between the various social dimensions in more detail revealing some interesting findings that cannot be seen from a superficial analysis of the results.

4.10.4.2   The social constitution of habitus among both German and UK respondents

So far the picture that emerged from the data is one of similarity. Both groups seem to agree that their parents had a strong positive influence on their actions today, that university influenced them very much and that their work experience influenced their actions today. Work experience was seen slightly more important than degrees; more so by the German respondents than the UK respondents. The German group claimed a slightly higher social background and higher academic qualifications than the UK group. In the next

section the author will discuss the implications of the correlation analysis for the social dimensions against each other. This exercise flags up any relationships among the social background variables themselves. The correlation analysis for the UK and the German group showed significant differences in the social constitution of habitus. This will be explained in this section.

There first question to be answered was whether age had any influence on the answers given and strength of opinion expressed. The first significant correlation was between age and length of service for the German group of respondents. This is indicative of German chief executives being less mobile than their UK counterparts with rising age. No such correlation could be found for the UK sample. Also with rising age the importance of the parents' influence on their actions today is seen to be stronger for the German group. This can be interpreted in two ways. Firstly it can be interpreted as meaning that the older respondents have had a different upbringing (probably more conservative) to their younger counterparts. Secondly it can be interpreted as meaning that with rising age the realisation of the importance of the parental influence is realised more. Respondents in the German group would agree with the statement that the 'right' university is important for a career more with rising age. This could be an indication of the difference in opinion between the 'old' school and the 'newer' school. Often the younger members of staff dismiss institutions that their older colleagues revere to establish an identity of their own and to show the break with the old. In the UK group a significant relationship was found between the number and class of non-academic titles held and the age of respondents. This can also be interpreted in the same way. Older individuals see traditional establishments with their accoutrements such as titles as more important than younger individuals. It might also be interpreted as meaning that institutions tend to bestow their highest honours to older members rather than younger ones. Another significant (true also for length of service) relationship can be established between age and the agreement with the statement that the 'right' school is important for a career. This showed a significant correlation between age and the test statement for the German group. The older the participant in the study the more they agreed

with this statement. Again, this could be an indication of the 'old' school versus the 'new' school in thought. No such correlations could be established for the UK group. With rising age the respondents in the German group tended to disagree more with the statement that work experience is more important than degrees. The author interprets this in the way that older respondents have already achieved their lifetime achievement in terms of work and have proven 'all there is to prove'. Their focus shifts to other achievements. This can be reconciled with basic motivation theory by Maslow. On the other hand younger members of staff have yet to prove their worth in the company and would stress their work experience more than academic achievement. In the German group a strong correlation was found between the background of the parents in terms of social class and the degree to which respondents agreed with the statement on the strict upbringing by their parents. This might be indicative of conservative values in higher classes of society in Germany. Other significant relationships between upbringing by their parents and university can be found for the German group of respondents. Those that agreed stronger with the statement that their parents influenced them very much had more regular contact with their colleagues and friends from university still. This can be interpreted to mean that the parents' influence has an effect on the social behaviour and retention of relationships of the respondents group. An interesting finding when linked to the amount of capital invested in the business friends both internal and external to the organisation in the German group. The parents' influence might affect the importance placed on social relationships between business partners. Another important factor in this might be the role the school plays in enabling children to form lasting social relationships. A strong positive correlation between the degree to which participants agreed with the statement that school influenced them very much and the degree of retention of friendships from university was evident. Both parents and schools seem to play a role in children's ability to form lasting relationships. This will be explored in more detail in the next chapter. The only other relationships of any significance that could be established between the upbringing of the respondents and other social dimensions were between the industry the participants worked in and the background of the parents. A strong positive correlation was found between

the area of work and the parents' social background. This could be an entirely random correlation. On the other hand it could be a further indication of the influence parents have on the career path and direction of their children. The last positive correlation found for the upbringing against other social dimensions was that the parents upbringing seemed to have had a significant influence on their children's perception that the 'right' university is important for a career. Since career decisions such as a course of study are made early in life the influence of the parents in the decision must not be underestimated. The strong positive correlation between the influence participants deemed their parents have had on them and their actions and the degree to which they agreed with the statement that the "right" university is important for a career would suggest this interpretation.

In the UK group correlating the upbringing of the respondents against the other social dimensions proved even more fruitful. A first positive correlation was found between the influence that parents had on the participants' actions today and the fact that their upbringing had influenced them very much. This correlation shows the strong internal consistency of the answers given by the UK group of respondents. If the German responses seemed to indicate that the parents had a great influence on their children's ability to form lasting social relationships, the UK responses seem to suggest the exact opposite. A strong negative correlation was found between the degree to which respondents agreed with the influence their parents have had on them and the degree to which they still had contact with their friends or colleagues from university. This might suggest that other social mechanisms than the parents' influence are responsible for the UK respondents' ability to retain social relationships. And in fact evidence of this can be found in the UK group of respondents' answers. A strong positive correlation was found between the statement that their school had a great influence on them and the retention of friends from university. This could be interpreted to mean that in the UK schools have a greater influence in developing children's ability to retain social relationships than the parent group whereas in Germany parents and schools seem to have a strong influence on the degree to which children retain social relationships over time. There was a negative correlation between the degree

of strictness of upbringing and the highest academic title achieved. This in combination with a positive correlation between parents' social background and the strictness of upbringing might suggest that a higher social class might lead children to careers through other than academic routes. A further indication of this might be that there was a positive correlation between the social class of the respondents and the degree to which they claimed that their school was the best in the area. An equally high positive correlation was evident between the social background of the parents and the strictness of punishment at school. This can be interpreted to mean that parents of a higher social class tend to send their children to schools that have more conservative attitudes expressed in their rules. These conservative attitudes would also include a stronger social cohesion between the pupils of the school. Another high positive correlation was found between the degree to which parents were deemed to have had a great influence on the participants and the importance attributed to a high level of education. This evidence together suggests that there must be other than academic instruments to career success. And indeed when further investigating the responses a strong negative correlation between the importance of work experience and the degree to which a high level of education was deemed to be important for a career emerges. In combination with the other evidence presented this can be interpreted as an indication that in the UK respondent group other than academic routes led to the career success. Social relationship skills seem to be more dominantly established at school and the respondents claiming that the 'right' school was important for a career seem to place greater weight on the retention of a social network for career success. Further evidence of the 'old boys network' that the author interprets into his findings will be presented when analysing the capital invested in fields such as business friends and the board of directors. Further evidence for the authors' interpretations comes from a strong positive correlation between the degree of agreement to the statement that the 'right' university is important for a career and the degree of agreement with the statement that the 'right' school is important for a career in the UK group of respondents. Again this points towards the possibility that there are other mechanisms than academic achievement for career success. The 'right' university and the 'right' school can have symbolic power beyond

the academic qualification achieved and can be used as capital in later life. Participants in the study with lower or fewer academic degrees and more or higher non-academic titles placed less emphasis on the influence the university has had on them. This result of the correlation could be due to the fact that with no or low academic qualifications respondents would automatically disagree with the statement that the university has had a great influence on them.

A last important area is the relationship between work experience and the other social dimensions in the study. The only strong negative correlation found in the German answers was that respondents claiming that work experience was more important than degrees tended to disagree with the statement that the 'right' university is important for a career. This result again shows the degree of internal consistency in the answers given. In the UK group a strong relationship was established between the degree of agreement with the statement that school had a great influence on the respondents and the degree of agreement with the statement that work experience influenced them very much. The more work experience was seen as influential the less school was seen as a strong influence on the respondents. The level of agreement that a high level of education is important for a career correlated negatively with both the statement that work experience influenced the participants very much and the statement that work experience is more important than degrees. This shows the internal consistency of answers and also can be interpreted to mean that those with lower or no academic qualifications would favour work experience over academic qualifications. An unsurprising result.

Overall this chapter has shown how intricately interwoven the social dimensions are with one another. Multiple interpretations of the results are possible. The author chose to interpret the meaning of relationships in the context of the research project overall and to generally enable him to tie the interpretations back into the forms of capital and amounts of capital invested in the various fields in this study. An important finding has been that although on the surface both the German and UK respondent groups seemed to have

similar opinions about upbringing, school, university and work, on second analysis important differences appear between the groups. The next chapter will try to tie the complex social construction of habitus as demonstrated in this section to the forms and amounts of capital invested in the various fields. This will close the circle, enabling the author to draw conclusions about the influence of habitus on the perception of fields and subsequent attention paid to such fields. This will ultimately allow the author to link the second part of the research study back into the first part of the study (the content analysis of company reports).

4.10.4.3 Linking habitus to investment in fields for both German and UK respondents

The previous chapter discussed the social constitution of habitus for both the German and UK group of respondents. A rich picture emerged of how attitudes change with age. More than that the author was able to develop from the data analysis a picture of how upbringing, school and university experiences as well as work experience influenced the respondents' attitudes towards the importance of education versus work versus other life experiences. It has already been mentioned that these socially constituted attitudes influence the position agents take up within fields and the kinds of capitals they invest in the fields in order to gain from the position in the fields. In this section now the author links the socially constituted habitus to the forms of capital invested in the various fields examined in this study. This will allow a linkage between habitus and fields which is the primary objective of the questionnaire research study.

With increasing age UK respondents increased the amount of word capital they invested in the board of directors field. This indicates that the importance of being heard by the board increases for the participants in this study with age. The exact opposite can be said for the relationship and attitudes expressed vis a vis the Industrial Groups that the chief executives are

exposed to. With increasing age the amount of word capital and relationship capital invested decreases. It seems that with increasing age of the respondents the Industrial Groups play a lesser role in the lives of the chief executives participating in this study. It appears to the author that respondents close to retirement age would not deem the industrial groups as important for their success as they felt they were earlier in their careers. There is not as much to be gained from being active in those groups which is reflected in the amounts of capital invested. The same can be said for the environmental groups that the respondents are exposed to and position themselves within. With increasing age the amounts of relationship capital, representation capital and actual money invested decrease. This again is an indication of the importance attributed to these groups. And again the interpretation could very well be that as retirement age approaches the respondents do not feel that investing actively in those fields will yield sufficient returns.

In the German respondent group the picture is similar. With increasing age the importance of the board of directors increases. More actual money is being allocated to this group or field with increasing age. It seems that respondents feel that while investments in other fields will not yield as great a return, investments in the BOD field are more worthwhile. External business friends that were more important for their success in earlier life seem to loose importance as age increases. Both the investment of relationship capital and actual money invested in this field decrease. They do not seem as important with increasing age. Interestingly enough the German respondents felt that the Industrial Groups would benefit from their knowledge and subsequently invested more knowledge capital in those groups with increasing age. As in other countries many German chief executives retire to positions in industrial institutes where they continue to influence the industries that they used to actively work in. Age is seen as a benefit for such positions. This might find its expression in the amounts of knowledge capital invested in the industrial fields with increasing age. Another German tradition is to become a sponsor of artists or art forms. The German respondents indicated that with increasing age the arts become more important in their lives. The amount of reputation capital invested in the arts field increases with age. This is an indication of

other pursuits replacing the original work exchanges. This would also be partially explained by Maslow's hierarchy of needs. An individual that has achieved everything it wanted to achieve in working life would turn to more esoteric pursuits instead. The evidence from the correlation analysis seems to support this point.

Another interesting finding from the data analysis was that upbringing correlated strongly with investments in fields for the UK group of respondents and not at all for the German group of respondents. The next section looking at the overall explanatory power of the models developed and the overall model fit will discuss this in more detail. Upbringing seems to influence the amounts of capital invested in the board of directors field. A strict upbringing seems to increase agents' need to be represented on the board as does a low social background. It appears that a lower social class background increases agents' desire to be represented on the board of directors. Social class also influences the desire to have a good reputation with internal business friends. The amounts of capital invested in the BFI field increase with social class. The reader is reminded that the author pointed out in the previous chapter that he believes to have found evidence in the data for the existence of networks of individuals. This ability to use networks of individuals to achieve business success seems directly related to social class. Networking comes more naturally to respondents from a higher social class and is deemed less important by respondents from a lower social class. Parental influence seems to play a part in the attitudes towards the BFI field. Those UK respondents claiming that their parents had a great influence on their actions also invested more money and representation capital in the internal business friends. This again links back into the earlier discussion of parental influence on habitus. A higher social class leads to an increased desire to be represented in industrial groups and also seems to influence the amounts of money invested in environmental groups. Interestingly enough the amount of money invested by the UK respondents in the environmental group field increases with social class. It seems as though this might point in the direction of class being a contributing influence in decisions on worthwhile pursuits in life. Prince

Charles' patronage of the architectural and environmental scene might be explainable through the same mechanism.

University has already been discovered as a strong influence in the formation of respondents' attitudes towards work, education and other social factors in the previous section. It seems from the analysis of the investments in fields that university plays a very important part in the formation of attitudes towards the fields in the study. Those UK respondents' claiming that University had a great influence on their decision seemed to have a stronger desire to be represented on the board of directors. Those claiming that the 'right' university is important also invested more money and representation capital in the internal business friends field. Another pointer towards a socially constituted networking attitude. A stronger agreement with the 'right' university concept led participants (UK) to feel a stronger need to have a good reputation in industrial groups and the environmental group field. Both these findings point towards a strong link between university life and positional habitus.

For the German respondent group the correlations between the social dimension university and the fields yielded more evidence of this relationship. Those respondents stating that the 'right' university was important for a career would invest more money and word/writing capital in the shareholder field and less in the employee field. Overall the investment of capital in the employee field was higher than the investment in any other field for the German respondents but the relative importance of the employee field seems to increase for respondents that claim the 'right' university is important for a career. This indicates that the employee field is more important for respondents that do not possess the network of friends that an 'old boys network' brings with itself. The amount German respondents invested in the industrial group field increased with the agreement with the 'right' university statement. This is further evidence to suggest the existence of strong social structures influencing the importance attributed to different fields.

The respondents' time at school seemed to be influential and seemed to affect the attitudes towards fields in later life for both the UK and German group of respondents.

In the UK group a strong negative relationship was found between the degree of conservatism in schooling (expressed in the strict punishment) and the degree of reputation and money capital invested in the board of directors. The more conservative the time at school the more capital was invested in the BOD field. A strong positive relationship was found between the degree of capital invested in the BOD field and the quality of school attended. Those respondents in the UK group claiming to have attended the best school in the area would invest more reputation and relationship capital in the BOD field. Both the negative correlation between the degree of liberal education at school and the investment in the BOD field and the positive relationship between the attendance of the best school and the investment in the BOD field point in the same direction. There seems to be a direct link between the school and the different degrees of importance attributed to and possibly ability to establish and maintain social relationships. Do better schools give children a better ability for social networking? The exact opposite is true for the importance attributed to the employee field (UK respondents). Those respondents that claim to have attended the best school in the area and also agree with the statement that the 'right' school is important for a career seem to invest lesser amounts of reputation and word/writing capital in the employee field. It seems that the employees are a more important source of support to those that have a more average schooling background and possibly social background than to those that have a higher class schooling background. The same can be said for the conservatism experienced at school and the degree of interest shown in internal business friends. The more conservative the schooling the more reputation among the internal business friends is important to the UK respondents. Those respondents that stated that school influenced them very much would invest lesser amounts of knowledge capital in the environmental group field. Therefore the interest in the environmental group field can be seen as another product of, socially constituted habitus for the UK group of respondents.

The exact same picture emerges for the German group of respondents. The social dimension school correlated positive with the interest shown in the board of directors, negatively with the interest shown in the shareholders and the employees, and positively again with the internal business friend field. Here as in the UK group school seemed to influence agents' attitudes in later life towards various groups such as the ones in the study. Interestingly the social dimension school also correlated positively with the Arts field for those respondents claiming to have attended the best school in the area. Is the appreciation for art formed at school level? And if so, are some institutions better able to give their pupils an appreciation for art than others? The evidence from this survey seems to suggest this.

Strong relationships have been identified between the fields in this study and the social dimension work. For the UK respondent group a strong positive correlation was found between the highest non-academic title (in this case peerage) and the level of representation on the board of directors desired by the respondents. The degree to which knowledge capital was invested in the shareholder field also positively correlated with the highest non-academic title held. As discussed in the previous section academic qualifications and non-academic qualifications had a negative relationship and generally a negative correlation was identified between the attitudes towards the importance of work experience and the level of academic qualifications held. It was argued then that this might indicate that other than academic qualifications (i.e. social qualifications) might play a role in business success. When looking at the relationship between non-academic titles held and interest expressed in the BOD field and the SH field it seems to indicate that in the absence of academic qualifications other socially constituted qualifications become more important. These other qualifications seem to necessitate a different interaction with the fields that the individual positions itself within and the structuring effect of the fields themselves. The reader is reminded of Bourdieu's notion that fields are both structured and structuring. This seems to be evidence for this notion. More such evidence can be found when looking at the levels of capital invested in the internal business friends. Those UK

respondents that claimed that work is more important than degrees invested more reputation capital in the BFI field. Those that agreed with a high level of education being important for a career invested less capital in the BFI field. Those that felt that work was more important than degrees invested less knowledge capital in competitors and those that claimed a high level of education is important for a career invested more knowledge capital in the competitor field. All these findings seem to be further evidence of the socially constituted positional habitus as developed by Bourdieu and in this thesis for the UK respondent group.

The German group of respondents and their testimonies as expressed in the questionnaires give a similar picture. The social dimension work has a strong influence on the amount of relationship and word capital invested in the BOD field. And similar to the findings for the UK group the amounts of relationship capital and word capital invested in the internal business friends rises in line with the agreement with the importance of work experience over degrees. The German respondents that found a high level of education important for a career seemed to invest less knowledge and relationship capital in the internal business friends. Further evidence of socially constituted positional habitus leading to different positions within fields. The only difference discovered between work and the relationships to fields for the German respondents is that different from the UK respondents those German respondents that felt work experience more important than degrees would invest more rather than less (UK) relationship capital into the competitor field.

Finally a relationship was found between the amounts of capital invested in the employee field and the industry the respondents worked in. Industries closer to the primary sector (such as agriculture and utilities) seemed to negatively affect the levels of capital invested in the employee field for the German respondent group. Since there are only six respondents in this group such a finding would probably have to be discounted on the grounds of insufficient numbers of companies in each SIC class (see Chi^2-test).

For the UK group of respondents a positive correlation was found between the industry the participants worked in and the level of reputation wanted in the BOD field. Secondary sector or tertiary sector industries seemed to affect the degree of importance attributed to the board of directors. It negatively correlated with the environmental groups field. This would indicate individuals working in primary sectors such as utilities and agricultural businesses place less importance on environmental groups whereas secondary or tertiary sector company representatives seemed to find those groups more important.

In conclusion it can be said that the correlation analysis of the social dimensions constructed in this study and the fields constructed in the study yielded some very interesting results. Evidence was found for the existence of socially constituted positional habitae influencing not only the positions respondents took up within fields but also the forms and amounts of interest shown in the various fields. As such the analysis successfully linked the social background of respondents to the fields the agents position themselves in. The next section will now discuss the degree of explanatory power of the constructed models and the overall model fit for these models. With this step in the discussion conclusions about the value of the models developed for the analysis of social dimensions and fields can be drawn and the overall explanatory power of the research framework can be assessed.

4.10.4.4   The overall model fit and explanatory power of the constructed
            research framework

A multivariate regression analysis and ANOVA model fit analysis was carried out to determine the explanatory power and overall model fit of the constructed models (social dimensions and fields) and the research framework overall. A factorial ANOVA model analysis of the entire model including all the variables was not possible since this would have required computing power that was not available to the author (a Cray or IBM AS400 with several gigabyte of memory would be required). In the multivariate regression analysis the strength of explanatory power of the constructed

social dimensions (made up of the items from the Likert scales) for the investment of various forms of capital into all the fields in the study was determined and the overall model fit and significance of the results was analysed. Earlier in this thesis the author described the results of this analysis and the methodology applied to the elimination of weak model explanations. Generally speaking any model with an ANOVA significance of more than 0.2 was rejected from further analysis. The smaller the ANOVA significance the higher the overall significance of the results. A value of 0.00 would indicate 100% significance and a value of 1.00 would indicate no significance. As a result of this analysis several models were eliminated from a further analysis. The remaining models were tested for explanatory power and overall model fit. The following is a discussion of the findings of this multivariate regression analysis. It highlights only the significant results and conclusions that can be drawn about the overall model fit of the metaphor of 'social resonance' for the explanation of investments of capital in the fields based on socially constructed positional habitae of agents (chief executives) in the companies partaking in the study.

For the UK group of respondents significant model fit and high explanatory power of the constructed social dimensions was found for the influence of age, upbringing, university and school on the investments made in the fields of shareholders, internal business friends, external business friends, board of directors, and employees. For the German group of respondents significant model fit and high explanatory power of the social dimension was found for the influence of age, upbringing, work, and to some extend university on the investments made in the fields of internal business friends, external business friends, shareholders, board of directors, and industrial groups. To some extend the relationships between university and the attitudes towards professional institutes, industrial groups, the arts and the environmental groups were proven.

To this extend the results of the correlation analysis were substantiated. Any relationships established in the correlation analysis to the extend that they referred to the social dimensions and fields mentioned above can be seen to

be proven by the multivariate regression analysis. The high overall model fit of all the relationships established gives credibility to the claim that to this extend the research has proven these relationships. With that the research study had effectively proven the relationships between socially constituted habitae and has shown that such habitae are positional in Bourdieu's sense in that they change with every field and the position each agent takes up within the fields. The models of the social construction of habitus originally developed in the process of correlation analysis had to be corrected and reduced to the degree that could be substantiated through the regression analysis.

Despite this the analysis has proven that the overall notion of social background and upbringing and other factors such as schooling and time at university as well as the age and work experience of agents all have a bearing on the importance attributed to decisions made about the forms and amounts of capital invested in the fields constructed for this study. This is confirmation of the author's hypothesis that there is a link between the upbringing and life experiences of agents in companies and the attitudes shown towards other agents or groups of agents in the organisation and outside the organisation directly or indirectly linked to the organisation. With this result in mind the next section will close the loop back to the first part of the study (the company report analysis) and discuss whether a link between the interests shown by the individuals in the various fields and the amount of references made to these fields in the company reports can be established.

4.10.5 Linking the socially constituted positional habitus to company reports

The final question to be answered by this research project is whether the extend and amount of interest in fields expressed in the company reports can be directly linked to the socially constituted positional habitus of agents. A positive answer would substantiate the metaphor of social resonance at least for the respondent group under investigation. The Chi^2 analysis as described

earlier has shown that the results of this study can not entirely be developed into a general theory of 'social resonance' because of the expected frequencies for some variables being less than the required frequencies. The data analysis has shown that for the respondent group at least the results were highly significant and as such the metaphor of 'social resonance' has significantly gained in explanatory power.

Since the respondents are all chief executives of major multinational companies and as such are derived from a very limited parent population the author feels that a group of eighteen chief executives is a good sample. A non-parametric Chi² test assumes an infinite number of cases in the parent population with a normal distribution of values for the variables measured. The chief executives of companies of the size in this study are certainly not an infinite number. As such the validity of the Chi² test results has to be questioned for the assessment of the degree of generalisation possible from the results of this study. The author believes that the degree of generalisation possible from the results is higher than given by Chi².

When designing the questionnaire one of the important questions to be addressed was whether it should be anonymous or personal. After discussions with other researchers it was felt that an anonymous questionnaire would give a better response rate since the questions in the questionnaire were of a very personal nature and many chief executives might not want to be identified from the questionnaires. It was thus decided to make the questionnaire anonymous. The only linking variables that would allow the questionnaire to be linked back to the company reports were age of respondent, sex of respondent and SIC Code of the company the respondent worked for. After analysis of the returned questionnaires it was found that only male chief executives had responded and that the SIC Code did not correlate with sufficient significance against any of the fields investigated in the company report study. Age of respondents therefore was the only variable that linked the questionnaires to the company reports from a purely statistical point of view. It was therefore decided that the best method of linking the questionnaire results with the company report results was a qualitative

inductive discussion of the linkages between the two pieces of research. The following section outlines the results of this qualitative inductive method of analysis. The author begins his discussion with a brief summary of the findings for both the company report study and the questionnaire study before comparing and analysing the implications of the evidence found.

The analysis of the SIC Codes carried out in the company report study found for the UK reports that the Top 100 companies came more from a service sector background than a manufacturing or primary sector background. 66% of the companies in the Top 100 were found to be from a service industry and only 25% were from primary industrial sectors such as agriculture, mining or utilities. The respondents of the UK questionnaire study were mainly from the primary and secondary sectors with the majority (around 62%) of chief executives serving in companies with an agricultural, mining or utilities background. The rest of respondents came from a manufacturing or process industry background. The comparison of the UK results from both the company report analysis and the questionnaire analysis must take into account these differences in the set-up of participating companies. In the course of the company report analysis it was found that companies from a service sector background tended to refer to the environmental field less frequently than companies from a manufacturing or primary sector. This was attributed to the fact that manufacturing and primary sectors are much more exposed to environmental risks than service companies such as banks and insurance companies and as such would probably refer to the environmental field more often. Given this scenario useful interpretations of the linking of both studies must concentrate on the comparison of results from similar industries. This will limit the extend of generalisation possible from the analysis but will increase internal and external validity of the results.

The German companies included in the company report analysis showed an almost opposite distribution to the UK companies included in the study. 70% of companies came from either the primary or secondary sector and only 30% of companies came from the tertiary sector (or service sector). The respondents of the questionnaire study came predominantly from both the

primary and secondary sector and not from the tertiary sector. This allows a more direct comparison of results between the German company report study and the German questionnaire study. Both sets of companies included in those studies have similar set-ups and backgrounds.

After the coding analysis of the Top 100 German and Top 100 UK companies the picture emerged of German companies availing of a much richer language to describe their involvement with the environmental field. The UK companies used a much more restricted vocabulary to describe their involvement. The same picture emerged for the employee field with the German companies in the study again using a richer and more diverse vocabulary to describe their involvement with the employee field. The UK companies used a somewhat poorer vocabulary to describe their involvement with the employee field. Details of these vocabularies can be found in the appendices. The picture inverted for the fields of shareholders/stakeholders and the charity/society field. Here the UK companies used a richer language and vocabulary to describe their involvement whereas the German companies used a somewhat poorer language and vocabulary to describe their involvement. Whereas UK companies referred to the fields of community (charity/society) much more often in their company reports than the German companies (average 8.4 UK / average 3.2 German) the opposite was found for the fields of employees (average 8.9 UK / average 35.7 German) and the environmental field (average 7.5 UK / average 23.0 German). The average staff cost for the German companies was £42,700 and £23,200 for the UK respectively. In the interpretation the author argued that German companies referred to the employees more often due to the differences between cost and level of union involvement (which is much higher in Germany). It was further argued that Germany had a long tradition of staff welfare and social responsibility of companies that was not evident in the UK. It was also argued by the author that the number of references to the environmental field was due to the fact that this field is much stronger in Germany than in the UK (evident through a green party being represented in parliament in Germany and not in the UK for example). It will be interesting for the reader to see how this perception and interpretation changes as the author discusses the findings of the first study in

the light of the second study. In this context it is useful to remind the reader of one finding in particular that is of significance. The German companies had developed a much richer language to describe their involvement with the environmental field (described as the collective interest in the ecology). In particular they had developed a much richer vocabulary for describing the legal responsibilities they saw for themselves. The UK companies had a poorer language altogether and a very much poorer language to describe their legal obligations. When comparing the legal requirements regarding the environment of German and UK companies (through a study of the amount of environmental legislation for example; see Handler, 1994) one can see that there are much more restrictive and demanding requirements in Germany than in the UK. Initially the author ignored (or better: was unaware of) the significance of this finding. In the light of the second study and its results this finding is given an entirely new meaning and status in the analysis of social resonance to environmental concerns. The author argued further in his earlier interpretation of the company report study that one of the main reasons for a much more developed language regarding the charity/society field in the UK might be the number of active charities with a high fund raising profile. Charities in Germany generally have a much more local and/or low profile in comparison. Germany's social network covers many aspects of work that in the UK are mainly covered by various charities. As such the social obligations lie more with such charities than with the state. In the case of the UK the state provides only a marginal social net compared to the German social net. These differences in cultural perception of social responsibility might well be accountable for the difference in language and vocabulary found. When looking at the language developed and used to describe their involvement in the shareholder/stakeholder field(s) it was evident from the data that UK companies referred to profit or other expressions aimed at explaining financial situations much more often than German companies. A richer language and more extensive vocabulary existed to describe the involvement of UK companies with these fields. German companies did not refer to these fields as often as UK companies and had a somewhat poorer language.

When discussing the investments of capital as identified from the first company report analysis the author found that academic capital had greater symbolic power in German companies whereas cultural capital had greater symbolic power in the UK companies. This was derived from the highest academic and non-academic titles held at board level in the countries respectively. The author stated that from the company reports he would argue that in the UK social connections are more important than academic qualifications to achieve board level responsibility. This tied in with a study by Bourdieu & Saint Martin (1978) in France in which they found that high level executives in French companies owed their positions to social relations.

The first significant relationship between the first and second study was found when respondents were asked to indicate the importance of high academic qualifications for career success. Whereas the German respondents agreed with the statement the UK respondents seemed less sure of this. Another significant finding in the context of comparing the company report study and the questionnaire study came from the analysis of the amounts of capital invested in the various fields constructed in the study. German respondents invested much more capital in the employee field than UK respondents did; UK respondents invested much more capital in the shareholder field than German respondents did. UK respondents also invested significantly more capital in the board of directors field and in the charity/society field. A surprise finding (for the author) was that UK respondents invested more capital (i.e. interest) in the environmental field than German respondents did. The correlation analysis led to the development of a model for the interpretation of the relationships and mutual influence of age, upbringing, schooling, university, and working life for both the UK and German respondent sets. This concept was further refined and combined with the interests in fields through the multivariate regression analysis which led to a model to explain the influence of socially constituted positional habitae on the interests expressed in fields for both the German and UK respondent groups. A key finding of the questionnaire study for the UK respondents was that there was evidence to suggest that social relationships and class were more important for the career success of the respondents than academic qualifications. This finding was

reversed in the German study where academic qualifications ranked higher than social class. It was found for the UK group that age, upbringing, time at university and at school had a profound relationship and high explanatory power and overall model fit for the explanation of interest shown in the fields presented in the study. Upbringing (which includes social class), school and age were shown to have a profound impact on the levels of interest shown in the board of directors, shareholders and employees. With a higher social class and more conservative upbringing came a higher regard for shareholders and members of the board of directors and a lesser regard for employees. University was shown to have an impact on the regard for the environmental field. Generally the higher the level of education expressed through academic qualifications the higher the regard for the environment. The German respondent group showed to be mainly influenced by age, upbringing, and work. The results showed the German respondents to be less influenced by school or university in their interests in fields such as shareholders or the board of directors (representing the commercial interests). School and university had, if any, a more profound impact on the interests shown in the environmental field and even more so for more esoteric pursuits such as the arts. There was strong evidence in both the German responses and the UK responses for social reproduction. The structuring effects of fields could be clearly seen in the UK where social esteem was deemed more important for selection than academic qualifications. At the same time the agents were shown to have a structuring effect on the fields themselves by applying selection criteria which re-enforce the integrity of the field they position themselves in. Evidence for this can also be found in the German respondent answers with regards to the relationship between work experience, academic qualifications and social class.

The author will now look at the various fields constructed in this study in more detail. The environmental field was found to be addressed much more elaborately in the German company reports yet when looking at the importance placed by the chief executives in those fields measured by the level of investment it becomes evident that German respondents invested less capital overall in the environmental field than their UK counterparts. This can

be explained by looking at the way German and UK companies address the field in their company reports. The German reports referred much more elaborately to the legal responsibilities of companies whereas the UK reports referred more to general obligations. It is the authors' interpretation that the company reports (and the highly developed language used to describe the involvement with the environmental field) of German companies reflect much more the legal obligations vis a vis the environment. The UK company reports refer more to the general obligations and do not seem to be driven so much by the legal responsibilities. The 'true' interest shown in the environmental field seems to be driven by legal requirements in Germany and a more genuine concern for the environmental field in the UK despite the superficial dominance of language and vocabulary in the German reports over the UK reports.

The concern for the employees expressed in German company reports on the other hand seems to be genuinely driven by a belief in the importance of this field. The German respondents invest much more capital in the employee field than in any other field and more capital is invested in the employee field when compared to the UK levels of investment in this field. The richer language and more frequent reference to the employee field seems to be a 'true' reflection of the beliefs of the chief executives. Inasmuch as that the German company reports do seem to allow to judge a company's interest in the employee field better than the genuine interest in the environment field. The same is true for the UK company reports where generally a poorer language and a less frequent reference to the employee field were found. This is in line with the findings of the questionnaire study in which chief executives expressed less interest in the employee field than in the shareholder/board of director fields (in other words commercial fields). This interest expressed in the UK company reports can be traced to some extend to the time at school and the values instilled in individuals at that early age. The concern for the employees in Germany could not be related with any significance to the life experiences of respondents. The same is true for the interest shown in the charity/society field. The German company reports have a relatively poor language and restricted vocabulary to express interest in the charity/society field. They also

mention a relationship to this field less frequently than the UK company reports. The UK company reports express a greater concern for the charity/society field through a richer language and a more frequent description of their involvement with this field. This is reflected in the levels of capital invested in the charity/society field by the chief executives in both Germany and the UK. German respondents invested far less capital (and with that interest) in the charity/society field than UK respondents. UK respondents invested significantly more capital and hence interest in the charity/society field. The positional habitus of the chief executives seems to find its expression in the quality and quantity of references to the charity/society field for both the German and UK sets of respondents. Due to the low significance of the constructed models to explain this interest in the field no firm conclusion can be drawn as to what the social origin of that interest is. Given then complex interaction of the various social dimensions in this study it can be argued that work experiences in the German group of respondents are partially responsible for the interest expressed. No significant relationship could be established for any social dimension and the interest in the charity/society field for the UK respondent group. The emerging picture is much richer when looking at the results from analysing company reports for references to shareholders/board of director (and other commercial interest) fields. It can be shown that the UK company reports show a much richer language to describe their involvement and interest in the SH/BOD fields. Reference is also made much more frequently to interests that such groups might represent. The German company reports showed a poorer language and only one-quarter the amount of references to the interests of such fields than the UK reports. A first interpretation of these findings might conclude that the UK companies focus much more on profit motives in their company reports. German companies, although also concerned with profit, do not seem to focus on this motive so heavily and rather use the report to address a multitude of interests. A really interesting picture emerges when the results from the company analysis are combined with the results from the questionnaire study. UK chief executives invest far more capital in the SH/BOD field than German chief executives do. The UK respondents deem this field far more important to address than the German respondents. When

looking at the links between the interest expressed in the fields and the social dimensions which might contribute to the development of this interest a clear picture emerges both for the German and the UK groups of respondents. In the UK the interest in the SH/BOD field can be clearly linked to the upbringing, schooling and age of the respondents. In particular the time at school seems to have a profound impact on the degree of interest expressed in the SH/BOD field. Age seems to be the other important component in the construction of the social constitution of the interest. By examining the school influence and correlating it to other social factors a picture emerges. The language and frequency of reference to profit motives or more generally interests of SH/BOD fields can be linked to a process of social reproduction that involves the formation of social networks connected to social class from an early stage in life. Upbringing and values acquired during their time at school play an important part in this process. For the UK response set it can be said that the schooling system with its emphasis on class separation through social reproduction processes such as entry level qualifications or fee structures is an important contributing factor in the career development and interests and language developed by respondents reflect this process. For the German respondent group the interpretation of the social determinants of interests in SH/BOD fields is more related to work experiences and academic qualifications. Academic qualifications can be seen as the German equivalent to peerage and other titles (in the absence of a monarchy). Social reproduction is hence directed towards selection through academic qualifications. The institutions that confer such academic qualifications are not significantly responsible for instilling social reproduction values in the respondent group. Instead work experience seems to take the role of educator and plays a pivotal role in the German social reproduction process. Work experience is also responsible for the degree of interest shown in the SH/BOD field. As such any expression of interest in the SH/BOD field found in the company reports and the frequency of references made can be traced back to the social reproduction processes in organisations rather than in the society as a whole. This is an important discovery in the context of this study. In the UK social reproduction processes in organisations are governed by social reproduction processes in the society as a whole whereas in Germany social

reproduction processes in organisations are a product of the organisation itself.

Through linking the company report study (which measured the degree of interest expressed in the environmental, employee, charity/society, and shareholder/board of director fields) with the questionnaire study (which measured the degree to which the interests shown in fields can be explained by upbringing and an agents' life experiences) important relationships can be established. This study has shown that company reports reflect the importance attributed to fields both internal and external to the organisation. As a means of legitimising the company itself and its actions the reports serve a useful purpose in identifying the fields which are deemed to be important in this legitimisation process. The complex relationship between life experiences of the agents and their perception of the importance of fields has been demonstrated. It has also been possible to link those life experiences to social reproduction processes and the expression such experiences find in the company reports. This study has achieved its purpose to a very high degree and the metaphor of social resonance has been shown to have great explanatory power in this context.

5 Conclusions and implications

5.1 Introduction

Organisational research has long been focused on either studies at the micro-level or studies at the macro-level. At the micro-level research has been focused on socio-psychological explanations of organisational phenomena. At the macro-level structure has been the main explanation for organisational phenomena. More recently meso-level studies have attempted to overcome the difficulties that such a division has brought for the explanation of organisational phenomena. Most noteworthy here is perhaps Rousseau (1991, 1995). Those meso-level research studies have their roots in the original micro- and macro-level explanations borrowing concepts from studies at both levels. Although they have overcome some of the difficulties in explaining satisfactorily phenomena in and around organisations they themselves have run into problems due to the fact that they are fundamentally built on building blocks from macro- and micro-level theory. Other attempts at developing organisational theories have been made. Most notably here are perhaps the attempts born out of general systems theory and in particular the viable systems model (VSM, Espejo 1992). Such attempts suffer from a certain degree of mechanistic thinking and mostly consider the organisation as discrete entities and the individuals within organisations as actors acting out roles as have many micro-level studies. Social theory has been the foundation of much of organisational theory and the rational choice theorem has been an over-riding principle in any theory for a long time. Economic theory has attempted to describe economic phenomena along the same rational choice lines. Recently a development of economic game theory, namely evolutionary game theory, has developed economic theory and begun to address some of the fundamental problems with traditional approaches (most notably Matsui, 1995).

This research project was born out of the authors' conviction that any attempt at explaining organisational phenomena by either concentrating on the individual or the structure alone does not do justice to the complexity of

organisational reality. Although an organisation can be defined to some extend by membership and an artificial construct of structure, and individual actions can be accounted for by looking at micro-phenomena, such explanatory attempts do not help in understand the complex interaction between the individual and its environment both internal and external to the organisation. In the understanding of the author organisations can only loosely be defined as structures and individuals must be seen as both structuring the organisation and being structured by the organisation in a complex interplay between the individual and the internal and external environment. There must also be a consideration for the history of the individual and the organisation and a consideration for time and space. To attempt to construct organisational theory from existing theories and account for the complexity turned out to be a near impossible task for the author.

It is with this background that the author then turned to contemporary social theory to find research that would be better at explaining the complexity of organisational phenomena without itself being too complex and cumbersome. And with the understanding that much of the existing organisational theory is born out of social research with a distinct British or American perspective the search concentrated on Western European social theory and here mainly research of a German or French background. Pierre Bourdieu's theory of practice proved inspirational for the author in that it accounted for the individual and the structure of society simultaneously and also embraced the time and space dimension and the historic dimension of societies. At the time this research began the author was not aware of any attempts in organisational theory of developing explanations based on this theory of practice. This was the main driver for the author to attempt the development of a theory based on Bourdieu's theory of practice that could be used to explain organisational phenomena from a multi-dimensional perspective embracing not only the individual (which in Bourdieu's theory is not seen as merely an actor acting out roles) but also structure and time and space in one theoretical construct. After a long thought process that included an extensive study of the literature and discussions with social scientists around the world the final

concept of social resonance was developed. Social resonance for the purpose of this research has been defined as:

The extend of a social agent's or field's conscious or sub-conscious thoughts, words and/or actions as a result of the exposure to either a past and/or present stimulus or set of stimuli in a particular context and place at a certain moment in time. This social resonance is determined by the agent's positional habitus, the fields it positions itself in, the position it takes up within the fields determined by both itself and the field, and the forms of capital available to it or acquirable by it within the organisational context.

The organisation itself is seen as a multitude of interacting fields, tied in to other fields outside the organisation through individuals' interaction. Other forms of resonance can include spiritual or art form expressions. Stimuli are not static in their constitution or effect on the agent over time and can interact in a multidimensional matrix. Capital is not interpreted in the Marxist or economic sense but can take many forms such as academic capital, relationship capital, symbolic power, and others. The concepts of habitus, fields and capital are central to Bourdieu's theory of practice and have been used by him mainly to explain social reproduction processes. The author has taken these concepts and applied them in a new theoretical construct to attempt to explain organisational phenomena more successfully as a product of social processes. Habitus can be seen as socially constituted dispositions acquired through experience, thus variable from time to time and place to place, e.g. a pattern of speech, a way of dressing, an educational title, or a dwelling place to name but a few. A field can be seen as interest variable with time and place, a historical product, the interest being at once a condition of the functioning of the field and a product of the way the field functions. Habitus is adjusted to fields according to position, expectation and ability. Capital (or power) can be interpreted as knowledge, relationships, cultural capital, economic power or symbolic power (reputation, opinion and representation).

In order to test the construct a methodology was developed that included a variety of qualitative and quantitative methods. A two-stage research process

was decided upon which included a content analysis study of two hundred company reports from both the UK and Germany as a control group. Ecological issues or interest was chosen as the stimulus or set of stimuli. The social resonance to such ecological interest was measured both qualitatively and quantitatively based on the content analysis of the company reports. In a second research step questionnaires were sent out to two hundred chief executives of these same companies. Aim of this second study was to establish the socially constituted habitae of these agents in organisations and the forms and 'quantities' of these capitals available to them. The questionnaire was also designed to identify the way in which this capital would be invested in various fields. Through this latter step it was possible to link the second part of the research study back to the first part of the study and thus establish a link between the observed social resonance of organisations and the socially constituted positional habitae of the chief executives at the helm of these companies. This enabled the author to test the construct of social resonance and make judgements about the usefulness of this new construct for the explanation of organisational phenomena.

As a result of both the content analysis of the company reports and the questionnaire study it was possible to develop a picture of the social resonance of organisations to environmental interests and to link this resonance to the social background of the individual that had commissioned the reports and thus close the loop. In the process of analysing the various data used in this research a rich picture was developed of the social resonance of organisations, the social constitution of positional habitae in agents, and the relationships between habitae and investments in fields. A number of principal research questions were developed in the process of this research. These research questions and the answers found will be discussed in the next section.

5.2   Conclusions about research questions or hypotheses

The main research problem was the development and testing of the theoretical construct of 'social resonance' in organisations. This research problem was then broken down into five individual research hypotheses that were tested using different qualitative and quantitative research methods.

5.2.1   Hypothesis One

An organisation's resonance to ecological issues manifests itself in the way such issues are approached in the annual company report.

Through coding and counting methods both qualitative and quantitative the contents of one hundred UK company reports (Top 100) and of one hundred German company reports (Top 100) were categorised and analysed. Additional to identifying resonance to ecological interest resonance to other interest was identified. The same coding and analysis was carried out for resonance to employee interest, charity/society interest, and shareholder/board of director interest (or commercial interest). The result of the content analysis of the two hundred company reports substantiated the hypothesis that an organisation's resonance to external or internal interest manifests itself in the company reports. A rich picture of the resonance to ecological interest, employee interest, charity/society interest and shareholder/board of director interest was developed. Companies use a richer or poorer language and vocabulary to address such interest in company reports. Graphical representations of the language used show that the degree of social resonance to such interests varies from organisation to organisation and from culture to culture and so does the language used to describe the companies position within such fields (or interest). Hypothesis One was fully substantiated by the research.

5.2.2 Hypothesis Two

Cultural differences will influence the manner in which companies tackle ecological issues and the degree to which these ecological issues are addressed.

To answer this question samples were chosen from two different cultures. Samples of 100 UK companies and of 100 German companies were chosen for analysis. The subsequent analysis of the data from the coding and counting analysis of the company reports led to the following conclusions about the research hypothesis. Cultural differences in the manner and degree to which companies address environmental interest (here interpreted as interest in the ecology) have been identified. Significant differences have also been found in the way companies address interest in the charity/society, shareholder/board of directors, and employee fields. This thesis focuses mainly on the interest in the environmental field and the conclusion will subsequently focus on this particular field. The reader is asked to refer to the relevant sections in chapter four for a more detailed exploration of the differences of interest expressed in all the fields in this study.

Significant differences have been found for the Top 100 German and Top 100 UK company reports and the way the reports reflect the companies' interest in the environmental field. German companies reference to the environmental interest far more often (23.0 average references per report) than UK companies (7.5 average references per report). It is interesting perhaps at this point to briefly compare these differences in the amount of references made to the environmental interest with the amount of references made to other interest. German companies referenced to the employee interest (35.7 average references per report) more than to any other interest. UK companies referenced to the employee interest to a much lower degree (8.9 average references per report). The opposite picture emerges for the interest shown in the community/charity/society field that the UK companies reference more

often to (8.4 average references per report) than German companies (3.2 average references per report). The evidence from the analysis of the data suggests that the degree to which companies reference to field-specific interest does indeed depend to a large extend on the cultural context that the reports refer to (i.e. the countries or societies the companies originate from). Different cultural backgrounds lead to different degrees (here volumes) of interest in fields expressed in the company reports. This is particularly interesting when considering that many of the companies are Multi-Nationals and as such one would perhaps expect the reports to reflect a more international readership interest.

In addition German company reports show a richer and more developed language and vocabulary to address the interest of the field. The following figures are a graphical representation of the language and vocabulary found in both German and UK company reports to address the interest in the environmental field.

```
                          ┌─────────────┐
                          │ Environment │
                          │      D      │
                          └─────────────┘
        ┌──────────────┬───────────┴────────────┬──────────────┐
┌──────────────┐ ┌──────────────┐      ┌──────────────┐ ┌──────────────┐
│    Legal     │ │ Recognition  │      │   General    │ │   Specific   │
│ Requirements │ │of Involvement│      │  Reference   │ │  Reference   │
└──────────────┘ └──────────────┘      └──────────────┘ └──────────────┘
```

Legal Requirements	Recognition of Involvement	General Reference	Specific Reference
Laws and Regulations	Responsibility (felt)	Energy Policies	Environmental Reports
Environmental Policies	Management Task	Consumer Behaviour	Packaging Optimisation
Eco-Taxation	Environmental Awareness	Regenerative Energies	Material Balance Sheets
Regulatory Framework	Dialog with Public	Elektro Vehicles	Environmental Objectives
Waste Law	Ecologically Oriented	Environmental Objectives	Remediation
Dual System	Company Policies	Environmental Investments	Environmental Investments
EU Eco Audit Regulation	Holistic Thinking	Protection of Environment	Environment Representative
Cost of Disposal	Holistic Product Responsibility	Protection of Resources	Lowering Emmissions (tech)
		Emmissions	Material Cycles
		Cycle-Economy	Holistic Concept
		Prevention/re-Usage of Waste	Sale Secondary Raw Materials
		Climatic Risks	Recycling Centre (In-House)
		Environmental Groups	Waste Separation
		Environmental Discussion	Waste Treatment
		Environmental Awareness in Society	Environmental Guidelines
		Convention on Climate	Resource-Friendly Production
		Company Policy	Ecologically Oriented Company Policies
		Consumer Demands	Environment Council (In-House)
		Sensitivity of Society	EU Eco-Audit Certification
		Preventative Environmental Protection	Preventative Environmental Protection (Measures)

Placing the two figures above side by side it can clearly be seen that the language differences found between the German and UK companies is significant. German companies not only address the environmental field more often than UK companies, they also developed a much richer language to describe their recognition of involvement, responsibility and actions taken.

In conclusion it can be said that from the evidence found in this research the hypothesis that different cultural influences have an effect on the way companies address the environmental field and the degree to which they refer to this interest has been fully substantiated.

5.2.3   Hypothesis Three

A relationship can be established between fields internal and external to the organisation.

It was originally envisaged to test this hypothesis solely based on the data gathered from the company reports. It was subsequently found that the data gathered in the questionnaire survey not only substantiated the findings of the report analysis but extended the explanatory power of the models developed significantly.

Organisations in the context of this thesis are seen as social constructions without a clear delineation between internal and external environment. Arbitrary delineations such as payrolls, or even less formalistic delineations such as found in Gregory Bateson's "Us/Them" theory of schismogenesis (the author argues) do not do the complexity and richness of social interaction justice. A clear division between internal and external fields is not only impossible but would substantially misunderstand the thrust of the author's arguments. It is with this conceptual background (fully developed in chapters 2 and 3) that the author links internal and external environments very much through the individual or groups of individuals positioned simultaneously both in internal and external fields of the organisation.

An example of this would be that the chief executive of a company would be represented in the top level executive group of his company and simultaneously work with industry groups, business friends external to the organisation, and with many other individuals both internal and external to the organisation. He/She would read certain papers and magazines, be a member of certain social groupings (golf club, tennis club, and other), and be generally influenced by many events and interests that are not even remotely connected to the organisation. Such interactions or influences nevertheless have the potential to affect the thinking and/or actions of such an individual considerably.

Following this notion the author concludes that any meaningful interpretation of the relationships between internal and external fields can only be established through the individual. To limit the scope of analysis the research concentrated on specific individuals within the organisational context, namely the chief executives.

From the report analysis it becomes evident that a relationship between internal and external fields in the organisation can be established. Most of the findings from the report analysis answering research question R3 (which was developed to test hypothesis three) came out of an inductive association of separate observations. These inductively established links between fields external to the organisation and fields internal to the organisation was partially substantiated by evidence from related social studies (such as studies into unions, charities, environmental groups, staff costs, and others). This exercise resulted in the establishment of relationships between the environmental field external to the organisation and interest expressed in the company reports. The same was established for charity/society, employee, and shareholder/board of director interest. Inasmuch as the interpretation of the results and association of observations was an inductive exercise by the author, the findings needed further substantiation to prove or disprove the hypothesis.

As with many research projects of a similar nature the temporal element plays an important part in the development of the research. This author started the company report analysis and interpretation of results before embarking on the questionnaire study. Since it was found that the evidence for the relationship between internal and external fields was to some degree inductive the questionnaire study was designed to enable the author to further substantiate or un-substantiate the findings from the report analysis. After the analysis of the data from the second part of the research (questionnaire study) it was found that the inductively established links could be supported by quantitative evidence from the questionnaire data. A multivariate regression and correlation analysis found good evidence to support the inductively established relationships. The following two figures represent merely the final conclusion of the relationship analysis. The reader might want to refer to the detailed step by step development of these relationships in chapter 4 to gain a better understanding of the stages in the development of these conclusions.
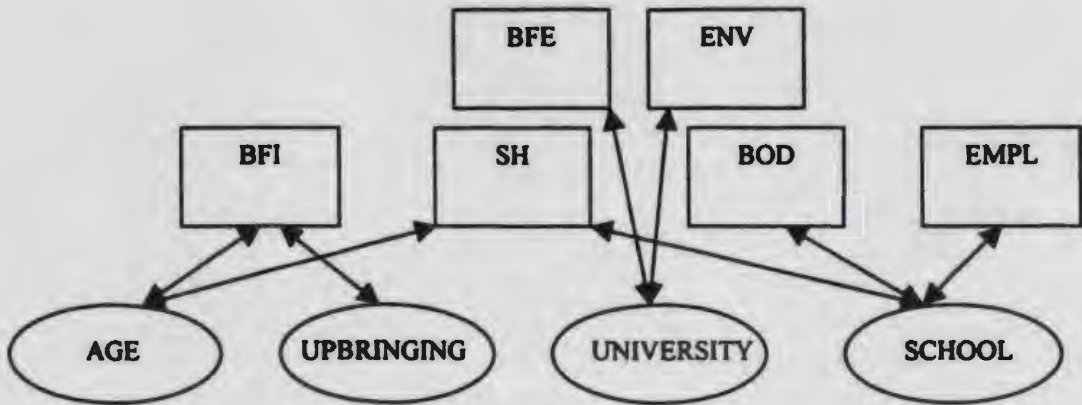
Results of Multivariate Regression Analysis UK respondents

A relationship was established for the UK companies and the individual through which internal and external environments were linked. Relationships were substantiated for the individual and shareholders/board of directors, employees, business friends internal and external to the organisation, and the environmental field.
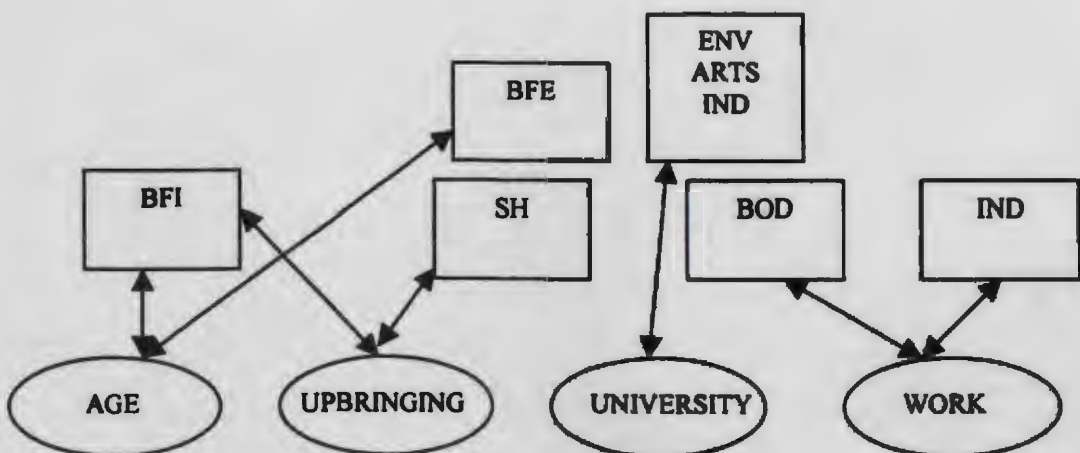
Results of Multivariate Regression Analysis German respondents

For the German companies and the individual linking internal and external fields a relationship was found between the individual and the shareholders/board of directors, the business friends both internal and

external to the organisation, industry groups, and tentatively also between the environmental field, and the arts field.

The findings from the company report study and the questionnaire study substantiate hypothesis three. A relationship between internal and external fields can be established.

5.2.4   Hypothesis Four

The theory of habitus, fields and capital can be applied in an organisational context to explain social resonance at the level of the individual.

Bourdieu's theory of practice has been one of the fundamental cornerstones in the development of the author's theoretical construct of social resonance. Bourdieu and others following his notion have mainly concentrated on the analysis of social phenomena from a societal point of view and have not explored the value of the theory of practice for the study of organisational phenomena. The reader might like to refer to chapter 2 for a more detailed discussion of Bourdieu's and related writings. Social reproduction has been one of Bourdieu's main foci. In his work he explores the ways and means by which societies reproduce themselves, changing or maintaining their social structures through time and space.

The author attempted to test Bourdieu's theory of practice in the context of this research. The research tools chosen (questionnaire: Likert Scales and Capital Investment Matrix) were geared towards the collection of information from respondents that would either support Bourdieu's notion and hence substantiate the theoretical construct of social resonance or would lead to a rejection of this theory and subsequently a weakening of the construct of social resonance.

The research found greatly substantiating evidence further supporting Bourdieu's notion of habitus, capital and fields and also found social

reproduction evident in the companies under investigation in this research study.

Bourdieu argues that habitus is formed through experiences that individuals make throughout their life-time and that such experiences influence the way in which individuals interact with other individuals and with their environment(s) generally. He further argues that such habitus is adjusted to the fields that the individuals position themselves in. Finally he argues that each individual is bestowed with certain forms of capital (which is not necessarily economic capital) which can be interpreted as symbolic power. Such capital is invested in fields according to habitus and the degree to which the fields allow such investments. Certain forms of capital are transferable into other forms of capital to some degree. Fields finally are seen as interests variable with time and space. The fields are both structured by the individual interest as well as structuring that interest.

This research found evidence of a complex social construction of habitus among the chief executives partaking in the study and the degree to which this habitus influences the investment decisions of the individuals (see diagrams in section 5.2.3). Further evidence was found for a complex interplay between the socially constructed habitae and the fields under investigation in this study. Both a structuring of the fields by the individuals and a structuring effect of the fields on the individuals was identified.

The hypothesis that the theory of habitus, fields and capital can be applied in an organisational context to explain social resonance at the level of the individual has been fully substantiated. The research further found strong evidence for social reproduction processes in organisations. This finding has significant implications for theory and practice that will be more fully explored in sections 5.4 and 5.5.

5.2.5   Hypothesis Five

Certain social conditions must exist at the level of the individual for social resonance to ecological issues in organisations to occur.

The establishment of the existence of a relationship between habitus, fields and capital in an organisational context was a significant finding from this research project. The final hypothesis tested whether certain social conditions influenced the interest shown by the respondent groups in the fields under investigation in this study.

The following figures show a graphical representation of the social construction of habitus as identified from the questionnaire research both for the German and the UK sets of respondents. The graphical representation illustrates to complex interplay of social constituents of habitus among the chief executives in the study.
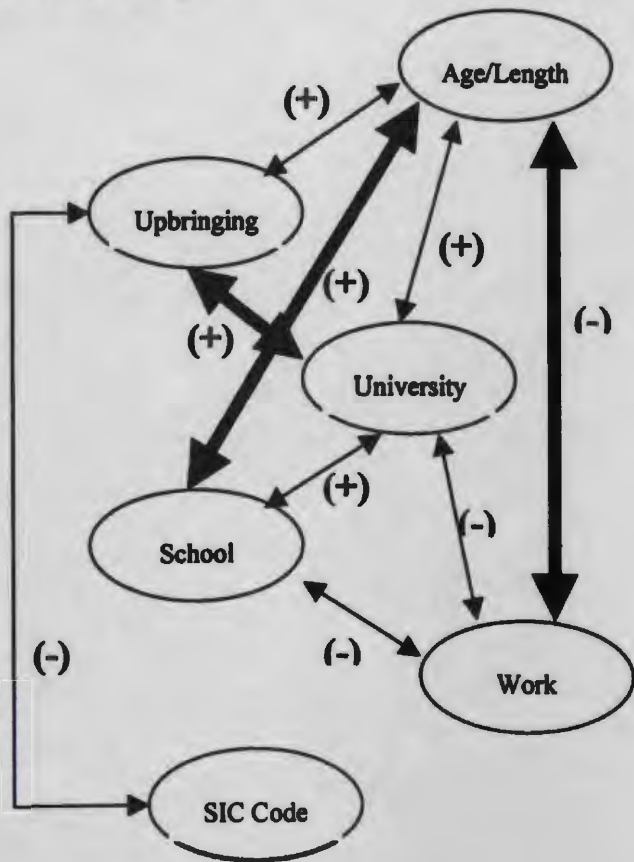
The social construction of habitus among German respondents

As can be seen from the graph a strong relationship exists between the Age of respondents, the upbringing, the time at University, the time at school and work experience. A more detailed analysis of the social construction can be found in chapter 4 section 10 onwards. There the reader will also find the findings for the analysis of the mutual influence between habitus and fields.
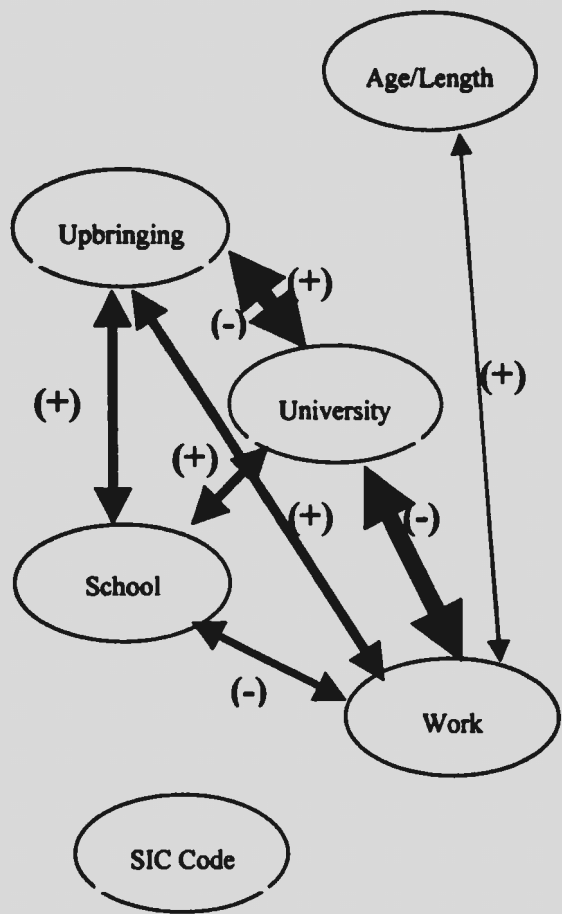
The social construction of habitus among UK respondents

In comparison with the German sample group the UK sample group showed significant differences in the social construction of habitus. Age was less of a factor in the explanation of the social construction of habitus among UK chief executives. Strong relationships were established between the upbringing and the time at University, the time at University and work experience, and the

time at school and upbringing, work experience and the time at university. Again the reader will find a more detailed discussion of the findings in chapter 4 section 10 onwards.

Finally a social reproduction process in organisations for both sets of respondents was found and significant differences based on cultural differences between the respondent groups were identified. The reader might like to refer to chapter 4 (interpretation of results) for a full exploration of the findings from the data analysis. In summary it can be said that the German respondent answers indicated a social reproduction process in organisations based almost entirely on selection criteria around academic qualifications. Evidence for selection among peer groups was also evident.

The UK respondent answers indicated a social reproduction process strongly influenced by schooling, social networks ('old boys networks') and selection criteria based on social class and peer groups.

Linking the first research study (company reports) to the second research study (questionnaire study) it becomes apparent that certain social conditions must exist for social resonance to environmental issues to occur and to be visible in company reports. Firstly the social background and habitus of individuals plays a dominant factor in the individual resonance to environmental issues. The subsequent investment decisions made by those individuals will determine the direction and strength of interest shown in the various fields. The fields themselves have a structuring effect in this process. Social acceptability (both inside and external to the organisation) of fields is a further determinant of social resonance visible from the company reports. A more detailed discussion of the relationships between social conditions and social resonance in company reports can be found in chapter 4 (interpretation of results).

In conclusion it can be said that the hypothesis that certain social conditions must exist for social resonance in organisations to occur and to be visible in company reports has been substantiated by the research.

5.3   The findings of this research in the context of previous and ongoing research

It is important in the context of this research to contrast and compare the findings of the study into social resonance with earlier findings and ongoing research by other researchers. This allows a contextualisation of the research findings, and can serve to either strengthen or weaken the external validity of the research carried out.

Chapter 5.2 outlined the main findings for each of the hypotheses that the author started out with. Chapter 5.3 looks at other research carried out, and compares and contrasts the findings of such other research to the findings of this study.

Five main hypotheses were formulated for the research into social resonance. Hypothesis 1 states that an organisation's resonance manifests itself in the way issues (stimulus/stimuli) are addressed in company reports. In other words, resonance to a stimulus can be observed through an analysis of the language used in company reports. Hypothesis 2 adds a cultural component into the discussion of resonance and states that cultural differences will influence the manner in which companies will tackle such issues. Hypothesis 3 states that there is a relationship between fields internal and external to the organisation, and that this relationship also influences the way in which companies respond to stimuli. Hypothesis 4 states that the metaphor of social resonance developed in this thesis can be applied at the level of the individual, and that the constructs of habitus, field and capital can be used to explain social resonance at the level of the individual. Hypothesis 5 states that certain social conditions at the level of the individual must exist for social resonance at the level of the organisation to occur.

When defining search criteria for earlier research and ongoing research that can be compared and contrasted to this research work, it is important to qualify the search parameters in a way that is consistent with the areas of knowledge that this thesis aims to add to. In particular, it is necessary to limit

the search for other research work to those areas that are addressed in the main hypotheses, and the findings of this research in relation to these hypotheses. To begin with, other research should have looked at either Germany or Britain as the primal focus of work, ideally in a comparative way. It should further have looked at comparative organisational entities to those that have been looked at in this study. Other than on a wholly abstract level, direct comparisons of studies into commercial organisations with, e.g. non-commercial organisations, or organisations with a totally different interest (such as trade unions or lobby groups), would not contribute to the validation or otherwise of the findings in this research. The search for other research should also be limited to studies that provide some empirical evidence for their theses, as opposed to theoretical philosophical studies of a discursive nature, no matter how informed the author of such work may be. Ideally, previous or ongoing work should have looked at the use of language in organisations, or identify cultural elements that influence organisations and outcomes of social interaction, or it should have looked at the social. Again ideally, such earlier research might have used the constructs of habitus, field and capital to describe observed phenomena. Two of the main findings of this research link the individual and its history to organisational outcomes, and identify evidence of social reproduction based on formal and informal networks. Earlier or ongoing research might have identified evidence to strengthen or negate the findings of this thesis with regard to social reproduction and the link between an individual's history and its current social resonance to stimuli. Finally, earlier research or ongoing research might have looked at the relationships between fields internal and external to the organisation.

The previous paragraph is an important preamble to the discussion of earlier or ongoing research in the context of the findings of this thesis. Without narrowing down the search and acceptance criteria for a literature search to identify related research, almost all of social and organisational research might be deemed relevant to the contextualisation. A discussion of the literature without specific contextual demarcation, in the eyes of this author, would not only reduce the validity of the attempt to contextualise the findings,

but also go a long way beyond the scope of this thesis. It would constitute a thesis in itself.

The author used the Social Science Citation Index (SSCI), the ProQuest/ABI Inform database, and the British library catalogue online search facility to identify relevant work to be included in the contextualisation and discussion of the findings of this work in the light of earlier or ongoing research by other researchers.

Following below, the author first summarises the main references to other relevant research work, then outlines the main findings of such research, and then compares and contrasts this research with his own work documented in this thesis.

Among the research into German and/or British organisations, the book by Lawrence (1980) into Managers and Management in West Germany (before the re-unification), as well as Roundlaeme's (1993) work on the business culture in Germany, are important to note. Another author that has extensively published work in the field of social determinants of economical success is Sig J Prais (see Prais 1995). Windolf and Schief (1999), two German researchers, have looked at corporate networks in East Germany after the re-unification, and have found that strong networks exist between managers in companies of East German origin and companies of West German origin. They speculate on the uses of these networks in West and East Germany. Two authors that have published numerous papers of a cultural comparative nature, comparing British and German managers, are Kirkaldy and Cooper (1992a, 1992b, 1993). They have written, among other, about the relationship between work stress and leisure style, about work attitudes and leisure preferences, and cross-cultural differences in occupational stress among British and German managers. Lambert (1990) worked on processes linking work and family. So do Wickrama, Lorenz, Coger, Matthews, and Elder (1997) in their work on linking occupational conditions to physical health through marital, social and interpersonal processes. Reed and Anthony (1992) carried out research into the strategy of managerial professionalisation through educational reform,

linking their work to that of Prais. Anthony (1990) in some earlier work discussed what he calls the paradox of the management of culture in organisations, and particularly elaborates on the relationship between leadership and culture in organisations. Work in the area of culture and management by Ogbonna and Wilkinson (1990) looked at the relationship between corporate strategy and corporate culture. Much later, Harris and Ogbonna (1998) looked at culture in UK retail organisations. Their paper contains empirical evidence that suggests that there is a link between individual's perception of culture and their relative hierarchical position in the organisation. Scarbrough (1998) looked at change and continuity in British management in the 1990s, and finds a relationship between changes in work processes and changes in managerial practices, especially in the area of status and symbolic power. Watson (1996) looks at identity, morality, and pragmatism in theory and practice, and presents empirical evidence of a relationship between an individual's history and their current responses to stimuli. Ackroyd (1996) describes the development of professions and organisational change in the UK, and finds evidence for the development of fields in organisations. Ashford and Humphrey (1993) researched the display of emotions by service agents during service encounters and particularly looked at the link between identity and emotional expression of agents. In particular, they use the term dissonance to describe a possible form of resonance to emotions by other individuals or agents. Their work again is based on UK evidence. Harrison and Carroll (1991) looked at cultural transmission in formal organisations. Although their work is not based on either German or British evidence, it nevertheless studies the organisational conditions at the level of the individual and the organisation for the effective transmission of culture in organisations. Soutar, McNeal and Molster (1994) present some Australian evidence of the influence of the work environment of ethical decision-making. Vassy (1999), a French sociologist, contributes research in the area of sociology in organisations with his work on hospital staff in France, Germany, and Britain. He brings to light national particularities in the relationships between staff in organisations, and thus links national culture with relationships in organisations. Work that makes particular reference to the term capital comes from Cusack (1999). His work on social

capital, institutional structures, and democratic performance looks at German local governments. His argument is that political culture and organisational structure independently shape government performance, thus separating culture and structure. Vondracek and Reitzle (1998) present evidence of the temporal element of person-context interactions. They particularly explore the role of timing of person-context interactions, and argue that career maturity alone gives insufficient attention to the particular contexts of time and culture within which the focus of the individual and the notion of age-appropriateness may be observed. Marchington, Wilkinson, Ackers, and Goodman (1994) link employee attitudes to prior experiences, their work in general, and the current and projected corporate performance of the organisation in their work on employee involvement in organisations in Britain. Lorenz (1992) presents work on trust between workers and managers and the relationship between this trust and the degree to which management can achieve flexible working practices. He compares British and German historical organisational developments with regard to this trust, and discusses the role of power and social norms to explain why trust-building systems of joint consultation take hold in one place and not in another. Windolf (1998) studies the social organisation of the economic elite in Germany and Britain. He discusses the internal structure of what he terms an elite-network. He identifies that the resources on which the dominance of the economic elite is based are bureaucratic power, ownership and social capital. He gives as an explanation of the power of managers in organisations that such power is not only based on hierarchical position, but also on their representation of ownership. He discusses the forms of social control, the degree of internal control and competition in elite networks, and the stability of networks over time. He concludes that elite network configurations vary between countries and lead to differing forms of managerial control. Hartmann (1997) looks at national educational systems and the renewal of elites in Germany, France and Great Britain. He argues that the recruitment of the ruling elites has hardly changed over the last 25 years. Hartmann specifically argues that his evidence supports Bourdieu's theory of class habitus and the role of cultural capital, and refutes the argument that the world of elites is opening up. In an earlier paper, Hartmann (1995) looks at German top managers and identifies class habitus

as the basis of their careers. He argues that top managers in Germany, like their colleagues in France, Britain and the USA, come mainly from the bourgeoisie (he interprets that as the families of employers, professionals, executives and higher civil servants). He identifies that the social recruitment in the three countries in his studies is based on the crucial importance of elitist titles of education for getting to the top. He further argues that in Germany the individual's class habitus is of crucial importance for the recruitment to the top positions. He interprets class habitus as the personal characteristics of the candidates like sovereignty, general education or entrepreneurial thinking. Rohrschneider (1993) looked at and describes environmental belief systems in Western Europe and compares the belief systems in Germany, the Netherlands, France and Britain. He finds that environmental belief systems are constrained by general political pre-dispositions in Germany and the Netherlands, and significantly less constrained in France and Britain. He attributes the cross-national variations in environmental belief systems to the varying activity levels of environmental elites. Windolf (1986) identifies the role of recruitment and selection processes of firms and the functioning of social reproduction in organisations. He compared British and German companies, and found that environmental conditions and organisational structure affect the recruitment strategy of a firm. He finds a link between the market power of the organisation, the professional expertise residing within, and the decision-making structure and the kind of person that is recruited. He also finds evidence for a difference in recruitment practices between German and British companies. Lane and Bachmann (1997) looked at the role of social institutions in the co-operation in inter-firm relations in Britain and Germany. They discuss how industry associations and legal regulations influence the quality of inter-firm relationships. They argue that trust is more reliably produced when these institutions are strong and business relations are deeply embedded into their institutional environment. It is argued that power is more likely to function as an alternative mode of coordinating social interaction when the institutional framework and the embeddedness of social interaction are weak. Savage and Egerton (1997) present evidence for a link between social mobility, individual ability and the inheritance of class inequality. In their paper they argue that there is a relationship between social class background

and tested ability. They argue further that the ability of parents to impart appropriate cultural capital and the availability of economic capital (material resources) play an important part in the inheritance of class inequality. They also identify some evidence for patterns of closure within classes. Egerton (1997) slightly earlier in the same year published a paper that links cultural capital to occupational destination. Most studies, he argues, concentrate on paternal education and occupation, finding that higher levels of paternal education are associated with greater educational and occupational attainment of their children. He found evidence in his research work to suggest that the children of professional fathers are more successful than children of managers. He also found evidence to suggest that professional family origins facilitate entry into professional occupations, independent of educational attainments. With his work, Egerton describes a strong link between upbringing and career. Saunders (1997) corroborates Egerton's findings, and goes further to say that he found a disparity of 4:1 in the relative chances of children from different social class backgrounds ending up at the top or bottom of the occupational class system. Saunders (1999) looks at influences on the occupational attainment of young British males. He used data from the national child development study. Based on this data, he argues that individual ability is by far the strongest influence on occupational achievement. He goes on to say that motivation and parental support and class background are also significant, although relatively weaker.

In this thesis, the author develops the notion of social resonance. This social resonance, it is argued, expresses itself in thought, word and actions of individual agents. The extent of the resonance to a stimulus or a set of stimuli is determined by the agent's positional habitus, the fields within the agent is positioned, and the capital available to the agent. In the subsequent testing of this theory of social resonance, the author found his hypotheses to be valid and the theory substantiated based on his research work. This chapter 5.3 serves to compare and contrast the author's findings with findings from other researchers to corroborate or falsify the results of the author. In particular, the author found a link between upbringing and career success, found a social reproduction mechanism based on social factors such as habitus and capital

at work in the organsitions that were researched, and also found the influence of fields on an agent's resonance verified. Furthermore time as a variable in the determination of resonance was discussed and verified through the research. When in the following paragraph reference is made to work by the author of this thesis, it will be identified by referring to Bungart. Whenever the reader comes across a reference to Bungart, the author of this thesis intends to refer to the research that is the basis of this thesis.

As outlined in the paragraph before, extensive research has been carried out by researchers into similar areas. The previous paragraph summarised such research work. The question that remains to be answered is in how far such other research corroborates or falsifies the authors' own findings. After collecting and evaluating the findings of other researchers it can be seen that most if not all of the author's findings have been corroborated by other research. The theory of social resonance can be shown to be very powerful in pulling together diverse strands of theory into a more unifying theory. When looking at the literature, the work of Windolf can be seen to be supportive of the findings of the author. Windolf, in collaboration with other authors or individually, looked at networks in organisations, economic elites, and recruitment and selection processes in organisations. He found such networks (or fields in the author's language) to exist in German companies, and found their influence to be significant. He states that networks are a key component in regulating and controlling competition and that they can protect companies from external competition. Bungart found such networks (both formal and informal) to exist in the sample of companies in his study, and found evidence of an "old boys" network that can be likened to a network such as found by Windolf. Windolf further identifies the importance of social capital, economic power, and bureaucratic power in the social reproduction in organisations. He also finds evidence of recruitment and selection processes that re-inforce social reproduction. Bungart finds the same factors affecting social reproduction in the organisations in his sample. He discusses the reproduction dynamics at top level in organisations based on educational titles and social class. Both authors concur that social capital plays an important part in the recruitment and selection process of organisations. Hartmann found that the

recruitment processes in organisations have hardly changed over the last 25 years, and that class habitus is the basis of the career of managers. Saunders and Egerton in particular corroborate these findings with their work, in which they identify a strong relationship between parental social class, social capital and the career paths of individuals in Britain. Bungart in his study found evidence of the same social reproduction dynamics at work. A further link and mutual influences between extra-organisational social situation and intro-organisational work has been established by Wickram et al. In their work they identified a link between social integration and marital integration and manager's psychological control. They argue that both social integration and marital integration enhance a manager's psychological control. Looking at the mutual influence of individuals on each other, the work of Harris and Ogbonne, Watson, Ackroyd, Marchington et al., and Soutar et al. are of particular interest. Harris and Ogbonne found a link between the hierarchical position of an individual in the organisation and its (the individuals') perception of organisational culture. This re-inforces Bungart's finding that the position within a field is of importance in determining resonance. Watson argued that thinking shapes the actions of managers. This thinking is informed by sets of beliefs and generalisations that involve a set of pragmatic and moral principles. This again confirms findings by Bungart who states that resonance is influenced by habitus. Habitus is defined as socially constituted belief patterns and preferences. Ackroyd identifies and describes the attraction and common interest between managers of like profession, both inside the organisation and with other managers in other organisations (through professional institutes). In Bungart's language this can be likened to the fields within which the individual is positioned. Fields are defined as common interests variable with time. Professional institutions represent such interests, and within companies individuals often find an informal form of collaboration or a certain degree of social cohesion between individuals of like profession. Lane and Bachmann looked at the role of institutions such as professional associations on inter-firm co-operation and established a link between the level of inter-firm co-operation and the working of the networks found in professional associations. This supports Bungart's finding that formal or informal networks facilitate the exchange between organisations. Marchington

et al. argue that employee attitude is linked to previous experience, and this again supports Bungart's notion of habitus. Soutar et. al. state that their research finds a strong link between the values of top management and the ethical choices made by employees. This seems to support Bungart's notion of the influence of symbolic power. Symbolic power is interpreted as a title, or a certain reputation or standing in an organisation (if recognised and understood by the other individuals). Hence top managers might be seen as role models by their employees, who copy their behaviour in order to achieve greater recognition. All in all, Soutar et.al.'s findings seem to support the notion of social reproduction dynamics as developed in this thesis. Vondracek and Reitzle in particular stress a relationship between time and the person-context. Their research supports Bungart's findings that timing is an important element in the determination of resonance. Finally, Harrison and Carroll in their work looked at organisational culture and which factors influence the change or maintenance of organisational culture. They identified four main variables as important: the entry/exit rate of employees, the growth rate of the organisation, the selectiveness of organisational recruitment, and the intensity of socialisation within the organisation. All these variables can be directly explained through the notion of social resonance, and in particular through the notions of habitus, field and capital.

In summary, chapter 5.3 attempted to compare and contrast the research and findings presented in this thesis to earlier research by other researchers. It further attempted to discuss the extent to which earlier research corroborates or contradicts the findings presented in this thesis. The scope of the discussion of earlier research has been constricted to research that is of direct relevance to the findings in this thesis, as outlined in the first paragraph of this chapter. It has been shown that most of the research that uses the constructs of capital, habitus and field has come from Germany or France. It can be argued that this is undoubtedly the influence of Bourdieu's work on the continental European research field in sociology and philosophy, which also strongly influenced the work of the author of this thesis. Many of the findings presented in this thesis are corroborated by evidence presented and discussed in earlier research. Overall it has been shown that earlier research

has covered some of the areas covered in this thesis, that some of the findings of this research seem to corroborate earlier research, and that other research also corroborates the findings in this research. Hence the findings in this thesis lend weight to other researchers' findings, and at the same time the findings in this thesis are re-inforced through other researchers' work and evidence. The discussion of related literature, in the opinion of this author, has increased the external validity of the theory of social resonance, and in particular the constructs of habitus, field and capital.

5.4 Conclusions about the research problem

The theoretical construct of social resonance has been developed in response to the author's impression that much of organisational theory has run into explanatory problems. Micro- and Macro-level studies have advanced the field of organisational studies for many years yet have recently come under increased criticism for their lack of cohesiveness and explanatory power. New avenues have been explored through the introduction of Meso-level studies most notably here perhaps by Rousseau. These studies while overcoming some of the traditional boundaries have their foundations firmly in both Macro- and Micro-level research and theory. Building a new theory on existing theory has merit. In the context of organisational research these new approaches have nevertheless run into the same problems that traditional theories have encountered before them. Many of the so-called "hard" sciences such as mathematics and physics have encountered very much the same problems that organisational theories have encountered. Solutions to these problems have been identified and the introduction of theories such as those built around chaos theory and fuzzy logic have proven to open up new avenues of thought previously thought closed. Applications of chaos theory and fuzzy logic have found their way into organisational studies and have informed theory. A fundamental problem of all these theories in the authors' opinion is their mechanistic approach to the study of organisations and the individuals within them. Social theory has been the foundation of much of organisational theory and the author believes that social theory should be at the heart of any organisational research since organisations are nothing else than social constructs that can only fully be understood in their social and cultural context. For much of the twentieth century Western European social theory has developed alongside the traditional social theories. Exchanges of opinion have taken place between both Western European and British/American researchers. Some degree of integration has taken place yet much of the social theory in Europe has not yet found its way into the main body of

organisational theory. One notable example of this is Bourdieu's theory of practice. In this theory he develops a rich picture of the social construction of habitus, the capital that agents have to "invest" in fields, and the fields that are the interests of groups of individuals. He also develops a language to describe these phenomena that is very well suited to describe the social. The language Bourdieu has developed has proven very powerful in this thesis to describe social phenomena and explain organisational realities as outcomes of complex social interactions.

In this thesis organisations are understood as social constructions that have concrete boundaries only to the extend that one can identify immediate membership through payroll. Any other delineation of the organisation would inevitably run into the same explanatory problems as traditional organisational theory. Instead the author has described the organisation as a field, a common interest, and the field itself divided into sub-fields with more specific interests (such as marketing, finance, and others). These fields have no concrete boundaries and membership of a field is purely defined by the interest an individual has in the field and the degree to which the field recognises this interest. Fields have both a structure (common interest) defined by the individuals and the positions they take up in those fields and a structuring effect on the position individuals can take up in them. Individuals are the linking element in any organisation between both the internal fields and the external fields. The degree of definition of any organisation can be described as the degree to which individuals integrate themselves in fields outside the organisation and the degree to which such outside fields influence the individuals in the organisation and their interaction with other individuals both inside and outside of the organisation.

The reader should note that the author is aware of the fact that in this interpretation of an organisation the words internal and external and even the word organisation in its current interpretation are nearly meaningless. The author nevertheless uses these words to trigger certain word associations that are useful in the context of this discussion.

Organisational resonance occurs at the level of the individual. Even if only one individual resonates to a stimulus and even if that resonance only occurs at the level of the subconscious (emotions) it still has to be interpreted as organisational resonance. This research has concentrated solely on organisational resonance of individuals and groups of individuals that was observable at a much higher level. A high degree of resonance is necessary for an observer to be able to recognise such resonance from company reports. It is not necessary that the entire group of individuals collectively described as staff has to resonate to a stimulus to be able to observe resonance in the company report. Even individual resonance might be strong enough paired with collective recognition of the position an individual takes up in the organisational field for resonance to be observable through company reports. Resonance is a result of a complex interplay between the various interests internal and external to the organisation, the forms and amounts of capital or symbolic power available and the positional habitus of individuals. Habitus is the result of life-long inculcation through upbringing, schooling, and work experience as well as other personal experiences.

It is at that point that social resonance as theoretical construct is at its strongest. Social resonance links the individual and its historic development through structure (defined as common interest) to organisational outcomes. Social resonance embraces the cultural, the organisational, and the individual and describes organisational outcomes as a complex interplay between these. Yet traditional divisions between the individual and the structure that is the organisation and its environment do not bind it. It provides clarity of language and a degree of simplicity that is suited to the description of organisational phenomena without being simplistic and reductionistic.

Social resonance overcomes the traditional boundaries of theories concentrating on structure as an explanation of organisational phenomena by re-defining structure as a common interest. It also overcomes the traditional boundaries of theories concentrating on the individual for the interpretation of organisational phenomena. Those theories mostly describe the individual as an actor with almost hard-wired response sets acting out roles. Social

resonance introduces instead the concept of the agent as an individual possessing a socially constituted habitus that enables it to adjust its responses and behaviour dynamically rather than mechanistically to the fields (interests) it positions itself in. This adjustment is only limited by the agents' ability to adjust its habitus. The ability to adjust habitus to fields is itself a socially constituted condition. Insofar as that there are a multitude of roles that any individual can fall into as a response to its environment at any moment in time and with any change of the interest and/or individuals around it.

Social resonance encompasses the concepts of temporally and spatially distant events for the explanation of organisational phenomena. It does not require an immediately obvious (to the observer) relationship between events and the subsequent resonance observable. It merely requires the agent to have been exposed to (in whatever form) a stimulus at some moment in time. It does not require conscious recognition at the time or recollection on behalf of the agent that it has been exposed to a stimulus for resonance to occur.

In testing the theoretical construct of social resonance in an empirical setting the author is aware of the limitations of any such attempt. The limitations are outlined in section 5.6. It has nevertheless been possible to establish and demonstrate the explanatory power and value of the theory of social resonance for the explanation and description of organisational phenomena.

5.5 Implications for theory

The author would hope that it has become clear to the reader while reading the literature review of organisational theory, social theory, economic theory and systems theory that the metaphor of social resonance opens up new ways of understanding organisational behaviour both from a macro- and micro-level perspective. Much of the organisational theory is based on either micro- or macro-level social theory with utilitarianism and rational choice theory forming the predominant theoretical framework. This can be explained through the history of social and organisational theory development. Much of

the early work was carried out in the United States and Great Britain. Parsons and other leading American authorities on sociological theory heavily influenced research here. Western European social theory (Germanic/French) did not and still does not feature greatly among the various organisational theories. The reasons for this apparent absence of such theories can be identified in the difference of philosophical traditions, making it difficult to fundamentally understand such theories, down to such issues as translation of documents, which links back into different language traditions, and through into philosophical and cultural differences. The other important point to make here is that the micro/macro division of organisational theory, necessary in the sociological tradition of rational choice theory (simplification, see chapter 4 section on rational choice theory), has led to difficulties in linking micro with macro organisational theory. Social resonance, in this context, offers a great deal to organisational theory. On the one hand, through incorporating the rich Western European and in particular Germanic/French sociological traditions, it opens up a new way of interpreting organisational phenomena along with a new language to describe them. On the other hand, the metaphor overcomes the traditional division between micro and macro level theories without sacrificing the principle of simplification to the level appropriate to describe the complexity found in organisations (see Abell, 1992). The author believes that the metaphor of social resonance enriches organisational theory.

Social resonance as a concept to understand social phenomena in its most extreme interpretation eliminates organisational boundaries as defined and used in much of organisational theory. The differentiation between internal and external environments loses meaning in the context of social resonance. Indeed the question must be asked whether the meanings usually associated with the word organisation still hold up in the light of this theory. In this sense social resonance has profound implications for organisational theory. It completely redefines the meaning of the word organisation and explains organisations as social constructions with arbitrary boundaries at best. Instead organisations are understood as fields with more or less common interest. Around the core interest there are a multitude of interests related to the core interest but not necessarily related to each other.

The theoretical construct of social resonance has further profound implications for micro-theories. Individuals are not regarded as actors acting out roles but as agents with a lifetime of (social) history and a multitude of roles they can enact at any one time and in any given situation. The dynamic nature of habitus incorporated in social resonance overcomes many of the mechanistic theoretical constructs of micro-level organisational theory. As such it challenges many of the traditional theories based on utilitarianism and rational choice principles.

In conclusion it can be said that social resonance has profound implications for the understanding of organisations and the individuals that are associated with these organisations. It opens up new avenues of thought that enrich traditional organisational theory and challenges many of the assumptions held by theorists.

5.6 Implications for policy and practice

Should further research substantiate the evidence for the validity and explanatory power of social resonance for the explanation of organisational phenomena that has been presented in this research study the implications for policy and practice would be profound.

Managers in organisations can use the new language introduced in social resonance to better understand and explain their own involvement with the organisation, the effect of their social background and social history on their thoughts and actions, and the influence from different fields on their thoughts and actions. It is further possible to re-define the organisation as a social construction and to endeavour to better understand the history of that construction and its effects on individuals. Understanding the organisation as a set of interests rather than an artificial hierarchical structure allows the re-definition of the core interest (what makes the organisation) as well as the related interests (what affects the organisation) in a more meaningful way.

This in turn will allow the re-definition of relationships with related organisations and individuals and will lead to a radically different interpretation of the organisation as such and its relationships with its environment. This new interpretation will encompass the social history of the individual interest as well as the common interest in what is known as the organisation and will lead to a greater clarity about the mutual influence of those interests.

A number of applications of the theory of social resonance have been developed by this researcher and applied in practical projects. The illustration of one of these applications might serve to illustrate some of the practical implications of the theory of social resonance.

A major drive in business management at this moment in time is an interest in supply chain management and particularly the establishment of partnership relationships between suppliers and customers. Much theory has been developed that is aimed at facilitating such partnerships. In reality though many companies struggle with the implementation of such management models without being able to express clearly the barriers to implementation. The author developed a research framework that incorporated the fundamental principles of social theory to investigate and explain such difficulties. With the help of the concepts of habitus, field and capital it was possible to identify clearly common and conflicting interests and their locus both in terms of the individuals concerned and the social history of the relationships between the organisations and their environments. With that it was possible to re-define the aims of the partnership initiative and to re-align the organisations' individuals for better overall social fit. As a result of the project the partnership initiative gained new momentum and barriers to closer co-operation were overcome.

In many cases traditional theory translated into management practice leaves managers at a loss for words to describe their involvement with the various interests. Often feelings or emotions are the most a manager has about certain situations. These are interpreted in a rather mechanistic way by contemporary analysis techniques and framed into explanations using a

language that can not fully describe or explain the complete picture. The complexity of social interactions constituting business relationships can not be understood fully using traditional analysis tools based on either macro-level or micro-level theories of the organisation. Social resonance offers a much wider framework of analysis and a more holistic approach to the exploration of organisational phenomena better suited to encompass the complexity encountered in business management and better suited to express this complexity clearly with appropriate language constructs that are easily understood by managers.

Any manager in an organisation should understand the organisation as a complex set of social relationships with at best very loosely defined boundaries between one organisation and other organisations as well as the environment generally (other fields or interests). Without understanding the social history of the individuals involved in the management of the organisation as well as the social history of the relationships between these individuals and their environments (other interests) adequate responses to new developments can only partially be understood in their social context. As such any subsequent action based on this partial understanding of the situation is subject to greater uncertainty over its intended outcome.

The reader might think that a danger of this approach lies in social discrimination. New forms of assessment and personnel selection based on social resonance criteria might lead to the exclusion of individuals of certain backgrounds from being selected for certain positions in the organisation. Although the author sees the relevance of such concerns it is important to look at current practice in organisations. In this research study certain social reproduction processes have been identified that require certain social backgrounds for individuals to be selected for elevated positions. Although the selection criteria varied from culture to culture the fundamental practice of social selection remained. The concept of nepotism (or Vetternwirtschaft in the German language) and other concepts related to the selection of certain individuals for certain positions are manifest in the language we use. As such the theory of social resonance merely serves to make visible what is already

common practice among many societies. This further strengthens the author's argument that the theory of social resonance offers a rich language to describe organisational phenomena in a way that is much better suited to the explanation of such phenomena than traditional language constructs.

5.7 Limitations

One of the clearest limitations of this research as indeed of any other research is that the research construction, analysis, findings and interpretations are a very personal product of the author. The author is of the belief that there can be no such thing as an objective truth outside of a personal reality (subjective truth). As such any generalisations of any research are always open to debate. Any theory is valid as long as it helps those that it is aimed to help and loses validity when it proves unhelpful. The reader might like to refer to chapter 3 section 3.1 for a detailed discussion of the justification of the methodology.

The internal validity of this research is very high. The theoretical construct of social resonance has proven to be very helpful in the explanation of organisational phenomena and the tools used in this research have proven to withstand rigorous statistical analysis. The external validity of the research, that is the degree to which the findings of the research can be generalised is lower. A sample of two hundred company reports chosen by the amount of capital employed is not representative of the total population of report-generating enterprises in the countries included in this research. Assuming a normal distribution of variables across the total population the sample has shown to have a high degree of similarity with the total population (Chi^2 analysis) distribution of variables. Nevertheless total model fit can not be assumed and the findings from the company report analysis are limited to this extend. The questionnaire respondent sets from both the UK and Germany are not representative of the total population of chief executives. Although a Chi^2 analysis has shown that the results are representative of a normally distributed total population there is no evidence to suggest that the total

population is indeed normally distributed. The findings from the questionnaire study are limited to this extend.

It has already been mentioned before in chapter 3 section 3.5, that by choosing a multi-method mix for the research the author hoped to minimise the disadvantageous effects of either approach while taking advantage of the creative potential of qualitative and inductive techniques and the scientific rigour of quantitative deductive techniques. Any of the methods chosen for this research has limitations and those limitations necessarily limit the scope of internal and external validity of the research. The reader might like to refer to the section mentioned above for a detailed discussion of the limitations of this research that arise out of the choice of research methods. Briefly they are to do with filtering techniques for the abstract analysis, coding techniques for the company report analysis and various forms of potential bias for the questionnaire study (self-selection bias, desirable answers bias, and others).

There have been a number of key assumptions that will inevitably limit this research and the degree of generalisation possible from it. A detailed discussion of these can be found in chapter 1 section 1.8. They are assumptions about the status of company reports as well as about the authorship or editorial control of information in company reports. Further assumptions have been made about the honesty of respondents partaking in the questionnaire study.

This research is limited to the extend that the literature review is by no means exhaustive. The reader is aware by now that the theory of social resonance covers a wide range of topics and touches on organisational theory, social theory, economic theory and systems theory to name but a few. A detailed discussion of the implications of the theory of social resonance for every theory written in those areas would go beyond the scope of this research by far. By excluding specific theories from a detailed discussion the author has deliberately limited the scope of the literature review of this thesis.

Finally one very important limitation for this research has to be discussed. In choosing the research framework and variables to be included in the analysis the author has deliberately decided to exclude variables that would measure the effect of extraneous variables on the research results. This is an important limitation. It means that any finding is limited to the extend that the interpretation is likely (has a high probability) but is not necessarily the only interpretation. The variables recorded are not necessarily the only variables that influence the dependent variables in this research study. The potential influence of a number of extraneous variables has been discussed but not quantified and as such not statistically tested. The most noteworthy extraneous variables here are the strength of the employee field, the strength of the environment field, the strength of the shareholder/board of director field, and the strength of the charity/society field. Although the potential effects have been discussed in the research, a clear direct statistical proof of the effect has not been presented. Indirect evidence of the strength and direction of the fields derived from the data analysis of the Likert-scale items and the capital investment matrix has been discussed. The size of this research project and the scope of a PhD thesis mean that decisions have to be made about the level of analysis and the scope of the research. The author, in constructing the research framework, was fully aware of the extraneous variables. There is to the authors' knowledge no quantitative research of any weight and statistical significance that would have been useful to be included as a controlling variable for any of the fields. The qualitative social research has been included in the discussion. As such it would have been necessary to construct separate research frameworks for each and every field in the study to gather information about the strength and direction of the influence of the fields. Each such framework would have been of the scope of a separate PhD project. It was felt that such an attempt would have gone far beyond the scope of this research and was subsequently not attempted. This has implications for further research that the reader can find in the next section.

5.8 Implications for further research

As mentioned in the previous section this research has limitations that do not allow wide generalisations at this moment in time. The research framework has proven to be helpful and so it is hoped that further research will improve on the shortcomings of this research study.

Probably the most important implication for further research stems from the fact that causal relationships have been established that are necessary for the substantiation of social resonance but are not sufficient. Further research should concentrate firstly on filling those gaps in this present study. The most important task is the establishment of the influence of the fields on the individual. For this it is necessary to establish whether there is an influence of the fields, and define the strength and direction of such a potential influence. This will only be possible through an in-depth study into each field. Such in-depth research could take the form of extensive literature reviews establishing the degree to which the fields and their influence is described, but will more likely take the form of extensive questionnaire studies. Since the membership of the fields is defined solely by their common interest it would be necessary to define precisely such a common interest and identify suitable sample groups based on such interest. The size of the sample would have to be in line with the size of the fields. In some cases this would potentially be a major study which in itself could be sufficient in scope for a PhD research project. The reader is reminded of the potential size of the environmental (ecological) field to be able to visualise the scope of such a potential research. Once the interest is defined in terms of its influence on the individual and the strength and direction of such an influence is determined the next research step would be to correlate the findings with the findings of this and any subsequent study concentrating on the individual. The results of such a further research study would yield insights into the structure and structuring effects of fields and the positional habitus of individuals.

A further implication for research resulting from this study is the result of the sample sizes for the company report and the questionnaire studies.

Subsequent research should be aimed at enlarging the sample size to increase the external validity of the theory of social resonance or to find evidence to the contrary. Sampling company reports and chief executives from other than the countries in this study could further develop the study of the influence of cultural differences. It would also be of value to increase the sample size for company reports beyond the current size. The same is true for the questionnaire survey of chief executives. The fact that eighteen useable answers from chief executives of major multi-national companies such as Mercedes Benz, Siemens, Thyssen, Sainsbury, Shell, British Petroleum and others were received indicates that with extensive follow-up exercises this sample size could perhaps be increased. It must be said though that the author had little success with such follow-up exercises since the target group is extremely difficult to motivate for the participation in research studies. An increased number of responses would potentially yield further insights into the relationships between habitus and fields, and would further improve the understanding of the social constitution of habitus.

A further implication for research that developed out of the current research study is the need for refinement of the research methods and tools used in the study. The coding of instances of references to the fields developed from the company reports would have to be improved in line with the increased sample size. A flexible framework such as used by the author for the coding and counting of references would be required. It would also be necessary to extend the number of researchers simultaneously coding the data to reduce further the personal bias that is inherent in such coding exercises. Refinement of the research tools used in the questionnaire study would also be required. The pre-testing of the questionnaires revealed certain weaknesses in the formulation and construction of the Likert-Scale items used as a means to elicit information relating to the upbringing of the respondents. These weaknesses have subsequently been removed and the formulation of the Likert-Scale items improved but the evaluation of the questionnaire data revealed that there is room for further improvement of these scales. Thought should be given to the number of statements and the grouping of like statements in any further research study. The capital investment matrix must

also be refined further to improve the results obtainable from the matrix. In particular further research should concentrate on developing the descriptions of the forms of capital and the description of the fields included in the matrix. The capital investment matrix has proven a powerful tool for the elicitation of attitudes relating to and interest shown in the fields. Further research should extend the number of fields in the study or look at the interest of individuals in the study in different fields that have been omitted from this study for practical reasons.

Apart from increasing the sample size of the study and the refinement of the research tools and framework further research should also look at applications of the tools developed in this research for other settings in organisations. The author has already used some of the tools developed in this research and applied them to different situations in organisations to explore the value of the theory for other than the purposes in this study. The reader might like to refer to the list of articles at the beginning of this thesis that show the extend to which the social resonance framework has already been applied to other than the current research settings.

Finally further research should aim at substantiating or discrediting the authors' theory. New research frameworks based on the original theoretical framework should be developed and further research tools need to be developed to extend the range of applications of this theory of social resonance.

6 References

Abell, P. (1996), "Sociological Theory and Rational Choice Theory", In Bryan S. Turner (Ed) The Blackwell Companion to Social Theory, Oxford, Blackwell

Abell, P. (1991), "Rational Choice Theory", Aldershot, Elgar

Abell, P. (1992), "Is rational choice theory a rational choice of theory?", In Coleman and Fararo (Ed), Rational Choice Theory: Advocacy and Critique, Newbury Park, Sage, 1992

Adam, B. (1990), "Time and Social Theory", Cambridge, Polity Press

Alchian, A.A. and Demsetz, H. (1972), "Production, information cause, and economic organisation", American Economic Review, vol. 62, pp. 777-795

Arden, M. (1988), "The pattern which connects", Free Associations, 1988, 11, pp. 75-85 (hardcopy not availabe), UK

Argyris, C. (1964), "Integrating the Individual and the Organisation", Wiley, New York

Ashby, R. (1964), "An Introduction to Cybernetics", Methuen, London

Astley, W.G. (1984), "Toward an appreciation of collective strategy", Academy of Management Review, Vol. 9, No. 3

Aumann, R. J. (1987), "Correlated equilibria as an expression of bayesian rationality", Econo-metrica 55, 1–18.

Austin, J.L. (1962, 1974), "How to do things with words", Oxford University Press, Oxford

Axelrod, R. (1984), "The Evolution of Cooperation", New York, Basic Books

Banerjee, A., and Weibull, J. W. (1991), "Evolutionary selection and rational behavior", mimeo.

Barley, S.R. (1990), "The alignment of technology and structure through roles and networks", Administrative Science Quarterly, 35, pp.61-103

Barley, S.R. and Knight, D.B., "Toward a cultural theory of stress complaints", Research into Organisational Behavior, 14, pp. 1-48

Beer, S. (1979), "The Heart of Enterprise", Wiley, Chichester

Beer, S. (1981), "Brain of the Firm", 2nd edition, Wiley, Chichester

Beer, S. (1985), "Diagnosing the System for Organisations", Wiley, Chichester

Bergin, J., and Lipman, B. L. (1994), "Evolution with state-dependent mutations", mimeo.

Bergson, H. (1910), "Time and Free Will", London, Swan Sonnenschein

Binmore, K. (1987), "Modeling rational players I", Econ. Philos. 3, 179–214.

Binmore, K. (1988), "Modeling rational players II", Econ. Philos. 4, 9–55.

Binmore, K., AND Samuelson, L. (1992), "Evolutionary stability in repeated games played by finite automata", J. Econ. Theory 57, 278–305.

Bleicher, J. (1990), 'struggling with Kultur", Theory, Culture and Society, vol 7, issue 1, Feb, pp. 97-106

Blumer, H. (1967), 'symbolic Interactionism", Prentice Hall, Englewood Cliffs, NJ

Boudon, R. (1989), 'subjective rationality and the expalantion of social behaviour", Rationality and Society, 91, 1309-35

Bourdieu, P. and Passeron, J.C. (1970), "La Reproduction", Editions de Minuit, Paris

Bourdieu, P. (1971), "Legitimation and structured interests in Weber's Sociology of Religions", in Scott Lash and Sam Whimster, eds, "Max Weber: Rationality and Modernity", London, Allen & Unwin, 1988

Bourdieu, P. (1977), "Outline of a theory of practice", Cambridge, Cambridge University Press

Bourdieu, P. and Passeron, J.C. (1977), "Reproduction in education, society and culture - Theory, culture and society", Sage Publications Ltd., London

Bourdieu, P. and Saint Martin, M. (1978), "Le Patronat", Actes de la recherche en sciences sociales, vol 20-21, Mar-Apr, pp. 3-82

Bourdieu, P. (1984), "Distinction: A Social Critique of the Judgement of Taste", Harvard University Press, Cambridge, Mass., first published in French as La distinction: critique social de jugement in 1979

Bourdieu, P. (1986), "The Forms of Capital", in Handbook of Theory and Research for the Sociology of Education, ed. J.G. Richardson (New York, 1986), pp. 241-58

Bourdieu, P. (1990), "Time perspectives in the Kabyle", In J. Hassard (ed.) The Sociology of Time, London, Macmillan

Bourdieu, P. (1990), "In Other Words: Essays towards a reflexive sociology", (trans. Matthew Adamson), Cambridge, Polity Press, Stanford, Stanford University Press, 1990

Bourdieu, P. (1990), " The Logic of Practice", Cambridge, Polity Press, Stanford, Stanford University Press, originally published in French as Le sens pratique in 1980

Bourdieu, P. (1991), "Language and Symbolic Power", Polity Press, Cambridge, Blackwell Publishers, Oxford

Bourdieu, P. (1993), "The Field of Cultural Production", Cambridge, Polity Press, Oxford, Blackwell Publishers

Burell, G. and Morgan, G. (1979), 'sociological Paradigms and Organisational Analysis", Heinemann, London

Burger, T. (1976), "Max Weber's Theory of Concept Formation: History, Laws, and Ideal Types", Durham, NC, Duke University Press

Caille, A. (1987), "Valeur de biens et valeur des personnes (champs, marches, et legitimite)", Bulletin du M.A.U.S.S., vol 24, Dec, pp. 129-144

Camic, C. (1986), "The matter of habit", American Journal of Sociology, 91, 1039-87

Campbell, D.T. and Fiske, D.W. (1959), "Convergent and discriminant validation by multitrait - multimethod mix", Psychological Bulletin, Volume 56, pp. 81-85

Capelli, P. and Sherer, P.D. (1991), "The missing role of context in OB: the need for a meso-level approach", Research into Organisational Behaviour, 13, pp. 55-110

Carmichael,H.L., and MacLeod, W. B. (1994), "Gift giving and the evolution of cooperation", mimeo.

Checkland, P. (1981), "Systems Thinking, Systems Practice", Wiley, Chichester

Chomsky, N. (1965), "Aspects of the theory of Syntax", MIT Press, Cambridge, Mass.

Coleman, J. S. (1986), "Social Theory and social research and a theory of action", American Journal of Sociology, 91, 17-96

Coleman, J.S. (1990), "Foundations of Social Theory", Cambridge, Mass., Harvard University Press

Coleman, J. S. and Fararo, T. (1992), "Rational Choice Theory: Advocacy and Critique", Newbury Park, Sage

Cohen, I. J. (1996), "Theories of Action and Praxis", In Bryan S. Turner (Ed) The Blackwell companion to Social theory, Oxford, Blackwell, 111-139

Crespi, F. (1989), "Social Action and Power", London, Basil Blackwell

Cummings, L.L (1981), "Organisational behavior in the 1980s", Decision Science, 12, pp. 365-377

Dawe, A. (1978),"Theories of social action", In T. Bottomore and R. Nisbet (eds) A History of Sociological Analysis, New York, Basic Books

Dekel, E., and Scotchmer, S. (1992), "On the evolution of optimizing behavior", J. Econ. Theory 57, 392–406.

Denzin, N.K. (1970), "The research act: A theoretical introduction to sociological methods", Chicago, Aldine

Descartes, R. (1637), "Discourse on Method" Penguin Classics, Baltimore.

Durkheim, E. (1912), "The Elementary Forms of the Religious Life", London, Geogre Allen & Unwin

Elias, N. (1939), "The Civilizing Process. Vol. I: The History of Manners. Vol. II: State Formation and Civilization", Trans. E. Jephcott, New York, Pantheon

Ellison, G. (1993), "Learning, local interaction, and coordination", Econometrica 61, 1047–1071.

Elster, J. (1989), "The Cement of Society: A Study of Social Order", Cambridge Univ. Press, Cambridge.

Elster, J. (1989a), "Nuts and Bolts for the Social Sciences", Cambridge, Cambridge University Press

Espejo, R. (1987), "From Machines to People and Organisations", in New Directions in Management Science (Jackson, M. and Keys, P eds.), Gower, UK

Espejo, R. (1989), "Method to Study Organisations", in The Viable System Model (Espejo, R and Harnden, R. eds.), Wiley, Chichester

Espejo, R. (1990), "Complexity and Change: Reflections upon the Cybernetic Intervention in Chile 1970-1973", Systems Practice, 3, pp. 303-313

Fararo, T.J. (1973), "Mathematical Sociology", New York, Wiley

Fay, B. (1975), "Social Theory and Political Practice", Allen & Unwin, London

Friedman, M. (1953), "Methodology of positive economics", in 'Essays in Positive Economics', Univ. of Chicago Press, Chicago.

Foster, D., and Young, H. P. (1990), "Stochastic evolutionary game dynamics", Theoret. Population Biol. 38, 219–232.

Fudenberg, D., and Harris, C. (1992), "Evolutionary dynamics with aggregate shocks", J. Econ. Theory 57, 420–441.

Fudenberg, D., and Maskin, E. (1990), "Evolution and cooperation in noisy repeated games", Amer. Econ. Rev. 80, 274–279.

Gambetta, D. (1993), "The Sicilian Mafia", Cambridge, Mass., Harvard University Press

Garfinkel, H. (1963), "A conception of, and experiments with, "trust" as a condition of stable concerted actions", In O.J. Harvey (Ed) Motivation and Social Interaction, New York, Ronald Press

Garfinkel, H. (1967), "Studies in Ethnomethodology", Englewood Cliffs, NJ, Prentice Hall

Garfinkel, H. (1988), "Evidence for locally produced, naturally accountable phenomena of order*, logic, reason, meaning, method, etc. In and as of the essential quiddity of immortal ordinary society (I of IV): an announcement of studies", Sociological Theory, 6, 103-9

Gartrell, D.C. (1987), "Network approaches to social evaluation", In W.R. Scott and J.F. Short Jr. (eds), Annual Review of Sociology, 13, 49-66

Giddens, A. (1977), "Studies in Social and Political Theory", Hutchinson, London

Giddens, A. (1979), "The prospects for social theory today", In Central Problems in Social Theory, Anthony Giddens, London, Macmillan, 234-59

Giddens, A. (1979), "Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis", Berkeley, University of California Press

Giddens, A. (1981), "A Contemporary Critique of Historical Materialism", London, Macmillan

Giddens, A. (1984), "The Constitution of Society: Outline of the Theory of Structuration", Cambridge, Cambridge University Press

Giddens, A. (1991), "Modernity and Self-Identity: Self and Sociecty in the Late Modern Age", Cambridge, Polity Press

Gilboa, I., and Matsui, A. (1991), "Social stability and equilibrium", Econometrica 59, 859–867.

Gilboa, I., and Matsui, A. (1992), "A model of random matching", J. Math. Econ. 21, 185–197.

Gill, J. and Johnson, P. (1991), "Research Methods for Managers", Paul Chapman Publishing Ltd., Liverpool

Glaser, B.G. and Strauss, A.C. (1967), "The discovery of Grounded Theory", Chicago, Aldine

Habermas, J. (1984), "The theory of communicative action, vol 1: Reason and the Rationalization of Society", Polity Press, Cambridge

Hage, G. (1994), "Pierre Bourdieu in the Nineties: Between the Church and the Atelier", Theory and Society, vol 23, issue 3, June, pp. 419-440

Hamilton, W. D. (1964), "The genetical evolution of social behavior", J. Theoret. Biol. 7, 1–52.

Hammerstein, P., and Selten, R. (1993), "Game theory and evolutionary biology", mimeo.

Handler, T. (1994), "Regulating the European Environment", Wiley Chancery Law, Chancery Law Publishing Ltd., London

Hamden, R. (1989), "Technology for Enabling", PhD thesis, Aston University, Birmingham

Harvey, D (1989), "The Condition of Postmodernity", Oxford, Blackwell

Hechter, M. (1987), "Principles of Group Solidarity", Berkeley, University of California Press

Heidegger, M (1927), "Being and Time", Oxford, Blackwell

Heran, F. (1987), "Revue francaise de Sociologie", vol 28, issue 3, July-Sept, pp. 385-416

Heritage, J. (1984), "Garfinkel and Ethnomethodology", Oxford, Basil Blackwell

Hertzberg, F.B. (1959), "The Motivation to Work", Wiley, New York

Hilbert, R.A. (1992), "The Classical Roots of Ethnomethodology: Durkheim, Weber, and Garfinkel", Chapel Hill, University of North Carolina Press

Hochschild, A. R. (1979), "Emotion work, feeling rules and social structure", American Journal of Sociology, 85, 551-75

Holton, R. J. (1985), "The Transition from Feudalism to Capitalism", London, Macmillan

Holton, R. J. and Turner, B.S. (1986), "Talcott Parsons on Economy and Society", London, Routledge

Holton R. J. (1996), "Classical Social Theory", In The Blackwell Companion to Social Theory, Brian S. Turner (ed.), Oxford, Blackwell, 1996

Homans, G. C. (1958), "Social behavior as exchange", American journal of Sociology, 63, 597-606

House, R.J. and Rousseau, D.M. (1991), "If it ain"t Meso, it ain"t OB", Position paper Meso Organisation Studies Team, Wharton School of Business, University of Pennsylvania

House, R.J. and Rousseau, D.M. (1995), "The third paradigm: Meso organisational research comes of age", in L.L. Cummings and B.M. Shaw (eds.) "Research in Organisational Behaviour", Vol. 17

Huber, J (1989), "Social Movements", Technological-Forecasting-and-Social-Change, vol 35, issue 4, July, pp. 365-374

Hume, D. (1739), "A Treatise of Human Nature", Penguin Classics, Baltimore, 1984.

Isen, A.M. and Baron, R.A. (1991), "Positive affect as a factor in organizational behavior" Research into Organisational Behavior, 13, pp. 1-53

Jaques, E. (1990), "In Praise of Hierachy" Harvard Business Review, January-February, pp. 127-133

Jenkins, R. (1994), "Language, Culture and Sociology: Pierre Bourdieu in Context", History of the Human Sciences, vol 7, issue 4, Nov, pp. 95-104

Jick, T.J. (1979a), "Mixing qualitative and quantitative methods: triangualtion in action", Administrative Science Quarterly, Volume 24, Issue December, pp. 601-611

Judd, K. L. (1985), "The law of large numbers with a continuum of IID sequences of random variables", J. Econ. Theory 35, 19–25.

Kahlberg, S. (1981), "Max Weber's types of rationality: cornerstones for the analysis of rationalization processes in history", American Journal of Sociology, 85, 1145-79

Kandori, M., Mailath,G.J., and Rob, R. (1993), "Learning, mutation, and long run equilibria in games", Econometrica 61, 29–56.

Kandori, M., and Rob, R. (1995), "Evolution of equilibria in the long run: A general theory and applications", J. Econ. Theory 65, 383–414.

Kaneko, M. (1987), "The conventionally stable sets in noncooperative games with limited observations I: Definitions and introductory arguments", Math. Social Sci. 13, 93–128.

Keat, R. and Urry, J. (1975), "Social theory as Science", Routledge, London

Kellner, D. (1992), "Popular culture and the construction of postmodern identities", In S. Lash and J. Friedman (eds) Modernity and Identiy, Oxford, Blackwell

Kim, D.H. (1993), "The link between individual and organizational learning", Sloan Management Review, Fall

Kimura, M. (1968), "Evolutionary rate at the molecular level", Nature 217, 624–626.

Kimura, M. (1979), "The neutral theory of molecular evolution", Science.

Kreps, D. M. (1990), "Game Theory and Economic Modeling", Oxford, Clarendon Press

Laberge, S. (1995), "Toward an Integration of Gender into Bourdieu's Concept of Cultural Capital", Sociology of Sport Journal, vol 12, issue 2, June, pp. 132-146

Lagunoff, R. D., and Matsui, A. (1995), "Evolution in mechanisms for public projects", Econ. Theory 6, 195–223.

Lash, S. and Urry, J. (1994), "Economies of Signs and Space", London, Sage

Law, J. and Lodge, P. (1984), 'science for Social Scientists", Macmillan, London

Lee, T.W., Ashford, S.J., Walsh, J.P, Mowday, R.T. (1992), "Commitment propensity, organizational commitment, and voluntary turnover: a longitudinal study of organisational entry processes", Journal of Management, 18, pp. 15-32

Levine, D. (1981), "Rationality and freedom: Weber and beyond", Sociological Inquiry, 51, 5-25

Lindenberg, S. (1992), "The method of decreasing abstraction", In Coleman and Fararo (1992)

Luce, D. and Raiffa, H. (1990), In Moser (1990)

Luhmann, N. (1988), "Soziale Systeme", Heinemann Verlag, Frankfurt

MacFarlane, A. (1978), "The Origins of English Individualism", Oxford, Blackwell

Mailath, G. J. (1992), "Introduction: Symposium on evolutionary game theory", J. Econ. Theory 57, 259–277.

Mailath, G. J. (1993), "Perpetual randomness in evolutionary economics", Econ. Lett. 42, 291–299.

Mailath, G. J. (1995), "Recent development in evolutionary game theory", mimeo.

March, J. G., and Simon, H. A. (1958), "Organizations", Wiley, New York.

Margolis, H. (1982), "Selfishness and Altruism", Chicago, University of Chicago Press

Marsden, P.V. and Friedkin, N.E. (1993), "Network studies of social influence", In J. Galaskiewic and S. Wasserman (Eds), Advances in Social and Behavioural Science from Social Methods and Research, Beverly Hills, Sage

Marx, K. and Engels, F. 1848 (1888), "The Manifesto of the Communist Party", Moscow, Foreign Languages

Matsui, A. (1991), "Cheap-talk and cooperation in a society", J. Econ. Theory 54, 245–258.

Matsui, A. (1992), "Best response dynamics and socially stable strategies", J. Econ. Theory 57, 343–362.

Matsui, A. (1996), "On Cultural Evolution: Social Norms, Rational Behavior, and Evolutionary Game Theory", Journal of the Japanese and International Economies, 10, 262-294

Matsui , A., and Okuno-Fujiwara, M. (1994), "Evolution and interaction of societies", mimeo.

Matsui, A., and Rob, R. (1994), "Evolution with forward looking players", mimeo.

Maturana, H. (1987), "Everything is Said by an Observer", in Gaya: A way of knowing (Thomson, W.I. ed), Lindisfarne Press, California

Maturana, H. (1988), "Reality: The search for objectivity or the quest for a compelling argument", Irish Journal of Psychology, 9 , pp. 25-82

Maturana, H and Varela, F. (1980), "Autopoesis and Cognition: the Realisation of the Living", Reidel, Boston

Maynard Smith, J. (1976a), "Group selection", Quart. Rev. Biology. 51, 277–283.

Maynard Smith, J. (1976b), "What determines the rate of evolution?", Amer. Nat. 110, 331–338.

Maynard Smith, J., and Price, G. R. (1973), "The logic of animal conflict", Nature 246, 15–18.

McCall, L. (1992), "Does Gender Fit? Bourdieu, Feminism, and Conceptions of Social Order", Theory and Society, vol 21, issue 6, Dec, pp. 837-867

McCaughan, E. (1993), "Race, Ethnicity, nation, and Class with Theories of Structure and Agency", Social Justice, vol 20, issue 1-2 (51-52), Spring-Summer, pp. 82-103

McGregor, D. (1960), "The Human Side of Enterprise", McGraw Hill, New York

Mead, G.H. 1932 (1959), "The Philosophy of the Present", La Salle, Ill.: Open Court

Miller, M. (1989), "Die kulturelle Dressur des Leviathans und Ihre epistemologischen Reflexe", Soziologische Revue, vol 12, issue 1, Jan, pp. 19-24

Morgan, G. (1993), "Imaginization: The Art of Creative Management", Sage, Newbury Park, CA

Moser, P. K. (Ed) 1990, "Rationality in Action", Cambridge, Cambridge University Press

Mowday, R. T. and Sutton, R. I. (1993), "Organisational Behavior: linking Individuals and Groups to Organisational Contexts", Annual Review of Psychology, 44, 195-229

Muller, H.P. (1986), "Kultur, Geschmack ind Distinktion. Grundzuge der Kultursoziologie Pierre Bourdieus", Kolner Zeitschrift fur Soziologie und Sozialpsychologie, supplement 27, pp. 162-190

Mumighan, J.K and Conlon, D.E. (1991), "The dynamics of intensive work groups: a study of British string quartets", Administrative Science Quarterly, 36, pp. 165-186

Nash, J. F. (1951), "Non-cooperative games", Ann. of Math. 54, 286–295.

Nelson, D.L and Sutton, C. (1990), "Chronic work stress and and coping: a longitudinal study and suggested new directions", Academic Management Journal, 33, pp. 859-869

Nisbet, R. (1967), "The Sociological Tradition", London, Heinemann

Olson, M. (1965), "The Logic of Collective Action", Cambridge, Mass., Harvard University Press

Palmer, C.T (1990), "Telling the truth (up to a point): radio communication among Maine lobstermen", Human Organisation, 49, pp. 157-163

Palmer, C.T. (1991), "Organizing the coast: information and misinformation during the Maine lebstermen's tie-up of 1989", Human Organisation, 49, pp. 194-202

Parsons, T. (1937), "The Structure of Social Action", New York, McGraw Hill

Pfeffer, J. and Salancik, G.R. (1978), "The external control of organization: A resource dependence perspective", Harper & Row, New York

Pfeffer, J. (1991), "Organization theory and structural perspectives on management", Journal of Management, 17, pp. 789-803

Popper, K. (1967), "Conjectures and Refutations", Routledge, London

Rafaeli, A and Sutton, I.R. (1991), "Emotional contrast strategies as means of social influence: lessons from bill collectors and interrogators", Academic Management Journal, 34, pp. 749-775

Rentsch, J.R. (1990), "Climate and culture: interaction and qualitative differences in organisational meanings", Journal of Applied Psychology, 75, pp. 668-681

Rice, R.E. and Aydin, C. (1991), "Attitudes toward new organizational technology: network proximity as a mechanism for social information processing", Aministrative Science Quartely, 36, pp. 219-244

Robson, A. (1990), "Efficiency in evolutionary games: Darwin, Nash and the secret handshake", J. Theoret. Biol. 144, 379–396.

Rosengren, K.E. (1995), "Substantive Theories and Formal Models - Bourdieu Confronted", European Journal of Communication, vol 10, issue 1, Mar, pp. 7-39

Roy, D (1990), "Time and job satisfaction", In J. Hassard (ed.) The Sociology of Time, London, Macmillan

Saussure, de F. (1974), "Course in general linguistics", Collins, Glasgow

Sayer, A. (1984), "Method in Social Science", Hutchinson, London

Selten, R. (1980), "A note on evolutionarily stable strategies in asymmetric animal conflict", J. Theoret. Biol. 84, 93–101.

Sennett, R. (1990), "The Conscience of the Eye", London, Faber and Faber

Shirley, D. (1986), "A Critical Review and Appropriation of Pierre Bourdieu's Analysis of Social and Cultural Reproduction", Journal of Education, vol 168, issue 2, Spring, pp. 96-112

Silverman, D. (1993), "Interpreting Qualitative Data", p. 16, Sage Publications, London

Simon, H.A. (1976), "Administrative Behaviour", Free Press, New York

Simon, H. (1982), "Models of Bounded Rationality", Cambridge, Mass., Harvard University Press

Smith, K. And Berg, D. (1987), "Paradoxes of Group Life", Jossey-Bass, San Francisco

Sorokin, P. and Merton, R. (1937), "Social Time: a methodological and functional analysis", American Journal of Sociology, 67, 169-76

Stefanov, N. (1977), "The multiplier approach - Its essence and requirements", Problems of the science of science, 1977-1979, 6, pp. 129-133

Stevenson, W. B. (1990), "Formal structure and networks of interaction within organisations", Social Science Research, 19, 113-131

Sutton, R.I. (1991), "Maintaining norms about emotional expression: the case of bill collectors", Administrative Science Quarterly, 36, pp. 245-268

Swinkles, J. M. (1992), "Evolutionary stability with equilibrium entrants", J. Econ. Theory 57, 306–332.

Thomas, B. (1985), "On evolutionarily stable sets", J. Math. Biol. 22, 105–115.

Thomson, E. P. (1967), "Time, work-discipline, and industrial capitalism", Past and Present, 38, 56-97

Tjosvold, D. (1986), "The Dynamics of Interdependence in Organizations", Human Relations, Volume 39, pp. 517-40

Trow, M. (1957), "A comment on participant observation and interviewing: a comparison", Human Organisation, Volume 16, No. 3, pp. 33-35

Ullmann-Margalit, E. (Ed) 1977, "The Emergence of Norms", Oxford, Chroewla Press

Urry, J. (1996), "Sociology of Time and Space", In The Blackwell Companion to Social Theory, Tumer Bryan S. (ed.), Blackwell Publishers, 1996

Van Damme, E. (1987). "Stability and Perfection of Nash Equilibria", Springer-Verlag, Berlin.

Van Damme, E. (1994), "Evolutionary game theory", mimeo.

Van Huyck, J., Battalio, R., and Beil, R. (1990), "Tacit coordination games, strategic uncertainty, and coordination failure", Amer. Econ. Rev. 80, 234–248.

Van Huyck, J., Battalio, R., and Beil, R. (1991), "Strategic uncertainty, equilibrium selection principles, and coordination failures in average opinion games", Quart. J. Econ. 106, 885–910.

Van Huyck, J., Battalio, R., and Beil, R. (1993), "Asset markets as an equilibrium selection mechanism: Coordination failure, game form auctions, and tacit communication", Games Econ. Behav. 5, 485–504.

Vervaeck, B. (1989), "Lines, Circles and Spirals: A Critique of Pierre Bourdieu", Antropologische Verkenningen, vol 8, issue 2, Summer, pp. 8-17

Vester, H.G. (1986), "Transformation von Sinn: Ansatze zu einem Mehrebenenmodell", Zeitschrift fur Soziologie, vol 15, issue 2, Apr, pp. 95-106

Volosinov, V.N (1986), "Marxism and the Philosophy of Language", Harvard University Press, Cambridge, Mass.

Von Foester, H. (1979), "Cybernetics of Cybernetics", in Communications and Control in Society, (Krippendorf, K. ed), Gordon and Breach, New York

Vrieze, O. J., and Tijs, S. H. (1982), "Fictitious play applied to sequences of games and discounted stochastic games", Int. J. Game Theory 11, 71–85.

Weber, M. (1921), "Economy and Society: An Outline of Interpretive Sociology", G. Roth and C. Wittich (eds), New York, Bedminster

Weber, M. 1904-5 (1930), "The Protestant Ethic and the Spririt of Capitalism", London, Unwin

Weick, K.E. (1990), "The vulnerable system: An analysis of the Tenerife air disaster", Journal of Management, vol. 16, pp. 571-593

Williamson, O. (1979), "Transaction cost economics: The governance of contractual relations", Journal of Law and Economics, vol 3, pp. 233-261

Young, H. P. (1993), "The evolution of conventions", Econometrica 61, 57–84.

Zalesny, M.D. and Ford, K.J. (1990), "Extending the social information processing attitudes, behaviors, and perceptions", Organizational Behavior and Human Decision Processes, 47, 205-246

Zukin, S. (1992), "Landscapes of Power", Berkeley: University of California Press