

The German Corporation:
An Open or Closed Society?

An Application of Popperian Ideas to Organisational Analysis

Thesis submitted to the University of London for the degree of
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Thomas Friedrich Armbrüster

Department of Sociology

The London School of Economics and Political Science

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Abstract

In this thesis, Karl Popper's paradigm of openness and closure is employed in order to investigate organisational culture in German corporations with respect to three issues: (1) whether organisational culture tends to correspond to or contradict the pattern of peer-group, or concertive, control that has recently been identified in organisations; (2) to what extent organisational cultures in Germany match German national culture; and (3) how German corporations react to the dilemma of being constrained by the extremes of openness and closure. In doing so, the position of German corporations are identified in relation to the concepts of openness and closure.

With regard to the first issue, the current discourse on concertive control in critical organisation studies is outlined, and fourteen German manufacturing companies are investigated employing a questionnaire. Two broad clusters of organisational cultures are identified and it is concluded that one cluster matches the pattern of concertive control, whereas the other does not. With regard to the second issue, German national culture is outlined on the basis of secondary sources. Drawing on the organisational cultures identified, it turns out that they considerably correspond to national culture. With respect to the third issue, two kinds of company-internal differentiation, interfunctional and interdimensional, are investigated as possible mechanisms of reacting to the dilemma. Interdimensional differentiation is ascertained to be the preferred strategy. The question of whether German corporations tend towards openness or closure is answered by referring to the two identified clusters of organisational culture. One cluster has considerable traits of closure, whereas the other is more open.

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Thomas Armbrüster

1 Introduction

Organisational analysis has undergone major changes within the last two decades. In the 1970s, functionalism was the predominant paradigm of organisational theory; the critique of organisational conditions, and capitalist modes of production in general, was left to the academic field of industrial sociology. But the field of organisational theory and analysis has notably broadened towards sociological approaches, and has now assumed a considerably different shape. Functionalist organisational theory has not ceased to exist; on the contrary, since the 1980s it has incorporated the notion of organisational culture into its agenda, and in the United States it is still the dominant paradigm of organisational analysis. But critical and hermeneutic approaches have strongly influenced the field of organisation studies. With the introduction of organisational culture and symbolism in the discourses in the early 1980s, hermeneutic approaches have become much stronger and have developed into an almost separate field. And critical approaches are no longer purely a domain of industrial sociology, but play an important role in the formerly management-oriented field.

Hence, in contrast to the 1970s, critical and hermeneutic approaches have established a permanent presence in major journals of this field and at conferences in Europe and North America. The representation of management as neutral and objective is being criticised in terms of its underlying assumptions; it is investigated as a social practice embedded in cultural and historical relations, and trends towards different and additional forms of management control are being discussed. Beyond the focus on management practices, academic publications have also come under criticism. For example, positivist publications enthusing about organisational culture have been criticised for practicability-fetishism and for providing an intellectual background for additional forms of social control. By this, hermeneutic and critical approaches have supplied significant antipodes to the instrumental approaches of traditional organisational theory. Guided by an understanding or emancipatory interest, their contribution is often summarised as a demystification of management practices and conventional organisational theory.

A recent development in the critical discourse is the analysis of integrative, collectivist forms of work organisation. It is argued that social cohesion and the need for harmony among colleagues lead to an alignment of attitude and behaviour, which brings about a new form of management control: concertive control. Functionalist literature suggesting integrative mechanisms of work organisation is criticised for overlooking group impulses such as a coercive group pressure and fundamental interest conflicts between the individual and the organisation. It is argued that participative work environments in organisations present a form of control more powerful than bureaucratic control. They are supposed to shape and align the identities of participants and account for a subordination of their own desires and their autonomy to the collective will. The discourse on concertive control converges to a consensus that work organisation based on principles of togetherness are no more liberating than conventional forms, but carry the danger of other forms of control and rigidity. While concepts with an inherent Durkheimian dimension of organic solidarity have long been viewed as a means to humanise work, the pendulum now seems to be swinging to the other side. Organic forms of work organisation are now viewed as modern attempts to align individual motivation to the imperatives of the organisation, and as another, more concealed and tighter form of management control.

It is striking to note to what extent this recent discourse in organisation studies resembles Karl Popper's reservations against any form of collectivism. In 'The Open Society and Its Enemies' (1945), Popper saw collectivism, the 'herd instinct of the tribe', as a preceding and accompanying feature of totalitarianism. In an unequalled manner, Popper outlined the close relations between collectivism, common beliefs, and a totalitarian social order. He challenged the supposedly humanist approach of collectivism and organism theories, in a way now being paralleled in organisation studies by the critique of participative, collectivist work environments as a normatively good thing. This thesis argues that Popper's open society not only has a continuing relevance in political or social philosophy, but is also relevant for organisational analysis. The critical discourse on concertive control in organisations appears to be discovering now those very insights that Popper expounded during the Second World War.

However, rather than introducing a Popper-based approach for a normative assessment of organisations or management practices, this thesis suggests taking up the paradigm of openness and closure as an analytical tool to investigate forms of organisational collectivism. The discourse on concertive control presents community in such a manner that it distorts the autonomy of the individual and loads the individual with group dogmas that hinder independent thinking. Other suggestions of forms of community are treated as a separate discourse. It is presupposed that the creation of values and communities is related to a decline of autonomy. Forms of community that are set up *against* dogmatism, or to precisely foster individual autonomy are not outlined. This discourse hence marshals the traditional, liberalist juxtaposition of the individual versus the community. As a result, the presented view of collectivism is threatened with oversimplification: regardless of the basis of community, the focus on concertive control puts it into the light of a loss of autonomy, group pressure, and commonly held, unquestioned beliefs.

This thesis argues that if the Popperian paradigm is interpreted as a multidimensional framework of openness and closure, then it allows for an analysis of organisations that promises a more careful treatment of forms of collectivism. The Popperian framework has first been introduced to organisational analysis by the German organisational psychologist Gebert. He uses this framework to warn against management trends, such as holistic organisational cultures or symbolic and visionary leadership, that reflect closed patterns of thinking and may hence erect tenets of the closed society. He juxtaposes those trends to others that more resemble an open society, such as various types of organisational development and learning. Based on this framework, the present thesis expands the Popper-based agenda with an empirical investigation of types of collectivism in organisations, with the study of the relation of national and organisational culture, and with a structuralist approach to organisational culture.

With the multidimensional framework in mind, the relations of organisational collectivism to the degree of equality in organisations, to attitudes to knowledge, and to

individual autonomy, can be made explicit and empirically investigated. Empirical results of this kind promise insights into whether an organisational culture corresponds to or contradicts the pattern of concertive control. This may show whether collectivism, contrary to current assumptions, occurs in conjunction with cushioning features such as equal opportunities, individual autonomy, or absence of dogmatism, which allows one to ascertain whether and where the discourse on concertive control begins to err. In this respect, corporations in Germany constitute a particularly interesting case for consideration. As will be explained later, German national culture is characterised by a strong sense of community, but at the same time personal autonomy is highly esteemed. On the one hand, therefore, there is a tendency to view communities not as rational or contractual arrangements to serve individuals, but as entities with a purpose in themselves. In addition, the recognisable attitude to regard knowledge as potentially incontestable - reflected in the belief in experts and the disapproval of common sense- shows that the problem of closure is a particularly German issue. On the other hand, however, there is a considerable appreciation of independence and free will, reflected in the upbringing of children and the professional qualification for autonomous work. This potential deviation from the pattern of closure renders German corporations particularly interesting in the context of both concertive control and the Popperian paradigm.

The Popperian framework offers more than just an analysis of forms of organisational collectivism. Since Popper conceptualised openness and closure in terms of patterns of thinking, this framework allows for an application to the societal (societal values, national culture) and organisational level (organisational culture), and hence a comparison of these two levels in the same terms. Since organisational theory has developed into an increasingly accepted academic discipline independent of industrial sociology, this connection between societal and organisational culture has been to some extent lost. Although sociologically informed analyses of organisational phenomena now belong to the dominant forms of organisational analysis, hermeneutic and critical approaches are strongly influenced by micro-organisational methods and vocabulary and make little attempt to link organisational culture to the wider cultural context. The focus on symbols in hermeneutic studies, or the analysis of

norms and legitimacy in organisational fields as in neo-institutional approaches, do not provide the means for a systematic comparison of national and organisational cultures. Cross-cultural organisational research, on the other hand, although always based on comparisons between national cultures, has concentrated on organisational structures and work attitudes rather than organisational cultures. Being informed of hermeneutic and critical approaches, the Popperian framework is applicable to the societal and the organisational level and can show to what extent corporations can be regarded as partial, sub-, or countercultures of their societal environment. In this spirit, this thesis collects information about the pattern of openness and closure at both cultural levels, so as to compare the features through the same conceptual lens.

In addition, a Popperian approach makes it possible to view organisations as caught in a functional dilemma between the poles of openness and closure. Both openness and closure realised as absolute conditions, or ideal types, have considerable drawbacks. Organisational cultures can hence be conceived of as compromises between the two extremes, or as reactions to cope with the dilemma between openness and closure. Openness and closure thus can be conceptualised in a structuralist manner, that is, as conditions that influence organisational culture. This does not mean that organisational cultures are intentional means of dilemma regulation, but rather unconscious assimilations to the dilemmatic conditions. This structuralist conceptualisation of the Popperian approach also allows for the return to explanatory approaches to organisational behaviour. Hermeneutic and critical approaches concentrate on phenomena difficult to turn into subjects of structuralist and/or objectivist empirical studies. During the recent debate on paradigm incommensurability and in the ongoing discussion of the interplay of structure and action in organisations, the regeneration of structuralist analyses has been repeatedly demanded - and this not only from the positivist-functionalist viewpoint. Long after radical Weberian and Marxian structuralist approaches to organisational theory, the agenda pursued in this thesis is thus also an attempt to revive structuralist and explanatory approaches that are informed of hermeneutic and critical analyses. The thesis empirically explores through which forms of cultural differentiation German corporations adapt to the dilemma of openness and closure.

In summary, the thesis identifies inherent shortcomings of hermeneutic and critical approaches in organisation studies, embeds the Popperian approach into these discourses, and hence addresses four different and ongoing discussions:

1. It addresses the critical discourse on concertive control through the investigation of forms of collectivism in German corporations. In so doing, the thesis does not attempt to investigate whether concertive control is a significant feature in German corporations, but rather to examine the extent to which a national-cultural and organisation-cultural background corresponds to or contradicts the pattern of concertive control. It argues that the Popperian framework matches the assumptions in the discourse on concertive control and makes them explicit. This connection of concertive control as a phenomenological issue on the one hand, and nomothetically conceived organisational culture on the other, enhances the interplay of methods and sheds light on cultural conditions that can foster or hinder the phenomenon of concertive control.
2. It contributes to the German discourse on open and closed organisations by embedding this paradigm into the current Anglo-American discourses and by an original empirical investigation. The goal is to extend the knowledge on forms of openness and closure in corporations, which requires a large-scale investigation of German companies and a multivariate analysis of the resulting data. At the same time, the promising paradigm of Popper-based organisational analysis is brought from an isolated existence in German discourses to the context of the present Anglo-American issues, and into the wider sociological context of one nation's culture.
3. It addresses the discourse on structural approaches to organisational analysis by presenting openness and closure as extreme conditions that structurally influence organisational culture. The discussion of structures has long been either the domain of Weberian and Marxian approaches to organisational analysis, or it has been done within the functionalist paradigm to an extent ignoring hermeneutic

and critical analyses. This thesis investigates organisational cultures as constrained by the extremes of openness and closure and thus presents a structuralist viewpoint informed by hermeneutic and critical analyses. The methodological approach will be nomothetic, so as to counterbalance the current favouritism for subjectivist methods. This is not to step backwards to blind positivism and empiricism, but rather to contribute to an interplay of empirical-analytical and hermeneutic knowledge, assumed to mutually enhance each other in their interaction.

4. It addresses the discourse on the relation between national and organisational culture. On the basis of secondary data, German national culture is conceptualised in terms of openness and closure, providing hypotheses on features of organisational cultures. Based on the empirical results on the forms of openness and closure in German corporations, a comparison with German national culture will be made and the relation between these two cultural levels discussed. This questions the current state of affairs in this discourse, which presupposes a decoupling of national and organisational culture.

The structure of the thesis is as follows. The current discourses in organisational theory and analysis are the point of departure and are outlined first (Chapter 2). Hermeneutic and critical analyses are discussed as alternatives to the functionalist paradigm. Central to Chapter 2 is the identification of some shortcomings in hermeneutic and critical approaches (Section 2.4), which prepares the introduction of the Popperian paradigm (Chapter 3). There, in Chapter 3, it is shown where this new approach connects to the current discourses, and its possibilities to tackle some shortcomings of hermeneutic and critical analyses are outlined. It is argued that the Popperian approach offers the opportunity to view presumably well-intended approaches to integrative forms of work organisations in the light of closed patterns of thinking, and to systematically investigate different forms of organisational collectivism.

Thereafter, in Chapter 4, the discussion of the link between openness and closure on the societal and the organisational level is prepared through an outline of the German

national culture. General societal values and work-related values in Germany are described in terms of openness and closure, providing the framework for hypotheses on the pattern of openness and closure in German corporations. The empirical investigation of German business corporations and the multivariate data analysis in Chapter 5 then sheds light on the relations of open and closed features in organisational cultures. Thus, the Popperian notions are operationalised for organisations, the construct of openness in organisations is empirically validated on the basis of an investigation of fourteen German business corporations, and the correlates of social cohesion in German corporations are discussed.

Chapter 6 discusses the Popperian paradigm in a structuralist manner. Structuralist approaches to organisational analysis are outlined, openness and closure are introduced as structural constraints, and the explanatory power of the notion of a dilemma of corporations between openness and closure is evaluated. Chapter 7 then makes the connection between national and organisational culture. The results of Chapter 4 are compared to the empirical results on German corporations. The focal point of this chapter is an evaluation of the extent to which corporations can be viewed as partial, sub- or countercultures of their societal environment.

Finally, in Chapter 8, critical discourses in organisation studies are discussed in light of the empirical results obtained. Through applying a nomothetic methodology, the thesis does not suggest to have definitive answers to the manifold issues of organisational control, but rather aims to link concertive control and organisational culture and to shed light on different kinds of collectivism. At the centre of attention are not only the assumptions prevalent in the discourse on concertive control, but also the issue of the social disintegration of the individual and the question of whether corporations can contribute to social integration without simultaneously establishing a high degree of control. This aims to engage critical approaches with conventional analyses of organisational culture so as to facilitate interaction among alternative perspectives. Chapter 9 will summarise the results.

2 The prevailing discourses in organisational analysis

The literature in organisational theory and analysis has ceased to be structured according to academic disciplines such as industrial sociology and management sciences. Since the 1970s, the discourses have been cross-disciplinary and refer to different topics such as bureaucracy, labour process/work organisation, technology, organisational culture, organisational learning, leadership, etc. While there used to be a recognisable split between industrial sociology on the one hand and management-oriented organisational behaviour on the other, generally speaking these fields have merged into a discipline of organisation studies. These are characterised by different paradigms as highlighted by Burrell and Morgan (1979), whose influential publication remains an important heuristic to juxtapose subjectivism and objectivism, as well as regulative versus change approaches.¹ As an alternative approach to sort the organisational literature, it has recently been suggested to draw on Habermas's (1972) distinction of cognitive interests: empirical-analytical, historical-hermeneutic, and critical (Alvesson 1993: 43; Alvesson and Willmott 1996: 50-51). The empirical-analytical interest is concerned with the "prediction and control over natural or social forces" (Alvesson and Willmott 1996: 50) and hence resembles Burrell and Morgan's (1979) functionalist paradigm; the historical-hermeneutic is almost congruent with Burrell and Morgan's interpretive paradigm, and the critical interest comprises the radical humanism and radical structuralism in Burrell and Morgan's (1979) sense. Hence these two frameworks in fact have much in common, although their similarity has rarely been seen.²

The outline of the current discourses in this chapter will be based on this distinction of cognitive interests. Empirical-analytical studies "have sought to identify the contingencies that are deemed to render employee productivity and consumer behaviour

¹ Burrell and Morgan (1979) distinguish between subjectivist and objectivist methodological assumptions, and between the sociologies of regulation and radical change. This leads to four basic paradigms in the sociology of organisations, which are supposed to be mutually incommensurable: functionalism (objectivist, regulation), interpretivism (subjectivist, regulation), radical humanism (subjectivist, radical change), and radical structuralism (objectivist, radical change).

² Not even Burrell and Morgan (1979) discuss this congruence, although they mention Habermas's distinction in passing (p. 294).

more predictable and controllable" (Alvesson and Willmott 1996: 50). In organisational analysis, the interest in organisational performance is in the foreground of this cognitive interest. In this thesis the body of literature pursuing this interest will be referred to as the 'functionalist discourse'. The hermeneutic cognitive interest is concerned with developing an understanding of the lifeworlds of other people or, applied to organisation studies, "to enrich our appreciation of what organizational work means to people, thereby improving our ability to comprehend their world and enabling us to communicate more easily with them... (and to understand) what people think and feel about how they are treated as producers or customers, irrespective of what instrumental uses such knowledge may have" (Alvesson and Willmott 1996: 50). The body of literature with this cognitive interest will here be referred to as the 'hermeneutic discourse', which relates to what May (1997) refers to as the sociographic discourse on organisational culture and what Czarniawska (1997) calls the symbolist turn in organisation studies. This introduction to the hermeneutic discourse will discuss conflicting views on organisational culture, integration and differentiation, which is vital for the understanding and juxtaposition of openness and closure.

The critical interest is concerned with "the relationship between the exercise of power and the construction and representation of reality" (Alvesson and Willmott 1996: 51). It is "motivated by an emancipatory interest" and concerned "to expose forms of domination and exploitation" (ibid.). Organisational forms of domination and control such as the manipulative creation of meaning or social control through normative and social integration are the major concerns of this discourse. Publications with this cognitive interest will be referred to as the 'critical discourse'. Burrell and Morgan's (1979) distinction between radical humanism and radical structuralism appears less important in this context, since both kinds are, although based on different ontological assumptions, essentially concerned with a critique of the functionalist paradigm in organisation studies and the status quo of contemporary capitalism.

In the field of organisation studies, the hermeneutic and the critical paradigm are closer to each other than to the functionalist discourses, given that neither pursue an

instrumental goal with respect to organisational performance.³ It will be argued that the Popperian approach can show new aspects for the discussion of concertive control and for the differentiation and integration view on organisational culture, such that the critical and the hermeneutic paradigm will be introduced in this chapter. The hermeneutic discourse is essential for the understanding of the Popperian approach, because the juxtaposition of openness and closure links up with the integration and differentiation perspective on organisational culture. The functionalist paradigm is outlined first, since this is essential for the understanding of both hermeneutic and critical discourses. After an introduction to these discourses, the concluding section of this chapter will focus on some of their shortcomings and thus provide the basis for the introduction of the Popperian approach.

2.1 *Functionalist discourses*

Functionalist discourses in organisational analysis centre around the relation of organisational features to organisational performance. After the dominance of the contingency approaches in the 1960 and 1970s, which mainly focussed on organisational structure, the 'concept' of organisational culture was embraced in the early 1980s and continues to be a major issue in this discourse. Although other issues such as organisational change, organisational learning, etc., have meanwhile attained an equally important role in this kind of literature, functionalist discourses will here be only briefly outlined with reference to organisational culture. This is because this issue marks the most important paradigmatic difference to hermeneutic and critical ap-

³ A distinction between the hermeneutic and the critical discourse, however, remains important, as the Habermas-Gadamer debate has shown. Here, roughly speaking, Habermas claimed that hermeneutics need to be more critical in order to avoid being politically naïve, whereas Gadamer defended the hermeneutic approach by claiming that the critique of ideology is just a variety of hermeneutics (cf. How 1995: x; Giddens 1976: 54-70). How (1995: 19-20) illustrates the similarities and differences of hermeneutics and criticism by an interesting example. He refers to a study by Jack Douglas, *The Nude Beach* (1977), where the author shows that the removal of clothes at a nudist beach in California was not an act of liberation, creating a more 'natural state', but rather set up new social arrangements and new taboos, such that life on the nudist beach is as socially controlled and organised around the same principles such as status and success. This study is, on the one hand, motivated by a hermeneutic desire to show the coherence of life at the nudist beach, but it also contains a critical component of demystification, "a desire to explode the pretensions of the nude-beachers" (How 1995: 20). Another major issue of this debate was that while Habermas sought to synthesise or combine

proaches, where the integrative component is increasingly viewed in the light of normative and/or concertive control.

Although the term 'organisational culture' was not yet in use in the 1960s, empirical research on the relation between organisation-cultural traits and performance can be traced back to contingency approaches such as Burns and Stalker (1961), Woodward (1965), or Lawrence and Lorsch (1967), and to classical studies that make a case for integrative work environments, such as McGregor (1960) and Likert (1961). Here, the difference between, for example, mechanical or organic organisational structures (Burns and Stalker 1961) or the functional differentiation between departments, with an additional integrative component at the level of the company (Lawrence and Lorsch 1967), was studied and related to organisational performance. Since the 'discovery' of organisation culture in the late 1970s and early 1980s,⁴ the relation between corporate culture and performance has been addressed to a large extent. The greatest recognition, first and foremost in the USA, was gained by Ouchi (1981), Deal and Kennedy (1982), Peters and Waterman (1982), Kanter (1984), Kilman et al. (1985), and Schein (1985). However, these studies possess common traits that engender concerns not only to researchers writing mainly in the critical discourse, but also to those in the functionalist tradition. The evidence presented on the relation of culture and performance is more conceptual and more based on selective anecdotes and normative assertions than on empirical results (cf. Denison and Mishra 1995: 205; Gordon and DiTomaso 1992: 783). In particular, the study by Peters and Waterman (1982) had a strong impact in management circles⁵ but was mainly rejected by academic scholars (e.g., Carroll 1983, van de Ven 1983, Aupperle et al. 1986). This concern about the erudition of the first approaches, however, was not followed by serious empirical investigations of the connection between organisational culture and performance (with Denison and his associates being an exception, see below). The relatively low number of empirical studies on this issue can be traced back to the

hermeneutic with positivist principles, Gadamer denied positivism any legitimacy in the social sphere (see in this regard the epistemological orientation of this thesis in Section 5.1).

⁴ David Silverman's (1970) publication marked a turning point in the move away from structure-functionalist thinking, but the bulk of the literature on organisational culture was not published until the early 1980s.

fundamental research problems that have to be addressed. The whole range from "social structures to individual meaning" (Denison and Mishra 1995: 205) and 'basic assumptions', that is, the shared meanings of the participants (Schein 1985), must be grasped. Beyond the problem of a clear determination of cultural features and the difficult distinction between criteria of performance (which are often contradictory, see Shenhav et al. 1994, Goodman et al. 1983), it remains an almost hopeless task to control for the whole range of other variables that account for organisational performance.

The methodological orientation in functionalist discourses is not restricted to quantitative methods, but also comprises qualitative approaches. But even if qualitative methods are employed, and this is the decisive difference to the hermeneutic discourse, the goal is still to make clear statements about successful organisational cultures. The cognitive goal is hence to identify mental and symbolic 'facts' in organisations and their relation to organisational performance, in the first place in order to enable a transfer to other organisations. With respect to organisational culture, functionalist approaches are significantly imprinted, perhaps even biased, by the 'integration perspective' (Meyerson and Martin 1987, Martin and Meyerson 1988, Martin 1992). That is, in most studies within the socio-economic discourse, culture is seen as a mechanism that holds the participants together, as something that forms coherence since all participants have 'it' in common. Explicitly or implicitly, these approaches to organisational culture lean on Durkheim's notion of organic solidarity and the structure-functionalism of Parsons: culture is viewed as a consistent pattern for the orientation of action and a precondition for a functioning social system. Organisational culture is viewed as something that creates harmony; the integrative function of symbols is emphasised at both the interaction and the mental level. Examples for this view are the prominent studies mentioned above (Ouchi 1981, Deal and Kennedy 1982, Peters and Waterman 1982, Kanter 1984, Kilman et al. 1985, and Schein 1985), but also more recent publications such as Denison (1990), or Denison and Mishra (1995), discussed below. As May (1997: 93) points out, the assumption

⁵ Managerial thinking is still strongly influenced by this publication. In some top management consultancies, for example, the book is given to new employees.

of an integrative function of organisational culture is based on two arguments: first, basic assumptions, ideas, myths, ideologies and values lead to a regulation, uniformisation, and mutual involvement of the organisational actors. Second, and vice versa, the interaction rituals and the meanings attributed to them by the actors create collective symbols and an integrative function. Meyerson and Martin (1987, also Martin and Meyerson 1988) stress the oversimplifying view entailed by the pure integration perspective. Martin (1992) suggests that there are two perspectives to be distinguished from the integration viewpoint: differentiation and ambiguity (or fragmentation). Since the 1980s, organisational researchers have increasingly questioned whether organisational culture is to be considered a consistent pattern without inherent contradictions (see Section 2.2, below).

The most significant empirical contributions to the functionalist discourse on organisational culture come from Denison (1990) and Denison and Mishra (1995). The study published in 1990 is based on a questionnaire survey with 43,747 respondents from 34 companies across 25 industrial sectors. The result of this research is a model that connects four cultural factors to organisational performance: involvement of the employees, consistency of the culture, adaptability to changes, and presence of a mission. The correlations between these traits and return on assets vary between 0.00 and 0.55; the significance, of course, varies depending on the sample size, but is quite stable on sub-samples with 24 or 50 cases (company units), so that the attempt to find a relation between cultural traits and organisational performance is regarded as successful by the authors. They claim to be on the way towards a 'theory of organisational culture and effectiveness'. The presented correlations are not necessarily impressive but cannot be ignored.

Yet the prescriptive and functionalist literature on organisational culture remains a matter of dispute. In spite of some evidence presented by empirical researchers, it remains controversial whether significant correlations between cultural traits and performance in organisations can be validly measured or are helpful for prescriptive

statements.⁶ Two recent publications mark this controversy very well. While Denison and Mishra (1995) claim to be on the way "towards a theory of organisational culture and performance" on the basis of "clear evidence", May (1997) regards the socio-economic debate as unsuccessful: "The socio-economic debate can be regarded as failed in its attempt to establish relations between formal traits of a culture and the performance of an organisation. Corporate or organisational culture as a strategic factor cannot be used for an unequivocal statement without the explicit consideration of cultural dynamic and the demonic character of symbols" (May 1997: 177, my translation). In empirical investigations other than Denison and Mishra's (1995), such as Siehl and Martin (1990) and Calori and Sarnin (1991), the relations between culture and performance are rather weak, so that statements about organisational culture and performance remain a matter of interpreting ambiguous results. Schein's (1985: 315) prognosis of the 1980s that there is neither a "correct" nor a "better" culture appears to be confirmed by the state of debate in this regard.

The most often postulated effect of organisational culture is its integrative and steering function. In the functionalist view, it is regarded as a mechanism that holds organisational members together; a deeply rooted pattern of shared interpretations goes along with shared assumptions about the way how things are done and how to solve day-to-day problems. At the same time, this effect is the cornerstone of the uneasiness of the critical discourse and its concern with normative and concertive control in organisations. In this view, the functionalist literature tends to neglect critical topics such as the de-individuation and 'Vergesellschaftung' of participants. Perrow (1986: 129) holds that 'third-order control' (see Section 2.3, below) is probably the most difficult form of control to achieve, but the most effective in economic terms. The cultural integration in the company aims not only at the functional co-ordination of tasks, but also at the internalisation of organisational values by the participants. Achieving commitment and loyalty is not only attempted by 'rational' co-operation, but also by a mental programming of the employees. It is in this respect that the

⁶ For example, the causality may also be the other way around: economic success induces an organisational culture of the kind functionalist literature regards as conducive for economic success.

cleavage between the functionalist discourse and critical organisation studies becomes most obvious, as will be discussed in greater detail in Section 2.3.

2.2 *Hermeneutic approaches*

Hermeneutic approaches are based on the rejection of positivist methods and suggest the employment of ethnographic or phenomenological approaches. Its distinction from functionalist discourses is not only connected to different cognitive interests, but also to different methodological, ontological and epistemological assumptions.⁷ In contrast to functionalist approaches, in the hermeneutic discourses it is doubted whether culture can be regarded as a tool that can be understood, manipulated and changed by organisational actors according to the aims of the organisation. Particularly the integration perspective on organisations is at the centre of the inquiry, and emphasis is placed upon heterogeneity and resistance within organisations. In a number of hermeneutic approaches the term 'organisational culture' is strongly connected to organisational symbolism, which is based on the assumption that insights into the roots of symbols and their use in organisations prove essential to develop an understanding of the processes in organisations (see for an overview Czarniawska-Joerges 1997).

Besides Selznick's (1949) early study of the Tennessee Valley Authority, one of the key publications was Silverman's (1970), which, at a time strongly influenced by the contingency approach in organisation studies, offered an alternative way to study organisations. In a publication that summarised and structured the research agendas, Smircich (1983) marked the clear differences between positivist and phenomenological research in organisations. Important contributions to the hermeneutic discourse, in particular to the field of symbolism in organisations, have come from the edited volumes of Pondy et al. (1983), Frost et al. (1985 and 1991), Turner (1990), and Reed and Hughes (1992). Here, the function of organisational culture for organisational performance is neither at the centre of attention, nor regarded as a helpful paradigm. The assumption is that the functionalist literature overestimates the regu-

lation of action; organisational culture is not viewed as ultimate and coherent in the organisation as in the integration perspective, but rather as a differentiated or fragmented pattern that is subject to change over time.

A constituent part of the hermeneutic discourse, and in this regard close to critical approaches, is the concern about the managerial attitude to manipulate and regulate organisational culture. At the heart of hermeneutic analyses is the claim that functionalist approaches neglect the fact that organisational culture consists not only of an overall dominating culture, but of diverse partial cultures, sub-cultures, and counter-cultures. Since this distinction between these three kinds of cultures below the organisational level is essential for the Popperian approach introduced in this thesis, it shall be defined here according to Trice and Morand (1991; see also Van Maanen 1991, Bartunek and Moch 1991, Young 1989, and Gregory 1983).

- Partial cultures are conceived of as constituent parts of the total culture, hence reflecting the organisational values.
- Subcultures are conceived of as released from the total culture and can be viewed as more or less tolerated niches in which the total culture has no influence.
- Counter-cultures are more critical than subcultures: they are not only released from the organisational total culture, but establish a deliberately different culture.

The difference between sub- and countercultures can also be conceived in terms of the communication about the organisational total culture: while subcultures do not talk (and perhaps do not think) about the total culture, countercultures are established by the communication about it and its rejection. Countercultures are hence more or less deliberately developed alternatives in the organisation, whereas subcultures are rather established by an unconsciously increasing indifference and can be characterised by a peaceful coexistence with the dominant culture. As Reed (1992: 104-105) points out, functionalist approaches often only consider the official patterns of culture, not its counter-patterns. Resistance to and contradictions in the organisational culture (and hence the existence of sub- and countercultures) are not the subject of

⁷ See Burrell and Morgan (1979) for a thorough discussion of these issues.

economic interest. It is claimed that the functionalist literature tends to neglect the symbolism in organisational cultures, and that it writes within the realm of instrumental rationality rather than contributing to its deconstruction.

Along these lines, in the hermeneutic discourse it is attempted to understand organisations in terms of the meaning and use of symbols. In his outline of the 'sociographic' discourse, May (1997: 69) distinguishes between three types: symbols as actual objects and artefacts, symbols at the level of interaction (rituals and ceremonies), and at the level of ideas (basic assumptions, myths, ideologies). He points out how symbolist approaches attempt to reconstruct the meaning and sense of the symbols in an interpretive manner and distinguishes different symbolist approaches with respect to what is at the centre of attention - objects, interactions or cognitive structures (p. 151). The goal of hermeneutic approaches is to provide 'correct' interpretations of interactions and cognitive structures. If they have a practical goal beyond the increase of knowledge and the improvement of understanding, then it is not to achieve prescriptive statements for organisations or their members (as in the socio-economic discourse), but to enable individuals to find their way and to cope with situations in organisations (cf. May 1997: 152-159). Or as Smircich put it:

"Organizations are understood and analyzed not mainly in economic or material terms, but in terms of their expressive, ideational and symbolic aspects. Characterized very broadly, the research agenda stemming from this perspective is to explore the phenomena of organization as subjective experience and to investigate the patterns that make organized action possible" (Smircich 1983: 347-348).

A functional goal such as to enable an individual to "act communicatively as a cultural insider" (May 1997: 152, my translation) is hence not on top of the list, but rather a side-effect for the researcher. The understanding of interaction in its particular setting of organised life with its structures and cognitive modes is the goal of this research agenda. Through the understanding of symbols, the researcher attempts to reconstruct the cognitive structures of the participants and the forms of interaction. As pointed out by Smircich and Calas (1987), this comprises the danger of a construction of reality and is, compared to more positivist analyses of organisations, endangered by an additional bias: the researcher. The representation, or the way an-

thropologists write about cultures, has been put into the centre of ethnographic analysis (cf. Clifford and Marcus 1986, Clifford 1988). More importantly, doubts about the correctness or appropriateness of the researcher's interpretation contributed significantly to the development of hermeneutic approaches towards postmodernist thinking.

However, although a hermeneutic description contains both reconstruction and construction, the symbolist turn in organisational theory was often viewed as a liberation from the positivist analyses of organisational structure in the 1970s (cf. Pondy and Mitroff 1979; Martin and Frost 1996). Traditional organisational research was increasingly viewed as fruitless, because it rested on "a rational model of human behaviour, a structural approach to questions of corporate strategy, and a love of numerical analysis" (Martin and Frost 1996: 601). Hence although the approach by Peters and Waterman (1982) has been overtly rejected by academics, it can be viewed as an alarm call that shook academics out of continuing on the same path of positivist research on organisational structures. It set the agenda for a research stream that had just started at that time. From this point of departure, several competing paradigms developed in the hermeneutic discourse. According to Meyerson and Martin (1987, see also Martin and Meyerson 1988), Frost et al. (1991),⁸ May (1997), and Martin (1992), one can distinguish between

- the perspective of integration,
- the perspective of differentiation, and
- the perspective of ambiguity or fragmentation.

Roughly speaking, these three paradigms developed in the above, chronological order. First the integration perspective dominated the discourse, but it was soon criticised for being simplistic. Partial cultures, sub-cultures and counter-cultures were discovered and led to the notion of cultural differentiation in organisations. Doubts about the validity of research results and the discovery of contradictory elements of organisational cultures led to the perspective of ambiguity and fragmentation, which in turn developed into postmodernist thinking. Martin and Frost (1996) describe

these paradigms in this sequence but admit that this view is a simplification of simultaneously existing, overlapping, and competing paradigms. Moreover it is important to note that these three paradigms and their "struggle for intellectual dominance" (Martin and Frost 1996) can be found in both functionalist and hermeneutic discourses, although the functionalist paradigm has a clearer tendency towards the integration perspective described above.

In the differentiation perspective (cf. Gregory 1983, Van Maanen and Barley 1984, Meyerson and Martin 1987, Martin and Meyerson 1988, Young 1989, Martin 1992, and various chapters in Frost et al. 1991), the regulation of action is regarded as overestimated by the integration perspective. Cultural inconsistencies and resistance are seen as natural side-effects of a dominating culture. Instead of regarding deviations from the dominating culture as resistance that should be broken or solved, the deviations are regarded as a typical feature of social systems. As a consequence, organisational culture is not viewed as ultimate and coherent, but rather as a dispersed pattern that is subject to change over time. The total culture runs through a process of differentiation, at the end of which the organisational culture is not only divided into partial cultures, but also into sub- and countercultures. Seen from this angle, symbols do not have a unifying power for the entire organisation, but lead to different interpretations and meanings. Partial, sub- and countercultures establish their own symbols at the mental and at the interaction level, but the direction of the effect can be different: subcultures may develop through interaction rituals, first possibly without respect to any mental connection that can be established in the further process. As Gregory (1983) and Van Maanen and Barley (1984) show, subcultures are often built upon demographic characteristics such as occupational, departmental, gender, or ethnic affiliation. Countercultures, however, may first develop symbols at the mental level, since the common characteristic of its members is an uneasiness about the total culture. Hence the members of a subculture may find each other by the similarity of interaction, while members of a counterculture may find each other by the similarity of their opinion.

⁸ The edited volume by Frost et al. (1991) is structured according to these three views on organisational culture.

Far more so than the integration view, the differentiation perspective fits well with the discussion of conflicts in organisations. The conceptualisation of countercultures is especially capable of viewing an organisational culture as an arena for intra-organisational conflicts. However, if the labour market allows for it, the most likely result of the development of a counterculture is that its members leave the organisation. The perspective of ambiguity or fragmentation drives the view of differentiation even further. It doubts the connection of symbols at the level of ideas and interaction claimed by both the integration and differentiation perspective (Feldman 1991, Meyerson 1991, Meyerson and Martin 1987, Martin and Meyerson 1988, Martin 1992, Linstead and Grafton-Small 1992). Mental correlates do not necessarily lead to collective patterns of action, nor does frequent interaction cause the establishment of symbols at the level of ideas. This decoupling of symbols is in turn connected with a fragmentation of interactions and situations, which in many cases have no connection to the organisational 'culture'. May (1997: 102) points out that there is not only consent or dissent about the organisational culture, but first and foremost confusion, whereas Meyerson and Martin claim that there might be one commonality: "an awareness of ambiguity itself" (1987: 637). Hence, whilst the differentiation perspective still conceptualises organisational culture as something that separates intra-organisational groups from one another, the ambiguity perspective doubts even that there is a continuous, inconsistent pattern and favours the view of a discontinuous set of values that varies from interaction to interaction and is, at least partially, replaceable by the next set.

As will be shown later, the Popperian paradigm links up with the integration and differentiation perspective by the juxtaposition of openness (differentiation) and closure (integration). The argument is that both openness and closure taken to extremes have considerable drawbacks, thus prompting an organisation to find a middle position in between. Too much differentiation leads to strong intra-organisational conflicts, while too much integration is associated with an undesirable degree of control, as the critical perspective points out.

2.3 Critical discourses

Constitutive for critical analyses in organisation studies is an unease with the functionalist literature for neglecting all aspects of power and control in organisations or for even employing organisational culture as a means of social control. Since the 1970s, with publications such as Lukes (1974), Clegg (1975) and Foucault (1977), it has become an acknowledged notion that power and control go beyond top-down relations or person-to-person domination. These notions have been adopted in organisation studies and have developed into an independent discourse, which is often referred to as 'critical organisation theory'. Rooted in the writings of Marx, Weber, the labour process debate in Britain, the critical theory of the Frankfurt school, and adaptations of Foucault, this discourse points out to what extent recent trends in the organisation of work go together with means of social control.

For the discussion of the control of individual behaviour in organisations, it is helpful to distinguish between different *layers* of control suggested in the literature. The first layer of control is supposed to be rooted in the societal, cultural level. It can be traced back to Gramsci's (1971) notions of hegemony and to Althusser's (1969 and 1971) 'ideological state apparatus'. Moreover, the Weberian rationality approach and the Frankfurt School's concept of instrumental rationality also belong to this societal level of analysis. Constitutive for this level is that within societal constellations, individual behaviour is supposed to have already a large predictability independent of an individual's belonging to an organisation. The second layer can be viewed as control in occupational and professional fields. It is established in publications such as Barley (1983), Van Maanen and Barley (1984), and Townley (1993), and has some correspondence with the neo-institutional approach (Powell and DiMaggio 1991, with respect to the mobilising efforts of professions see especially Meyer and Rowan 1977). This literature is concerned with the question of the extent to which individual practices and attitudes in organisations are shaped by the professional environment of individuals and the institutional environment of the organisation. The third layer of control is concerned with control within organisations. Here, the discourse has developed from 'simple' over technological to bureaucratic control (Edwards 1979 and

1981) and eventually to normative forms of control.⁹ In this chapter it will be argued that the current discourse on organisational control has shifted towards a fourth layer, concertive control, rooted in the peer group or the collective of the organisation.¹⁰ Later on it will be shown that this discourse reflects to a large extent the Popperian notions of closure.

2.3.1 Obvious forms of control in organisations: ownership, hierarchy, structure and rules

The Marxian criticism of the shift of the locus of control from the worker to the capitalist re-emerged as a major sociological issue in the labour process debate in the 1970s. Braverman (1974) initiated the debate by his concern about the deskilling of workers through Taylorism and the implementation of new technologies with its inherent consequences of degradation and dehumanisation of work. With respect to the increasing Taylorism in the production process, Braverman (1974: 113-119) was concerned about three principles which have such an unfavourable effect on the reality of work: the dissociation of the labour process from the skills of the workers, the separation of conception from execution, and the use of monopoly over knowledge¹¹ to control each step of the labour process and its mode of execution. Beyond his primary concern about the objective conditions of work and the deskilling of the worker, Braverman also worried about the habituation of the worker to the capitalist mode of production (1974, Chapter 6). More fulfilling ways of working were replaced by relatively high wages, while consumption-oriented life-styles dissuaded workers from looking for alternatives to 'monopoly capitalism'. Antagonistic social relations and the necessity to adjust the worker to work in its capitalist form, in Braverman's (1974: 139-140) opinion, does "not end with the 'scientific organization of labor', but becomes a permanent feature of capitalist society." The attempts at humanisation of labour in the form of academic institutions such as industrial or or-

⁹ This view is doubted by Barley and Kunda (1992), who argue that the managerial discourse has alternated between normative and rational rhetorics of control.

¹⁰ In addition to these four layers, a fifth layer can be identified with Foucault's notion of subjectification and self-disciplinisation.

ganisational psychology, and their expression in corporations by personnel and labour relations departments (in today's terms: human resource departments) are only a result of the habituation of workers to capitalism. The elaboration of methods of personnel selection, training of employees, and attempts to increase motivation and job satisfaction, are in Braverman's view to be considered the best means of adjustment to the existing labour process.

Another central argument put forward by Braverman is that machinery "offers to management the opportunity to do by wholly mechanical means that which it had previously attempted to do by organizational and disciplinary means... these technical possibilities [control by centralised decisions] are of just as great interest to management as the fact that the machine multiplies the productivity of labor" (1974: 195). An additional effect of this technical change is not only the growth in number, but also the deskilling of white-collar staff, as the white collar clerk merely has to administer data from fragmented parts of the production. Braverman therefore views Marx's prognosis of the proletarianisation and homogenisation of the class structure as supported by a concomitant universal deskilling.

In the debate about the labour process following Braverman's publication, authors were beginning to examine how workers control themselves in the context of practices embedded in the capitalist labour process. Issues beyond the control mechanisms of machinery and work fragmentation were discussed and the debate turned to ideology and culture, and how they influence the relations between consent and coercion in work (see the next Sections, 2.3.2 and 2.3.3). Labour process theory hence started off with the analysis of the separation of work as a means of cheapening it and of ensuring managerial control, and then developed into a discussion of much less obvious forms of control, such as the existing system of occupational categories that enhances the division of labour and cements the structures of power. As Thompson (1983: 24) points out, the discussion drifted from industrial to organisational sociology. Edwards (1979) found empirical support for a drift from personal to bureau-

¹¹ That is, the management's monopoly of knowledge about the labour processes expressed in the pre-planning and pre-calculation of all elements.

cratic control in the development of capitalism and distinguished three time phases of capitalist control: simple or hierarchical, technical, and bureaucratic control. Burawoy (1979) warned of a subsumption of industrial sociology under organisation sociology, because the "distinctiveness of the profit-seeking capitalist enterprise" (p. 5) would be lost. He pointed out the component of securing control and profitability by virtue of the consent of workers in the relations of production (see Section 2.3.2).

The labour process debate raised many doubts about the accuracy of the view of an ongoing process of deskilling and reinforcement of capitalist control through the habituation of the employees. Grint (1991: 190-194) reviews the critique in six points. First, the view of a deskilling process rests upon an inaccurate illusion of nineteenth-century craft work. Second, the understanding of 'skill' as pure craft mastery is inappropriate. Third, the labour process view does not take into account that a powerful form of worker control over the labour process may not only advance their interests against employers, but also against other groups of workers. Fourth, Braverman's view of a persistent deskilling of labour finds no empirical support, for there is no trend to a homogeneous population of deskilled proletarians. Fifth, it can be doubted that the Taylorist reorganisation of work is a result of conscious design of management, rather than the effect of multiple negotiations between different groups. And, finally, the assumption behind Braverman's account, that control in association with productivity is the main concern of employers, neglects the fact that efficiency and control are very often conflicting goals of employers, and that the goal of control is nowadays often abandoned in favour of efficiency.

As a result, in the early 1980s industrial and organisational sociology departed from Marxian grounds to a large extent. Piore and Sabel (1984) reject the notion of deskilling, arguing that industrial mass production has come to an end and that a re-skilling of industrial labour by a specialisation on new forms of professions has commenced. Particularly in German industrial and organisational sociology, the labour process debate has hardly found a mental correlate, because deskilling has never been an issue there. Rather, as Littek and Heisig (1995) show, at the latest from the

mid 1970s onwards, German industry relied on a skilled labour force for products in high-quality market segments.

Abercrombie et al. (1980) rejected orthodox labour process theory from another viewpoint. They criticised the thesis of a dominant ideology (i.e., the conviction that the dominant class stabilises the capitalist system, and hence its dominance, by incorporating the working class in its capitalist ideology), prevalent in industrial sociology at that time, by emphasising that the stability of the capitalist system is maintained much better by a *pragmatic* adjustment of employees to 'the system' rather than by normative involvement. In their opinion, the coercion of the capitalist system is better explained in terms of unchangeable economic constraints of subordinated classes rather than in normative terms. The functioning of the economy is only based on the consent to the dominant ideology by the *dominant* classes, not by the working class. Moreover, without explicitly referring to the labour process debate, Habermas (1984, 1987) discontinued the ideology critique of earlier critical theorists and submitted procedural ideas of communication, rather than treating ideologies as dominating and serving the interests of elite groups. Based on a distinction between the system world, in which the technological, scientific and functional kind of rationality develops, and the lifeworld, i.e., the social area not dependent on the money code, he suggested that the lifeworld should become rational in terms of undistorted communication, that is, of free discussion based on rational argumentation and dialogue instead of power-driven communication. Habermas wanted to warn of the dangers of the lifeworld becoming colonised by the imperatives of the system world and viewed undistorted communication in the lifeworld as a means to this end.

Moreover, since the beginning of mass unemployment in Western economies and particularly in Germany, a new confrontation has become more important than the differentiation between skilled and deskilled employees: the confrontation between skilled employed and skilled unemployed workers. Yet in spite of all these reservations, the achievement of labour process theorists is to have awakened people from taking technology and Taylorism for granted as a neutral form of production. They showed how a political economy in a Marxian tradition is still a valuable orientation

for the analysis of the structure of modern industrial societies. And they emphasised the thesis that changes in the production process are by no means value-free side-effects of industrialisation searching for efficiency, but highly dependent on the structure of power in a capitalist society.

In terms of obtrusive control in organisations, the threat of physical coercion remains the baseline. Although this no longer exists in contemporary work organisations, a similar case - negative sanctions in form of dismissal or the threat of dismissal - prevails in any corporation. This form of power loses its threat only if the employee has equally good job alternatives. Positive sanctions in form of rewards, i.e. wages, are another medium to execute power, since withholding the wage would be a severe punishment. Unilateral dependence and obligations, therefore, are the most obtrusive forms of power inherent in working organisations (cf. Blau 1964: 116). As Blau outlines further (1964: 125-140), competition for status or acceptance by prestigious persons are equally prevalent forms of obvious power that makes employee behaviour more predictable and can therefore be seen as day-to-day mechanisms of control. Imbalances in obligations incurred in social transactions, and unreciprocated supply of benefits are the preconditions for any kind of power and are a constituting part of any company.

Along these lines, critical organisation sociologists argue that the history of business enterprises is also a history of the bureaucratisation of surveillance (e.g., Clegg and Dunkerley 1980, but especially Dandeker 1990). The control of labour developed from direct, personal control, over hierarchical close surveillance through managerial control (scientific management, bureaucracy, technical control of production), to a bureaucratisation of the social and psychological context of work, expressed in personnel and human resources departments and in the construction of bureaucratic careers. This development of critical aspects is reflected in the discussion of additional forms of control such as normative or concertive, which will be discussed in the following sections.

2.3.2 Normative control: hegemony, culture, and internalisation of values

The discussion of normative control in organisations refers to the general sociological discourse on power and control. With regard to a conceptualisation of control as unobtrusive force, Gramsci's (1971) term of 'hegemony' and Althusser's (1969; 1971) 'reproduction of the ideological state apparatus' have had a strong influence and are continuously referred to by authors in the field of organisation studies (e.g., Clegg and Dunkerley 1980, Clegg 1989, Alvesson and Deetz 1996). Hegemony can be conceived of as a consensus between dominating and dominated groups, produced by the former. The structure of the education, cultural and economic arrangements, but also the intellectual agenda transmitted by education reproduce the power structures in everyday life and serve first and foremost those dominant groups who have the power of defining the cultural agenda (cf. Clegg and Dunkerley 1980: 492-496; Alvesson and Deetz 1996: 201). How employees' consent to the cultural norms and rules is generated in industrial corporations has been extensively discussed by Burawoy (1979).

This critical discussion of control in organisation was taken up by labour process theorists in the 1970s (see above) and in the 1980s by referring to the work of Lukes (1974) and Foucault (1972; 1974; 1977). In his introduction of a 'third dimension' of power, Lukes (1974) does not limit power to observable events in a concrete area, but incorporates unobservable areas of power, for instance the omitting of decisions or anonymous aspects of structural power. Lukes's notion of primary power¹² is close to the concept of obvious power discussed above; it refers to the decision to gain control of and use structural power to pursue personal interests. Secondary power refers to indirect means of power, for example the power not to make a decision, not to settle conflicts openly or to 'solve' the conflict in advance by suppressing, disregarding or just by omitting certain opinions. Tertiary power, finally, refers to the control of latent conflicts and to the cultural or structural control of long term processes. The core of this cultural power is that it does not have to be 'employed' in the

¹² For the first and the second dimension of power Lukes refers to works by Dahl and Bachrach/Baratz, see Lukes 1974: 11-20

sense of actual action, but that it is manifested in the cultural development and the definition of what is regarded as rational and fact, and what as folklore and superstition. Conflicts are prevented by shaping "perceptions, cognitions, and preferences in such a way that people accept their role in the existing order of things, either because they can see or imagine no alternative to it, or because they view it as natural and unchangeable, or because they value it as divinely ordained and beneficial" (Lukes 1974: 24).

Like Lukes, Foucault discusses the role of language for mechanisms of power and control (Foucault 1974: 297-298). Foucault goes beyond a 'neutral' version of the structuration of habits and thought by language. In his analysis of discourses (Foucault 1972), he discusses the formations and regularities of discourses, yet it is in another publication (Foucault 1974) that he draws the attention explicitly to the way power and disciplinary practices influence discourse. Kögler (1994: 89-99) summarises Foucault's understanding of power and control in seven keywords: (1) structuring and conforming behaviour, (2) expressed in a network of practices, (3) expressed in relationships between subjects, (4) decentralised instead of merely top-down, (5) producing experiences instead of merely subduing and excluding, (6) internalised by the modern individual, and (7) closely connected with the human sciences. Therefore, Foucault's notions go far beyond the traditional notions of disciplinary practices and immediate surveillance and enter the sphere of cultural surveillance and self-control (Foucault 1977). The individual's dispositions are already pre-set by cultural practices and moral endorsement. Deviation is no longer sanctioned, since it does not occur at all in a cultural system that produces individual self-disciplinisation, that is, it shapes the establishment of individual attitudes in such a way that the dispositions of the individuals do not allow deviation.

Against this background of the general sociological discussion of power and control, the issue of normative control in organisations can be introduced. March and Simon (1958) were amongst the first who went beyond the structuralist conceptualisation of power conceived as direct supervision or as the obligation to follow rules. They provided the vocabulary by which more subtle forms of power could be described. Per-

row (1986: 128) postulates that these forms, which have formerly been considered as residual, constitute perhaps 80% of the behaviour "by invoking general concepts such as habit, training, socialisation, or routine." March and Simon describe how organisations "use programs" that limit the search and choice processes and hence go beyond the actual tasks of the jobs and the organisational rules (1958: 141-150). They mention explicitly that most programmes are stored in the minds of the employees (p. 142). For the first time (1958), therefore, the idea emerged that control of people in organisations does not necessarily require external means such as observation, rules and elaborated report systems.

Shortly after March and Simon, Etzioni (1961) put the issue of unobtrusive control into the foreground of his analysis of compliance. He drew a distinction between coercive, remunerative and normative power. The first two kinds can be regarded as obvious forms, the latter kind is for the first time explicitly at the centre of organisational research in Etzioni's investigation. Cultural integration, communication and socialisation produce consensus in organisations and integrate lower participants into the organisational community controlled by its elite.

Another aspect first introduced by March and Simon is the impact of organisational vocabularies (1958: 161-169). Organisations have certain classification schemes which attempt to describe more or less all organisational events. "Anything that is easily described and discussed in terms of these concepts can be communicated readily in the organization; anything that does not fit the system of concepts is communicated only with difficulty" (p. 165). Hence the organisational communication structures the members' perception and, as March and Simon put it, "absorbs their uncertainty." Events within or outside the organisation are to be communicated to other organisation members, and for the description of the evidence itself the organisational language is to be used. Uncertainty is especially reduced in the interpretation of events. The organisation member has already been provided with a certain way to communicate about an event, such that any uncertainty as to how to understand and interpret it does not emerge.

March and Simon did not write with a critical tone, nor did they explicitly ask whether and how the mechanisms described above establish or reinforce control over employees. Within organisational theory and analysis, however, they provided the first framework for shaping behaviour without reference to conventional issues of rules and commands. By virtue of their step beyond the obvious forms of control of behaviour towards the internalisation of rules and organisational communication, they laid the foundations of the critical discourse on power and control in organisations. Along these lines it is interesting to see how the notion of a culture in organisations is already taken for granted by Etzioni (1961). His and March and Simon's (1958) notions of cultural integration look like predecessors of the discourse on organisational control in the 1980s and 90s (see the subsequent paragraphs) and even of Foucault's thoughts.

Perrow (1986) departs from the premises laid by March/Simon and Etzioni and elaborates a general typology of control in organisations. His first type of control covers "direct, fully obtrusive" control, such as "giving orders, direct surveillance, and rules and regulations." From this he distinguishes the second type, "bureaucratic ones such as specialization and standardization and hierarchy, which are fairly unobtrusive." His third type of control draws together the "fully unobtrusive ones, namely the control of the cognitive premises underlying action" (p. 129). Wilkins (1983: 84) has labelled the last kind "third order control" so as to mark it as distinct from the obtrusive first two kinds.¹³

In most cases, normative control is employed to influence behaviour by giving action, outcomes and decisions certain meanings, by legitimising and justifying them (Hardy and Clegg 1996: 630). A dominant organisational ideology, whether there is an official mission or not, explains to a large extent why the dominated so frequently consent to their subordination (ibid.: 628). Corporate ideology can hide the way in which senior managers use power. It enables them to put behind the scenes the way they shape legitimacy and virtue, for by means of the corporate ideology these proc-

¹³ For other important contributions for the discussion of third order control in organisations, see Burawoy 1979, Ray 1986, Czarniawska-Joerges 1988, Willmott 1993a. On ambiguities and cynicism connected with normative control: Kunda 1992.

esses are excluded from analysis, given that the ideology implicitly advocates the status quo and hides the processes whereby the organisational elites maintain their dominance (Hardy and Clegg 1996: 629).

Foucault's writing has had a strong influence on critical organisation studies in the 1980s and 90s. The application of his work to organisations¹⁴ has made a large contribution to the understanding of the wider mechanisms of control in organisations, by drawing the attention away from obtrusive mechanisms such as degradation and deskilling towards unobtrusive issues such as self surveillance and the shaping of subjectivity. The neo-institutional approaches (Meyer and Rowan 1977, DiMaggio and Powell 1983, Powell and DiMaggio 1991) have a latent analogy to Foucault's notion of power established in language and subjectivity, since they view organisational practices as unreflective and symbolic adaptations of expectations of the institutional field into which the organisation is embedded. But Foucaultism in organisation studies has yet more critical energy. It jeopardises the established notions of individuality and provides the means for an analysis of the 'private space' as a culturally mediated form of control, shaped by and instrumentalised for the established systems of knowledge. Power is not to be viewed as an instrument for someone to use against someone else, but every actor is rather to be viewed as operating within an existing structure of dominance. Or, as Hardy and Clegg (1996: 632) put it, power "does not involve taking sides, identifying who has more or less of it, as much as seeking to describe its strategic role - how it is used to translate people into characters who articulate an organisational morality play." With Foucault's (1977) 'disciplined and normalised subjects', the earlier concepts of Riesman's et al. (1950) 'other-directed', Whyte's (1956) 'organisation man', Marcuse's (1964) 'one-dimensional man', Fromm's (1978) 'capitalist personality', and Presthus's (1979) 'upward-mobile' are relaunched and return to the centre of attention in organisation studies. The cultural structure and the capitalist formation of society have become an inherent part of the actors' personalities; control has unconsciously intruded (see in this context also Lukes 1973: 56-57, and Türk 1997: 172-173).

¹⁴ For example, Burrell 1988, Knights and Willmott 1989, Knights 1990, Knights and Vurdubakis 1994, Townley 1993 and 1994, the edited volume by McKinlay and Starkey (1997). Critical on the application of Foucault to organisation studies: Newton 1998.

One of the main concerns of the critical discourse is that organisational culture is not neutral, but formed in such manner that it serves dominant interest groups. The interpretation of symbols and the attribution of meaning is based on communication and on the communicative definition of meaning. Since Habermas (1970a and 1970b) pointed at the distortion of communication, it has become clear that undistorted communication as an element of 'rational communication' and 'argumentative speech' remains a hardly achievable goal. Thus the 'shared meaning' of symbols remains a matter of the power of definition, in particular if the organisational culture is institutionalised in official missions. Therefore, an organisational culture is not just 'there', but it is communicatively established and hence, at least to some extent, made by those whom it serves. This goes hand in hand with the inevitable exclusion of participants. Those out of line with the organisational culture are not only viewed as dissenters (with a value-positive connotation), but quickly regarded as troublemakers and hence excluded from resources and decision processes. The main concern of the discourse on normative control, however, is that an alignment of individual needs to organisational imperatives takes place in such a manner that participants are bound to the organisation (and hence to the interests of dominant groups) normatively and in their subjectivity and identity, so that no dissent or nonconformity arises.

2.3.3 Recent developments: from normative to concertive control

Almost in passing, Perrow (1986: 128) mentions one of the most important aspects of the control point of view, namely how unobtrusive control determines the threshold levels as to "when a danger signal is being emitted." This notion leads to the socio-psychological aspect of control in organisations: the social integration of employees in the peer group of colleagues. The employee may be bound by the pressure of expectations by colleagues. Not only may organisational values be transmitted by certain kinds of colleagues who have most absorbed organisational values, but also the need for harmony within well-intentioned colleagues can lead to an alignment of attitude and behaviour. Social cohesion, good-will group pressure and mental inte-

gration are mechanisms that can increase the predictability of behaviour beyond a top-down point of view. This form of control has recently emerged as a major theme in critical organisation studies.¹⁵

The ground for this theme has been laid by Sinclair (1992) and Barker (1993). Sinclair argues that employees have been "tyrannized by a team ideology" based on the use of work groups as a key to organisational performance. She examines the functionalist literature on teamwork in the manufacturing process and critically concludes that teams appear to satisfy everything at once, individual needs, organisational needs, and even society's needs. On this basis she argues that this kind of literature systematically overlooks other group impulses such as coercive group pressure as well as individualistic motivations and conflicts of interest between the individual and the organisation. She contends that

"...the team ideology embraced by these assumptions tyrannizes because, under the banner of benefits to all, teams are frequently used to camouflage coercion under the pretence of maintaining cohesion; conceal conflict under the guise of consensus; convert conformity into a semblance of creativity; give unilateral decisions a co-determinist seal of approval; delay action in the supposed interests of consultation; legitimize lack of leadership; and disguise expedient arguments and personal agendas." (Sinclair 1992: 612)

By her review and theoretical discussion, Sinclair (1992) set an agenda for the critical view of team work organisation. This viewpoint has attained the strongest prominence by the study of Barker (1993). His analysis of a small company manufacturing communication instruments has had a particularly strong impact in organisation studies¹⁶ and hence typifies the prevailing opinions in critical management theory to a large extent. Barker argues that participative work environments in organisations present a form of control more powerful than bureaucratic control. According to his results, participative work environments conscript the identities of the organisation's members and account for a subordination of their own desires and their autonomy to

¹⁵ The issue of the social integration of the individual in organisations is also related to critiques of machine or organism metaphors in managerial thinking such as the historical accounts by Shenhav (1995) and Nelson (1980).

¹⁶ It was awarded the Academy of Management Outstanding Publication Award in Organisational Behaviour 1993. Moreover, the Critical Management Studies Workshop of the Academy of Management Annual Meeting 1998 dedicated a special session on this article, where leading academics involved in the critical discourse debated the article.

the collective will. Particularly significant in this regard is his tenet of 'concertive control'. It

"represents a key shift in the locus of control from management to the workers themselves, who collaborate to develop the means of their own control. Workers achieve concertive control by reaching a negotiated consensus on how to shape their behavior according to a set of core values, such as the values found in a corporate vision statement" (Barker 1993: 411).

Barker's argument is that the value consensus of team workers evolves to a system of normative rules that become increasingly rationalised. According to his results, team work organisation does not free workers from the Weberian iron cage of rational control, but rather constrains the organisation's members even more powerfully. The social rules become manifest in the interactions of the team workers, and collaboratively created premises shift the generation of rules to a "negotiated consensus about values" (Barker 1993: 412). Barker observed that team members felt that developing a very strict and objective attendance policy, and challenging a member's personal dignity when it violated the rule, was a natural occurrence. Hence the combination of peer pressure and rational rules in the concertive system, although seemingly natural and unapparent, was an even stronger force of control, because individuals who attempt to resist the team control not only face the consequences of apparent mechanisms of disciplinisation, but must also "be willing to risk their human dignity, being made to feel unworthy as a 'teammate'" (Barker 1993: 436).

Since Barker's publication, the notion of concertive control in participative work environments has become a major concern of critical organisation studies. Pollert (1996) studied the introduction of teamwork in a food mass production company and found in interviews with workers that the new organisation of work caused inter-team competition, which nourished mistrust rather than improved quality (p. 199). She quotes a female worker: "'Everyone's watching everyone else - we didn't used to do that...' (woman worker, Assortments)" (p. 200). McKinlay and Taylor (1996) parallel this view in discussing peer review as a disciplinary practice in Foucault's sense. In their study of a company manufacturing telephones, they found that the supposedly collectivist design to force workers to rate each other's performance

strikingly resembled Foucault's vision that every warder becomes a prisoner and every prisoner becomes a warder. They observed that the team-based work organisation and an empowerment ideology did not eliminate the control imperative from the workplace. Rather, discipline was perceived as ad hoc, arbitrary, and distorted by personality clashes, which eventually led to strong and collective opposition to this practice.

The latest publications by Ezzamel and Willmott (1998) and Sewell (1998) have carried over and extended this critical view on participative work environments. Ezzamel and Willmott's study of a global retailing company extend Barker's (1993) critique in two ways. They highlight the role of accounting measures in justifying the introduction of teamwork, and they address the issue of the employees' self-identity that renders them receptive to moves towards teamwork. Accounting measures "enabled managers to engage in the rhetoric that they were not directing the work of the machinists" and hence shaped and stimulated control in the form of peer pressure (Ezzamel and Willmott 1998: 387). Moreover they show how "teamwork reforms and elaborates, rather than replaces or eliminates, a traditional, hierarchical system of management control" (p. 391). Although they acknowledge that managers were sincere when they wanted teams to become self-managing, the shift towards teamwork was viewed by the employees as "a threat to the narrative of the self", that is, as a threat to regard each other as 'work mates'. Within a fragmented, hierarchical line-work system, work involved a minimum of overlap and potential of collision, so that a work-mate collegiality could easily arise. The new team work system, however, was associated with work intensification and raised the pressure of mutual surveillance and horizontal social control. The employees hence declined to become more than minimally involved in what they viewed as managers' responsibility (p. 390).

Sewell (1998) highlights that the apparently consensual workplace relations associated with teamwork are, in certain circumstances, founded on new technologies and peer group control. He suggests a model of hybrid control with electronic control as vertical and team control as horizontal components. With regard to electronic control, Sewell refers to the increasing role of information technology in the manufac-

turing and office environment (1998: 406-409). He emphasises that management information systems bear a striking resemblance to the principles of panoptic surveillance highlighted by Foucault (1977). With regard to horizontal control, he refers to group norms that form a discourse of 'correct' behaviour, to the fact that group norms are less open to wider scrutiny and processes of appeal than externally determined rules, and to the 'tyranny of structurelessness'.

"Freeman's (1974) discussion of the 'tyranny of structurelessness' - the emergence of unpleasant bullying tactics in groups that consciously attempt to eschew the orthodoxy of hierarchical organization - provides insights into the potentially coercive dynamics of concertive control. This is not to say that teams will inevitably follow some trajectory of irrationalist decline if left alone, but we should be alert to the potential for petty tyranny to arise in teams" (Sewell 1998: 411).

In view of these critical analyses of concertive control, it is interesting to see that the Weberian tenet of legitimate authority through bureaucracy inherently regains attractiveness, since it provides the participants with protection against certain forms of oppression, that participants going against the collective will within concertive systems of control do not have. In light of the above results, Rothschild's (1979) and Rothschild and Whitt's (1986) classical delineation of a collectivist organisation as an alternative model to rational-bureaucratic organisations appears rather naïve.

In summary, the hegemony of integrative approaches to work organisation as a normatively good thing has of late been increasingly challenged. Current critical organisation studies focus on potentially negative effects that are obscured by the promise of empowerment and participation through teamwork. A consensus can be identified that work organisation based on principles of togetherness are not more liberating than conventional forms, but bear the danger of other forms of control and potential peer-group tyranny. While fostering social integration has long been viewed as a means to the humanisation of work, the pendulum now seems to be swinging to the other side. Concepts with an inherent Durkheimian dimension of organic solidarity are now viewed as an attempt to re-align individual motivation to the imperatives of the organisation and as another, more concealed and tighter form of control in organisations. While both practitioners and researchers with a humanist agenda long

seemed to have the same interest in fostering social cohesion, the discourses between functionalist management literature on the one hand and critical organisation studies on the other have again split into antagonistic camps.

2.4 Discussion

It has been outlined that the discourses in organisation studies have split into different directions. In the functionalist paradigm, obtrusive, hierarchical power is considered to be legitimate in Weber's sense. Power outside the formal hierarchy is seen as illegitimate, resistant and subversive; it must be overcome for the sake of efficiency. In the vocabulary of the managerial practitioner, the non-hierarchical use of power is labelled 'politics'. The image of a rational, that is 'legitimate', way without any 'disturbances' by micro-politics, is deeply rooted in managerial thinking. Using the term 'politics' helps reinforce the mainstream view that power used outside formal authoritative arrangements is illegitimate and dysfunctional (Hardy and Clegg 1996: 626). The early studies of Thompson (1956), Mechanic (1962), Crozier (1964) and Hickson et al. (1971) showed how non-hierarchical power lurks in any hierarchical organisation. In particular, the resource-dependency approach (Pettigrew 1973, Pfeffer and Salancik 1974) indicated how interwoven power is established and used in organisations.

The critical discourse postulates that it is too easy to argue that hierarchical calibration is only functional for the central principle of organisation. In this view, organisations reflect and reproduce societal power relations regardless of their organisational functionality, and follow the principle of divide and rule in order to produce compliance and consent (cf. Clegg 1989: 197). The functionalist approach, in response, would argue that power is an important factor in organisations. The point is to distribute power in such a manner that it constructively contributes to the common goals and hence to the benefit of all participants. Powerful people are ideally those who make decisions on the basis of experience and competence about procedures and processes - decisions that cannot be made by other people, since they do not pos-

sess the same procedural competence and very often do not want to make such decisions (cf. Bornewasser 1997: 528).

Moreover, the critical perspective draws attention to questions surrounding the high degree of consent by employees to their own subjugation. As discussed above, their analyses brought new forms of control into the open: control that functions in such a way that conflicts do not arise at all, that functions by virtue of ideological hegemony, and, in particular, by the creation of meaning and the normative inclusion of employees in the corporate ideology. Surprisingly, in May's (1997) typology of discourses on organisational culture, this critical discourse is only fragmentarily mentioned in his discussion of the clinical and the postmodernist discourse, but not identified as a separate issue. This might reflect May's German view on the literature, in which the US- and Britain-based critical debate and the concerns about new forms of control may be less represented.

Critical approaches are not only criticised from the functionalist viewpoint. Neuberger (1997: 516-518) summarises other authors' critique of a Foucauldian concept of disciplinary power and points out its self-immunising aspects. Moreover, Foucault's bridge between disciplinary practices through social influences on the one hand and the subjectivity of individuals on the other can be criticised for being based on assumptions rather than evidence. Yet the achievements of critical organisation studies are significant and can be regarded as an emancipatory demystification of a number of management practices and functionalist literature.

The recent development of the critical discourse towards concertive control seems united in its assumption of a link between integrative work organisation, some sort of dogmatism or normative control, and a loss of individual autonomy. Implicitly or explicitly, the analyses of Sinclair (1992), Barker (1993), Willmott (1993a), Pollert (1996), McKinley and Taylor (1996), Ezzamel and Willmott (1998) and Sewell (1998) marshal the traditional, liberalist juxtaposition of the individual versus the community. Community is presented in such a manner that it distorts the autonomy of the individual and penetrates the individual with group dogmas that hinder inde-

pendent thinking. The underlying assumption is that an autonomous core exists within every individual, which parallels the suppositions of both traditional political liberalism and the Frankfurt school. Alternatively, the Foucaultian view is adopted, which presumes that such a core is not just there but created and shaped by discourses and the connection of power and knowledge.

The issue of the social integration of the individual in organisations is also related to critiques of machine or organism metaphors in managerial thinking as pointed out in the historical accounts by Nelson (1980) and Shenhav (1995). Other suggestions of forms of community, however, such as those discussed in the edited volume by Kim et al. (1994; see especially Kim 1994, and Triandis 1994), or as marshalled in the communitarian agenda by Etzioni and his associates, are not discussed, but rather treated as a separate discourse. Forms of community that are set up *against* dogmatism, or to precisely foster individual autonomy are ignored. As a result, the presented view of collectivism is threatened by oversimplification: regardless of the basis of community, the focus on concertive control projects on it an image of group pressure and decline of autonomy.

However, the contents on which an integrative work organisation is based may also manifest values incompatible with dogmatism or a decline of autonomy. Some characteristics might even empower employees to bring managers in line with their expectations, since they can refer to them in their claims (see Rosenthal et al. 1997). Instead of being controlled by peer-group surveillance and a normative attachment to corporate values, employees may benefit from a concertive organisation and organisational values without the side-effect of additional control, for a concertive organisation may also provide for the possibility of collective resistance, and institutionalised values may provide employees with something like constitutional rights in the organisation. In the discourse on concertive control, however, it is presupposed that the creation of values and communities is related to a decline of autonomy. Yet these correlates of community might be differently connected than strongly corresponding. A project team consisting of members of very different ethnic or national-cultural groups, community forms such as those conceived of in the communitarian agenda,

or the French work communities as described by Fromm (1956: 306-321) with a sense of solidarity in spite of ideological differences, may be conceived of as such.

This suggests concentrating the analysis on these assumed correlates of collectivism in order to shed light on their interrelation. An empirical investigation with this goal promises insights about the extent to which the assumption of their simultaneity is helpful. Yet a framework by which the correlates of cohesion can be identified and systematically investigated in terms of their interrelation has so far been missing. As will be discussed in Chapter 3, the Popperian approach links up with the discourse on concertive control and provides a basis for an empirical investigation of organisation-cultural circumstances that may or may not conform to the phenomenon of concertive control. Empirical results on potential correlates of organisational collectivism may determine whether an organisational culture corresponds to or contradicts the pattern of concertive control. They may show whether characteristics like collectivism, contrary to the current assumptions, go together with features such as autonomy or absence of dogmatism, and may thus provide insights into where the current discourse of concertive control exaggerates or is mistaken.

Some other precarious elements of both the hermeneutic and the critical approach need to be discussed in this context. As mentioned in the introduction, one limitation of these discourses is that there has as yet been no considerable integration of national-cultural studies. Since organisational theory has developed into an increasingly accepted academic discipline independent of industrial sociology, the connections between the societal and the organisational level have to some extent been lost. In particular, the hermeneutic discourse (Section 2.2) with its subjectivist methodology tends to treat organisations as individual cases detached from the values systems in the environment. Cross-cultural organisational research, on the other hand, is more nomothetic and has paid much attention to the comparison of cultures on quantitatively measurable dimensions. Comparative analyses of societal culture have not been used to illuminate the ideographic accounts of organisational culture and symbolism. Astonishingly, and probably caused by the potentially high methodological effort involved, when cross-cultural analyses have been used at the organisational

level this has only been done within a framework of organisational structures or, at best, work attitudes (Maurice et al. 1980, Budde et al. 1982, Sorge and Warner 1986, Tayeb 1987, Tayeb 1988, Lutz 1992, Stewart et al. 1994), rather than organisational cultures or values. However, the degree of social isolation of the individual, the forms of social cohesion, and the treatment of knowledge, differ strongly from country to country. Thus, what in one culture takes the form of concertive control may assume a totally different shape in another.

Moreover, both hermeneutic and critical approaches concentrate on phenomena such as symbols, myths, metaphors, norms, values, etc., which are difficult to turn into subjects of structuralist and/or objectivist empirical studies (cf. Alvesson 1987: 210). The advocates of subjectivist methods argue that organisational symbols, assumptions, or cultures, do not constitute a pattern whose characteristics are identifiable in a linear manner. Rather, they are supposed to be inconsistent and full of contradictions. With this reference to the differentiation or fragmentation viewpoint (see Section 2.2), structuralist approaches and objectivist attempts to capture a culture are forcefully refused. In light of the ongoing debate on structure and action and stimulated by the philosophical view of critical realism (Marsden 1993, Reed 1997), this refusal must be regarded as methodological parochialism.

The fundamentalist subjectivist viewpoint downplays the idea that within a differentiated pattern in an organisation there are elements that distinguish it from other organisations. These elements may not cause consensus, but if one abandons the ambition to measure 'the' organisational culture as such, but instead limits the scope to measure attributes of a specific theoretical framework, then a certain degree of comparability to other organisations can be achieved. A total rejection of the objectivist perspective, therefore, seems exaggerated, since it remains reasonable to assume that organisations do differ significantly once they are observed within a theoretical framework that is limited in scope, but concrete in its usage. Beyond the functionalist paradigm, however, objectivist analyses have gone out of fashion and, as a result, the interplay of methods, frequently demanded during the recent debate on paradigm incommensurability and the ongoing discourse on structuralism in organisation studies,

has been lost (see for these discussion the epistemological orientation in Section 5.1, and also Section 6.1, below).

The differentiation perspective systematically underestimates the integrative aspect through its focus on the differences within an organisation. In a sense, the researcher will always obtain a differentiation perspective if he/she focuses on the variations within an organisation. If one looks for it, one will easily find aspects that vary in the organisation and divide the participants into several subgroups. With the research focused on a concrete theoretical framework (aware of its limitations), though, those aspects which differ significantly between organisations can be highlighted. By conceptualising organisations with a 'mean culture' but also with significant 'standard deviations', the perspectives of integration and differentiation need not contradict each other. On the contrary, even the strength of differentiation can be expressed as a 'standard deviation', if the focus is directed to employees' perceptions of and assumptions on concrete significations.

Another result of the disapproval of objectivist and structuralist approaches in critical and hermeneutic organisation studies is that the level at which sociological analysis is to be conducted seems pre-determined. In most cases, only one organisation is taken as a 'case' and/or the analysis is held on the macro-level of general societal trends reflected in work organisations. By that, an entire level of sociological analysis is virtually excluded or at least clearly under-represented: the meso-level of a pool of organisations. The predominant mode in hermeneutic and critical organisation studies is the micro-level of subjectivist approaches; it is taken for granted that this is the 'appropriate' way to investigate the phenomena under scrutiny. Based on this micro-level, general conclusions are drawn on the macro-level, such as a 'general tendency' towards deskilling in orthodox labour process theory in the 1970s (although in a number of other countries, for example Germany, deskilling never took place, cf. Littek and Heisig 1995), or a 'general shift' from bureaucratic to normative and concertive mechanisms of control (see Section 2.3, above). The meso-approach, which would draw on a pool of organisations and analyse the extent to which, for example, configurations of cohesion are established in all investigated organisations,

or which would question whether certain structures of control can only be identified in single organisations without a recognisable general pattern, is left out of consideration. As a consequence, single organisations are taken as exemplary cases and attempts to construct and validate theories from which one could explain and predict organisational behaviour have been given up. The discovery and critique of new forms of control (which might be marginal given the selection of corporations for research) seems more important than the investigation of correlates of cohesion in organisations.

A reason for this paradigmatic parochialism might be the traditional juxtaposition of objectivist-functionalist studies on the one hand and subjective-interpretive on the other, as put forward by the influential publication of Burrell and Morgan (1979). The bipolarity of objectivist versus subjectivist paradigms has deeply penetrated the mindset of critical researchers on organisations. Suggestions to regard Burrell and Morgan's (1979) conceptualisation as heuristic instead of instrumental (Willmott 1990, Willmott 1993b, Deetz 1996) have hardly found their way into empirical research. As a consequence, a nomothetic approach to critical issues is still considered a contradiction, rather than it is appreciated for its potential to inform hermeneutic and critical research and create new perspectives. By that, the advantages of such studies are not recognised and an "interplay of research perspectives" (Alvesson 1993: 90) is excluded.

This dismissal of objectivist or structuralist studies into the realm of functionalism and Donaldsonian positivism (always with a negative connotation) causes a phenomenon that is certainly not intended by critical scholars: the mystification of terms such as 'normative control' and even 'organisational culture'. By taking for granted that these phenomena are something 'emergent', something 'intangible' that can merely be captured through 'interpretive studies' or be read in a 'hermeneutic' manner, academic researchers lose contact with the outside. Their conceptions of these phenomena are no longer understood by managerial practitioners, so that well-intended actions for improvements cannot be backed by scholarly support. Critical and hermeneutic organisation studies are conducted by an intellectual elite that to a

large extent seems to have given up the project of enlightenment; and by the mystification of their terms they unintentionally achieve the opposite result, namely that their research is derogatorily dismissed as poetry, text, and literature.

With their methodological partiality and their focus on negative aspects of organisational culture, critical and hermeneutic organisation studies reflect to a large extent pessimism and despondency. Remedies, suggestions of how to put it right, are but rarely found. One of the debates within the Frankfurt School, particularly between Fromm and Marcuse, as to whether there is a way out, that is to say, whether improvements within 'the system' make sense and what these improvements could be, is not discussed. Instead, the discourses are fixed on negative phenomena such as normative control, concertive control, and loss of autonomy. In this sense, Foucault's publications were triggers to focus on even more discouraging phenomena such as disciplinary practices, subjectification, and self-surveillance. As Ingleby (1991) writes in a new introduction to Fromm's 'Sane Society',

"grand generalisations about what is wrong with our culture and how to put it right are, nowadays, more often to be found on the shelves of alternative bookshops than in the university library... The contemporary awareness of... problems is, alarmingly enough, in inverse proportion to the faith in our ability to find answers to them" (p. xv-xvii).

The discourses in critical organisation theory hence reflect a despondency which has already been debated within the Frankfurt School - and the narrative of critical organisation studies suggests that the pessimistic and not the Frommian side is right. It remains to be seen whether this trend continues or whether critical organisation studies turn towards instrumental discussions of remedies. With their notion of micro-emancipation, Alvesson and Willmott (1996) have recently made a beginning to re-direct the prevalent trend towards despondency.¹⁷

¹⁷ Although he supports the emancipatory interest of Alvesson and Willmott, Jackson (1999) criticises the notion of micro-emancipation for disregarding the macro-emancipatory structures of domination: "The risk in seeing these (micro-emancipatory, T.A.) actions as signifying more than they do for emancipation is that we merely exchange the closed prison for the open one" (Jackson 1999: 350). An emancipatory interest, in this view, must focus on the capitalist structure as a whole.

A reflection of the despondency conveyed by the narrative of hermeneutic and critical organisation studies is the fact that the cultural disintegration of the individual in modern society - and the positive role organisations may play in this context - is left out of consideration. Through the focus on concertive control, each form of community, communitarianism, or cohesion, is put into the light of group pressure and autonomy deprivation. However, since individuality and independence may be a constitutive part of an organisational culture, this inherent assumption of critical organisation theory may lead to a dead end. The role of organisations as communities that counteract the trend of cultural isolation and social disintegration of the individual, without simultaneously causing a new form of subordination, is not systematically discussed, but rather, biased by the inherent assumptions on community and control, treated as a different debate.

This thesis argues that the above shortcomings of hermeneutic and critical management studies should be tackled on empirical grounds. Results about potential correlates of organisational collectivism may help determine whether and where critical organisation studies, particularly the recent discourse on concertive control, exaggerate or err. Empirical results may show to what extent characteristics like collectivism go together with contrary features such as autonomy or absence of dogmatism. Such results would indicate whether the identified trend towards concertive control may be cushioned, or counter-balanced, by trends towards an anti-control type in an organisational culture, so that some assumptions of critical organisation studies may need to be reconsidered. The findings may show to what extent the picture of organisations this discourse draws is too gloomy.

This thesis suggests that Karl Popper's critique of totalitarianism in 'The Open Society and its Enemies' (1945) provides an appropriate framework for this analysis, since it is centred around a critique of collectivism and outlines its potential correlates such as determinism and low autonomy, or normative control and dogmatism. Popper's account of totalitarianism is conceived in terms of patterns of thinking and, as German-language publications such as Gebert (1991), Boerner (1994), and Gebert and Boerner (1995) suggested, allows for an application not only on the societal but

also on the organisational level. The aforementioned elements of concertive control referred to by critical organisation studies can be made explicit through Popper's work and hence be applied to organisations, which in turn allows for an investigation of their interrelation, that is, the correlates of collectivism. Also, an application of Popperian ideas to organisations promises an access to structural analysis aware of hermeneutic and critical studies (Chapter 6), and a connection to national-cultural studies, since organisational and national-cultural features can be expressed in this framework (Chapter 7).

3 The Popperian approach to organisational analysis

Chapter 2 has outlined the shift of the discourse on organisational control from bureaucratic to normative and eventually to concertive mechanisms of control. One key assumption of the current discourse is that collectivist work organisation, conceived of as fostering social cohesion and togetherness as a step away from Taylorist or bureaucratic forms of organisation, carries with it the danger of new forms of control, which might be tighter than the conventional ones. These mechanisms of peer group or concertive control have been identified by several analysts, and the assumption prevails that social cohesion goes together with forms of dogmatism and a demise of individual autonomy.

This chapter argues that the thinking of Karl Popper in terms of open versus closed society provides a framework to examine this assumption. Popper was probably one of the sharpest enemies of collectivism, for he considered it one of the pillars of totalitarian social orders. In his opinion, closed forms of society (he meant the totalitarian social orders of Nazi Germany and the Soviet Union at the time he wrote 'The Open Society and Its Enemies') are preceded and accompanied by a pattern of thinking of which collectivism is an important part. Since Popper extensively discussed other elements of closure and assumed a mental bond between these elements and collectivism, examining the forms of openness and closure that occur in corporations promises to contribute to the body of knowledge established by critical and hermeneutic studies.

Applying a social philosophy, conceived in terms of societal systems as a whole, to corporations is not frictionless work. Commercial companies are not designed as democracies. Organised, goal-oriented activity requires a division of tasks and a need to co-ordinate them, which in turn generates a need for co-ordinative roles, a distribution of information needs and, hence, some sort of stratification (Abell 1979). Moreover, their goals as social entities have priority over the individual goals of their employees, and control arises as a consequence of differing objectives among members (Abell 1981: 263). Even 'democratically' conceived organisations, therefore,

cannot be equated with the demise of hierarchy (Abell 1979 and 1981). Hence, the profit goal, the necessity to organise work, and the resulting role structure, mark the fundamental difference to societies in general and will certainly induce a tendency towards closure. In this study, however, the 'degree' of openness or closure is not the foreground, since an investigation of the relation between organisational culture and concertive control requires to focus on patterns, or forms, of collectivity in social systems. Independent of the cultural level (organisation or society), social cohesion is connected with attitudes towards equality, autonomy, and knowledge - in any organisation as well as in society. Hence an application of the Popperian social philosophy to another level of social system, organisation, seems justified. The analysis will not circle around 'how open' corporations are, but aims to gather information on these different patterns, or kinds, of social cohesion. Moreover, in comparing the openness and closure in German companies with the German national culture, the focus will be put on the pattern of features; it will never be demanded to conceptualise organisations as democracies.

It is important to note that Popper himself did not suggest any 'correlates' or 'continuums' between openness and closure. This was rather elaborated by interpreters of 'The Open Society and Its Enemies' such as Gebert and Boerner (1995) and Bunge (1996). Moreover, Popper's treatise of patterns of thinking preceding and underlying totalitarianism does not discuss the possibility of independent features, but rather reflects Popper's understanding of totalitarianism as a whole. Hence it is not the precise application of Popper's viewpoint, but the distinctions he draws within the framework of openness and closure that allow for an observation in organisations that has not been previously possible.

3.1 Introduction to the Popperian social philosophy

In spite of, or because of, fundamental controversies, Popper's publications in logic and scientific method have left a lasting impression in the philosophy of natural and social sciences. Due to his epistemological publications Popper's name is strongly associated with the falsification principle, the criticism of historicism, the positivism

controversy in Germany in the 1960s, and with continuing debates on positivism. His social philosophy of the open society has had an impact far beyond academia. 'The Open Society and its Enemies' has become well known beyond academics, particularly in politics. Various politicians of different camps have repeatedly referred to critical rationalism and the open society in their political programmes. As Spinner (1978) points out, Popper's social philosophy has even been misused by political parties. Since the end of socialism, 'The Open Society and its Enemies' has also been widely read in Central and Eastern Europe (cf. Jarvie and Pralong 1999b).

In Western academia there is disagreement on the continuing relevance of 'The Open Society and Its Enemies' and its debates. On the one hand, the term 'open society' is used merely as a catch phrase in political and social philosophy. On the other hand, Dahrendorf, in a speech to the German Sociological conference in 1990, outlined the open society as a matter of continuing importance (Dahrendorf 1991: 141; see also the edited volume by Jarvie and Pralong, 1999). Döring (1996: 8), however, points out that, according to critics, it is not the 'scientific level', but the passionate and often polemic defence of democracy which accounts for the success of this book.¹⁸ The criticism of Plato, Hegel, and Marx is said to be an expression of personal aversion rather than a scientific interpretation.¹⁹ According to Döring (1996: 42), Popper himself said later that 'The Open Society and its Enemies' is more a feature pages supplement to the scientifically argued 'The Poverty of Historicism' (1960).²⁰ However, the work has clearly been written with a scientific purpose. It can be assumed that

¹⁸ Popper was occasionally criticised for eclecticism. The falsification principle can already be found in lectures of Charles Sanders Peirce (1839-1914), the criteria of voting governments out of office can already be found in John Stuart Mill's *On Liberty* (1859), and the term open society can already be found in Henri Bergson's (1935) *The Two Sources of Morality and Religion* (cf. Döring 1996: 13 and 41). However, Popper explains the differences to Bergson's use of the terms in an endnote (Popper 1945 I: 202). Moreover, there is no doubt that the controversial accusations aimed at Plato, Hegel, and Marx as well as the controversial reading of Kant are originally Popper's.

¹⁹ Popper's critique of Marx is highly controversial. Popper did not overlook the aspect that the structures of domination in the capitalist societies of Germany and England at the time Marx wrote 'Capital' had clear traits of closure, such that Marx can be interpreted as someone who suggested a liberationist movement, a way to break out of the closed structures of the capitalist society towards a more egalitarian system less marked by dominance. However, the deterministic character of Marx's notion of power as determined by ownership of the means of production and his prognoses towards communism matches Popper's understanding of totalitarian thinking. A detailed discussion of how far Popper was right in his critique of Marx (that is, to what extent the instrumentalisation of his writings for a totalitarian social order is already inherent in his work), would be beyond the scope of this thesis.

this confession by Popper is a late coquetry rather than actual awareness at the time he wrote the book.²¹

In 'The Open Society and its Enemies', Popper does not use technical philosophical terminology, but rather a style that is readily accessible for those not familiar with philosophical terms. By this, he accomplishes his own demand for clear expression and understandable phrases. However, he can be criticised for using a writing style that is not sparing in polemic or defamatory methods (cf. Döring 1996: 41). On the other hand, Popper receives great support for his ideas of the connection of the Socratic notion of cognitive modesty with the concept of enlightenment and individual freedom, for his defence of democracy and the criteria of voting governments out of office on the basis of the falsification principle, and for his criticism, the first of the kind, of former intellectual icons as Plato and Hegel. It is due to this critical capability of 'The Open Society and its Enemies' that Popper's polemics are usually forgiven. As selective and controversial as his reading of Plato, Hegel and Marx is, none of Popper's critics doubts the importance of his work in defence of democracy against a collectivist herd instinct, against the claim for final wisdom, against demands for a strong state, and against a charismatic utopian.

Popper neither develops a 'concept' of open society nor outlines characteristics of it. The constructive part results from his defence of democracy, or rather, in a reverse deduction, from his criticism of its enemies. At the most, the criteria of voting governments out of office and the plea for political institutions controlling one another may be seen as constructive characteristics of an open society. These two criteria are the ones which may be necessary or even sufficient preconditions to make up an open society. However, Popper does not build up a holistic 'conception' of society on this basis, since this would contradict his warning against utopias. Nevertheless, his plea for a social technology of small steps (piecemeal engineering) is constructive. He suggests the principle of permanent elimination of errors: the method of perma-

²⁰ Although 'The Poverty of Historicism' was published later, its manuscript was finished before Popper began writing 'The Open Society and Its Enemies'.

²¹ For the most detailed evaluation of Popper's social philosophy and of the often misguided interpretations of Popper's followers and critics see Spinner 1978, unfortunately only available in German.

nently searching for mistakes and inaccuracies in order to correct them early. This principle was already explained in the manuscript for 'The Poverty of Historicism' (1960), which Popper had finished before he began 'The Open Society and its Enemies'.

According to Hall (1997), 'The Open Society and its Enemies' contains three basic assertions. First, Popper saw a perennial revolt against freedom by the appeal of ideas that value the community higher than the individual, as well as by visions of a predetermined and certain future that the individual cannot influence. Second, Popper argues that this revolt against freedom is first and foremost encouraged by the ideas and activities of intellectuals. His attack of Marx, Plato and Hegel as intellectual predecessors of totalitarianism may be controversial, but there is a point irrespective of the individual thinkers he attacks: that totalitarianism is not necessarily a domination of coercive anti-intellectuals, but flanked and secured by intellectuals. And third, Popper assumes that periods of social change create instabilities which can undermine liberty and freedom. Popper assumes that human instincts toward the 'herd instinct of the tribe' are foremost counteractions to the hardships of freedom and liberty. These hardships, the insecurities inherent in changes, the burden of responsibility in a world that is to be shaped by the individuals themselves, go together with the need for stability and security. If backed by intellectual idealism, these needs are bound to overrule the need for individual freedom.

Liberal societies are therefore always under threat by the betrayal of intellectuals playing upon the fear of freedom. In particular, those who draw on the patterns of history and who amalgamate an admiration for authority and superiority with totalitarian concepts of equality, that is, the 'justice' of the allotted position, make totalitarian ideas seductive and legitimise actions towards totalitarianism. Hence one of the founding principles of a sociology of an open society is that power should always be in different sets of hands. As Hall points out, a "multipolar system" (1997: 32) without a single centre belongs to the key elements of Popper's open society. Moreover, based on Popper's notions of piecemeal engineering, a sociology of openness is based on the possibility of stepwise changes. As Hall (1997: 34) puts it, "when

workers have the chance to reform, they will not become revolutionary." A totalitarian turnaround can be prevented by institutionalised possibilities for changes. An open community hence has an ambiguous relation to changes. On the one hand openness is a necessary condition for changes and development, on the other hand the drawbacks of openness can foster the need for totalitarian turnarounds and hence endanger openness. The following sections show how these accounts of openness apply to contemporary industrial corporations and how they can contribute to the current debate on concertive control.

3.2 Interpretations of Popper and their application to organisational analysis

3.2.1 Gebert and Boerner's conceptualisation of openness and closure

Based on Popper's notions of openness and closure, Gebert and Boerner (1995) develop a model to describe organisations. Being aware of the differences between organisation and society, they do not set up a value laden and therefore superficial demand for open organisations. Nor do they insist on a law for voting the top management out of office or claim that institutions should control one another within organisations. Instead, they introduce a model that uses the Popperian terminology, directs it into conceptual courses (which they call 'dimensions'), and use it to outline the inherent tension of corporations between openness and closure. In Boerner's publication (1994), the relation of society and organisation is not yet considered, but in a joint publication (Gebert and Boerner 1995) it is discussed explicitly. Based on an optimism for enlightenment, they appeal to senior managers to reflect upon their style of leadership and the organisational design in the tension between open and closed society, and to be aware of the tendencies of their actions towards openness or closure. Although they try to be value-neutral in their discussion of open and closed organisations, Gebert and Boerner also attempt to guard against sliding towards value-relativism. Their argument is guided by the notion that closed organisations might be functional for the openness of a society, since needs closely connected to

closure such as harmony, consensus, sense-making, and law and order, might be satisfied in organisations and, by that, stabilise the openness of the society (Gebert and Boerner 1995: 371-386, 438-439; see the empirically informed discussion in Section 8.2 of this thesis).

In order to guide Popper's conceptions into conceptual courses with reduced complexity, they compress 'The Open Society and its Enemies' first into five 'features' (Boerner 1994: 44-62), and then into three 'dimensions' of openness and closure (Gebert and Boerner 1995: 23-30). These three dimensions provide the analytical frame that guides their work. (Their monograph is expressly aimed at both the academic organisation theory and managerial practitioners.) They aim to compensate for the inevitable loss of information resulting from this compression of Popper's notions into three dimensions by the conceptual structure guiding the readers' cognitive process. This structure provides the means for their discussion of contemporary management trends in terms of openness and closure.

Gebert and Boerner claim that in order to understand the distinction between open and closed society, it is not sufficient to look at certain symptoms, processes and rules. They emphasise the need to understand the mental connections between the different features of the prevailing society types (Gebert and Boerner 1995: 21). The respective features developed in their first analytical step are not to be understood as independent characteristics, but should be seen with an ideational bond. The features shown below indicate the value patterns and mental states valid in the different society forms.

<u>CLOSED SOCIETY</u>		<u>OPEN SOCIETY</u>
Feature 1 The community is characterised by		
homogeneity of interests		heterogeneity of interests
Harmony	<i>Values</i>	Plurality
Feature 2 Human beings are considered to be		
of unequal value		of equal value
Stable role system	<i>Values</i>	Equal opportuni- ties
Feature 3 The principal entity to be protected is		
the collective / the community		the individual
Security Order	<i>Values</i>	Individuality Freedom
Feature 4 Knowledge is regarded as		
incontestable		contestable
Clarity Sense	<i>Values</i>	Tolerance Learning
Feature 5 The social reality is perceived as		
pre-determined		changeable
Stability Predictability	<i>Values</i>	Autonomy Hope

Figure 1: Value patterns and mental structures in the open and the closed society, cf. Gebert and Boerner 1995: 22

Features 1 to 3 outline values whose closed pole Popper describes using the phrase 'organic theory of society and state' (Popper 1945 (I): 173-174). With this term Popper criticises social theories in which any member of the community has his allotted position, knows it, and does not struggle for any other. In an organic state everyone fulfils his task and 'duty' for the ultimate well-being of the community; just as the stomach digests and cannot become the heart, and a kidney fulfils its task and cannot become a lung, etc. This distinction is especially drawn between, on the one hand,

communities in which individuals always serve the collective whose well-being must be protected, and, on the other, communities in which the collective serves the well-being of the individuals, that is, protects the rights of its individual members. Accordingly, Gebert and Boerner (1995: 27-28) summarise these features in the guiding question as to whether it is the individual or the collective who should be in the foreground, which leads to their 'social dimension' of openness and closure.

Feature 4 is an application of the epistemological position of critical rationalism to the social realities and assumptions prevalent in communities. It deals with the question of the extent to which doubts about opinions of certain individuals or about processes are considered to be acceptable, to what extent such doubts are allowed to be expressed, and to what extent members of the community have those doubts at all. Accordingly, Gebert and Boerner formulate a guiding question as to which assumptions about the reliability of human knowledge there are. This leads to their 'epistemological dimension' of openness and closure (Gebert and Boerner 1995: 28-30).

Feature 5 expresses Popper's reference to 'The Poverty of Historicism' (1960) and is a specification of his criticism of attitudes of pre-determinism. Popper denies any form of predetermination of the future by the past, or of social norms by natural laws, and clarifies his opinion that the future is open and that social norms can be influenced and shaped by the will and decisions of humans. Accordingly, Gebert and Boerner formulate their second guiding question as to what assumption there is among the members of a community about their freedom to shape the social reality and the future themselves. This questions leads to the 'anthropological dimension' of openness and closure (Gebert and Boerner 1995: 23-27).

Hence, these five features which are used to distinguish between open and closed societies are summarised in three guiding dimensions which Gebert and Boerner call social, anthropological, and epistemological. They emphasise that these dimensions describe values and mental patterns which precede the rise of an open or closed society, rather than the state of a polity, since "the reality influences the thinking and the

thinking influences the reality" (Gebert and Boerner 1995: 22, my translation).²² In the following sections, these dimensions of openness and closure, social, anthropological, and epistemological, are introduced in greater detail with respect to their application to organisations.

3.2.1.1 *The social dimension*

Gebert and Boerner elaborate Popper's criticism of an organic or biologicistic theory of society or state and summarise it under the label 'social dimension'. As mentioned above, Popper understands the closed society as a kind of 'organism' in which the various limbs have a complementary relation to one another and jointly serve the well-being of the whole. The roles of the individuals are not questioned, neither by themselves nor by others. The social position is seen as sacrosanct and therefore stabilises the system as a whole. Thus, the collective is in the foreground and takes precedence over the well-being of the individuals.

Gebert and Boerner delineate this difference between an individualistic and a collectivist orientation as the central distinction of their social dimension. In the closed organisation, the individual is a means to an end, and subordinated to the collective. In the open organisation, by contrast, individuals are ends in themselves: it is the purpose of the polity to serve and protect the well-being of the individual. In the closed polity, moreover, the assumption of homogeneous interests among its members dominates, so that there are in principle no struggles for positions, since each member, in his or her allotted position, helps to cement the stability of the whole. The point is to preserve and protect the collective, not the individual. The individual loses all importance where the well-being of the whole is concerned. By contrast, it is constitutive for openness that a plurality of interests is assumed. On the societal level, a balance of interests is made possible by the rule of law and separation of powers, on the basis of the assumption of the legal equality of all human beings. Applied to the organisational level, the assumption of plurality of interests in conjunction with legal

²² In this sense, Gebert and Boerner implicitly distance themselves from the Marxian tenet that it is not the consciousness of men that determines their existence, but the social existence that determines

equality of humans can be recognised in an open organisation: here it is assumed that humans differ in character, but not in value. In the closed organisation, however, it is believed that human beings differ not only in character but, since they occupy fixed positions in the system, also in value (cf. Gebert and Boerner 1995: 28). Here, social inequalities are perceived as natural, as a wise forethought of nature. Everyone retains his or her place in the societal order. Inequalities in the form of clique rule and unequal opportunities are accepted as reasonable and functional. The assumption of equal opportunities in the open society, however, allows for no preordainment in the place occupied by a member of society. Instead, everyone has a chance to alter his or her position. The individual does not always need to serve the good of the whole but can pursue its own interests. Thus, in this social aspect, openness can be distinguished from closure by individualism versus collectivism.

3.2.1.2 *The epistemological dimension*

Popper introduces the epistemological falsification principle in his defence of democracy, in particular in the principle of voting a government out of office. He sets great store by the possibility of ousting a political leader or ruling party without bloodshed if their policies fail. Thus it is the theories expressed in the political programs that die, rather than the people. For their dimensioning of open and closed organisations, Gebert and Boerner are concerned with the values held within and by organisations. Within the epistemological dimension, they consider the question of whether within the organisation human knowledge is regarded as potentially free from or ridden with error. For their description of the different values, Gebert and Boerner refer to Popper's criticism of the idealistic philosophy of Plato's and Hegel's kind. Here it is the task of science to discover the 'true' nature of objects: a wisdom-loving scholar is supposedly able to achieve knowledge about the 'object itself' by contemplative observation of its essence ("methodological essentialism", Popper 1945 (I): 31-32). According to Gebert and Boerner, an organisation which displays the value that one can achieve incontestable truth, is called a closed organisation.

For the opposite position, Gebert and Boerner refer to Popper's statement of Kant's philosophy of enlightenment (Popper 1945 (II): 214).²³ According to this position, the process of knowledge does not proceed until it has been recognised that knowledge is not a pure discovery but also a result of our own mental activity. The scholar must construct a hypothesis, which may or may not find empirical support. What is being observed and predicted is not only a function of nature, but also and more importantly a function of human thought as projected onto nature.²⁴ Hence, Gebert and Boerner designate as open an organisation in which knowledge is regarded as subjective and provisional.

On the basis of this recourse to the Popperian positions, Boerner (1994: 106-111, 126-129, 175-180) discusses how these values affect an organisation. Closed values such as clarity and freedom from error have effects on the internal communication and even on the organisational structure. For example, an oppressive all-knowing attitude, a charismatic tone of leadership, and a rigidly functional organisation structure may be some of the consequences. In contrast, open values such as the tentativeness and subjectivity of knowledge do not engender social control, but rather lead to tolerance, criticism and debate within the organisation. With this polarisation of values and artefacts, Gebert and Boerner have extracted a second dimension to juxtapose openness and closure.

3.2.1.3 The anthropological dimension

The guiding question of Gebert and Boerner's anthropological dimension of openness and closure is whether humans consider themselves objects of the world, that is, whether they have a passive role and are therefore victims of circumstances, or whether they regard themselves as subjects, having certain degrees of freedom, the potential to change circumstances and to shape their own future (cf. Gebert and

²³ Kant's philosophy of enlightenment is best represented in 'Critique of Pure Reason'. However, Popper's separation of Kant's philosophy of enlightenment from his idealism is very controversial (for this debate see Döring 1996: 46).

²⁴ On this basis, Gebert and Boerner see a constructivist perspective as the opposite of an idealistic opinion of science (1995: 26).

Boerner 1995: 23). Thus, as mentioned above, Gebert and Boerner refer to Popper's distinction between natural laws and conventions as well as to his criticism of historicism.

In his distinction between natural laws and conventions, Popper emphasises that societal manners, customs, and morals are only the work of humans.²⁵ The decisive point is that these conventions, since they have been shaped by humans, are subject to human will, whereas this is not the case for natural laws (Popper 1945 (I): 57-59). For Popper, it is an important criterion for an open society that this difference is understood and accepted. Accordingly, Gebert and Boerner designate a societal condition in which humans consider themselves under the spell of unchangeable taboos, laws and manners. 'Determinism' therefore marks the closed pole of this dimension (1995: 23-24). The particular benefit of this assumption of 'magic' is the de-responsibilisation of the individual. If manners and customs are held to be inevitable, individuals have no responsibility for them if they turn out to be bad.

This deterministic pole is contrasted by the 'open' attitude in which the distinction between natural laws and conventions is recognised. Here it is assumed that social laws can be altered, for example in the sense of Etzioni's 'active society' (Etzioni 1971). Manners and customs are here regarded as the work of humans and are thus the object of human change. The human will to alter manners and customs is therefore decisive for the reality of those customs. Gebert and Boerner mark this position accordingly with the term 'voluntarism' (1995: 25).

It is important for the paradigm's application to organisations that the deterministic, non-autonomous attitude does not necessarily refer only to metaphysical patterns such as deity or destiny, but also to worldly, non-supernatural explanations. Under the non-autonomous assumption, quarrels, for example, can be explained by a 'natural aggressiveness of humans', or the well-being of a company can be explained by 'unchangeable forces of the market', etc. Non-supernatural explanatory patterns are

²⁵ This does not mean that they have been developed by intentional action. They could also have arisen subconsciously and by an unconscious drift.

therefore by no means a feature of autonomous thought and do not reflect an independent approach to life (cf. Gebert and Boerner 1995: 25). In order to avoid a misunderstanding, Popper clarifies that although societal rules are conventions they do not have arbitrary contents. It is of decisive importance, however, that norms can be questioned and that humans are able to change them. Humans are therefore morally responsible for their norms (Popper 1945 (I): 61). Regarding the application to organisations, the continuum between voluntarism and determinism means that members of a closed organisation consider the organisation an object which is at the mercy of external or internal forces, whereas members of an open organisation regard themselves as autonomous forces for change within the organisation (cf. Gebert and Boerner 1995: 25-26). This distinction makes up the third dimension to juxtapose openness and closure.

It is more important to look at the consequences these assumptions have for everyday life in an organisation. In the first place, they affect the autonomy of the individual participant. Aligned by thinking in terms of dependence and confusing social norms with natural laws, the individual will perceive less freedom with respect to its possibilities of action and change in the organisation. Applied to the level of a social system, the participants will not only perceive as limited their individual action, but also the degrees of freedom of the organisation as a whole. The key concept of this dimension applied to organisations is hence the 'autonomy' of the individual. Gebert and Boerner's distinction between openness and closure can therefore be summarised as follows.

Table 1: Distinction of openness and closure, cf. Boerner 1994: 67

	OPENNESS	CLOSURE
Social dimension:		
What takes priority - the individual or the collective?	Individualism	Collectivism
Anthropological dimension:		
What degree of freedom and opportunity to shape the reality do humans perceive themselves to have?	Autonomy; Voluntarism	Lack of Autonomy; Determinism
Epistemological dimension:		
How reliable is knowledge regarded to be?	Contestable (ridden with error, tentative)	Incontestable (free from error, final)

To the best of my knowledge, Gebert and Boerner's account of openness and closure is the most sophisticated application to organisations so far. Their understanding of Popper is imprinted by their goal to reduce the complexity of Popper's notions, which also causes the controversial sides of Popper's notions to be to an extent left out of consideration. One year later, another account of Popper's *Open Society* was published by Mario Bunge, who explicitly addresses the controversial sides and criticises Popper's notions of openness as being insufficient for a valid 'social philosophy'.

3.2.2 Bunge's seven pillars of an open society and their application to organisations

In an analysis of the profundity of Popper's social philosophy, Bunge (1996) identifies seven pillars of Popper's concept of openness and closure:

- conceptual and practical rationality,
- ontological and methodological individualism,
- libertarianism,
- antinomianism (the non-existence of historical laws),
- negative utilitarianism ("Do not harm!"),

-
- piecemeal social engineering,
 - and a certain view of social order.

Bunge acknowledges the importance of these pillars, but contends them for not constituting a 'social philosophy'. He especially attacks Popper's concept of social order, but defends Popper's contribution to the unveiling of the philosophical roots of totalitarianism. As well as Gebert and Boerner's (1995) account, Bunge's (1996) systematisation of Popper's ideas provides a framework for the understanding of the Popperian distinction between openness and closure and for the application to work organisations. In this section Bunge's systematisation will be described and the applicability for the understanding of work organisations will be outlined.

3.2.2.1 Rationality

Popper's concept of 'rationality' is the first feature Bunge (1996: 529-531) identifies as constituting the open society. He points out that Popper's rationality is one of the 'negative sort'; that is to say, instead of trying to find reasons for (or justify) any given hypothesis or proposal, it is rational to look only for reasons against it. Hence a person is to be considered as rational if he/she learns from experience, critical arguments and the awareness that assumptions can fail. This concept of rationality reflects Popper's epistemology of falsification and is applied by Popper to a social philosophy through the appeal that a good citizen of an open society ought to behave in the manner of an ideal researcher: basing his or her action on the principle of conjectures and refutations.

Bunge also mentions the opposite of a rational person in Popper's terms: a loyal subject of dictatorship who blindly believes what he is told from above and who obeys his superiors without hesitation. Moreover he points out that Popper's understanding of rationality does not only have this conceptual, but also a practical component. To do so, Bunge first mentions that Popper does not explicitly define or claim a certain type of practical rationality, but rather emphasises that an open society requires rational debate (conceptual rationality) and rational action (practical ra-

tionality). Bunge claims that Popper never succeeded in telling what the latter is. However, he also regards piecemeal social engineering as one of Popper's pillars of the open society, which makes Bunge's critique appear somewhat superficial. Popper's practical rationality is based on situational logic - on the attempt to eliminate the bad step by step without a splendid philosophy behind it.

The first level of application to organisations is easily done: an organisation is open if the participants do not blindly believe what the executive board or other superior institutions tell; and if the employees do not just obey and meet expectations, but always act with the awareness that the assumptions of the action may turn out to be wrong. But the implications for work organisations go far beyond this level of employee behaviour. Openness of an organisation is also characterised by the way decisions are communicated to the staff. The way of communication can indicate the provisional character of a decision and clearly mark the assumptions on which it is based. The opposite kind of organisational communication can be named the disguising kind (Boerner 1994: 126-129). Here, the assumptions are not communicated and decisions are conveyed in such a manner that the receiver gets the impression that they are based on final wisdom and absolute truth. In this respect, therefore, Bunge's pillar of rationality goes together with Gebert and Boerner's (1995) epistemological dimension. But Bunge's point of practical rationality goes beyond that and overlaps Gebert and Boerner's (1995) anthropological dimension. Practical action in an open organisation is not connected with a superior philosophy, but rather based on the assumption that shortcomings are to be countered in an unideological manner. Hence, action in organisations needs no legitimisation by superior institutions, but can be conducted on an immediate basis and by lower participants. The concept of practical rationality therefore strengthens the position of the employee towards the superior and provides him with the power to act autonomously and on his own behalf. The participants' feeling of autonomy and power to force changes themselves is hence a feature of an open organisation.

3.2.2.2 *Individualism*

With respect to the feature of individualism, and contrary to Gebert and Boerner (1995), Bunge (1996: 531-534) draws attention to the distinction between Popper's ontological and methodological individualism. He discusses how Popper links up with liberal political theorists and utilitarian moral philosophers of the 17th and 18th century and states that, both ontologically and methodologically, Popper advocates a purely individualistic position on the traditional axis towards holism. Ontological individualism refers to Popper's acknowledgement of individuals and the supposed refusal of social wholes as social entities. Methodological individualism refers to Popper's claim that communities ought to be founded only to serve the well-being of the individual.²⁶ The well-being of individuals, and not communities, is hence the goal of social action.

In ontological respect, however, Bunge seems to some extent to be setting up a straw man. He posits that Popper denies the existence of social wholes and social facts, and uses this assertion to criticise this position. Over three pages Bunge attempts to show the ontological significance of social wholes and juxtaposes Popper's position to these descriptions. However, to put Popper into the corner of an ontological individualist misses the point. Through pointing out the importance of institutions controlling one another, Popper indicates that he does accept the significance of social wholes. Much more important than Popper's ontological individualism is what Bunge means by 'methodological individualism'. That is, Popper's claim that a social whole can only be a means to an end, and never an end in itself. Social systems are to be founded to serve the individual; individuals are the end of the foundation of social wholes.

²⁶ In his use of the term 'methodological individualism', Bunge hence differs from the usual understanding of the term as the doctrine that all sociological explanation is reducible to the characteristics of individuals (cf. Abercrombie et al. 1984: 154; Lukes 1973: 110). Lukes, for example, rejects methodological individualism in favour of sociological and social-psychological inquiry (1973: 156-157). This is criticised by Giddens (1984: 213-221). For a detailed discussion of methodological versus ontological and epistemological individualism see also the edited volume by O'Neill (1973).

This claim of Popper's is a constituent part of Gebert and Boerner's (1995) social dimension, which needs no more explanation at this point. Applied to organisations we come to the distinction of an association such as a 'self-help group' on the one hand and an 'apparatus' on the other (Gebert and Boerner 1995: 241-249). A self-help group's single goal is to protect the interests of each individual member. The opposite is an 'apparatus' conceived of as a well-oiled machine where every employee is viewed as a nut or a bolt; the individual's task is merely to secure the functioning of the whole.

Business corporations, however, are neither an apparatus nor a self-help group. As mentioned above, the goals of work organisations as a social entity are supposed to have priority over the individual goals of the employees. However, the existence of this common goal does not necessarily mean that the individual as an end in itself is neglected. According to the functionalist viewpoint (Section 2.1), it is rather assumed that the profit of the whole also serves every individual employee. The reproach from a critical perspective is that the societal structure as reflected in work organisations makes many things possible for few individuals and restrict many possibilities for a majority. To justify the critical view, the benefit does not have to serve a 'certain interest group' in the organisation, but it already suffices if the participants have no equivalent alternative to staying in the organisation. This is one of the leverage points of capitalism critique. The coercion of the capitalist system is expressed in the need of every participant to take part. And the inequality of opportunities accounts for unequal constraints: Although it is not conducive to their well-being, some individuals have no alternative to staying in an organisation, so that power and domination can emerge in various ways. Fox (1974: 284) put it this way:

"People do not come together freely and spontaneously to set up work organizations; the propertyless many are forced by their need for a livelihood to seek access to resources owned or controlled by the few, who derive therefrom very great power. The few can use this power to determine the behaviour of the many, not only directly, but also indirectly through the many agencies of socialisation, communication, and attitude forming."

3.2.2.3 *Libertarianism*

Based on a definition of a libertarian as a person whose maximal social value is liberty, Bunge (1996: 535-536) distinguishes between a 'radical libertarian' who believes in unlimited personal freedom (such as unrestricted free enterprise, the right to bear arms, join vigilante groups, and make hate speeches), and a 'moderate libertarian' who restricts personal and civil liberties in order to protect personal freedom. Bunge considers Popper a moderate libertarian since he favoured restricting tolerance to the tolerant. Moreover, based upon this image of Popper as a moderate libertarian, Bunge (1996: 535) insinuates that Popper values liberty far more than either equality or fraternity. At this point we see a significant difference to Gebert and Boerner's understanding of Popper's concept of openness. Gebert and Boerner do not stress Popper's libertarian side that much, but rather sketch openness as based on the egalitarian assumption that people are unequal in character, but equal in value (see above). Although Bunge posits that liberty and equality have no exchange relation and insists that one should refuse to be forced to opt between liberty and equality, he stresses Popper's libertarian side much more than his equality side. Gebert and Boerner, by contrast, do the exact opposite. The libertarian aspect is not recognised as an independent feature, whereas equality is a constitutive part of their social dimension of openness.

With respect to work organisations, both libertarianism and equality are twofold. On the societal level, equality might be a positive value. Work organisations, however, have established a hierarchy and, seen from the functionalist viewpoint, might have good reasons for that, for some people are more experienced than others and can make decisions and hold responsibility which others cannot and do not want to hold. For similar reasons the liberty of individuals must be limited in work organisations, since an unlimited degree would make the organisational co-ordination impossible. On the other hand, the participants demand a certain amount of equality and liberty in organisations. Not meeting this demand would go together with a loss of motivation potentials and employees' commitment to the organisation. Hence, from this functionalist viewpoint, we see a strong need to balance between traits of openness,

such as equality and liberty of the participants, and traits of closure such as inequality and absence of liberty. This notion of a balance, or a paradox, between openness and closure will be further elaborated in Sections 3.3 and 3.4.

3.2.2.4 *Antinomianism, negative utilitarianism, and piecemeal social engineering*

With respect to the question whether there are historical laws, Bunge (1996: 536-539) attempts to criticise Popper's anti-historicist position by referring to "social regularities." He asserts that there "might be objective social laws, in particular laws of social change (that is, historical laws), and yet there would be no fatalism about them because, being social, we would be the creators and exterminators of such laws and would be at least partially in command of them" (p. 537).²⁷ Hence, Bunge bases his critique of Popper's anti-historicist position on the assumption that Popper did not distinguish between historical laws and social regularities. This assumption is not justified. Popper never stipulates that there are no social regularities. He rather asserts that (i) social regularities are not independent of human action and can be modified to the better, and (ii) that no social regularities are strong enough (nor is human knowledge reliable enough) to predict the future in such a manner that political systems can be based on this prediction. Again, therefore, Bunge reduces Popper's work to half-true theses easy to attack.

With the term 'negative utilitarianism', Bunge (1996: 539-540) refers to the fact that Popper had no positive moral philosophy, but rather minimalist doctrines such as 'do not harm' or 'minimise suffering'. Bunge criticises that such a moral philosophy only treats the symptoms rather than the causes of evil. Accordingly, negative utilitarianism feels little concern for fundamental welfare and does not contribute to social stability; it can easily lead to laissez-fairism. However, Bunge confuses the *procedure* of piecemeal social engineering with the *substance*. Popper believes in the possibility of social reform and, as Bunge admits himself (1996: 540), in social reforms based

²⁷ Bunge even lists some points which he regards as social laws, among them are "Any technological innovation that affects the mode of production facilitates social mobility (both upward and downward)" and "Rapid population growth → Overcultivation and deforestation → erosion and loss of soil fertility → decline in food production → food shortage → political unrest" (p. 538).

on plans informed by social sciences. Bunge would have done better to view Popper's ideas in their procedural aspect rather than projecting a lack of substance on them. Popper does not deny the urgent need for social changes, not even with respect to Western welfare states; but instead of calling for a social revolution, he suggests improving it step by step, since this is the only possibility for political improvements without attempting to achieve utopian and misleading ideas.

Bunge's notions of antinomianism, negative utilitarianism, and piecemeal social engineering go together with Gebert and Boerner's (1995: 237-241) anthropological dimension. Their question of how free the participants feel to shape the organisation's social reality and future leads to the continuum between autonomy and voluntarism, as a constituting feature of openness, and lack of autonomy and pre-determinism, constituting a closed organisation.

3.2.2.5 The problem of social order

Bunge (1996: 546-551) points out that Popper's outline of social order was again a negative concept. That is, as in the case of the moral philosophy, Popper does not sketch what to do, but rather what is to be avoided. Popper replaces the traditional political question 'Who shall rule?' by the question of how to limit leadership and how to replace rulers without bloodshed. Again, therefore, Popper shifts from substance to procedure; from the prescription of what is good to the prescription of how to get rid of evil. This negative social order is clearly connected to Popper's epistemology of not searching for truth but committing oneself to critical discussion in order to reveal and replace falsity. It is this preference of procedure over substance that Bunge criticises as Popper's neglect of social order. He refers to the insufficiencies of a negative moral philosophy and a negative concept of social order: according to Bunge, an action that does not harm is not necessarily beneficial, but can also be indifferent; and to assess a proposition as non-false does not mean that it has some sort of empirical support, but it can also be just undecidable. On this basis, Bunge argues that positive concepts are inevitable. Individuals ought to make constructive contributions to society; the concept not to harm would only restrain them from political

action and reduce democratic participation to the day of a general election. Moreover, Bunge claims, the rational and moral choice of a voter needs to be based on announcements by potential rulers of what they will attempt to do; defending freedom is certainly no sufficient program.

Bunge is certainly right in drawing attention to the deficiencies of negative concepts, but he criticises Popper for not having achieved something he never attempted to. Popper never claimed to have founded a 'new theory of democracy', nor did he attempt to do so. He merely wanted to warn of political utopia and of political agendas based on them. According to many critics, Popper achieved this very well. Nevertheless, with respect to organisations Bunge's critique is helpful. It shows that no clear concept of an open organisation can be derived from Popper's work. The most constructive parts of Popper's image of an open organisation, institutions controlling one another and the possibility of voting a ruler or a government out of office, do not make sense in work organisations. The features of openness can only be derived from Popper's refusal of 'closed' characteristics, which has been done by Gebert and Boerner (1995). If Bunge had based his critique on such features of openness, he would have come to a different critique of openness: the potential instability of pure forms of open systems (discussed below, Sections 3.3. and 3.4).

Thus, beyond the fact that Gebert and Boerner applied the paradigm of openness and closure to organisations, while Bunge remains on the socio-political level, the differences between Bunge's understanding of openness on the one hand, and Gebert and Boerner's on the other are twofold. First, the emphasis is put on different sides of openness. Gebert and Boerner extensively discuss the contrast of individualism and collectivism. The aspects of whether the individual or the collective is to be protected, whether the community is characterised by homogeneity or heterogeneity, and of equality and inequality among the members, make up three out of five features of openness and closure. Hence, Gebert and Boerner put the internal characteristics of the community into the foreground of their analysis. Even their epistemological and their anthropological dimension are understood in such a manner that inner features of the community can be derived from it. Bunge, by contrast, puts the

emphasis on procedural aspects of openness. Three out of seven features, that is, antinomianism, piecemeal social engineering, and negative utilitarianism, deal with processes rather than with characteristics. The second difference between Bunge on the one hand and Gebert and Boerner on the other, is the way social order is addressed. While Bunge criticises Popper for not providing a concept of social order, but only procedures without a substantial concept of good, Gebert and Boerner approach 'The Open Society and its Enemies' in a hermeneutic way. They filter out those statements by Popper through which an image of openness emerges. On this basis they juxtapose an image of openness to an image of closure and discuss the problem of social order - not on the basis of procedures, but rather in terms of features helpful to find an equilibrium between the extremes.

Having now outlined the concept of openness and closure as founded in 'The Open Society and Its Enemies', the following section argues that the discourse on concertive control can be conceived in terms of Popperian notions as an assumption of coherent closure. That is, Popper's pattern of closure reflects and makes explicit the assumptions of the correlates of collectivism prevalent in this discourse.

3.3 From bureaucracy to concertive control in Popperian terms

Weber's ideal type of bureaucracy appears to be a pure form of Popper's notion of closure, but only at first sight. The characteristics of a "sphere of obligations to perform functions which has been marked off as part of a systematic division of labor", the "organization of offices that follows the principle of hierarchy", and the set of rules that govern performance (Weber 1978: 218) seem to be traits of Popper's 'organism theory of the state' and thus pertain to the closed side. But this view would be misleading for the understanding of both Weber's bureaucracy as a form of rational and legitimate authority, and Popper's closed society. Other characteristics of Weber's ideal type have clear traits of openness: a "continuous rule-bound conduct of official business" (Weber 1978: 218); the fact that the superior, too, is subject to the rules and to an impersonal order; that obedience is not owed to the superior as an in-

dividual, but to the impersonal order; and, lastly, that the administrative staff is completely separated from ownership. All these characteristics are in accord with Popper's demand to change the question 'Who shall lead?' to the question 'How can we limit the leadership?'. Popper's anger at his contemporary closed societies, the Third Reich and the Soviet Union, was fed by his dislike of a social order and its administration that had lost all means of legitimacy. In other words, Weber's bureaucracy with its impersonal order is a step away from a feudal towards a 'rational', rule-bound order set up to guarantee the rule of law. In Popperian terms, this is a step from closure towards openness. This can also be seen in Popper's notion that the societal assumption of humans as equal in value (though unequal in character) is a trait of openness, and closely connected with his claim for equal opportunities in an open society. Only a bureaucracy can guarantee equal opportunities, for the establishment of equal opportunities and the abidance to a law to treat individuals equally requires some sort of administration. The total absence of bureaucracy is equal to a re-establishment of feudal, charismatic, or arbitrary forms of dominance. The abolition of bureaucracy in totalitarian systems as documented by Gross (1984) with respect to a communist/military case, or by Birn (1986: 363-395) with respect to the replacement of bureaucracy by personal dependence in the Third Reich's SS, is quite clear in this respect. Against this background, Notturmo's (1999) account of bureaucracy being an enemy of the open society²⁸ appears to be rather superficial.

Openness thus rests to some extent on bureaucracy. What Weber labelled the process of rationalisation and disenchantment is likewise a process from closure to openness. The development away from traditional and religious social structures towards secular bureaucratisation goes together with a step from organic theories of the state towards a system with institutions controlling one another. This is not to say, however, that Weber is ex-post to be labelled a supporter of openness. His notions of traditional and charismatic dominance have clear traits of closure; a certain affinity to the

²⁸ Notturmo (1999: 53) argues that bureaucracy "leads to the transformation of human beings into little computers, programmed to follow a set of well-defined rules and capable of performing limited tasks according to them, but unable, or at least unwilling, to think for themselves even so far as to distinguish between those rules and the ends that they are meant to achieve." By that, he completely neglects the above arguments that bureaucracy is a step away from feudal or charismatic forms of gov-

established forms of authority in contemporary Wilhelmine Germany is certainly recognisable.²⁹

In a sense, the history of organisational theory can be viewed as a succession of attempts to find better solutions than bureaucracy, be it the human relations approach, open system models, or organisation-cultural models. The extreme case was introduced by Halliday et al. (1987) as a minimalist organisation juxtaposed to bureaucracy as an organisation without membership boundaries, bureaucratic administration or authority. The still continuing trend of the 1980s and 1990s towards participative and integrative work environments can be viewed as yet another attempt in the direction against bureaucracy. As well as the human relations tradition and adaptations of Japanese management, this trend to team work organisation and cohesive culture is explicitly or implicitly based on Durkheimian thinking in terms of organic solidarity (cf. Starkey 1992). It is reasonable to assume that Popper would have rejected both mechanical and organic solidarity in Durkheim's (1947) sense. Under conditions of mechanical solidarity, a collective consciousness predominates to the detriment of individual consciousness. Autocratic discipline harmonises individual movement in detail and leaves little space for divergences. This is in conflict with all dimension of Popper's thoughts. But even organic solidarity, although more based on discretion and autonomy, would undoubtedly belong to what Popper criticised as 'organism theories', for it is based on the tenet of functional interdependence and union of individuals through definite relations free from conflict. In this sense, Popper and Durkheim mark opposite poles in their normative attitudes to collectivism.

Some other classical parallels shall be discussed against the Popperian background. Riesman et al. (1950) distinguished between three types of characters: the tradition-directed, the inner-directed, and the other-directed. While the tradition-directed person does not conceive of himself as an individual, but rather as a member of a com-

ernance and towards a 'rational', rule-bound order aiming at equal opportunities. By and large, Notturno (1999) confuses a malfunctioning bureaucracy with the very concept of bureaucracy.

²⁹ It is important to note that Weber wanted his forms of authority to be understood as something that is *regarded* as legitimate by subordinates rather than something that *is* legitimate. This is a misunderstanding often to be found in readings of Weber. But a detailed analysis of Weber's work and the critique of his supposed closeness to established forms of authority cannot be the subject of this thesis.

munity, the term 'inner-directedness' refers to some sort of personal, internal strength that keeps these individuals on their track, even in turbulent times and under strong environmental influences. 'Other-directedness' refers to an orientation towards the environment, with personal values being replaced if the environment changes. Riesman's et al. (1950) concern was that the inner-directed type in the United States is slowly being replaced by the other-directed. That is, in spite of the strong value attributed to individualism in the United States, individuals increasingly orient themselves towards values prevalent in their peer group and conveyed by the mass media. This new kind of collectivism, other directedness, conceived in Popperian terms would prepare the ground for totalitarian social orders. It leads to the research area of identification, involvement and commitment in organisations, which, in their critical stream, often refers to Whyte's (1956) 'organisation man'. Whyte criticised the modern big US organisation for destroying individualism by fostering personalities totally oriented towards the employing organisation. Later on, Etzioni (1961) distinguished between moral and calculative involvement. While individualist values prevail in the case of calculative involvement, moral involvement can be conceived in terms of 'pure' and 'social' involvement. The former refers to an upwardly oriented involvement and a dependency situation on superordinates, the latter refers to a horizontal involvement among the peer group in the organisation. Fox's (1974) distinction between social and economic forms of contracts and relationships would be more interesting for Popper. It can be assumed that he would prefer economic contracts, since they are based on exchange relationships rather than on a diffuse sense of mutual commitment. Whyte's 'organisation man', Etzioni's moral involvement, and Fox's social contract hence mark different forms of closure in Popperian terms, since social orders of this kind are based on collectivist assumptions.

Rothschild's (1979) and Rothschild and Whitt's (1986) 'collectivist' organisation can be considered a classical conception, or even a climax, in this respect. Rothschild outlines a work organisation as a collective with alternative forms of authority, rules, social relations, and incentive structure. Here, the authority is supposed to reside in the collective as a whole; calculability is supposed to be possible on the basis of knowing the 'substantive ethics'; and social control is based on personalistic or mor-

alistic appeals and on the selection of homogeneous personnel. Internal relations have to be "holistic, personal, of value in themselves", so that the ideal of a community is achieved (Rothschild 1979: 461). Rothschild hardly tries to disguise her value-judgement in favour of collectives, for example by calling them 'collectivist-democratic organisation', juxtaposing them to bureaucracies, and hence putting bureaucracy into an anti-democratic corner. By that, however, and obviously without being aware of its relation to totalitarianism, Rothschild passionately outlines exactly such an organisation Popper would have called 'closed'. Against the background of the Popperian framework, the collective organisation as outlined by Rothschild (1979) or currently worshipped by functionalist literature on team work, corporate missions, participative work environment, etc., are not only to be regarded as a very naïve, ignorant form of 'democratic' organisations, but even acquire the bitter taste of totalitarianism.

Popper belonged to the most radical critics of any form of collectivism. In his opinion, collectives are connected with a shaping and alignment of assumptions and possibilities of action. Instead of being empowered to perform independent action, the participants take social reality for granted and are caught in passivity. Popper identifies with social collectives the mental uniformisation of individual cognition, which shifts towards totalitarianism if it is accompanied by an intellectual vision as a constitutive part. Corporate missions that emphasise an idealist goal and a sense of community among the participants, are in this sense a clear step towards closure, since they potentially cover fundamental differences of interest in organisations.

With respect to 'collectivist' organisations and the discourse on concertive control, the Popperian paradigm of closure makes explicit what could not be systematically observed before. In Chapter 2 it has been argued that current concerns about concertive control are based on findings that a collectivist organisation of work (reflected in team work organisation, group-based participation and empowerment, and the stress of an integrative corporate culture) leads to additional forms of control, even if at the same time the rhetoric of participation, empowerment, and emancipation is being employed. Peer-group surveillance, control through team ideology and group pres-

sure are assumed to reproduce the corporate ideology and align individual needs to the imperatives of the organisation. This has led to a consensus among the critical community that collectivist forms of work organisation are to be treated with suspicion.

This discourse, however, is based on inherent assumptions that have not been made explicit: community is presented in such a manner that it distorts the autonomy of the individual and penetrates the individual with group dogmas that hinder independent thinking. The conviction prevails that a cohesive organisation of work conceals individual motivations and conflicts of interest, causes an alignment of individual attitudes to the dogmas of the group, and endangers individual autonomy. Dogmatism and a loss of autonomy are therefore inherently assumed to be the inevitable correlates of social cohesion. With the notion of closure, the Popperian framework matches this discourse on concertive control, but with the dimensioning of openness and closure it offers even more. By means of Gebert and Boerner's (1995) arrangement of Popper's notions, this paradigm makes visible the above inherent assumptions of the discourse on concertive control. It offers

- a continuum between individualism and collectivism, that is, between an organic and an individualistic orientation of the organisation,
- a continuum between high and low autonomy,
- and a continuum between a monopolistic and pluralistic treatment of knowledge.

Thus it allows for an investigation of the interrelations between these dimensions without the inherent assumptions of the current discourse. These three dimensions make the current assumptions explicit and so provide a framework that allows for their investigation. As discussed in Section 2.4, the current discourse tends to treat concertive control as a one-dimensional construct. Forms of community that are set up against dogmatism, or to precisely foster individual autonomy, are not outlined. Rather, it is presupposed that the creation of values and communities is related to a decline of individual autonomy. The pattern of community, however, might be different than assumed. Some examples have been named above: a project team con-

sisting of members of different ethnic or national-cultural groups may strengthen the identity of individual members; community forms as suggested in the communitarian agenda are founded against dogmatism and are supposed to secure autonomy, or the French work communities as described by Fromm (1956: 306-321) establish a sense of solidarity in spite of ideological differences. These forms of community in which the assumed features of concertive control do not apply have not been discussed, for a framework has been missing through which correlates of cohesion can be identified and systematically investigated in terms of their interrelation. With the Popperian framework, this tacit image of corporations in the discourse on concertive control can be made explicit as an organisation coherently closed in three dimensions. Based on results of the relation of these dimensions one can investigate whether cohesion may assume other shapes.

Against this background, an empirical investigation of these dimensions' interrelations promises to illuminate the extent to which the assumption of their simultaneity is helpful. The results about the correlates of organisational collectivism promise insights into whether and where the current discourse of concertive control goes awry. They may show whether characteristics such as integrative work organisations, contrary to the current assumptions, might go together with features such as autonomy or absence of dogmatism.

Although this image of a closed organisation is certainly not appealing, it is important to avoid hasty striving for the ideal type of an open organisation, but rather to see organisations as an ongoing dilemma between openness and closure (Gebert and Boerner 1995). The juxtaposition of openness and closure by Popper is mirrored by two conflicting views of society: functionalist sociology and conflict theory. Functionalist sociology of the Parsons kind, the dominant sociological paradigm of the 1950s, assumed value consensus and stability of social structure as regulating social order, while conflict theory assumes perpetuating interest conflicts to be characteristic of society and social order to be based on the application of power. In his essay, which marked a milestone away from functionalist sociology towards conflict theory, Dahrendorf (1959) juxtaposes these two views as follows:

"The integration theory of society, as displayed by the work of Parsons and others structural functionalists, is founded on a number of assumptions of the following type:

- (1) Every society is a relatively persistent, stable structure of elements.
- (2) Every society is a well-integrated structure of elements.
- (3) Every element in a society has a function, i.e., renders a contribution to its maintenance as a system.
- (4) Every functioning social structure is based on a consensus of values among its members.

...

What I called the coercion theory of society can also be reduced to a small number of basic tenets, although here again these assumptions oversimplify and overstate the case:

- (1) Every society is at every point subject to processes of change; social change is ubiquitous.
 - (2) Every society displays at every point dissensus and conflict; social conflict is ubiquitous.
 - (3) Every element in a society renders a contribution to its disintegration and change.
 - (4) Every society is based on the coercion of some of its members by others."
- (Dahrendorf 1959: 161-162)

In Popperian terms, therefore, functionalist sociology marshals the tenets of stability, integration, functional co-ordination, and consensus, and hence epitomises the tenets of closure. Conflict theory, by contrast, represents the tenets of openness, and at the same time asks the central question whether and how an 'open' social order can maintain social order without coercion. At the organisational level, these two views are reflected in the hermeneutic discourse with the juxtaposition of the integration and differentiation view on organisational culture (Section 2.2), which are epitomised in their extreme by the juxtaposition of openness and closure. Both poles have potentially dysfunctional consequences, which can be outlined as follows. The ideal type of closure has obvious drawbacks for utilitarian organisations, since concertive control, a lack of autonomy, and a significant dogmatism potentially block responsiveness to necessary changes. With respect to organisational culture, the danger of the integrative view and collective orientations has already been acknowledged by Schein (1985) and sharply described by Gergen (1992):

"[I]f their internal view of 'efficient production' is seen as a 'local sweatshop' from without, their 'effective disposal system' is defined from without as 'in-

dustrial pollution', their 'reasonable policy of equal employment' is regarded as 'racist', their 'effective computerization' is perceived as 'hopelessly out of date'... then the organization slowly perishes. Its local realities fail to penetrate the public arena, and the public array of signifiers fail to enter the internal system" (Gergen 1992: 221-222).

It is obvious that the combination of closed traits can become a dysfunctional mixture. In the ideal type of an open organisation, on the other hand, members can potentially prove themselves by confronting challenges; with individual autonomy they feel in control of events and that the organisation is flexible. This may unleash motivational potential and lead to innovativeness and increased effort. An individualistic orientation may allow each employee to benefit from encouragement and training, therefore giving an improved chance for career advancement. This again may promote initiative, ambition, and commitment. The assumption that human knowledge is regarded as pluralistic and tentative implies independence and responsibility for every single employee. Everyone has a chance to prove himself or herself and shape his or her world of work, which therefore releases creativity and provides scope for procedural improvements and innovations.

However, the ideal type of an open organisation can also be conceived of as a fragmented mosaic of individuals and dispersed, conflicting interests, which can become an explosive mixture as well. Once the organisation is overfragmented, understanding is lost. The search for challenges and self-realisation in open organisations can easily turn into excessive demands and distress. The postulate of personal autonomy, namely that the reality within the organisation reflects the will of its members, also implies a burden of responsibility, since now the reality must be shaped by the individual - and that carries the risk of failure. Moreover, the scope for initiative, ambition, and commitment that individualism allows for can soon develop into quarrels and power struggles, which in turn may result in conflicts within the company and high transaction costs. Furthermore, the assumption of the tentativeness of human knowledge not only offers the benefits of innovativeness and improvements, but also presents the drawbacks of lengthy discussions and arguments. When planning potentials are limited and compromises become necessary, any functionalist control of the organisation may be blocked and the organisation may be destabilised. A purely

open organisation is by no means functional, but rather to be compared to a battlefield. In an organisation with pure individualism, high autonomy of the participants, and total absence of dogmatism, there are no means to avoid or cope with conflicts. Moreover, the conflicts are not necessarily behind the scenes as in the image of micro-politics. Rather, in the ideal type of an open organisation conflicts are viewed as a natural element of an organisation and obvious in the everyday life in the organisation. There is no manipulative creation of meaning in the open organisation, and no attempt to cover conflicts and power relations by sense-making processes. Speaking in Goffman's (1959) terms of a theatre, the distinction between front stage and back-stage is abandoned. Struggle and continuous need for negotiation are prevalent, rather than absence of power or suppression of interests. Hence the open organisation is characterised by multivalent powers; it is a contested terrain with individuals involved in a struggle between domination and liberation, that is, the struggle to achieve and to escape from power.

Therefore, openness driven to the extreme means to have a pool of individuals who share no common interest and who act completely voluntaristically only on their own behalf. The organisation can easily become a political arena in Mintzberg's (1983: 420-466) sense. It refers back to the Machiavellian image of an arena of networks, coalitions and attempts to undermine the position of rivals, which in turn is close to the Hobbesian fear of a state of war among the participants who only follow their 'nature' of bloodthirstiness and self-interest. In spite of the clearly closed characteristics of the Leviathan, Hobbes draws attention to a point that Popper leaves out: the question of whether a community needs some form of closure in order to secure openness (see Bunge's discussion of social order, above). If Hobbes were conceived of as someone whose intention was to preserve what Popper later called openness, and this understanding of Hobbes is by no means absurd, then the Leviathan could be considered a means to this end. This refers to the question of whether openness can be secured by closure, for example in the sense of a 'common commitment to openness', or whether this would be a contradiction in itself.

The idea that the three dimensions form a coherent system, is not only an assumption of the discourse on concertive control, but has also been formulated at a socio-political level as the 'logic' of the open society (Gebert and Boerner 1995: 79, with reference to Rawls 1993). Because of different inclinations, propensities, social conditions, experiences at school and at work, individuals have different convictions, preferences and ideas of what constitutes a virtue, and these play a crucial role in determining their way of thinking and acting. A singular, 'true' idea is not possible in an open polity since value judgements, by definition, can never be comprehensively justified (Gebert and Boerner's epistemological dimension). It follows that the possibility for deciding the true worth of values is also limited. Therefore, since no justification will ever be complete, individuals ought to have an opportunity to articulate and realise their values, to plan and shape their social environment (Gebert and Boerner's anthropological dimension). Hence pluralism and individualism have to be accepted, which in turn lead to equal opportunities and the acceptance of heterogeneity (Gebert and Boerner's social dimension) in the open organisation (cf. Gebert and Boerner 1995: 79). The closed structure has a coherent pattern as well: assumed certainty about knowledge leads to assumed certainty about the future, which in turn causes certainty about the social order and, eventually, the claim for domination. Closed polities are based upon ideas which are assumed to be ultimately true (epistemological dimension). Since a single value judgement is seen to be justified, for example by the assumed certainty about the future, the circumstances of the polity and its members are pre-determined by that superior idea. Any autonomous attempt for change is expected to fail or to be oppressed by the authorities (anthropological dimension). The freedom of the individual, particularly the freedom of speech, must be suppressed in such a way that the stability of the collective is always protected (social dimension).

Accordingly, Gebert and Boerner (1995: 21) emphasise that the ideational connections of the three dimensions are more important than the particular characteristics of the dimensions. However, one can also imagine situations that contradict this notion of coherence. An example for an interdimensional differentiation can be seen in the resolution by an entire collective (e.g., by a department or by the whole company) to

achieve fundamental changes in their domain. Autonomous action is here supported by social closure. Moreover, the managing director of one of the investigated companies stated to the author during the survey: "We have achieved an open culture!" Even considering the euphemistic character of such a sentence by a chief executive about his company, as well as the likelihood of a different meaning of the term 'open culture',³⁰ this sentence is not necessarily a contradiction in itself. A strong cohesion of the organisation's members, in social aspects a clear sign for closure, does not necessarily have to correlate with closure on the other dimensions. On the contrary, it can also be a functional demarcation from the outside in order to practise openness inside. Unity can be defined especially through internal openness. A high openness degree might only be achieved by a joined resolution, i.e., by closure.

The discussion has thus reached the US-American communitarianism debate in the 1980s. Communitarian arguments are based on the assumption that the liberal concept of state and society is in need of support not only by the structure of institutions controlling one another, but also by values and the formation of local communities. From this point of view, liberal societies need certain moral traditions and values, which ought to be taught and learned in school and practised in social bonds (cf. Etzioni 1991 and 1993). Applying this notion to organisations, this means that the open organisation can only become stable by the mutual value of openness; openness may therefore be upheld by closure. This might be achieved through a liberal form of sense-making, for example sense-making as arguing or as problem solving (cf. Weick 1995: 90, 135-145) as opposed to sense-making as manipulation or third-order control. But this raises the question of the border line between liberal sense-making and normative control. Although certainly not with the Popperian image of openness in mind, Clegg (1994: 171) has outlined the functional dilemma this way:

"One should not assume that openness will deliver a liberal ideal of an organization world of free and equal individuals. To practice openness, as much as concealment, also requires disciplinary practices of power - this as much, at least, one should know from Foucault (1977). One can frame a normative order in which voice is encouraged rather than discouraged. Yet, where this is the case, strong organizational frames usually feature. Such framing devices,

³⁰ In conversations with managers of the participating companies, the managerial understanding of the term openness has become recognisable as 'open communication', 'honest way to face conflicts', etc.

usually embedded in recruitment and containment constituted through a strong ideological commitment,... function as forms of surrogate control. Openness does not equate with undistorted communication. Where openness is premised on recruitment in an ideological image, conversation in the organization becomes more monological as values get cloned and reinforced in recruits... Any organization with a strong value base risks the ultimate paradox of becoming cultish and thus increasingly incapable of reflexivity with respect to the environment in which it operates. Consequently, where a value of openness is paramount, successful organizations must build dissent into their practices, even as it may challenge the core values of the organization."

This raises the question of whether Popper's concept of openness, stabilised only by means of institutions controlling one another, lacks an important pillar: the stabilisation of openness by a common commitment to openness. In Popper's terms a 'common commitment to openness' has clear traits of closure and is hence a contradiction in itself. The dimensions of Popper's open society as suggested by Gebert and Boerner (1995) bring this to daylight: it is closure in the social dimension (collectivism) in conjunction with openness in the epistemological dimension.

This refers back to the temptations of a closed organisation. Closure offers functional benefits where an open organisation is beset with drawbacks. It is distinguished by the norms of mutual dependence, calculability, and manageability. The positive consequences may be time saving, smooth operations, and efficiency. However, there is a danger that employees lack a sense of responsibility. Peer group pressure and coercive control may lead to dependence, tutelage and infantilisation which may cause dissatisfaction, lethargy, inner resignation, and eventually the loss of creative power and innovativeness. Sinclair (1992: 616) notes that this is supported by psychological research and evidence from industrial relations programmes.

This notion of a functional dilemma of organisations raises the question of how to find a combination of openness and closure. By this notion of a functional combination, a framework emerges that might provide explanatory insights into organisational behaviour. As discussed in Section 2.2, the in the hermeneutic discourse researchers attempt to deconstruct organisational symbols. They interpret the organisation as a form of socially constructed reality, and draw attention to contradictions

in the pattern of organisational cultures. A significant feature of this discourse and its methodological approach, however, implies to a large extent a renunciation of claims of explanation and prediction. Although it questions many assumptions and reveals many shortcomings of the functionalist discourses in that it pays more attention to less obvious features of organisational cultures and control issues in organisations, it often appears to be on the threshold of an arbitrariness, or indifference, concerning the reasons and the effects of a particular culture. The focus on (sometimes isolated) symbols, communications, or features risks emphasising less relevant objects in such a manner that a biased picture of organisational life is drawn. The core of the organisational culture and of organisational values as a whole may well be missed (see in this regard the detailed discussion by Alvesson 1993: 60-66). The cognitive interest of such studies is hence restricted to a limited theoretical and methodological tractability. This general problem of an understanding sociology has been expressed by Habermas.

"A *verstehende* sociology that allows society to be wholly absorbed into the lifeworld ties itself to the perspective of self-interpretation of the culture under investigation; this internal perspective screens out everything that inconspicuously affects a sociocultural lifeworld from the outside. In particular, theoretical approaches set out from a culturalistic concept of the lifeworld get entangled in the fallacies of 'hermeneutic idealism'... The other side of this is a *methodological descriptivism that denies itself the justified explanatory claims of theory formation in the social sciences*. This is true, above all, of the phenomenological, linguistic, and ethnomethodological variants of interpretive sociology, which as a rule do not get beyond reformulations of a more or less trivial everyday knowledge" (Habermas 1987: 148, emphasis added).

This 'outscreening' of the outside and the renunciation of explanation, are clearly reflected in the hermeneutic discourse. May (1997: 156-159), although obviously in favour of hermeneutic discourses in comparison to functionalism, speaks of a retreat of the hermeneutic discourse on organisational culture from claims of explanation. But this presupposes that there have ever been such claims. More likely is in this context that the turn of many scholars from functionalist to hermeneutic discourses is connected to their hope to find more appropriate codes of *description* of what is going on in the organisation without attempting to develop new ways of explanation.

The development of large parts of the hermeneutic discourse towards postmodernist approaches clearly supports May's diagnosis of a retreat from claims of explanation.

This renunciation of claims of explanation in the hermeneutic discourse is strongly linked to a characteristic of the critical discourse on organisational culture: the lack of connections to structure-functional, or culture-functional, analyses of organisations. Once the (value-based) decision is made to contribute to the hermeneutic or to the critical discourse, the scientific community expects a *verstehende* method, and the inclusion of structure-functional, or culture-functional, constraints becomes very difficult. Two interrelated reasons might account for this: a methodological and an ideological one. The methodological reason may be that the methods employed in hermeneutic research, that is, first of all qualitative methods from interviewing to participant observation, do not provide the opportunity to include external factors in the investigation in a systematic manner. The ideological reason may be that all approaches that smell of structure are put into the corner of contingency theory and hence regarded as 'positivist' and obscure. But the 'overcoming' of contingency approaches has its price. Economic constraints of utilitarian organisations or other conditions explicitly addressed in contingency approaches can be 'discussed', or their symbolic meaning can be 'deconstructed' in hermeneutic analyses, but it can no longer be taken into account as a 'variable'. This shortage of structure-functional, or culture-functional, analyses goes even beyond the renunciation of a systematic inclusion of contingency variables. The hermeneutic discourse has a kind of voluntaristic, or subjectivist, bias, since organisational constraints are only included on the basis of their symbolic meaning but not as determinants for organisational action.

The Popperian framework of openness and closure may help to redirect this trend away from structural or cultural constraints and explanatory claims, since with openness and closure it provides a framework of two cultural conditions between which organisations need to find an equilibrium. The above culture-functional dilemma between openness and closure shows the likeliness of corporations to balance between openness and closure. Screening out the potentially unstable possibility of intertemporal differentiation, there are two logical possibilities: interfunctional differ-

entiation, that is, individual departments are coherently open or closed inside, but differ from other departments of the corporations; and interdimensional differentiation, that is, the corporations establish an open value on one dimension and a closed value on another. The discourse on concertive control, however, does not allow for a systematic investigation of such an interdimensional differentiation, since it is largely based on the assumed connection of collectivism, lack of autonomy, and dogmatism. As discussed above, however, it remains to be investigated whether these three dimensions correspond, or whether the dilemma between openness and closure leads to some sort of loosening in terms of interfunctional or interdimensional differentiation.

3.4 Summary and research agenda

Sections 2.4 and 3.3 have claimed that the current discourse on concertive control has underlying dimensions that can be conceived in terms of Popper's notions of closure. Attention has been drawn to the question of the extent to which collectivism, dogmatism, and a lack of autonomy occur simultaneously, which would match the construct of closure. The conceptualisation of organisations in three dimensions of openness and closure enables us to empirically investigate the interrelations of the dimensions. This leads to a framework for an empirical investigation: the question of whether the construct of openness and closure is coherent or whether organisations realise combinations of open and closed characteristics.

In addition, the Popperian framework makes it possible to see commercial companies as coping with the dilemma of openness and closure. Combining features of openness and closure has been introduced as a way of dealing with this dilemma, and hence as an outcome of the functional dilemma. The notion of a shortage of culture-functionalist analyses *informed* by the hermeneutic and the critical discourses paves the way to another diagnosis, the broken link between organisational analysis and the wider context of the national culture. Since organisational theory has developed into a separate academic field independent of industrial sociology, this traditionally strong tie in industrial sociology has been on the retreat. To some extent, organisa-

tional theory has even absorbed industrial sociology, since the interdisciplinary field of organisations has been entered by more and more researchers from a psychological or managerial background. Some sort of 'pure' organisational theory has emerged that no longer adopts the vocabulary of industrial sociology, since the researchers concentrate on some sort of micro-sociology, that is to say, on the organisation as an entity removed from its societal and national-cultural environment. To some extent, from the late 1970s onwards new theoretical approaches such as the more US-based evolutionary organisation theory and the new institutionalism have revised this picture of the broken tie between organisational and social theory, yet organisational culture is not on their agenda and they address other issues than in the discourses on organisational control. By the interpretation of symbols and the attribution of meaning to organisational symbols, individual aspects of a particular organisational culture can be identified, but the comparison with other organisational cultures and hence the connection with the wider cultural environment and the national culture cannot be incorporated. The Popperian framework offers remedies in this regard. Due to its applicability to organisations, it allows for a comparison of the societal and organisational level. Information needs to be collected on the pattern of openness and closure at both the national and the organisational level, so that the features at both levels can be analysed using the vocabulary of the same theoretical framework.

In summary, an application of the Popperian framework is promising in three regards.

1. It allows for an analysis of the correlates of collectivism in organisations, which promises to inform the current discourse on concertive control.
2. Informed by the hermeneutic and the critical discourses, the Popperian approach can be presented in a structuralist manner, which makes it possible to view companies in a dilemma between openness and closure. This may contribute to explanatory claims on intra-organisational differentiation and may hence offer remedies to the trend in the current discourses to refrain from explaining and predicting organisational behaviour.
3. Due to the framework's applicability to the societal and the organisational level, it allows for a comparison of organisational and national culture, or to observe

organisational features in the light of the national culture. This may help re-establish a link between these levels that has to a large extent been lost.

Since even the results on correlates of collectivism are to be seen in the light of the respective national culture, a cultural analysis of the country where the sample of organisations has been drawn is carried out first. In this regard, the case of Germany promises is an especially interesting case for consideration, since it is known for some sort of communitarianism that sets it apart from western individualism, and for a culturally anchored tendency to regard expertise, science and scholarship as incontestable. On the other hand, however, independence and free will is highly appreciated, expressly fostered in the upbringing of children, and reflected in the professional qualification for autonomous work (see the discussion in Chapter 4, below). This potential contradiction to the pattern of concertive control leads to the first goal of research, the description of the cultural environment of German corporations in terms of openness and closure.

Issue A: A description of the German national culture in terms of openness and closure

This analysis prepares the comparison of societal and organisational culture, and it provides the basis for hypotheses on organisation-cultural correlates of collectivism.

This case study of the German national culture shall indicate to what extent open and closed characteristics are combined at the societal level. Popper's socio-philosophical approach is hence applied to a value-system, or a 'pattern of thinking', in a democratic country. This may also shed light on blind spots in the Popperian approach, since he assumed coherence in the features of openness and closure. The study of the German national culture is based on secondary data on the national culture and on work-related values (Chapter 4).

Issue B: The correlates of collectivism in corporations

The investigation of the correlates of collectivism in German corporations requires a test construct of openness and closure and hence a multivariate analysis of construct

validity. To do so, the study must be held on the meso-level, that is, a pool of organisations must be investigated. Such a nomothetic investigation aware of its disadvantages must meticulously attempt to counter its precarious features as compared to ideographic methods: the danger of imposing a framework that does not find an equivalent in the organisations. Hofstede points to this disadvantage as follows.

"...surveys are often arbitrarily classified according to categories imposed by the researcher... The question is, to what extent are such classifications supported by the distinctions that respondents make in their own minds?... If a researcher imposes on the data, she analyzes a framework that does not reflect distinctions made by respondents. Her conclusions are gratuitous: they tell us something about the researcher, but not about the respondents" (Hofstede 1998: 477-478).

Hence only those dimensions of openness and closure that are reflected in the corporations can be built upon for further analyses. Therefore, the operationalisation of the construct and the assessment of the construct's validity, that is, which traits merge and which are to be distinguished from one another in utilitarian organisations, constitutes a large part of the empirical work. An examination of convergent and discriminant validity shows whether the theoretically suggested dimensionality is to be recognised or whether any empirically obtained dimensions differ from the theoretical conception. This is supposed to inform the discourse on concertive control on the correlates of collectivism, and the German discourse on the coherence of the construct of openness in organisations (Chapter 5).

Issue C: The structural dilemma of organisations between openness and closure and the explanatory power of the Popperian approach

As discussed above, organisations can be viewed as caught in a dilemma between openness and closure. Both have not only benefits, but also strong drawbacks, which may require an organisation to find an equilibrium between them. Organisation-cultural features could therefore be a result of this search for an equilibrium and hence a 'reaction' to the functional dilemma. This assumption of an organisation's need to balance between openness and closure raises the question of how industrial companies achieve stability between these problematic poles. Investigating at one moment in time, there are two logical possibilities: interfunctional differentiation,

that is, some departments are more open and some are more closed; and interdimensional differentiation, that is, companies are more open with respect to one dimension of openness, but more closed with regard to another.

Openness and closure is therefore to be introduced as a structure that constrains and hence influences organisational behaviour, or forms of organisational culture. In terms of interdimensional differentiation, an assessment is made of whether the dimensions form a coherent pattern of either openness or closure, that is, whether organisations assume similar values on each dimension (archetypal organisations of openness or closure), or whether they adopt different values on the different dimensions (combining organisations).

On the basis of these results the question of the explanatory of the Popperian approach is addressed. If the characteristics of openness turn out to have strong associations with one another, one could infer from one open feature to another, or from one closed feature to another. The *coherence of characteristics* would account for organisational features. This would certainly not yet explain *why* openness patterns are coherent, but individual organisational traits could at least be viewed as *conditioned* by an organisational tendency towards coherence due to the mental connection of the assumptions underlying the dimensions. Should the corporations turn out to combine certain traits of openness and closure, then the notion of a balance between openness and closure has obviously more explanatory power than the notion of coherence. If companies do not differentiate at all, neither between departments nor between dimensions of openness, and still achieve stability, then the paradigm of a necessary balance between openness and closure proves less helpful and can obviously not contribute to the explanation of organisational characteristics.

It goes without saying that this structuralist approach does not provide the means for explanation in a strict epistemological or statistical sense, since it is not possible to control for the whole range of other factors that might account for forms of openness and closure. Yet through the lens of the dilemma of organisations between openness and closure the 'why' of the lack of coherence of organisational features so often ne-

glected in hermeneutic approaches may be better understood. In this thesis it can be *explored* which way of explanation is more likely, the notion of a mental connection of open versus closed traits (coherence) or the need to balance the drawbacks of both openness and closure. With this goal of testing the terms of open and closed corporation, the guiding principle can be stated as whether the Popperian 'approach' applied to organisations moves towards becoming an 'organisational theory' (Chapter 6).

Issue D: The comparison of national and organisational culture

The correlates of collectivism in organisations (Issue B) are to be compared to the pattern of openness and closure at the level of the national culture (Issue A). This can show to what extent corporations can be regarded as partial, sub-, or countercultures of their societal environment. In this regard, the state of the debate is that organisational and national culture can only be loosely coupled (cf. Hofstede et al. 1990). The argument is that companies hire people of a certain age, education, and sex and, therefore, with values that do not reflect the population. Processes of organisational socialisation are supposed to reinforce this phenomenon. An organisation can hence only represent a subculture, not a partial culture, of the society. However, it has never been endeavoured to measure these two cultural levels within one framework, so that the conclusion of a decoupling may be an artefact of the methodological approach (Chapter 7).

Issue E: The discussion of concertive control in the light of organisational culture

The study of the correlates of collectivism can show whether corporations in Germany adopt either open or closed values on all dimensions or whether they combine different characteristics of openness and closure. This then informs the discourse on concertive control and its inherent assumptions discussed above. Publications inherently assuming a connection between collectivism, dogmatism, and loss of individual autonomy may need to be revised, if the results at the level of organisational culture suggest a different combination of these dimensions (Chapter 8).

4 National culture and work in Germany

This chapter connects the theoretical framework of openness and closure, introduced in Chapter 3, to country-specific characteristics. Drawing on secondary sources, German national culture will be described in terms of the Popperian framework, which provides assumptions for and prepares the empirical investigation of German corporations in the subsequent chapters. Thus, this chapter maps the pattern of openness and closure in German national culture and thereby formulates hypotheses on the pattern of openness and closure in German corporations.

The procedure of deriving hypotheses on organisational features from information on the more general, societal level, inevitably raises another discussion: the link between the societal and the organisational level. It has been discussed at the beginning of Chapter 3 that the application of a socio-philosophical approach to organisational culture is not uncontroversial. Applied to a particular country and to organisations therein, one additionally encounters the difficulties identified by cross-cultural research on organisations. Jamieson (1982: 73) points to three problems. First, the concept and notion of culture with its inherent connotation of idiosyncrasy makes it difficult to find a conceptual framework capable of handling the variables involved. Second, the theoretical link between the macro-context of society on the one hand, and organisational features on the other causes considerable difficulties. And, third, the development of an adequate research methodology for testing hypotheses about the link between the levels of society and organisations creates practical problems.³¹

A look at the development of organisational theory in the last fifteen years shows that the main problem identified by Jamieson (1982), the theoretical link between culture on a societal level and organisational features, has not yet been solved - in spite of the development of organisational theory in these years. New paradigms, such as organisational culture and symbolism or the neo-institutionalism, have led to some sort of consensus amongst scholars of organisations that the influence of the

³¹ Tayeb (1994) identifies similar issues: the conceptualisation of culture, operationalisation, and data collection and interpretation.

cultural and institutional environment should be included in a theory of organisations.³² But in neo-institutional approaches the concept of organisational fields is employed largely independently of differences between cultures and countries. And the hermeneutic discourse with its research stream on organisational culture and symbolism addresses the differences between organisational cultures, but not the link to the societal level. In spite of attempts to depart from the 'isolation approach'³³, the hermeneutic discourse does not attempt to structurally connect symbols and cultures at the organisational and the societal level. Moreover, those approaches that incorporate cross-national comparisons and work-related values into a theory of organisations remain at the level of organisational structures or managerial objectives (see, for example, Maurice et al. 1980, Budde et al. 1982, Sorge and Warner 1986, Tayeb 1987 and 1988, Lutz 1992, Stewart et al. 1994) and hardly link up with the literature on organisational culture.³⁴ And lastly, critical organisation studies have not even attempted to link up with cross-cultural organisational research.

The fundamental problem is that the strength of the link between societal and organisational values can only be studied if both levels are conceptualised within the same framework. Only then can it be investigated to what extent corporations can be conceived as partial cultures, subcultures, or countercultures of their societal environment. The approach of openness and closure can help to establish this link. This chapter attempts to express the national culture and work-related values in terms of openness and closure. Thereafter, in subsequent chapters, the empirical investigation of organisational cultures in these terms sheds light on work organisations. This

³² See, for example, the edited volume by Ortmann et al. (1997) with the subtitle "The Return of Society" into organisational theory.

³³ Opinions as identified by Child and Tayeb (1982: 24) that there is "a belief that management could refashion the attitudes and priorities of employees into a common organizational cultural mold that would, in some measure, insulate organizational behavior from the surrounding sociocultural milieu" can no longer be found in recent literature. This 'isolation approach', that is, the assumption of a removal of organisational culture from the wider cultural environment has apparently disappeared during the debates on organisational culture and symbolism that had just started at the time of Child and Tayeb's analysis. What Mueller (1994) identifies as 'the organisational effect' refers to interorganisational processes such as learning processes across borders, diffusion of best practices and technologies, and global manufacturing strategies, rather than to intraorganisational processes.

³⁴ In this regard it is indeed interesting to see that the edited volume by Altmann et al. (1992), which is supposed to reflect the state-of-affairs in German industrial sociology, is exclusively concerned with technical aspects of industrial work in the light of German industrial relations. None of the 24 chapters is concerned with organisational culture and its relation to national culture.

chapter thus prepares the investigation of whether corporations can be conceived of as partial cultures, subcultures or countercultures of their societal environment.

The chapter starts with an introduction to the theoretical approaches of cross-cultural research on organisations (Section 4.1), which leads to the application of an ideational-cultural approach in this thesis (as opposed to a contingency or a political-economy approach). On this basis, data gained in the World Values Survey and in work-related studies will be discussed in terms of openness and closure (Sections 4.2 and 4.3). The description of German national culture will be based on societal value structures in Germany as investigated by the World Values Survey, on German work-related values documented by Hofstede (1980) and Hampden-Turner and Trompenaars (1993), and on impressionistic studies.³⁵ The hypothesis on the openness and closure of German work organisations derived from this study of secondary data are based on the conservative assumption that the culture of utilitarian organisations corresponds to their societal environment. This hypothesis will later be tested on the basis of the obtained results on the pattern of openness and closure in the investigated companies.

4.1 Corporations in their cultural environment - theoretical perspectives

When reviewing the literature on cross-cultural organisation studies, one inevitably comes across three theoretical perspectives:

- (a) the contingency approach, in which 'culture-free' or 'supranational' theories of organisation prevailed in the 1970s. These were basically abandoned in the late 1970s and early 80s. A neo-contingency approach came up later which fragmentarily integrated cultural perspectives in their framework;
- (b) approaches from a political-economy viewpoint with debates on the development of capitalism; and

³⁵ On the problem of the concept of a distinctive national culture and the problem of oversimplification and stereotyping see, for example, Breidenbach (1994: 14-40)

(c) the cultural perspective with an institutional branch on the one hand and a 'purer', ideational branch on the other.

In order to identify a connection between the cultural and the organisational level the researcher has to focus on specific features at both levels. All three approaches focus on different issues at both levels. The contingency approach and the perspective of political economy are explained in detail in Appendix A.

The cultural perspective is manifested in the assumption that there can be no supra-national theory of organisations, since culture is seen in a "holistic view ... inherited from anthropology" (Child and Tayeb 1982: 42). Lane (1989: 27) points out the common-sense character of the insight that national differences have remained important and immense in cross-national organisational research. The empirical findings by Hofstede (1980) have confirmed these common-sense assumptions and put them into tangible dimensions. However, a radical juxtaposition of the cultural to the contingency perspective would be misleading. At root, Hofstede's dimensions fulfil Hickson's et al. (1979) and Child's (1981) demand for variables to describe societies: "The characteristic phenomena of a given society are its positions on variables, not the variables... For the study of organizations, any such variables should be formulated in such a way that they are organization-relevant" (Hickson et al. 1979: 27). In this respect, therefore, Hofstede's nomothetic approach can be viewed as a further development of contingency theory. As mentioned above, the consequence is that these neo-contingency approaches³⁶ applied the findings on work-related values to organisational goals or structure, but not to organisational culture.

³⁶ Sorge (1991) discusses the so-called neo-contingency approaches and in particular their principal hypothesis that the societal effect can be incorporated into a new contingency framework, as suggested by Sorge and Warner (1986). He arrives at somewhat contradictory findings. On the one hand, he asserts that this hypothesis should be rejected: "The societal effect approach cannot be subsumed under the neo-contingency framework. The former helps to explain phenomena with which the latter has greater difficulty" (Sorge 1991: 186). On the other hand, however, he suggests that contingency thinking should not be abandoned. "Wherever a correspondence between markets, strategies, organization and human resources is postulated or recognized, the argument which makes this explicit is potentially or even necessarily of a neo-contingency type... Much as a contingency approach runs counter to universalistic theory and the societal effect in particular, it does supply an important functional baseline argument" (pp. 186-187). Sorge (1991) pleads for paradigmatic heterodoxy, which has, by and large, become accepted in cross-cultural organisational research much more than in other fields of organisation theory.

Within the paradigm of the cultural perspective, Child and Tayeb (1982) drew a distinction that has since been maintained by other researchers in this field: the contrast between an institutional and an ideational approach. In the institutional approach, writers refer to the different institutional environments in which business organisations are embedded in order to explain organisational differences. The studies by Brossard and Maurice (1976) and Maurice et al. (1980) can be seen as responses to and rejection of the contingency approach, since they regard attempts to elaborate culture-free elements of organisational structures as pointless. Rather, societal institutions such as educational and occupational training systems, the system of industrial relations, the formation of state institutions, social stratification, etc., are viewed as tangible, mediating bridges between national culture and organisations. The distinguishing characteristic of the institutional perspective to the contingency approach is that it assumes that organisational structures "reflect the specific national institutional context in which they are embedded rather than conform to any 'contingencies' of a more general nature" (Child and Tayeb 1982: 47). Maurice et al. (1986), for example, refer extensively to educational variables, job and wage structures, and the location of industrial conflicts. For a more detailed summary of the institutional approach the reader is referred to Lane (1989, particularly pp. 31-38) and Guillen (1994), whose work is expressly based on it.

The ideational approach, by contrast, refers to systems of ideas and meanings which persist over time, are transmitted across generations through socialisation, and influence people's motivations and behaviour (Child and Tayeb 1982: 42). In contrast to the institutional approach, factors such as the education and training system, the system of industrial relations, the formation of state institutions, etc., are not viewed as independent variables, but as dependent on 'deeper' factors such as work-related and general values and norms. As opposed to the institutional perspective, the ideational approach considers not only organisational features, but also the institutional setting, to be dependent variables. Cultural values or, in more positivist terms, the 'national character', are viewed as independent variables that account for organisational features. On this basis, the values prevalent in the societal environment of the

organisation must be considered within a conceptual framework and applied to a theory of organisations. There are several conceptual frameworks to grasp national cultures; the most influential are those by Parsons and Shils (1951), Kluckhohn and Strodtbeck (1961), and Inkeles and Levinson (1969), outlined in Appendix A. However, to the best of my knowledge they have never been empirically applied to German national culture and hence do not provide results that could be applied in the context of this thesis.

However, Hofstede's (1980) study, which has considerable similarities with Inkeles and Levinson's (1969) concept, does in fact provide information about Germany and can be taken as a point of reference for the derivation of hypotheses. Hofstede (1991: 4) understands culture as "mental programming" or "collective programming of the mind." In a large questionnaire survey covering 40 national branches of a multinational corporation, Hofstede investigates work-related values across national cultures. The core of Hofstede's study is the search for values and perceptions of the work situation, and by this he provides information on cultural values extending even beyond the context of work. The fact that this study then provided a useful framework for the comparison of national cultures was an unintended by-product (Hofstede et al. 1990: 287). In accordance with Hofstede's (1980) study, cultural differences between countries can be expressed in degrees, that is, in terms of scores (between zero and about 100) in various dimensions. By this, Hofstede counteracted what Roberts (1977: 59), in her review of cross-cultural research relating to organisations, had identified as a "morass" of research in this field. Hofstede (1980) found four dimensions in which countries can be located:

- power distance (high versus low)
- uncertainty avoidance (high versus low)
- masculinity (versus femininity)
- individualism (versus holism)

The profile of each country across these dimensions allows for insights into the characteristics of each country in comparison to others. It has become the most frequently quoted publication in cross-national organisational research and has by no means lost

its importance in contemporary publications.³⁷ Since Hofstede's study includes Germany, among other countries, it will be taken as one pillar for the study of the German pattern of openness and closure in comparison to other countries.

Hofstede's (1980) elaboration of dimensions of work-related values has paradigmatic roots in, and similarities in substance with, Parsons and Shils (1951) approach (see Appendix A). Moreover, Hofstede (1984: 37) quotes the study by Inkeles and Levinson (1969) and acknowledges that their three characteristics (see Appendix A) are very similar to the four dimensions empirically established by him. In a sense, therefore, Hofstede's results can be viewed as a confirmation of the concepts of the literature of its time.

To the knowledge of the present author, the most recent study on dimensions of culture has been conducted by Hampden-Turner and Trompenaars (1993). They suggest a model with seven dimensions:³⁸

1. Universalism versus particularism
2. Analysing versus integrating
3. Individualism versus communitarianism
4. Inner-directed versus outer-directed orientation
5. Time as sequence versus time as synchronisation
6. Achieved versus ascribed status
7. Equality versus hierarchy

Hampden-Turner and Trompenaars carried out a questionnaire survey covering 15,000 managers from countries all over the world. The questionnaires were distributed and answered at the beginning of management seminars and are therefore, like Hofstede's study, closely connected to work-related values. However, Hampden-Turner and Trompenaars do not provide information on the procedure of delivery or on the questionnaire itself. Hence the scientific value of their results is doubtful.³⁹

³⁷ For a documentation of this impact see Sondergaard 1994.

³⁸ A detailed description of these dimensions is also given in Appendix A.

³⁹ No information is given on the reliability and validity of the dimensions on the basis of the empirical results. They do not even mention whether the questionnaire in fact addresses the seven dimensions presumably (!) worked out prior to the study. Trompenaars (1993) gives more information about the survey in an appendix (pp. 179-184). Data on Cronbach's alpha and the correlations between the dimensions are provided; factor analyses, however, which could indicate whether the dimensions are recognised in the empirical results, whether some dimensions merge, and in particular,

The reader cannot judge whether the suggested dimensions really distinguish national cultures. In fact, the seven dimensions introduced at the beginning of the book are not recognisable in the analysis of the national cultures in the last chapters of their study. Thus, drawing on the results given in Hampden-Turner and Trompenaars (1993) or Trompenaars (1993) in order to formulate new hypotheses is not without risks, so that only those results which are clearly based on item results given in their text will be referred to.

The most significant impact of Hofstede's (1980) study has been the increasing acceptance of the relevance of work-related values for the functioning of organisations. Tayeb (1994: 435) makes the criticism that Hofstede's study remains at the level of work-related values and does not investigate whether organisational cultures in different national cultures are shaped according to, or irrespective of, these values. Although that critique should not be levelled against Hofstede's study, since this issue would have been beyond the scope of his work, Tayeb has a point when she argues that systematic studies of the relationship between national and organisational culture are notably lacking (for a discussion, see Chapter 7 of this thesis).

As pointed out above, one of the difficulties in linking culture on a societal level with organisational traits is to find an appropriate framework for what is regarded as relevant in the national culture in question. Even recent studies such as Lincoln and Kalleberg (1990), or contributions on Korean, French, and Turkish managers in the edited volume by Sackmann (1997), consider cultural traits in a very wide framework, but apply them in a rather narrow manner at the level of organisations. They focus on discursive contradictions, business negotiations, leadership styles or traditional Aston measures such as decentralisation, which all seem narrow compared to the wide framework of culture they use. In studies such as Tayeb (1988) a well-elaborated concept of culture is employed, but here also the application of this concept in the context of organisations appears to be carried out in a very narrow manner, since *structural*, rather than cultural, traits of companies are given prominence.

which dimensions are stronger and which are weaker, have apparently not been carried out. Moreover, the example items given and their interpretation given in the appendix make the scientific reader somewhat suspicious about the rigourness of the survey.

The classical work by Crozier (1964) remains unique in its rigorous connection of societal characteristics to the broad context of organisational functioning.

It is an interesting finding that in cross-cultural organisation studies, except for Hofstede's et al. study from 1990 (discussed in detail in Chapter 7), organisation-*cultural* traits are left out of consideration, although this link between society and organisation appears to be the most interesting. As discussed at the end of Chapter 2, the study of organisational culture and symbolism is removed from the societal level of culture. So far, no systematic framework has been put in place to establish a link between the hermeneutic discourse on organisational culture and culture at the societal level. Inexplicably, the communication between the hermeneutic discourse on organisational culture and the research tradition of cross-cultural management has been severed. This imbalance probably reflects the difficulty in finding an appropriate framework incorporating cultural features at both the societal and the organisational level, which led Tayeb (1994: 442) to claim that "in order to examine the role of culture in employee behaviour and in work organization, it is important to focus the study on a specific level of organization and on the cultural characteristics which are assumed to influence that level of work organisation." A conceptualisation of culture and organisational culture in the same terms has not yet been provided. The concept of openness and closure offers a new approach in this direction, since both the societal and the organisational level will thereby be describable in the same vocabulary.

Although this is not a comparative study, the data provided by cross-cultural research are taken as an important buttress, since cultural traits can be understood much better, or solely, through comparison with other cultures. Thus, the study adapts an ideational perspective by identifying those features distinctive of Germany and connecting them with potential characteristics of corporations. This adoption of an ideational perspective is not a statement of rejection of the institutional perspective. However, the institutional perspective is stronger related to organisational structure

than to organisational culture or to the critical discourse in organisation studies, and seems therefore less appropriate in the context of this thesis.⁴⁰

In this context it must be mentioned that general societal and work-related values do not just happen to be there, but can be traced back to the specific historical development of the country and the conditions in which the people have lived and continue to live. However, a historical review of what has led to the values prevalent in Germany would be beyond the scope of this thesis. For practical reasons, the values prevalent in Germany are taken as independent variables. The explanation of these variables would require a thorough socio-historical work, which is beyond the scope of this thesis. In this connection the reader is referred to the works by Craig (1984), Allen (1987), and Lash (1990), but especially Elias (1996), Elias (1994, chapter 1), and Dumont (1994).

4.2 German national culture 1: general societal values and their relation to openness and closure

Hypotheses on open or closed values in the German population make more sense on the basis of comparisons with other cultures and values prevalent in other populations. Publications covering only the German population such as Noelle-Neumann (1981) or, based on the World Values Survey, Noelle-Neumann and Köcher (1987), give interesting insights into variations of values within Germany, for example between different age groups, genders, income groups, etc. Yet they do not provide a comparative view to other cultures. Comparative data have only been collected in the frameworks of

- the Civic Culture Study, which investigated the political culture of democracy in five countries, including Germany, in 1959/60,

⁴⁰ Moreover, the ideational and the institutional perspectives go to a large extent hand in hand and supplement each other, since the institutional structure of industrial relations, educational and occupational training systems, and the formation of state institutions, does not occur by coincidence, but reflects societal values in terms of path dependence.

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- the Eurobarometer, which continuously investigates issues connected to the European Union,
 - and the World Values Survey, carried out by the World Values Survey Group (ICPSR, Inter-University Consortium for Political and Social Research, University of Michigan) in the early 1980s and early 1990s.

The Civic Culture Study and the Eurobarometer

The Civic Culture Study (Almond and Verba 1963, Almond and Verba 1980) investigated the macro-political problem of democratic stability in five nations (Great Britain, USA, Germany, Italy, Mexico). The survey was later replicated, in whole or in part, in Japan, Ireland, Croatia, Turkey, the Netherlands, and among Mexican Americans. To the best of my knowledge, it was the first systematic cross-national behavioural study, and among the first that used the sample survey as a research tool, a technique still in the process of development at that time (Verba 1980: 394). Germany was identified as a democracy whose political culture was characterised by its traumatic past (one has to keep in mind that the survey was conducted in 1959/60). Voting was regarded as an important responsibility in Germany, the level of exposure of political material in the mass media was high, and there was a high level of confidence in the administrative branches of government. However, despite relatively widespread satisfaction with political output, there was little emotional attachment to the system on the symbolic level (Almond and Verba 1963: 428-429). Almond and Verba's (1963: 429) interpretation is that the intense commitment to political movements during the Weimar and National Socialist eras accounted for a detached, practical, and almost cynical attitude towards politics in the Federal Republic at the time of the study. Therefore, attitudes supportive of a stable democratic system were found to be less widespread in Germany than in the United States and Great Britain. Two decades later, however, Verba (1980) came to the conclusion that the leap from citizenship values to democratic functioning was very big, and that the essence of democratic stability lies in the attitudes of local leaders (and hence the elite) that are more in accordance with democratic norms. Attitudes supporting democracy were found to be stratified, that is, most frequently and fully held by the more educated members of the polity (cf. Verba 1980: 399-408).

Although Popper's concept of openness and closure is connected not only to a socio-philosophical, but also to a political, understanding of totalitarianism, the Civic Culture Study has only limited usefulness for the creation of hypotheses on Germany's characteristics in terms of the correlates of cohesion. The focus of the questions is specifically concentrated on political features such as voting behaviour, attitudes towards the past ("When in this century do you think Germany was best off?"), attitudes towards the possibility of a German re-unification or a European unification, German national traits which people are most proud of, satisfaction with democracy, trust in government, political participation, attitudes towards parliament, etc. Due to their specific focus on features of the political system and its acceptance rather than directly on the value system, these items are difficult to apply to those values connected with openness and closure. Therefore, only one result, a study on child rearing (independence or obedience as the educational goal in the upbringing of children), will be referred to below.

Similar difficulties arise in the application of the Eurobarometer surveys to the approach of openness and closure. Although large parts of its results are easily accessible via the Internet, its contents merely relate to political issues. In most cases, the items refer to issues concerning the European Union (perceived role of Europe in the world; perceived threats to European interests; attitudes to membership and benefits drawn from the European Union; the single currency, etc.), so that the results regarding international comparisons cannot be aligned with collectivism, its correlates, and the Popperian paradigm.

The World Values Survey

The data collection of the World Values Survey (co-ordinated by the ICPSR, Inter-University Consortium for Political and Social Research, University of Michigan) is designed to enable cross-national comparisons of values and norms in a wide variety of areas such as the meaning and purpose of life, and the importance of family life, friends, leisure time, politics and religion in the life of individuals (World Values Study Group 1994: 3). As in the case of the Civic Culture Study, large parts of the

World Values Survey are difficult to connect to collectivism and its correlates and hence to the construct of openness and closure. Whilst the former focuses on political issues, the World Values Survey concentrates primarily on private issues. The respondents were asked how satisfied they were with their present lives, whether they discussed political matters, to which associations they belonged, the level of trust they had in most people, which aspects of a job were important to them, the pride they took in their work, etc.

The World Values Survey served as the database for well-known publications by Inglehart (1990 and 1997). In these publications a general shift across cultures from 'materialism' to 'postmaterialism' and from 'modernism' to 'postmodernism' is addressed. The general focus of these publications is to discover global trends irrespective of individual national cultures. Although these recognisable trends from materialism toward postmaterialism and postmodernisation may, to some extent, be interpreted as global trends towards openness (a trend which Germany is also following, according to Inglehart), this global view integrating all national cultures does not enable one to identify specific trends in any particular society. In order to do so, one would have to focus instead on the comparison of different nations, or on impressionistic studies carried out by authors such as Dahrendorf (1968) who are personally familiar with other cultures. The publication by Ashford and Timms (1992) is based on the European Values Systems Study Group (EVSSG, which provided the European data for the World Values Survey; the questions are identical with these of the World Values Survey) and made the most important data accessible, i.e. that relating to Great Britain, Northern Ireland, the Republic of Ireland, West Germany⁴¹, the Netherlands, Belgium, France, Italy, Spain, and Portugal. But only a few issues can be used for the Popperian paradigm. Only questions regarding the role of the church and religious beliefs, the qualities desired in children, and the attitude to societal changes, etc., are useful for the creation of hypotheses on societal characteristics of openness and closure in Germany. Many other items are irrelevant for this purpose, including satisfaction with life, discussion of political matters, the pride the respon-

⁴¹ The most recent data are from 1990 (occasionally referring to the first study in 1980), so that only West Germany could be covered.

dents took in their work, views on owner, state or employee management, etc. Therefore, to a limited extent, impressionistic and historical studies will be used to supplement the 'hard' empirical data.

The analysis keeps to the three-dimensional structure suggested by Gebert and Boerner (1995). All available information on Germany is screened through the lens of their three-dimensional construct of openness and closure. The data is first screened with respect to the distinction of collectivism and individualism, that is, whether society is viewed more as an organism in Popper's sense or rather as an individualist 'market place'. Thereafter there will be an examination of the epistemological dimension, and hence of the question of whether in Germany there is some sort of culturally anchored attitude in favour of incontestable knowledge, or whether knowledge is seen as pluralistic and tentative. Lastly, the World Values Survey data will be screened with respect to Gebert and Boerner's anthropological dimension, that is, the question of the extent of autonomy of the individual as applied to organisations.

4.2.1 Collectivism or individualism: society as an organism or as a market place

Large parts of the impressionistic and historical literature on individualism versus collectivism in Germany indicate a sense of community and organicism, which Lukes (1973) traced back to the history of ideas in German philosophy:

"In particular, the personal 'individualism' of the early Romantics very soon became transformed into an organic and nationalistic theory of community, each unique and self-sufficient, according to which, as one recent scholar has said, the individual was 'fated to merge with and become rooted in nature and the Volk' and would thus be 'able to find his self-expression and his individuality'.⁴² Moreover, individuality was ascribed no longer merely to persons, but to supra-personal forces, especially the nation or the state... The same progression from the individuality of the person to that of the nation or state occurred in countless German thinkers of the early nineteenth century - notably, in Fichte, Schelling, Schleiermacher and even Hegel. The state and society were no longer regarded as rational constructions, the result of contractual ar-

⁴² Lukes quotes G.L. Mosse: *The Crisis of German Ideology*. London 1966, p. 15

rangements between individuals in the manner of the Enlightenment; they were 'super-personal creative forces, which build from time to time out of the material of particular individuals, a spiritual Whole, and on the basis of that Whole proceed from time to time to create the particular political and social institutions which embody and incarnate its significance'.⁴³ As Simmel wrote, the 'total organism' of society 'shifts, so to speak into a location high above [individuals]' and, accordingly, 'this individualism, which restricts freedom to a purely inward sense of the term, easily acquires an anti-liberal tendency'; it is 'the complete antithesis of eighteenth-century individualism which... could not even conceive the idea of a collective as an organism that unifies heterogeneous elements'.⁴⁴

While the characteristically French sense of 'individualism' is negative, signifying individual isolation and social dissolution, the characteristically German sense is thus positive, signifying individual self-fulfilment and (except among the earliest Romantics) the organic unity of individual and society." (Lukes 1973: 20-22)

The tendency towards a collectivist organism theory of society is supported by Allen's (1987) historical account of communitarianism in Germany. He argues that ideology in Germany has been strongly influenced by collective institutions and other forms of social organisation for at least two centuries. Allen refers to the communitarian paradigm of institutions reconciling private and public interests in Germany. According to Allen (1987: 79) these are accounted for by "remnants of feudalism" that lingered in the German numerous principalities, by the dominant role of the (Prussian, later German) state in the nineteenth century, and by the continental European public law tradition.

"Historically, Germany has experienced more than just one form of communitarianism. Since the nineteenth century, German institutions have nurtured and shaped several ideologies that have contended with one another for economic, political, and social influence. Generally, these competing collectivist ideologies have overridden the far weaker strands of German individualism because government, business, and labor in Germany have sought and found legitimacy for their actions by fulfilling the needs of the community as their first priority. Satisfying the needs of the individual was perceived as being secondary." (Allen 1987: 79-80)

⁴³ Here, Lukes quotes E. Troeltsch: 'The Ideas of Natural Law and Humanity in World Politics' (1922), in O. Gierke: 'Natural Law and the Theory of Society, 1500-1800. Boston, 1957: pp. 210-211

⁴⁴ Lukes quotes G. Simmel: 'Individual and Society in Eighteenth- and Nineteenth Century Views of Life: an Example of Philosophical Sociology' (1917), in K.H. Wolff: 'The Sociology of Georg Simmel', Glencoe, IL, 1950, p. 82

Dahrendorf, too, speaks of community ideologies and a lacking awareness of social inequality in Germany, which in view of the considerable distances between social strata is something which "only psychoanalytic studies could explain" (Dahrendorf 1968: 110; see in this context also Ardagh 1987: 146-160). According to Dahrendorf, this ideology is prevalent even among sociologists, notably Schelsky. Dahrendorf (1968: 121-122) holds that Schelsky marshalled the thesis of Germany as a classless society in a number of essays, and that particularly in Germany this thesis has found enthusiastic agreement (and astonished headshakes outside Germany). Thereafter Dahrendorf outlines to what extent this thesis is based on the false assumption of decreasing inequalities. In a highly critical tone Dahrendorf continues:

"... the German ideology to which Schelsky has added a new version is not in any sense a very rational tool. The theory of the classless present provides the slightly frightened service class with a soft pillow; and behind the screen of this ideology the elites can conduct their business undisturbed by awkward questions and worries - a business that may often be harmless enough, but always also serves the preservation of their own power position and thereby the cementing of the status quo" (Dahrendorf 1968: 124).

Dahrendorf presents the ideology of community as being constant in Germany, from Wilhelm I's (Germany's first emperor, 1871-1888) 'harmony of the classes' in the preamble of the Socialists' law, via Tönnies's value-laden rank order of community and society, to the ideology of the Volksgemeinschaft (people's community) in the Third Reich, and through to the reduction of class distances by contemporary German sociologists. Stolz (1990) views these "fantasies of collectives", reflected in the continuation of the Volksgemeinschaft to the perceived collective guilt about the Nazi era (Kollektivschuld), as an element of 'the German complex'.⁴⁵

As discussed above, a few aspects of the World Values Survey can be used for an empirical approach to the contrast of individualism and collectivism. One assumption of collectivism is that the collective must be protected, even at the price of exclusion of particular individuals. With an attitude based on organism-theory, in which parts of a whole are regarded as functioning with one another, 'other elements' that 'do not belong' to the organism are observed with suspicion. Hence, empirical

results on the exclusion of 'others' on grounds of individual differences are relevant in this respect. According to Ashford and Timms (1992: 14-15), it arises from the World Values Survey that in comparison to other European countries this sort of exclusion is high in Germany. This can be interpreted as a hint that Germans tend to an organism theory and hence to some sort of collectivism. Another result arising from the World Values Survey supports that Germans tend to view society as an organism - the stability of roles in society. The World Values Survey covers the question of whether a mother's place is in the home and kitchen, or alternatively to what extent working mothers are accepted and approved of. The results are as follows:

Table 2: Attitudes to the role of mothers, Europe; cf. Ashford and Timms 1992: 66

	TOTAL	Great Britain	Northern Ireland	Republic of Ireland	West Germany	Netherlands	Belgium	France	Italy	Spain	Portugal
"A working mother can establish just as warm and secure a relationship with her children as a mother who does not work."											
Agree somewhat or completely	63	68	69	62	38	68	70	73	61	64	74
"A pre-school child is likely to suffer if his or her mother works."											
Agree somewhat or completely	62	53	43	51	80	61	56	63	74	53	81

Apparently, in Germany working mother's are much less appreciated than in other countries. To a much greater extent than other European nationalities, Germans believe that a mother can establish a warm relationship with her children only in 'her allotted position in the society', as a housewife. Again, therefore, we have a hint to some sort of organism attitude in Germany.

The German tendency towards collectivism is continuously referred to in literature aimed at managerial audiences (for instance, Hampden-Turner and Trompenaars 1993, Trompenaars 1993, Randlesome et al. 1993, Hickson 1993). Although not supported by genuine empirical studies, but rather drawing on secondary sources and impressionistic studies, it has become an accepted assumption in this literature that Germany assumes a collectivist rather than an individualist point on this continuum.

⁴⁵ For the contribution of Herder and Fichte to the German conception of collective identity see Dumont 1986. See also in this regard Lash's (1990) notion of the German 'statist ideology'.

In particular, the individualism of the Anglo-Saxon countries is frequently referred to as being in stark contrast to the German model (cf. Allen 1987: 84-93). Although the author of this thesis could not find any original, empirical studies on German communitarian values on a general, societal level (beyond the results of the World Values Survey presented above), the results on work-related features, given below in Section 4.3.1, will support this view.

4.2.2 Contestable or incontestable knowledge as a general cultural value

In his chapter on 'The German Idea of Truth', Dahrendorf (1968: 149-163) discusses the respect for experts and expert knowledge held in Germany. He points to the extent to which experts are preferred in all positions, even where common sense would dictate otherwise, and to the belief that certain knowledge can be attained by those with a sharp mind and empathetic understanding. This paints the picture of an elite theory of truth and hence a monopolistic approach to knowledge. Dahrendorf (1968: 163) states that the institutions of critical empiricism never gained hold in German universities. This is paralleled by Spinner's (1982) disappointment in concluding that despite formal proclamation, critical rationalism has never attained an appropriate position in the reality of research. Critical discourse is less present than in the Anglo-American sphere: academics tend to work on their own subjects without establishing a mutual discourse. The respectfully quiet and passive audience in university lectures, the suspicion of the empirical and the belief in contemplative science, as well as the unique habilitation system in German-language academia, must be seen in the light of the assumption of a hierarchy of access to truth, which contributes to the continued stagnation of German academia more than thirty years after Dahrendorf's (1968: 149-163)⁴⁶ critique. But the university system is not alone in being characterised by this attitude. The German education system, too, with its three-year apprenticeship for blue-collar and lower white-collar workers reflects the exceptionally high

⁴⁶ Dahrendorf (1968: 158) draws attention to the connection between Anglo-American empirical science and the political system. Seen from this angle, there is an obvious link between the anti-empiricist attitude in Germany and the fact that political liberalism took hold in Germany later than in other European countries.

estimation of expert knowledge. The saying 'von der Pike auf gelernt' ('learnt from scratch') characterises the distrust of common sense and experience-based learning.

Another aspect relevant to the attitude towards knowledge is the treatment and regulation of conflicts, since this reflects the recognition of divergences of opinion. Dahrendorf (1968: 145-146) discusses the tradition of conflict oppression rather than regulation in Germany as contributing to the patterns of German history.

"Conflicts determine the speed, depth, and direction of change... The erratic changes of political systems in German history of the last hundred years may be described as a consequence of a fallacious attitude toward conflict in politics, as in other institutional orders of society... Conflict is liberty, because by conflict alone the multitude and incompatibility of human interests and desires find adequate expression in a world of notorious uncertainty. *This was not, however, at least in the past..., the German idea of freedom.* The suspicious liaison of freedom and necessity, or freedom and authority, in German political philosophy have often been remarked upon... science, the economy, and politics. In all of them we will find the same nostalgia for a world whose uncomfortable conflicts have been replaced by ultimate solutions. If there are antinomies, a synthesis must be found... 'Man wants concord,' says Kant, and he is certainly right about the wishes of German man" (Dahrendorf 1968: 146-147, emphasis added).

In Germany, therefore, the recognition of conflicts tends to be suppressed by means of the ideology of the community and the utopian approach to truth (in this context see also Dumont's [1994] notion of a universalist ideology in Germany and the interplay with the collective identity). In the German image of community, be it the people's community or the classless society, conflicts are assumed not to occur at all. Although Dahrendorf's discussion is thirty years old and might be outdated due to developments since 1968, the pattern of cultural features and its reminiscence on what has recently been portrayed as concertive control in organisations makes Germany a particularly interesting case for consideration. In Section 4.3.2 it will be discussed how far the attitude sketched here is reflected in work-related values.

4.2.3 High or low individual autonomy as general cultural values

No sources were found which draw on a historical or political development of Germany and which could form the basis for hypotheses on the discussion of a continuum between autonomy and voluntarism on the one hand and dependence and determinism on the other. However, the question of individual independence and free will was one of the issues looked at in the World Values Survey, namely in terms of qualities desired in children. Another source is Conradt (1980: 252), who presents longitudinal data on attitudes towards child rearing. The question

"In the training of children what values should be most stressed: obedience and deference, love of order and industriousness or independence and free will?"

was posed to German respondents at intervals between 1951 and 1976. The results are as follows.

Table 3: Values in the education of children in Germany. Source: Conradt (1980: 252), referring to EMNID, Informationen, vol. 28, nos. 6/7, 1976: 16

	1951	1957*	1967*	1972	1976*
Independence and free will	28%	32%	37%	45%	51%
Love of order and industriousness	41%	48%	48%	37%	41%
Obedience and deference	25%	25%	25%	14%	10%
Other answers, no response	6%	8%	5%	4%	0%

* multiple responses possible in these years

Viewed over three decades, a clear trend is recognisable towards fostering independence and free will in the upbringing of children. This trend is supported by data from the World Values Survey (Ashford and Timms 1992: 63-64), in which Germany is compared to other West European countries:

Table 4: Qualities desired in children, Europe; cf. Ashford and Timms 1992: 63

% who mentioned	TO-TAL	Great Britain	North-ern Ireland	Repub-lic of Ireland	West-Ger-many	Neth-erlands	Bel-gium	France	Italy	Spain	Portu-gal
Good manners	76	89	95	75	66	79	72	53	79	82	82
Tolerance and respect	75	79	80	76	77	87	69	78	66	74	69
Feeling of re-sponsibility	74	48	38	61	85	85	72	71	82	80	77
Independence	41	43	37	43	73	48	36	27	31	36	24
Obedience	38	39	56	35	22	33	37	53	34	44	45
Thrift, saving money and things	32	26	25	22	45	29	36	36	29	27	31
Determination, perseverance	32	31	18	26	49	31	39	39	27	21	23
Hard work	31	29	29	28	15	14	36	53	27	29	67
Unselfishness	28	57	49	53	8	22	27	40	39	25	28
Religious faith	25	19	44	57	20	15	16	13	37	27	25
Imagination	24	18	13	14	32	22	18	23	15	41	20

That independence, free will, and responsibility are desired in children is a clear sign that autonomy is regarded as an important value. The above results show that the desire for obedience and deference in children has decreased continuously since 1967. It is reasonable to assume that the year 1968 and its consequences have influenced this issue. It is striking that independence is an expressed goal in the upbringing of children and considerably higher valued than in the other European countries studied by Ashford and Timms. This result is supported by Norman's (1991) ethnographic study of a German village (with the upbringing of children in the foreground), where independence and autonomy is a goal expressly fostered in educational institutions.

The tendency towards autonomy should also be seen in the context of the German attitude towards qualifications. Industrial modernisation in Germany must be seen against the background of the development of skills to foster autonomy and responsibility, which stands in contrast to, for instance, the British situation which is characterised by price-oriented downgrading and deskilling. Littek and Heisig have shown that in Germany since the mid 1970s there has been a clear trend away from deskilling and towards white-collar autonomy and responsibility. This will be discussed in greater detail in the section on work-related values.

4.3 German national culture 2: work-related values in terms of openness and closure

The focus on work-related values pursued in this section provides the connection between values on the general societal level in Germany on the one hand and organisational features on the other. Since Hofstede's (1980) study, work-related values have been considered a well-investigated field of research. Hence, his findings and other studies in this context, for example, Hampden-Turner and Trompenaars 1993, provide the empirical basis for this section. Three out of the four Hofstedian dimensions - power distance, uncertainty avoidance, and individualism - will be applied to the framework of openness and closure. The fourth dimension, masculinity, as well as a fifth dimension (long-term orientation) introduced in a more recent publication (Hofstede 1991), have less to do with collectivism and its correlates and will be disregarded. Again, comparisons between Germany and other countries will be taken as reference points.

4.3.1 Collectivism or individualism: the organisation as an organism or as a market place

Hofstede provides no formal definition for the distinction between individualism and collectivism, but rather refers to the work of previous authors such as Tönnies's classical distinction between *Gemeinschaft* (community) and *Gesellschaft* (society). Hofstede also explains an anthropological development away from collectivism towards individualism in several societies, and the significant differences between societies in this regard.

Hofstede's results display very high individualism values for the United States (91)⁴⁷, Australia (90), and Great Britain (89); and very low individualism values for Venezuela (12), Colombia (13), and Pakistan (14). The value for Germany is 67. Viewed as an absolute value, individualism in Germany is relatively high. However, if this

⁴⁷ As mentioned above, Hofstede attempted to express the countries' positions on the continuums on a scale from 0 to about 100, with 100 as the maximum of individualism.

value is controlled for the level of economic development, Germany exhibits a low individualism value (cf. Hofstede 1984: 167-168). On the one hand, therefore, in comparison to all other countries as a whole, Germany comes out with a medium to high individualism value; but compared to countries within the same range of economic development, Germany apparently tends towards collectivism. This goes together with Germany's position between individualism and collectivism on the more general, societal level identified above (Section 4.2.1), and matches the notable finding of Haire et al. (1966: 61-72) that in Germany the difference between high and low organisational positions is regarded as significantly less important than in the other countries measured.

Hofstede's result is also supported by Hampden-Turner and Trompenaars's (1993: 221-222) result from the following item.

"People have different opinions about how employees should be compensated for working overtime.

Some people think the only reasonable compensation is a monetary bonus, which should be bigger as more overtime has to be done. This should be regulated contractually.

Other people think that working necessary overtime belongs to the job you do and the appreciation the boss will give you is reasonable compensation in itself. Therefore, overtime does not have to be regulated contractually.

Which of these hypotheses would you support?"

Table 5: Attitudes to overtime compensation; cf. Hampden-Turner and Trompenaars 1993: 222

Monetary bonus, increases with over- time	Sweden	Japan	USA	Italy	Singapore	Netherlands	France	United Kingdom	Germany	Spain
(in %)	87.8	85.9	70.9	58.7	52.5	51.8	45.8	42.6	41.9	32.0

Germany's result in comparison to the other nine nations suggests that German managers⁴⁸ are likely to tolerate overtime work without monetary compensation. More than any of the other nations in the study (except for Spain), their commitment to the community seems strong, and their interest in individual benefit seems weaker.

⁴⁸ Hampden-Turner and Trompenaars's (1993) study is based on questionnaires delivered to middle- and higher-ranking managers, see the discussion above.

In a comparative study between management in Britain and Germany, Millar (1979: 56) found that British worker's attitudes are closer to 'We're only here for the money', whereas Germans show more loyalty to the company. German workers have much less of a 'them and us' attitude towards the management. Even the attitude of management fits into the picture of some sort of collectivism in German corporations. Millar (1979) found that "German management appeared to be more concerned about 'human relations' or 'people' issues than their UK counterparts"; "German management showed more awareness of the role and significance of genuine participation" and "the company policy was geared to increasing elimination of differences between shop floor and office workers, in terms of working conditions and privileges" (p. 56).

In a comparison of the roles and behaviour of middle managers in Great Britain and Germany, Stewart et al. (1994) found support for Hofstede's finding of Germany's higher score on collectivism. German managers emphasised the team-spirit among colleagues, harmonious co-operation, joint approaches and togetherness - phrases that belong to the German concept of 'no conflicts'.⁴⁹ This impression of rather collegial operations and, in particular, collegial decisions at the top management level, is supported by Lawrence's (1980) study of management in Germany from a British (and partially American) perspective. He regards collegiality in terms of shared decisions as being in line with the "self-contained, non-doctrinaire nature of German management" (p. 93). Moreover, Lawrence (1980) finds it relevant in this context that there is no direct equivalent in Germany to the British class-consciousness:

"It is genuinely more difficult to classify Germans in social class terms. There are fewer differences of dress. Accents tend to have a primarily regional significance: diction may give a clue to class, or at any rate educational level, but not accent alone. There appear, at any rate to the foreign observer, to be fewer class associated differences of deportment, manner and style than in Britain... Germany does not have any equivalent of 'the home counties', or of 'county families', or even of 'the gin and Jaguar belt' - every sizeable German town has one, though it is difficult to find a cultural equivalent of the gin and Jaguar as symbols.

All this has some reflection in the factory. Everyone arrives with a briefcase, in the case of the workers usually contain salami sandwiches and at

⁴⁹ In this regard see also Dahrendorf (1968) on the nostalgia for synthesis.

'knocking off time', German managers tell you proudly, you cannot tell the difference between the lathe operator and the personnel manager as they cruise past the gatehouse in their BMWs...

Meetings in German firms also have a strong dash of egalitarianism. They tend to be attended by a wide variety of ranks: one gets clerks and chargehands alongside managers immediately below the Vorstand or Geschäftsführung. And although meetings in Germany tend to be well chaired and purposeful, they are not sedately respectful. People attend as needed, say their bit and go, start side discussions and make phone calls at the host's desk while the meeting proceeds at the conference table. Chargehands and skilled workers take part in meetings on machinery purchase and are listened to with respect by PhD's from Engineering" (Lawrence 1980: 106-107).

Lawrence's finding appears to support some sense of community. Moreover, German managers' image of an organisation is interesting with respect to the distinction between individualism and collectivism. Stewart et al. (1994) found that German managers imagine the company as a "well-oiled machine," whereas British managers tend to regard it as a "market place." The image of a well-oiled machine comes close to what Popper criticises as 'organism theory'. The individual parts serve the functioning of the whole. Smooth operations and the absence of friction and conflicts are most appreciated. Also, empirical results on the importance of consensus fit into this picture very well. In one item in their survey with managers of middle and upper ranks, Hampden-Turner and Trompenaars (1993: 283-284) juxtapose two opinions on a decision-making processes about an election of delegates.

"It is better that all people meet and discuss things until almost everyone agrees on the same person." (Opinion 1)

"It is better that all people meet, names be put up, a vote be taken, and then the person who gets the majority of votes sent, even if there are several people who are still against this person." (Opinion 2)

Table 6: Attitudes to decision-making processes; cf. Hampden-Turner and Trompenaars 1993: 284

Opinion 1, extended discussion and widest agreement	Japan	Germany	Netherlands	France	United Kingdom	Australia	Sweden	Spain	USA	Italy
(in %)	84.6	69.0	66.0	61.9	58.7	53.4	41.0	39.4	37.7	35.5

German managers seem to prefer an absolute consensus; even a democratic election is regarded as less appropriate. This form of collectivity, the tendency towards group-based decision, is supported by the author's experience in the fieldwork for

this study. The presentations of this research project were performed in front of a *group* of people, that is, either in front of the board of executives or a group consisting of members of the executive board, human resource managers, and/or members of the works council. Only in one case was the project discussed with only one person, the chief executive.

The German obsession with consensus is also reflected at another level of analysis: the industrial relations and the interplay of economic institutions. *Social* market economy is a German invention; only in Germany is there an established system of co-determination; and in Germany the relationship between employer federations and trade unions is named 'social partnership' (Sozialpartnerschaft) and is established in the works council system and the system of worker directors (Arbeitsdirektoren) in the board of executives. Moreover, even the fact that hostile take-overs are much rarer events in Germany than in Anglo-American economies (irrespective of the different legal and stakeholder conditions) shows the tendency towards consensus and absence of friction. As Warner and Campbell (1993) put it, "Germans project the image of purposive, collective effort towards agreed goals" (p. 100). Working in a group with mutual support and group decision-making is highly valued. Returning to the hypothesis of the position of German corporations between an individualist 'market place' and a collectivist 'organism' or 'well-oiled machine', one can state with considerable confidence that German corporations exhibit a rather collectivist value.

4.3.2 Contestable or incontestable knowledge as work-related values

Two issues are particularly relevant for an assessment of the attitude towards knowledge in the context of work: the attitude to authority, and the relation between uncertainty and acceptance of ambiguity and different opinions. The attitude towards authority gives an indication of the extent to which one's seniors are regarded as being right; the avoidance of uncertainty relates to the extent to which pluralistic and tentative knowledge can be tolerated before insecurity arises.

To the knowledge of the author, Hartmann (1959) was the first to conduct a study of social relations in German companies. On the basis of almost 200 interviews carried out between 1953 and 1955 in Germany (Hartmann is German but was educated in the United States), he concludes that

"the organization of the business firm is essentially a structure of authority-relationships... German management has a reputation for the viability of its authority. Observers abroad find little dispute over management's right to issue commands and to expect obedience. Correspondingly, there is much talk about the 'over-commitment' of the German worker and the 'authoritarian' features of management. The relative absence of industrial conflict, management's self-assuredness, and general cultural traditions all reenforce (sic) the assumption that German management enjoys a position of unusual security" (Hartmann 1959: 3).

Moreover, Hartmann draws a distinction between two types of managerial authority: ultimate and functional. Referring to "the three German value systems" of private property, vocation, and an elite ideology, Hartmann comes to the conclusion that ultimate authority is prevalent in German management. Hartmann, therefore, would give Germany a rather closed value on the axis between ultimate and provisional knowledge.

In a sense, Hofstede's (1980) results on power distance contradict both Hartmann's results and the common-sense view that Germany is a country with a high obedience to authority, since Hofstede found that Germany scores low on the power distance index. A closer look at Hofstede's target construct, however, shows that the attitude towards knowledge is overlapped by a sense of conflict avoidance and communitarianism. Hofstede's items are supposed to capture, among others, the subordinates' perception that their boss tends to take decisions in an autocratic or persuasive/paternalistic way (as opposed to decision making after consulting the subordinates), and the subordinates' preferences for non-consultative styles of decision-making in their boss, that is, for an autocratic, a persuasive/paternalistic, or a democratic style. Germany's low power distance index, then, can possibly be traced back to the sense of harmonious collectivism rather than to an attitude of regarding knowledge as tentative and provisional.

Dahrendorf (1968) points to the connection between attitudes toward knowledge and toward uncertainty. "If one is prepared to recognize the permanent reality of contrasting opinions and regard conflict as a moving force of social development, this implies the conviction that man is living in a world of inherent uncertainty" (p. 147). The attitude to, and treatment of, uncertainty can hence be assumed to have an impact on the treatment of knowledge; hence Hofstede's result on uncertainty avoidance contribute to an understanding of the attitude to knowledge at work. Hofstede (1984: 110) first refers to indicators relating to anxiety, namely rule orientation, employment stability, stress, need for security, intolerance of ambiguity, and dependence upon experts. He assumes that uncertainty about the future is an inherent fact of human life that causes anxiety and that humans have found several ways to reduce their anxiety levels. Hofstede mentions technology as one example, which has helped in coping with anxieties caused natural threats; he also refers to laws and rules which help defend oneself against uncertainties in the behaviour of others; and religion, which helps accept uncertainties over which humans have no control. Uncertainty avoidance can be recognised in the preference of decision rules emphasising short-term reaction to short-term feedback, in the need to anticipate events correctly in the distant future, and in the attempt to arrange a 'negotiated environment'; that is, to impose plans which counteract uncertainty, contracts, or standard operating procedures. These features indicate that ambiguity, contradictions, tentativeness and inconclusiveness cause anxiety, explaining the desire for ultimate and monopolistic knowledge. As a result, planning systems are established that "allow managers to sleep more peacefully" and "help members to believe in what they are doing" (Hofstede 1984: 118), control systems are set up, and experts are nominated.

Interestingly, Germany has a significantly higher uncertainty avoidance index than many other European countries. On the range between 8 (lowest country) and 112 (highest country), Germany comes out with the value 65, which is lower than the Latin American countries, Belgium, France, Spain, Italy and Austria, but higher than all Scandinavian and all English speaking countries. Assuming that uncertainty avoidance is in some sense necessarily higher in countries with a lower economic development, for there it is harder to make a living for oneself and a family, Ger-

many can be considered as a country with high uncertainty avoidance. In his publications from 1980 and 1984, Hofstede accordingly labels Germany a high UAI country (with UAI for uncertainty avoidance index), referring for support to other studies in this field (Hofstede 1984: 128-130, 134-145). Hence, a considerable amount of uncertainty avoidance can be assumed, which is, according to Hofstede, connected to the following features at the organisational level:

- Preference for clear requirements and instructions.
- The belief that company rules should not be broken.
- Perception of conflicts in organisations as undesirable.
- Ideological appeal of consensus and of consultative leadership.

In terms of openness and closure, the considerable level of anxiety and worry about the future goes together with a need for predictability of the future. The reputation of Germans as law-abiding people who always stick to the rules can also be seen in this context: being law-abiding and sticking to rules is a means of reducing or avoiding uncertainty. Popper's insistence on piecemeal social engineering and negative utilitarianism, both connected to capabilities of improvisation, does not meet the German need for planning and predicting. Stability and predictability apparently describe the German needs better than a strong tolerance of ambiguity. Fromm (1942) went so far as to connect the rise of fascism and nazism with uncertainty avoidance, in particular with the need to escape from freedom and its uncertainties.

A low willingness to face uncertainty in Germany is supported by the studies of Child and Kieser (1979: 266) and Stewart et al. (1994), although these are only appropriate for comparison of Germany with Great Britain. Stewart et al. (1994: 167-177) found evidence for higher German uncertainty avoidance in the degrees of formality expected, in managers' expectations of others, and in the importance of structure. This goes together with the German avoidance of improvisation (cf. Stewart et al. 1994): having to shape reality at short notice and on the basis of ambiguous and limited information makes Germans uncomfortable. Even Haire's et al. (1966: 46-61) results on the differences between the meanings of 'to direct' and 'to persuade' must be interpreted in this direction. It is amazing to see the extent to which the differences between these two actions are regarded as significant and important in Ger-

many. According to Haire's et al. (1966) statistical results, Germany stands out in this regard. This rigidity, too, supports the hypothesis that the incontestability of knowledge plays a significant role in German organisational cultures.

4.3.3 The expression of autonomy in work-related values

In connection with the German obsession with qualification, it is expected that every employee is qualified to work independently and work without direct supervision. Even very junior staff are asked for their advice and are consulted in preparation for meetings of senior personnel. Warner and Campbell (1993: 95) point to the "lower centre of gravity" in German industrial organisations compared to Great Britain and France. That is, due to the apprenticeship system, the importance of formal qualifications and technical skills of junior employees, actual production in manufacturing industry takes centre stage rather than taking second place behind Marketing or Research and Development. Also, Sorge and Warner (1986: 125) point out that skills are concentrated on the shop-floor or around line management rather than in other organisational domains or higher in the hierarchy.

Hence, the fact that the German workforce is better trained than in other countries suggests that all participants have a considerable room for manoeuvre and autonomy. The concept of 'responsible autonomy' has already been discussed by Kern and Schumann (1984), an influential study in German industrial sociology, and it has recently been emphasised by Littek and Heisig (1995). Littek and Heisig show that German industry reacted to the economic crisis in the mid 1970s not with a price-oriented deskilling of employees, but rather with a more occupational training for white-collar employees. Since then, the high educational and occupational training level of the labour force has played an important role and becomes ever more significant. Littek and Heisig (1995) document the "skill-oriented modernisation policy" (p. 375), which stands in stark contrast to the development in, for instance, the United Kingdom, where a trend towards price-oriented mass production with poorly qualified personnel has taken place, as follows.

"Managers typically expect that a competent white-collar employee can solve problems autonomously and is prepared to react flexibly to changing markets and client requirements. Because of these underlying assumptions, skilled white-collar work normally is not prescribed in full detail and always includes varying margins of discretion... (Employees) come to feel responsible themselves for the successful execution of their tasks. Under such conditions, management is able to use trust as a basis of labour relations, and workers do their best to be trustworthy" (Littek and Heisig 1995: 378-379).

At first sight, this suggestion of Germany being on the high-autonomy side seems to be contradicted by data from the World Values Survey, in which the freedom to make decisions at work was one item looked at in the section on work-related values. In comparison to other West-European countries (Great Britain, Northern Ireland, Republic of Ireland, the Netherlands, Belgium, France, Italy and Spain), Germany takes on the second lowest value in 1981 and the lowest value in 1990 (Ashford and Timms 1992: 82-83).

Table 7: Feeling of freedom to make decisions at work, Europe; cf. Ashford and Timms 1992: 83

	Total	Great Britain	Northern Ireland	Republic of Ireland	West Germany	Netherlands	Belgium	France	Italy	Spain
1981	6.5	6.7	6.7	6.5	6.2	7.1	6.5	6.1	6.7	6.6
1990	6.6	7.0	6.8	6.9	6.2	7.2	7.0	6.4	6.7	6.5

1: no freedom at all (to make decisions at work)

10: a great deal of freedom to make decisions at work

Although only to a limited extent, Germans do feel less freedom to make decisions at work. But this perception must be seen in the context of the qualification of the respondents, which can be assumed to be better, on average or absolute, than their European counterparts. A better qualified employee is more likely to complain about lack of freedom to make his/her own decisions. Hence, the results of the World Values Survey do not necessarily contradict the other accounts, but can even be interpreted the other way round: the German need for autonomy is higher than in other countries, so that Germans feel more constrained by day-to-day operations in the organisation. That the need for autonomy is higher than in other European countries has been clearly shown by Haire et al. (1966: 99-108).

The most important aspect remains that as a result of the three-year apprenticeship system and the traditional importance of qualification, Germany has a long practice of educating and training blue- and white-collar employees. In addition, a resolute policy towards qualification has been in place since the mid 1970s, which has resulted in a considerable amount of autonomy, independence and discretion in the workplace (Littek and Heisig 1995, see also Lane 1992). On the other hand, however, this independence must be viewed in the context of the German sense of community and the establishment of high-trust relations in industrial organisations (Heisig and Littek 1995). The autonomy is considerable, but limited by employees' involvement in, and commitment to, the collective.

4.4 Summary

In the evaluation of the above results, it is important to take into account that only a few sources are available that indicate the German state of affairs in the 1990s. Not only Dahrendorf's (1968) thorough description of the German condition, but also large parts of the available survey results are thirty years old or older and hence can not capture the influences of cultural developments since 1968 or the German unification in 1990. Even between the appearance of the Civic Culture Survey (1959/60) and, twenty years later, Almond and Verba's edited volume (1980), which re-examined the results of the first survey, there was substantial cultural change in Germany. And even the data from Hofstede, which is probably still the most cited study in the field of cultural studies, were gathered in 1968/69. Now, after 1968, after the German re-unification in 1990, and again almost another two decades after Almond and Verba's (1980) revisiting of the Civic Culture Study, it can be assumed that the cultural shift, for example as documented by Inglehart (1990 and 1997) in terms of postmaterialism and modernity, has been so large that results can only be used with caution. However, since no newer data are available and the present does not totally break with the past, the cited studies must suffice for the creation of hypotheses on the pattern of openness and closure in German corporations.

The results on general societal values on the one hand and work-related values on the other are remarkably consistent. Particularly for the distinction between individualism and collectivism, it can be presumed with considerable certainty that Germany tends toward the collectivist side. Also, with regard to the treatment of knowledge, the empirical situation shows a relatively clear tendency towards the attitude or need to regard knowledge as ultimate and monopolistic. This considerable manifestation of closure in German national culture resembles the impressionistic essay by Mathiopoulos (1997), which alleges that the German political and corporate landscape is scattered with petty, closed societies. With regard to the level of autonomy, the situation is more ambiguous. While a considerable degree of independence can be assumed, this autonomy is necessarily limited by the continuous reference to collectivism in Germany. In summary, this leads to the hypothesis that German corporations establish:

- some sort of collectivism rather than individualism,
- an attitude towards knowledge as being incontestable rather than contestable
- and a significant degree of autonomy of employees.

Applying Gebert and Boerner's (1995) terms for the interpretation of Popper's distinction between openness and closure, the following profile can be sketched as a hypothesis for the empirical investigation at the organisational level.

	OPENNESS	CLOSURE
Social dimension: What takes priority in the organisation - the individual or the collective?	Individualism	Collectivism
Epistemological dimension: How reliable is knowledge regarded to be in the organisation?	Provisional/ pluralistic	Ultimate/ monopolistic
Anthropological dimension: What degree of freedom and opportunity to shape the organisation do the employees perceive themselves to have?	High autonomy/ Voluntarism	Low autonomy/ Determinism

The diagram illustrates a path through the dimensions of German companies. It starts at 'High autonomy/Voluntarism' (bottom left), moves diagonally up to 'Ultimate/monopolistic' (middle right), then diagonally down to 'Low autonomy/Determinism' (bottom right). A vertical line also connects 'Collectivism' (top right) to 'Ultimate/monopolistic'.

Figure 2: The hypothetical profile of German companies between openness and closure

It is amazing to note the extent to which this pattern matches Troeltsch's slogan of 'state socialism and culture individualism (*Bildungsindividualismus*)' (cf. Dumont 1986: 133). According to Troeltsch, individual independence goes together with a collectivist whole: "an organized unity of the people based on a rigorous and at the same time critical devotion of the individual to the whole, which is completed and legitimized by the independence and individuality of the free spiritual culture (*Bildung*)" (Troeltsch 1925: 103, quoted in Dumont 1986: 133). Although Dahrendorf (1968) makes fun of this German idea of freedom (see Section 4.2.1), it seems to be realised to a considerable extent in the pattern of German national culture. In her highly interesting ethnographic study of a German village, Norman (1991) arrives at a conclusion that strikingly resembles the above pattern. Throughout her book, she continuously points to the co-existence of autonomy on the one hand (which was deliberately fostered in the educational institutions in the village she studied) and the remarkable importance of belonging and collectivity on the other. In her concluding remarks she writes:

"The encompassing activity of creating forms of order... divulges, and works on, an underlying contradiction between the perceived assertiveness of the individual and the demands of the collectivity. The individual is thought of as autonomous but is dependent on a benevolent whole, and the range of benevolence is a crucial issue. In Western individualistic thinking the relation

between individual and society is one of conflict, and has been a central issue in Western social science, to the detriment of our capability of understanding non-Western peoples... Individualism values equality and the autonomous person, and the blessings of change and progress, but individualism has not always been, nor is, everywhere the same in the Western world. German individualism is a special case, as Dumont attempts to show. There appears *a particular tension, or conflict, between egalitarianism and hierarchy in German modern ideology, as if a residue of bygone days lay buried in its modernity*. Quite simply, there has been a tendency in German thinking to think not only individualistically, but also holistically ('societally')" (Norman 1991: 214, emphasis added).

At this point we can refer back to research issue A, stated in Section 3.4. The theoretical starting point for investigating potential correlates of social cohesion in organisations has been the Popperian distinction between openness and closure and its dimensioning by Gebert and Boerner. As outlined in Sections 2.3 and 2.4, the current discourse on concertive control is characterised by the assumption that some sort of collectivism or communitarianism goes together with a lack of autonomy and with a monopolistic treatment of knowledge. In this chapter the literature on correlates of cohesion in Germany has been screened, and on the basis of secondary data, socio-historical and impressionistic studies it has become apparent that German national culture, despite significant features of closure, does not represent a coherent pattern of openness or closure, but rather a combination of predominantly closed characteristics in conjunction with a considerable degree of autonomy. In particular, the liaison between collectivism and autonomy strikingly resembles Fox's (1974) notion of a relationship between high trust and high autonomy or Kern and Schumann's (1984) notion of responsible autonomy. Against this background of high autonomy, the assumptions of the discourse on concertive control become contestable. Although there is obviously a significant cultural basis for concertive control (strong sense of collectivism in conjunction with little appreciation for knowledge plurality), a lack of autonomy as suggested in the discourse on concertive control would encounter cultural obstacles. It will be investigated how far companies in Germany exhibit the same pattern of openness and closure as the national culture.

With respect to the investigation of organisations it is important to attempt, as far as possible, not to impose the researcher's conceptual structure (here the potential cor-

relates of cohesion or the dimensions of openness and closure) on the answers of the respondents.⁵⁰ Hence, the extent to which the dimensions of openness and closure are reflected in the minds of the respondents must be investigated. The point of departure is the confident assumption that the potential correlates of cohesion will be independently recognisable as reflected in the construct of openness and closure. This leads to the following hypothesis.

H1: The epistemological, anthropological, and social dimension are independently recognisable in German corporations.

The extent to which the dimensions of openness and closure are exhibited will be identified in due course. But with regard to the interrelation of the dimensions expressed in Gebert and Boerner's (1995) terms, the hypothesis for the empirical investigation can be stated as follows.

H2: In German corporations, the social dimension correlates positively with the epistemological dimension, but negatively with the anthropological dimension.

The investigation of the profile of German corporations in the next chapter prepares the discussion of the extent to which they can be conceived of as partial, sub-, or countercultures of the German national culture. Moreover, should hypothesis H2 hold true, then the discourse on concertive control may need to be revised in a manner that allows for more room for combinations, or ambiguities, regarding the correlates of collectivism. The secondary data on societal and work-related values in Germany indicate that some doubts are justified. This discussion is taken up in Chapter 8.

With regard to the Popperian notions, however, we can already make some statements, since his critique of totalitarianism was concerned with patterns of thinking

⁵⁰ This will be discussed in greater detail in Section 5.1, and the structure will be investigated as a whole in Chapter 5.

on a general, societal level. In Germany, collectivism apparently is associated with some sort of discretion and autonomy. Hypothetically, social cohesion conceived of as organic communities without conflicts, with individuals contributing in an altruistic manner, is, in Germany, not necessarily connected to a loss of personal autonomy. Some sort of communitarianism seems important to Germans, and might even support the sovereignty of participants. This points to the Achilles' heel of liberalism in general -the negative view of community-, which is also discussed in Chapter 8 on the basis of the empirical results.

5 Correlates of collectivism in German corporations

The above discussion of the cultural pattern in Germany has shown that although a sense of collectivism correlates with a monopolistic attitude to knowledge, it is contestable whether it also corresponds to a lack of autonomy. The next stage is to investigate whether this pattern is also to be found in German corporations. A questionnaire was developed on the basis of Gebert and Boerner's (1995) three-dimensional construct of openness, which covers the concerned dimensions of collectivism, attitude to knowledge, and autonomy, and was used as the source of information for this investigation. The results shed light on the correlates of collectivism, allowing them to be discussed in the context of concertive control.

So far, this discussion has centred on those Popperian distinctions which were described by Gebert and Boerner (1995). This procedure has not questioned the dimensions in themselves. They have been taken as a matter of fact, independent of whether they are to be recognised in corporations or whether some factors merge or split. This was necessary for the generation of hypotheses, since observation and the creation of hypotheses must be carried out along certain conceptual lines. For the investigation of organisations, however, the underlying distinctions can and must be examined. Omitting to check whether the dimensions are recognised by the respondents in the organisations would rouse the danger of imposing a structure of openness and closure which the data do not suggest.

To this end, the dimensions of openness and closure will be treated as a 'construct' and investigated along the established criteria of reliability and validity. Hence this chapter refers to issue B in the research agenda (Section 3.4), the operationalisation of openness/closure to a construct and the assessment of its dimensionality. Once the representation of the dimensions in German companies has been identified, it can be discussed whether the organisation-cultural pattern corresponds to the assumptions of the discourse on concertive control, and to what extent it corresponds to the pattern at the general, socio-cultural level. After an introduction to the epistemological orientation of this study and the operationalisation of the construct, the method of

investigation and some empirical terms is introduced before the actual assessment of the dimensionality is carried out.

5.1 *Epistemological orientation*

Epistemological reflections introduce the reader to the objectives of the endeavour for attaining knowledge and to the paradigmatic assumptions of the employed methodology. Based on a distinction of statements between description, explanation and instrumentality (discovery, reason, and use/employment, cf. Ulrich and Hill 1979: 167), this thesis aims to make statements of the first two kinds. The development of the questionnaire and the subsequent conceptualisation and validation of the openness construct allows for descriptive statements, namely the portrayal of German corporations in terms of openness and closure. This makes it possible to examine the extent to which the national-cultural and organisation-cultural background corresponds to or contradicts the pattern of concertive control. But this thesis also aims to make first steps towards explanation. An account of one nation's culture within the same conceptual framework as the investigation of organisation-cultural features is intended to provide an explanatory pattern for organisational traits. Moreover, as discussed in the research agenda in Section 3.4, the discussion of openness and closure in a structuralist approach, investigating the differentiation of the companies between these poles, can explore which pattern is more likely to explain organisational traits: the notion of coherent features or the notion of a necessary balance between openness and closure.

Beyond these objectives expressed in terms of description and explanation, this thesis aims to extend theory and challenge assumptions. The extension of theory refers to the organisation-theoretical debate on openness and closure in Germany, to which it contributes an empirical investigation that might challenge some assumptions, and also to the theoretical link between organisational and national culture, which are currently viewed as being decoupled (see Chapter 7). The challenging of assumptions, however, not only refers to these debates, but particularly to the discourse on concertive control. The assumptions of this discourse have been identified (Section

2.3. and 2.4) and will be discussed in the light of the empirical results. The goal here is not to investigate whether concertive control is a significant feature in German corporations, but rather to examine to what extent the national-cultural and organisation-cultural backgrounds correspond to or contradict the conjectures of this discourse.

Methodologically, this study is inspired by the idea that objectivist and subjectivist approaches inspire and supplement each other, and that the currently dominant form of organisation studies in Europe, subjectivist, can gain from an objectivist counterpart. In order for an objectivist approach to question and add to hermeneutic research, however, it must not ignore ethnographic and critical analyses (as many studies, particularly in US-based journals, still do), but must be informed by them. Based on the assumption that openness and closure 'exist' in organisations and can be measured by means of a questionnaire, this study uses an objectivist orientation in terms of the prominent framework of Burrell and Morgan (1979). The thesis does not attempt to capture the ideational autonomy of the participants or the phenomenon of concertive control as such; this would have required a subjectivist approach. Rather, in order to draw attention to the fact that national and organisational culture can foster or hamper concertive control, it investigates types, or figurations, of organisational culture in terms of their correspondence to this phenomenon.

This goal of detecting patterns of organisational traits is motivation for an investigation at the meso-level of organisational analysis.⁵¹ As pointed out in Section 2.4, critical and hermeneutic studies virtually exclude the meso-level of a pool of organisations. Configurational aspects, for example the structures and correlates of social cohesion, are only identified in single organisations without reference to possible general patterns. The result is that single organisations are taken as exemplary cases and attempts to construct and validate theories for an explanation and prediction of organisational behaviour have been neglected. This thesis attempts to steer against

⁵¹ Beyond the need to investigate more than one company, there is also the necessity of capturing as many personal opinions as possible from each organisation and from each domain in order to measure shared perceptions, for there is no key informant in a company whose statements about openness and

this trend. It looks at cultural correlates of collectivism and hence provides the possibility of seeing concertive control in an organisation-cultural and national-cultural light, on which steps towards explaining the phenomenon may be based. For the empirical connection of national-cultural and organisational traits, too, it is necessary to investigate a pool of organisations, which suggest nomothetic methods for reasons of practicality.

One reason for the paradigmatic parochialism in favour of ideographic approaches might be the traditional juxtaposition of paradigms and the assumption of incommensurability as marshalled by Burrell and Morgan (1979). The thesis of incommensurability has recently been contested in the incommensurability debate.⁵² This debate cannot be described in detail at this point, but some comments shall be made in order to place this study in the context of prevailing opinions. Suggestions to regard Burrell and Morgan's (1979) conceptualisation as heuristic instead of instrumental (Willmott 1990, Willmott 1993b, Deetz 1996) have not yet found their way into empirical research. The bipolarity of objectivist versus subjectivist paradigms has penetrated into the thinking of critical researchers on organisations in such a manner that objectivist studies are frequently identified with functionalism. Although this is largely accurate for US-based objectivist studies, it has essentially prevented to see that objectivist studies can also be informed of ethnographic and critical findings. Only Marxism and orthodox labour process theory are granted the status of objectivist and non-functionalist approaches as 'radical structuralism' in Burrell and Morgan's (1979) terms. As a result, attempts to identify structures empirically that might have contributed to an explanation of organisational features (even with a critical interest in mind) have largely been neglected. This thesis aims to contribute to a redirection of this trend and attempts to identify structures that influence organisational behaviour. Generally, the approach of viewing concertive control in the light of organisational and national culture is an attempt to connect critical perspec-

closure could be regarded as reliable. With this necessity of large surveys in mind, the decision must be made in favour of a nomothetic approach.

⁵² For a brief summary of this debate see Scherer (1998). For the most significant contributions see Reed (1985), Gioia and Pitre (1990), the edited volume by Hassard and Pym (1990), Jackson and Carter (1991), the debate in 'Organization Studies', vol.14, no.5, and the Comments in the special issue of 'Organization', vol.5, no.2, 1998

tives to structural conditions. More specifically, Chapter 6 pursues a structuralist approach. There it examines whether the dilemma of organisations between openness and closure can be viewed as a structure that influences or conditions organisational features. It is also important to see this study in the light of different cognitive interests. At the beginning of Chapter 2 the differences between three cognitive interests - empirical-analytical, hermeneutic, and critical - have been outlined. In this regard, the thesis crosses the border of these paradigms: it focuses on a critical issue (concertive control) with empirical-analytical methods. By virtue of these means, the thesis attempts to revive the sense of an interplay of research methods in organisation studies.

In order to counter the objection that results of objectivist methods often only reflect the projection of the researcher, the structure of the construct is thoroughly assessed (as demanded by Hofstede 1998: 477-479) on the basis of the respondents' perception, so that only the items, but not the structure of the construct of openness, can be viewed as imposed by the researcher. Moreover, this thesis attempts to respond to the usual critique levelled against objectivist methods by a deliberately careful interpretation of the statistical results. The method employed here does not question that each organisation has a unique historical background, different sense making processes and value systems based on different vocabulary. However, in the opinion of the author, this is not sufficient reason to argue against the employment of a questionnaire, since a hypothesis-guided focus on specific attitudes actually allows for insights in the differences in terms of means and standard deviations.⁵³

This opening of critical management theory to objectivist studies, therefore, is not a step backwards to blind positivism and empiricism. Rather, it provides the possibility of *choosing* a critical perspective on better informed grounds, namely concertive

⁵³ An often overlooked aspect is that questionnaire methods are not purely objectivist. The conceptualisation of a questionnaire is not done on purely 'statistical' grounds and without a process of understanding. Rather, the operationalisation of the construct and the formulation of questionnaire items are to be seen as the result of an hermeneutic process, namely how to formulate the questionnaire items in such a manner that they are understood by the respondents in the way the researcher wants them to be understood. And this requires a significant familiarity with the codes of communication in the context of industrial organisations. This process, however, can hardly be made explicit to the reader.

control in the light of organisational and national culture. This might shape the assumptions prevalent within this debate and inform about conditions in which concertive control may arise. A metaphor from the current discourse on knowledge in organisations can be employed in this context: drawing on Polanyi's (1962; 1967) distinction between explicit and tacit knowledge, which preceded the distinction between hermeneutic and empirical-analytical interests, Nonaka and his colleagues (Nonaka 1994, Nonaka and Takeuchi 1995, Nonaka and Konno 1998) have developed a framework which allows the creation of knowledge in organisations to be understood and fostered as a continuous dialogue between tacit and explicit knowledge. Their notions of 'externalisation' (transmission from tacit to explicit knowledge) and 'internalisation' (transmission from explicit to tacit knowledge) capture their idea that tacit and explicit knowledge are complementary and can expand over time through a process of mutual interaction and development (see in this respect also Giddens 1984: 327-334). In this sense, this study attempts to foster the spiral of hermeneutic and empirical-analytical knowledge by virtue of the externalisation of the assumptions in the discourse on concertive control and the discussion of culture as fostering or obstructing this phenomenon.

5.2 Survey procedure

A determination of the forms and combinations of openness and closure by means of a questionnaire demands in the first place an elaboration, or operationalisation, of the characteristics and features of open and closed organisations. The three-dimensional construct of openness and closure suggested by Gebert and Boerner (1995) serves as a framework for this operationalisation. The crucial point for the discussion of correlates of organisational collectivism is to investigate whether these dimensions make up an *aggregate model* or a *profile model* in the sense of Law et al. (1998). In an aggregate model, the construct is formed as an addition (in a few cases: multiplication) of its dimensions. The dimensions cannot be independent of each other, and the dimensions combine together as a composite in the 'construct'. By contrast, a profile model is formed through various combinations of its dimensional characteristics. There is no single theoretical overall construct that summarises and represents all

dimensions (Law et al. 1998: 744-747). The dimensions may be combined or kept separate, such that the objects of investigation (in this case: corporations) can adopt combinations of the dimensional characteristics (i.e., combinations of open and closed features in this study). Expressed in empirical terms, the aggregate construct is based on positive correlations of the dimensions and on *convergent validity*, whereas the profile model does without that.

This distinction between types of constructs translates the above discussion of the assumptions of the discourse on concertive control into empirical terms. There it was stated that concertive control is based on the assumption that social cohesion, a monopolistic attitude to knowledge, and a lack of autonomy go hand in hand. If the construct of openness and closure turns out to be an aggregate model, then this assumption apparently holds true. If it turns out not to have correlating dimensions and convergent validity and is hence to be considered a profile model, then concertive control must be viewed as only one out of many possible combinations of organisational collectivism. The details of the operationalisation of the construct and the questionnaire are given in Appendix B.

5.2.1 Survey design

The Chamber of Industry and Commerce in Berlin, Germany, provided the addresses of the 100 largest companies in Berlin, which were approached for the survey. A letter to the Chief Executive of these companies explained the research project and provided a fax response-form to return as confirmation of their interest to participate.⁵⁴ After the author's discussion with, or presentation of the project to, the management of eight companies, six companies agreed to take part. This, however, was not sufficient to enable the objectives of this study to be achieved. The Chamber of Industry and Commerce in Berlin provided the addresses of another 200 companies, this time the addresses of the largest companies in Germany from the same six in-

⁵⁴ In this regard I would like to thank Diether Gebert, Technical University Berlin, for his help with the survey. Without the institutional support of the Technical University of Berlin, this empirical investigation would have not been possible.

dustrial sectors represented by the companies which had already been recruited. After further mailing and more presentations to management, the following corporations took part in the study: four companies in the semiconductor industry, three in the pharmaceutical industry, two in the food industry, two in the medical technology industry (X-ray machines, etc.) and seven other companies. All in all, the survey comprises 1062 questionnaires from 18 companies. The companies investigated are described in the following table. The names and locations of the firms cannot be named for reasons of anonymity.

Table 8: Companies in the sample

Company Code	Number of employees, including part-time workers	Revenue p.a. (1994)	Products	Number of questionnaires received
Chemicals_1	250*	N/A**	Synthetic intermediate products	71
ElectricalEngineering_1	300*	20-50 Mill. DM***	Electronic component parts of the 'first' generation: capacitors, resistors, etc., especially for radios	46
ElectricalEngineering_2	118	18 Mill. DM	Telecommunication devices, especially for the aircraft industry	31
ElectricalEngineering_3	350*	45 Mill. DM*	Electrical fittings, especially for the ship building industry	63
ElectricalEngineering_4	1100*	N/A**	Electrical component parts of the 'second' generation: semiconductors	130
PrecisionMechanics_1	333	66 Mill. DM	Vending machines	57
Telecommunication_1	1200*	N/A**	Telecommunications (cable), cable laying, network operating (a public utility company for one region in Germany)	146
Food_1	125	17 Mill. DM	Food ingredients, spices	26
Food_2	140*	17.5 Mill. DM*	Spices	27
MedicalEngineering_1	258	43 Mill. DM	Medical Engineering, X-ray machines, lighting equipment for emergency rooms and operating theatres	89
MedicalEngineering_2	630	65 Mill. DM	Medical Engineering, especially dialysis machines	51
Pharma_1	216	60 Mill. DM	Pharmaceuticals, especially antibodies produced in plants	79
Pharma_2	400*	120 Mill. DM*	Medicaments, various kinds, but particularly against cancer	48
Pharma_3	434	95 Mill. DM	Pharmaceuticals, various kinds	129
SoftwareEngineering_1	200*	N/A**	Software development for telecommunications	18
RailConstruction_1	350*	50-100 Mill. DM***	Rail construction, civil engineering	12
Motorcycle_1	1200*	500 Mill. DM*	Motorcycles	32
Foundry_1	150*	50 Mill. DM*	Cast iron	9

Figures without asterisks are taken from the chartered accountant's report provided by the company.

*Approximate numbers are based on oral information by the Chief Executive or the manager in charge of the research project within the company.

**N/A: not applicable - the investigated organisation is a part of a company and does not produce independent business figures.

***Information obtained from the Chamber of Industry and Commerce, Berlin.

The last four companies (SoftwareEngineering_1, RailConstruction_1, Motorcycle_1, and Foundry_1) were excluded from the analysis, because the return rate was

poor and the questionnaires were predominantly passed to senior managers within these companies.

With regard to the goal of investigating not only interdimensional, but also inter-functional differentiation (see issue C in the research agenda, Section 3.4), subdivisions were chosen as another unit for survey. In order to ensure that the companies could properly be compared, the investigation focussed on the domains of Research & Development, Production / Assembly, Marketing / Sales, and Administration (Personnel, Accounting, Finance). It was assumed that by covering these four areas a representative picture of the organisations was obtained. This is because these domains individually have the following characteristics relevant for the survey: Research & Development and Marketing / Sales represent those parts of the company in which ideas are *created* – a task potentially related to openness. In contrast, production/assembly and administration do not create ideas, but rather *execute* them – a task potentially related to closure. Another distinction proposes a different combination of the domains: Marketing / Sales and Production / Assembly perform tasks which focus *externally* of the company, which is more connected to openness. Research & Development and Administration, however, 'deliver' to *internal* domains, which may relate to the closed side of the paradigm. These four domains are therefore assumed to provide the best possible representation of companies in terms of openness and closure.

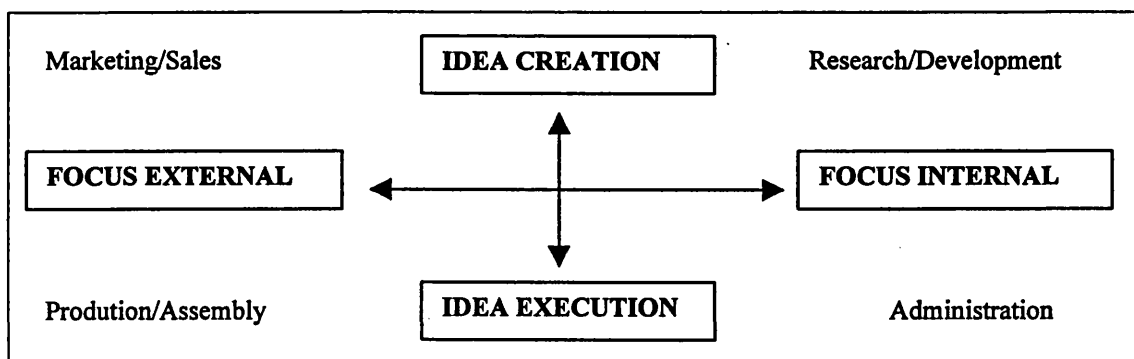


Figure 3: Departments representing a company on the axes 'focus direction' and 'idea processing'

In its first version, the questionnaire comprised 65 questions on openness and closure and typically took more than an hour to complete. Not surprisingly, the co-operation of companies was difficult to achieve. For this reason, the questionnaire was reduced

to a short version, given in Appendix B. The detailed procedure of this item reduction and further details of the survey are given in Appendix C.

5.2.2 Introduction of methodological terms

This section provides a semantic clarification of terms used later in the discussion of the construct's dimensionality. Only one of the two poles of openness and closure will be conceptualised, and the choice is not crucial. Here the decision is made in favour of openness, since this gives the construct a more positive and optimistic touch.

The construct of openness is *latent*. That is, the respondent does not know that there is a construct behind the questions, which is labelled 'openness' and is connected to Popper's terms of open and closed society. This is of great importance for making a decision between the hypothetical dimensions of openness and closure and a possibly deviating empirical structure; it even prescribes the methods to be used. On the assumption that the construct is completely concealed, that is, that the construct is formed 'formatively' *as a result* of the dimensions, one does not have to make much of an effort in examining the structure of the factors. Instead, one could skip exploratory methods and immediately precede to confirmatory methods. If, however, one doubts the fit of the inherent, hypothetical structure of the factors (which is necessarily the case in a 'reflective' establishment of the construction), or if one gives the respondent's perceptions a role in the decision about the dimensionality, exploratory procedures must be employed first, since otherwise the construct's structure remains unquestioned.

The term '*formative*' is used for those cases, in which *the factor is a function of the indicators*, that is, the indicators cause an impact on the factor (cf. Homburg and Giering 1996: 6). The existing indicators are assumed to have a theoretical connection; they are therefore summarised and provided with a common name. This formative way can also be seen as a 'bottom-up' foundation of a construct. By contrast, '*re-*

flective' establishment of a construct is the case *when the factor causes the indicators*; that is, when the indicators reflect the factor and are seen as measurements of the factor (cf. Homburg and Giering 1996: 6). Here, one assumes an existing superior entity (the factor), which must be specified by the indicators. The reflective way can therefore also be seen as a 'top-down' foundation of a construct.

With regard to the construct of openness there are two separate cases: at the higher level of the construct a *formative* establishment of the construct is assumed. In other words, the fact that the three dimensions add up to a construct called 'open organisation' is not apparent to the respondents. The explanation of the survey's goal in the instructions (cover letter to each questionnaire) does no harm in this case, because the respondents have no association with the target construct when answering the individual questions. At another level, however, when summarising the questions in terms of dimensions as well as factors, one can assume that the interviewees are able to reconstruct the link between the questions within the dimensions. Therefore, at this level, we are dealing with a *reflective* formation of dimensions.

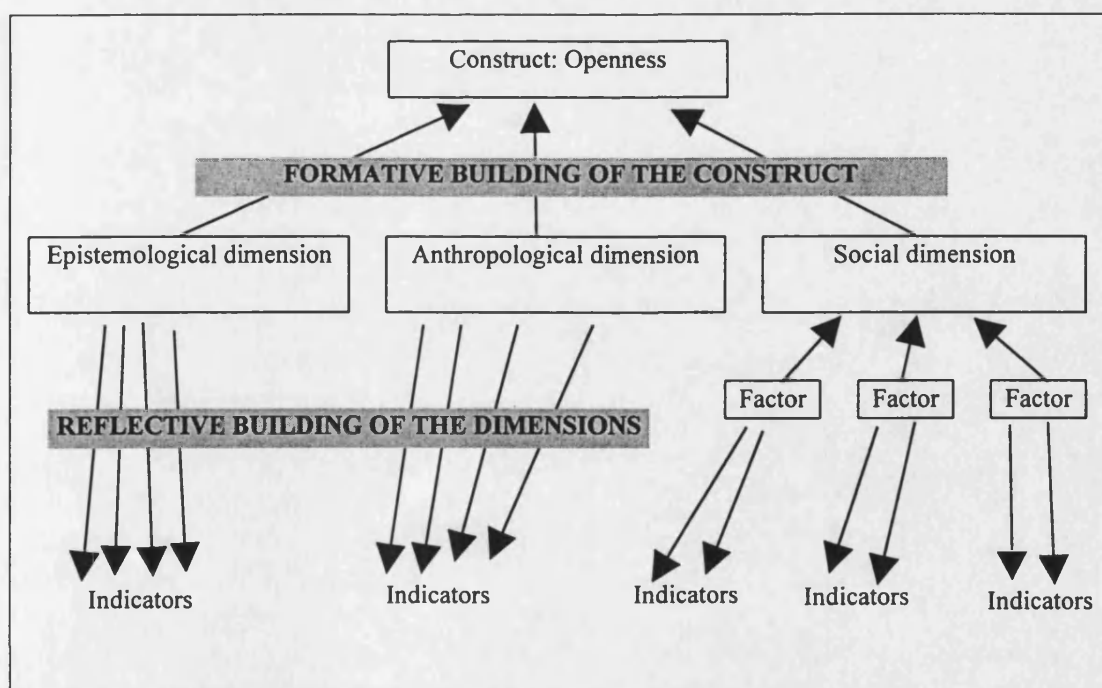


Figure 4: Reflective and formative establishment of openness dimensions and constructs

Because of this, an individual explanation is given for each list of questions in the questionnaire, which are arranged according to dimensions, so that the respondents have some idea of what to expect from the upcoming questions. Hence they can answer the questions with reference to the heading and explanation made previously in the questionnaire. For this reason, an exploratory procedure for examining the factor as well as the dimension is indispensable. The validity of the hypothetical model is therefore not examined initially through confirmatory analysis, but instead the empirical structure of the factors is examined through exploratory methods. If the empirically established dimensionality does not conform to the hypothetically determined structure, the researcher has to make the decision as to what extent the perception of the respondents should be taken as a foundation for further investigations, or to what extent and for what reason the hypothetical structure could be preferable.

During the previous analysis the term 'dimension' has been implied as a constitutive part of a hypothetical 'construct'. This suggests a hierarchical subordination of the term dimension to the term construct. The latter consequently consists of several dimensions. However, the term 'construct' itself does not provide any information about the mutual dependencies of the various dimensions.⁵⁵ The term 'factor' relates to the term 'dimension' in the same way as 'dimension' relates to the term 'construct'. A dimension therefore consists of several factors (or is directly formed or reflected by the items). All three terms, construct, dimension and factor describe something latent. Their value cannot be measured directly but can only be evaluated via the indicators. These items, on the other hand, can be measured directly. The terms 'item' and '(questionnaire-) question' will here be used synonymously to the term 'indicator'. An indicator can be assigned to a factor, but also, in case of a one-factorial dimension, to a dimension. The easiest case to analyse is when the construct is one-dimensional and the dimension is single-factorial; then the investigation of the construct could occur directly via the indicators (cf. Homburg and Giering 1996: 6-7). This does not imply that an indicator must relate to one factor only and one factor exclusively to a dimension. The stimulus of an indicator can certainly belong to more

⁵⁵ By contrast, the mathematical use of the term dimension assumes independence; for example a two or three-dimensional cross of co-ordinates marks the independence of the dimensions by the 90 degree angle.

than one factor, since the factors which constitute a dimension may correlate (see the explanation of convergent validity, below). The following synopsis shall clarify the above definitions:

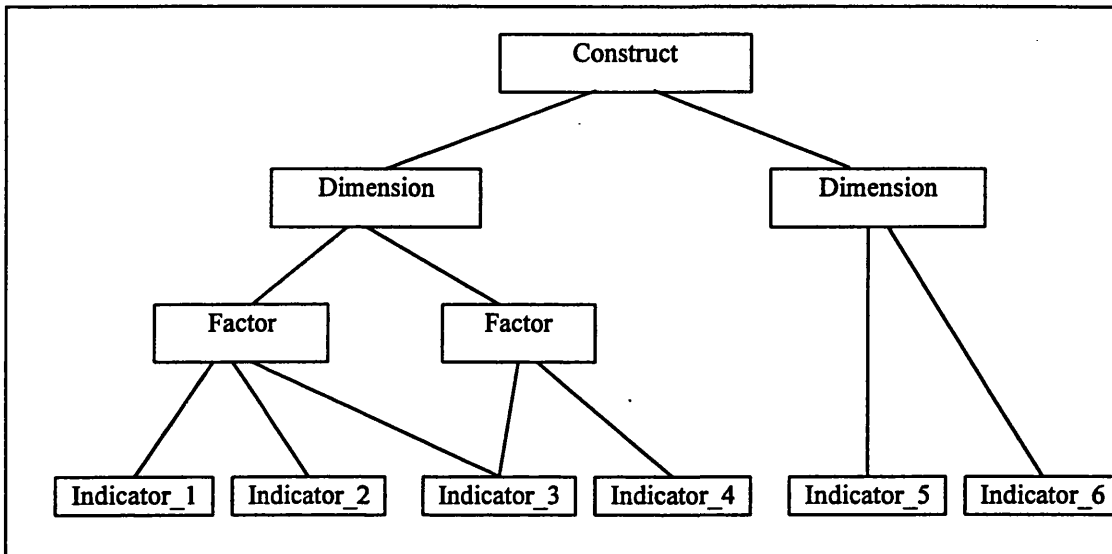


Figure 5: Clarification of the terms construct, dimension, factor, and indicator

In the data file, 'yes'-answers to questions testing openness were assigned the value of 100 and 'no'-answers the value of 0; precisely the reverse was done with questions testing closure. The item codes are given with the questionnaires in Appendix B. Thus we obtain the following terminology:

Construct: 'openness'

Dimensions:

- '*Individualism*' for the social dimension, representing the emphasis on the individual as an end in itself; as opposed to 'collectivism', which is meant in this context in the sense of an emphasis on a stable role structure where individuals are only elements of the larger picture.
- '*Autonomy*' for the anthropological dimension, representing the freedom and capability of participants to act independently, and representing the assumption of the organisation as an autonomous actor in its environment. The counterpart can be seen as a deterministic attitude, in which the assumption of a low degree autonomy of the participants and the organisation in its environment prevails.

- '*Contestable knowledge*' as the underlying assumption about human knowledge as the 'epistemological' dimension, versus the assumption about knowledge as ultimate and potentially monopolistic.

Factors of the dimension 'individualism':

- '*Particularism*' (versus cohesion); items A2, A3, A9, A11, A12⁵⁶
- '*Heterogeneity*' (versus homogeneity); items A7, A10, A12, A13
- '*Equality/Equality of opportunity*' (versus established role structure); items A1, A4, A5, A6, A8

These factors of individualism were explained in Chapter 2; their operationalisation is given in Appendix B. The other dimensions are one-factorial. The following figure is provided for clarification:

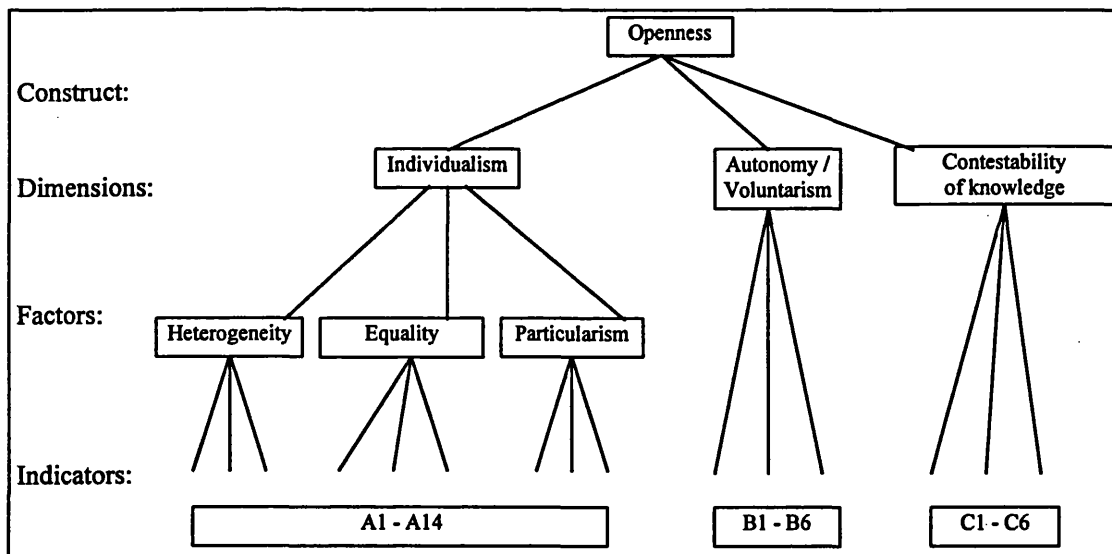


Figure 6: Dimensions and factors of the theoretical starting point

Furthermore, in conjunction with a conceptualisation and operationalisation⁵⁷ of a hypothetical construct it is important to differ between the following types of validity. *Content validity* implies the degree of fit between the items as a whole and all contents and facets of the hypothetical construct (cf. Homburg and Giering 1996: 7; Schnell et al. 1993: 163). Hereby it is important to cover the construct as a whole,

⁵⁶ Item A12 is assumed to load on both heterogeneity and particularism

⁵⁷ Homburg and Giering (1996: 5) characterise the elaboration of the construct's dimensions as conceptualisation and the development of a measurement instrument as operationalisation.

that is, not to omit any facets, and to formulate the items in such a way that the target construct encompasses the items without being overlapped by an alien construct. The group of items as a whole must therefore relate completely to the target construct, so that interpretation as a different construct can be excluded. In order to judge whether there is sufficient content validity, qualitative criteria must be consulted.⁵⁸ In the case of this study, beyond screening the literature the operationalisation has been supported by consulting the Handbook of Social Scientific Scales (ZUMA, without date). The purpose has been, on the one hand, to obtain items from the proximity to parallel constructs and on the other hand to avoid the target construct overlapping with alien constructs, securing a clear separation of the parallel constructs (see Appendix C for further details).

Criterion validity refers to the conjunction of the measurement results and an independent, i.e. external, criterion. This is relevant for studies in which the outcome of the measurement can be judged by subsequent results (*predictive validity* as one kind of criterion validity) or by results of a totally different criterion in the same period (*concurrent validity* as the other kind of criterion validity). An example for *predictive validity* is the judgement of the measurement of the scientific interest of school children by the question as to whether they go to university later on. An example for *concurrent validity* is the judgement of a measurement of the political attitude (left or right) by actual voting behaviour (cf. Schnell et al. 1993: 164). In this study, however, such an external criterion does not exist. There is neither another test to judge the openness and closure of companies, nor an independent person like a key informant in each company, who could reliably judge the company's values along the three dimensions. Thus the criterion validity of this study cannot be examined.

⁵⁸ A quantitative examination of the construct validity is then possible if the total construct cannot only be examined through a multi-level operationalisation, but can also be covered in its entirety in a single question. This is the case if both the investigator and the respondents are equally familiar with the categories of the total construct. This occurs, for example, in marketing research when the constructs 'customer proximity', 'customer satisfaction' or similar can be investigated directly, via one question, and when the multi-level-operationalised construct can be correlated with this question. In the case of this study, however, this is impossible, for the respondents do not perceive in categories of openness and closure.

Construct validity is present if statements about connections between different facets of the construct prove valid. In contrast to criterion validity (not measurable here) and content validity (which can only be judged in a qualitative manner), construct validity can be measured quantitatively and is especially relevant for the above distinction of aggregate models and profile models. It comprises *convergent validity*, which refers to a positive correlation of those items assigned to the same factor and of those factors assigned to the same dimension, and *discriminant validity*, which refers to a lower correlation between items assigned to different factors than between those assigned to the same factor (cf. Bagozzi et al. 1991: 425; Campbell and Fiske 1959: 81-83).

The criterion of *convergent validity* demands that indicators assigned to a factor exhibit a strong coherence. Likewise, factors assigned to a dimension should stand in a positive relation to each other. In this study, these requirements will be examined (for both factors and dimensions) by exploratory factor analyses and analyses of internal reliability (see examination-steps A and D in Section 5.3, below).

Complementary to convergent validity, a demand for *discriminant validity* is also made. This implies that there is less correlation between indicators of diverse factors than between indicators of the same factor. Also, there ought to be less correlation between factors of different dimensions than between factors of the same dimension. This claim is also being evaluated in examination steps A and D, and especially in steps B and E (see Section 5.3, below), for these steps examine whether the hypothetically constructed factors, or dimensions, respectively, disintegrate into several (sub-)factors.

The question of whether two uncorrelated factors, without any further factors, can establish one dimension, or, respectively, whether only two uncorrelated dimensions can establish a construct, relates to the above distinction between aggregate and profile models. In such a case the criterion of discriminant validity would be totally met. The demand for convergent validity, however, would not be fulfilled at all. Such an addition of unrelated factors to a dimension (or of unrelated dimensions to a con-

struct, respectively) would be like adding apples and oranges, and could only be done in a profile model.⁵⁹ Nevertheless, since a lack of discriminant validity would mean that the dimensions were not distinguishable, discriminant and convergent validity must be balanced carefully.

Subsequent to the introduction of the different aspects of validity, some methodological foundations on the statistical tests of reliability and validity must also be laid, so that the reader can make his/her own judgement about the reliability, validity, and goodness-of-fit of the models. These will be described in the framework of the introduction to confirmatory factor analyses in Appendix D.

5.2.3 The procedure of construct evaluation

The evaluation of the construct's dimensionality can be carried out by two different methods: a bottom-up and a top-down-analysis. The former initially evaluates the assumed factors only and subsequently adds the examination of the dimensions and the total construct. Since in the bottom-up method not all indicators are examined simultaneously in an exploratory factor analysis, and thus the total model is not principally examined on its dimensionality, it can be named 'confirmatory', which requires a good theoretical foundation of the factor structure. A top-down-method, by contrast, implies an exploratory factor analysis of all indicators as the first step. This procedure is used if there are initially no presumptions concerning the structure of factors and dimensions, or if the established assumptions are so vague that the construct must be based on empirical data. By this method the theoretically elaborated structure of dimensions and factors (if initially existing) are subjected to an exploratory factor analysis comprising all indicators in the very first step.

In the case of a divergence between the hypothetical and the empirical dimensionality— and this will most likely be the case — the researcher must decide whether to

⁵⁹ It is a different case if two unrelated factors are supposed to establish a dimension together with other factors. Here the correlation with the total of the other factors is important. If this correlation is

base further examination on the hypothetical or the empirical dimensionality. There can be good reasons for retaining of the theoretical dimensionality: for instance, it can be assumed that the perception of respondents, on which the empirical factor structure is based, is not a suitable way of measuring 'reality'. Since it is an important goal of this study to examine this concept and to compare this hypothetical structure with the structure based on the perceptions of corporate employees, the method used in this study will commence with a top-down procedure rather than bottom-up, similar to the model suggested by Homburg and Giering (1996: 12).

Step A:

Examination of the *hypothetical* dimensions using the following instruments:

- Internal reliability (Cronbach's Alpha)
- Item-to-dimension-correlations
- Exploratory factor analyses⁶⁰ *within* the dimensions
- Confirmatory factor analyses *within* the dimensions

Step B:

Exploratory factor analyses including the indicators of *all* hypothetical dimensions.

Step C:

Decision concerning the structure of dimensions and factors on the basis of the results from step A and B.

Step D (concerning relation between indicators and factors/dimensions):

Examination of the resulting dimensions and factors using the following instruments:

- Internal reliability (Cronbach's Alpha) of the resulting factors
- *Item-to-factor*-correlations
- Exploratory factor analyses of the resulting factors
- Confirmatory factor analyses of the resulting factors

Ultimate decision, which indicators are included in the factors and dimensions.

Step E (relation between factors/dimensions and the total construct):

Assessment of the quality of the entire measurement model employing the following instruments:

- Factor-to-dimension-correlations, dimension-to-total-correlations
- Internal reliability of the factors and dimensions
- Exploratory factor analyses at the level of the factors and dimensions
- Confirmatory factor analyses at the level of the factors and dimensions

Figure 7: Examination procedure of the construct's dimensionality; for the purpose of this investigation altered method of Homburg and Giering 1996: 12

either zero or very small – or if the dimension is only to consist of the two (unrelated) factors – one obviously deals with a factor that does not belong to the total construct.

⁶⁰ The factor analyses are carried out as principal component analyses with Varimax-rotation without pre-setting the number of factors.

The first step (A) examines the theoretically elaborated dimensions by means of three tools: internal reliability (Cronbach's Alpha), item-to-total correlations, and exploratory factor analyses per dimension. In the next step (B), the results of the first steps are examined using factor analyses over all dimensions, that is, including all indicators regardless of their belonging to a theoretical dimension.⁶¹ The bottom-up-analysis of the first step and the results of a top-down-procedure are therefore juxtaposed. The hypothetically elaborated structure of dimensions is confronted with the empirical factors in order to prepare the decision as to which dimension is to be used as the basis for further examination. The bottom-up-method will be used again (steps C and D) in reaching a decision on the dimensionality of the construct. From this step onwards, the procedure conforms with the method recommended by Homburg and Giering (1996): the dimensions and factors obtained in the first steps are each examined using the methods described in Figure 7.

The method used here to examine construct dimensionality thus adheres only partially to the recommended method of Homburg and Giering (1996). The reason for this is that Homburg and Giering do not suggest examining the items as a whole. Such a renunciation of a fundamental examination of the item structure already assumes some certainty about the dimensions. In this study, however, the fundamental exploration of the item structure is assumed to be necessary for the understanding of the structure of openness and closure in organisations. It is therefore essential to assess the items as a whole, as performed in step B.⁶²

⁶¹ By introducing step B this study deviates from the model suggested by Homburg and Giering (1996: 12), because the assumptions about a hypothetical structure are necessarily weaker than in their marketing-related example. A renunciation of this step (B), however, as implied by Homburg and Giering's (1996) model, bears the danger of imposing the researcher's structure on the data, which is strictly to be avoided in this regard.

⁶² Later on, the considerably low Cronbach's alpha-value of the theoretical dimensions obtained in examination-step A, which clearly suggests a lack of homogeneity of the social dimension, confirms the necessity of this step.

5.2.4 Sampling

As already mentioned, in four of the above 18 companies the questionnaires were given exclusively to the management or only to a few members of staff. These four companies were removed from the sample. The target of reaching a sufficient number of employees at all hierarchical levels and in all domains relevant for the survey (see main text: Production / Assembly, Marketing / Sales, Research & Development, Administration) was therefore achieved in only 14 companies. Consequently, the final data set consists of 991 questionnaires from 14 companies.

The return from each of these fourteen companies varies from 26 to 146 questionnaires. In a factor analysis over all 991 cases, companies with a large return would dominate those with a smaller return. Since the current aim is specifically to assess a factor structure independently of the particular corporation, this size-effect must be removed. This has been done by drawing random samples of twenty questionnaires out of each of the 14 companies. In order to achieve greater reliability, the procedure of taking 20 questionnaires randomly from each company has been repeated ten times, so that *ten different samples with 280 cases each* are available for further examination. The decisions on the factor structure and dimensionality are therefore based on comparisons between the results of these ten samples. *Only those factors which show a sufficient stability in all ten samples are taken into consideration*, thereby meeting the need for a deliberately cautious interpretation of the statistical results as announced in the above epistemological orientation.

Of course, the companies investigated do not provide a representative sample, but had to be taken on the basis of their readiness to co-operate. Moreover, considering the way the participating companies have been accessed (see above), it can be assumed that companies with a strong tendency towards closure have not taken part in the survey for reasons connected with the distinction between openness and closure: they do not want anyone from the outside investigating the company. Hence the surveyed companies will typically be more open than the average German company. However, since the goal of this study is not to measure the mean degree of openness

of the population of companies, but to obtain information on the pattern and correlations of the dimensions, this bias is not considered to be significant.

5.3 Social cohesion and its correlates

It is relevant for the investigation of the construct's validity to know whether the dimensions as such are recognisable in corporations (reflected in hypothesis H1) and the extent to which the dimensions correlate positively (reflected in hypothesis H2). This section is structured according to these questions.

5.3.1 The dimensionality of the construct

Examination steps A and B are given in Appendix E.

Step C

The results of step A (see Appendix E) show that both the anthropological and epistemological dimensions are highly reliable as long as they are observed individually. However, step B demonstrates that all factors of the anthropological and epistemological dimensions relate to one single factor. Accordingly we have to merge these two dimensions (item C2 will be deleted according to step A).

In order to find a name for this newly emerged dimension we have to look at the similarities, or overlapping, of the old dimensions. By using the vocabulary of closure, the similarity the respondents see in these dimensions comes to the fore: knowledge is regarded as ultimate and monopolistic, and the autonomy of individuals within the organisation, and of the organisation as such in its environment, is considered low - both have a considerable closeness to the discourses on social control in organisations. This is supported by the fact that in the exploratory factor analysis (step B) especially those items from the social dimension (A13 and A4) which have a similar content tend to relate to this emerging factor. It can therefore be labelled '*social control versus autonomy in the organisation*'. As the dimension must

adopt an 'open' name due to its coding, it is named 'autonomy', abbreviated AUTONOM.

The other result from step A is that the social dimension splits into two reliable factors plus a residual. Step B confirms this. One factor comprises the indicators A9, A11 and A12 and captures the core of the social dimension, the continuum between particularism and cohesion. Since factors should again adopt an 'open' name due to their coding, they will be labelled *particularism*, abbreviated PARTICUL.

The other factor derived from the social dimension comprises items A1, A3, A4, A5, A6, A8 and A13. Step B showed that this factor is much stronger without the marginal items A3, A6 and A13. As the remaining items (A1, A4, A5, and A8) are characterised to fit the target continuum '*equality/equal opportunities*' (versus established role structure/unequal opportunities) this factor will be abbreviated EQUALIT.

Step D

For the assessment of the dimensions in this step, the new dimension AUTONOM will be examined first. As discussed above, it has been obtained from the merger of the anthropological (B1 to B6) and the epistemological dimension (C1, C3, C4, C5, C6). The alpha-values (Cronbach) vary between 0.86 and 0.90 among the ten different random samples, which can be considered highly reliable. An exploratory factor analysis of these indicators highlights once more that they form only one factor. A confirmatory factor analysis of these items confirms this result by resulting in acceptable goodness-of-fit indices (chi-square=288.35, df=44, $p < 0.001$, GFI=0.95, AGFI=0.92, RMSEA=0.075; for the interpretation of these figures see Appendix D). However, most items obtained from the former anthropological dimension (B1, B2, B5, B6) explain much less variance (R-square) of this factor than those originating from the former epistemological dimension. If we now *remove* these items, the goodness-of-fit indices improve further. They reach an even better level by removing items B3 and C6, so that the solution with items B4, C1, C3, C4 and C5 presents the best attainable picture (chi-square=33.20, df=5, $p < 0.001$, GFI=0.99, AGFI=0.96, RMSEA=0.075). This solution strongly corresponds with the qualitative picture of a

continuum between social control and autonomy, for only core items of this dimension have survived. These items (B4, C1, C3, C4 and C5) hence form the new dimension AUTONOM.

The examination of the dimensions EQUALIT and PARTICUL has already been carried out in step A (Appendix E), so it needs no repetition here. The unclear factor comprising the items A2, A6 and A7 (discussed in Appendix E) presents alpha-values of 0.31 to 0.38 in the ten samples, which cannot be considered satisfactory. This vague factor will hence be abandoned, leaving the dimensions autonomy (AUTONOM), particularism (PARTICUL) and equality (EQUALIT) for consideration.

The transformation of the dimensionality from the hypothetical starting position to the empirically gained factor structure can therefore be sketched as follows:

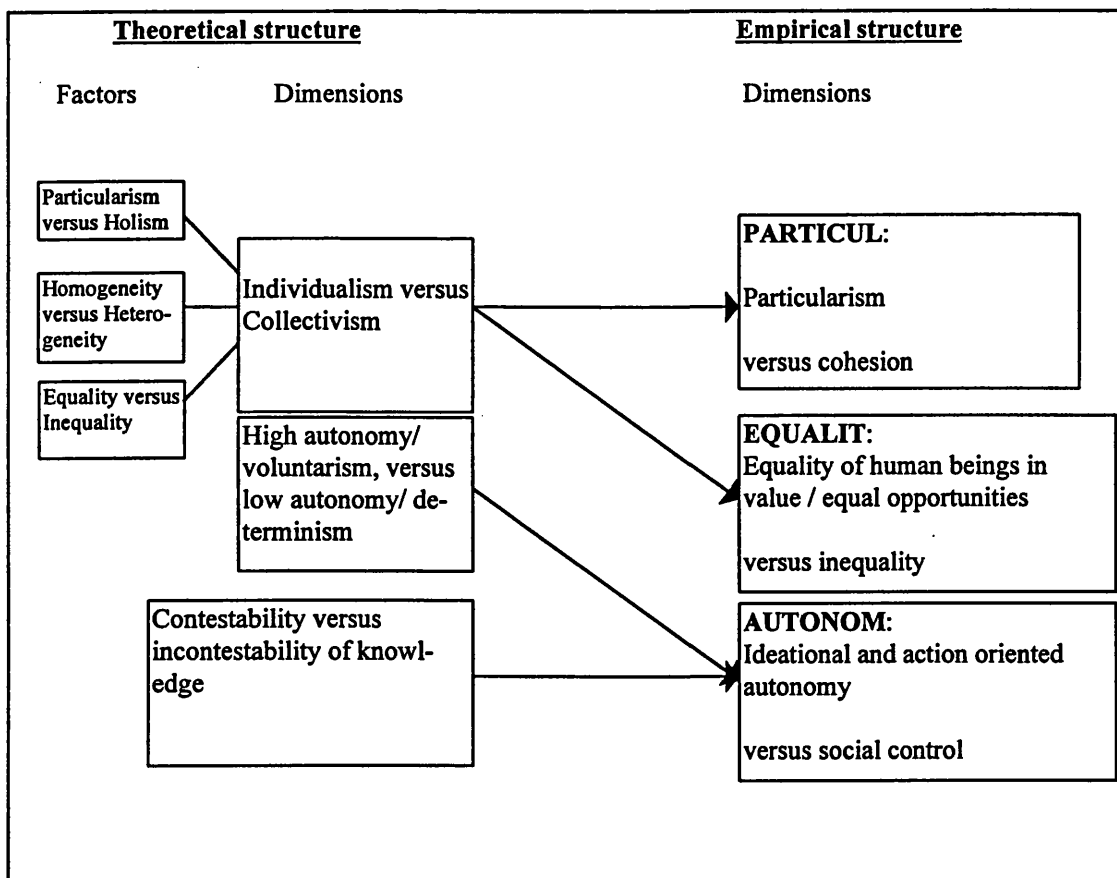


Figure 8: Change of the dimensionality

At this point we can come back to the underlying hypothesis H1 (stated in Section 4.4):

H1: The epistemological, anthropological, and social dimension are independently recognisable in German corporations.

One part of the hypothesis has been confirmed, another part has not. Since the epistemological and the anthropological dimension merge to a distinction between social control and autonomy, it must be acknowledged that the distinction between the treatment of knowledge on the one hand, and assumptions about autonomy on the other, cannot be upheld. This is discussed in further detail in Section 5.4.

The hypothesis has been confirmed insofar as the new dimension, AUTONOM, is clearly distinguishable from the collectivism-related aspects of openness that had been summarised under the heading 'social dimension'. However, this social dimension, conceived of as three factors that were assumed to merge to a distinction between the collective versus the individual as an end in itself, splits into two separate dimensions. Therefore, the attitude to individuals as equal or unequal is clearly to be distinguished from the feeling of cohesion versus particularism. This result, too, is elaborated on in the discussion in Section 5.4.

5.3.2 The relations between the dimensions

As discussed in Section 2.3, the dimensions of collectivism, loss of autonomy, and incontestable knowledge are assumed to correspond in the discourse on concertive control. The discussion in Chapter 4, however, has shown that this assumption may be misleading in view of general societal and work-related values in Germany. There it has been shown that a pattern of closure in social respect (collectivism, communitarianism) and epistemological respect (monopoly and incontestability of knowledge) is likely to go together with openness in the anthropological respect (high autonomy, voluntarism). Hence, at this point it must be investigated to what extent the dimensions of openness and closure form a coherent pattern, that is, correlate

positively, or turn out to be independent of each other. The point of departure is hence hypothesis H2, formulated in the discussion of German values (Section 4.4):

H2: In German corporations, the social dimension correlates positively with the epistemological dimension, but negatively with the anthropological dimension.

The construct of openness, however, is no longer the same as the hypothetical point of departure. Rather, as Section 5.3.1 has shown, the pattern of dimensions must be altered in accordance with the study of German corporations. The perceptions of autonomy and knowledge cannot be separated from each other. Particularly the fact that the items of the autonomy-dimension almost completely disappear may reflect the fact that in German corporations one does not (or to a lesser extent) *think* in terms of this category. Autonomy as a category becomes relevant only in connection with the treatment of knowledge. It becomes an issue only when incontestability of knowledge (dogmatism, autocratism) comes into play and autonomy is thus limited. This will be discussed in detail with regard to critical discourses in Chapter 8.

Since there is no distinguishable epistemological or anthropological dimension, the explicit test of hypothesis H2 is no longer possible. However, it remains to be explored to what extent the new dimension (AUTONOM) corresponds to the two aspects of the social dimension, particularism (PARTICUL) and equality (EQUALIT). The relations between the new dimensions are to be examined, because the convergent validity may be too low for an aggregation of the components. As discussed above, this is crucial for a distinction between an aggregate and a profile model, which is essential for further research.

In order to illuminate these relations of the new dimensions to each other, step E of the procedure of construct-conceptualisation, introduced in Section 5.2.3, is pursued. First the correlations among the dimensions will be looked at, then the internal reliability of the supposed 'construct' of openness will be analysed, and finally an ex-

ploratory factor analysis will be employed in order to assess whether the dimensions load on different factors.

With respect to the correlations of the dimensions, it is important to carry out the analysis at at least two levels of aggregation. An analysis at the level of companies (n=14 companies) serves as the most important information, since the structure of the dimensions in corporations as such is the actual target of the study. However, in order to gain information on the reliability of this information, it is also necessary to look at a lower level of aggregation, in this case departments within companies (department-level of aggregation). If the correlations at these two levels of communities correspond, more reliability can be placed on the interpretation of the data with respect to utilitarian communities in Germany in general. Certainly, the way the companies have been gathered for this study (see Section 5.2.1), and the number of companies that could be administered within this framework, do not secure a representative sample, but a congruence at different levels of analysis at least allows for bolder interpretations than results purely gained on the basis of 14 companies. If relations between the dimensions at the company-level and the department-level of aggregation do *not* correspond, then obviously the *differences between the departments within the companies* account for the profile of the company as a whole. Conclusions on utilitarian communities 'as such' can then only be drawn with great caution.

In addition, the same analysis must be carried out at the level of individual respondents. A recognition of the same structure of openness at this level would again confirm the results gained at the other levels of analysis. If it emerges that this is the case, that is, if the structure of openness gained at the level of the individual respondents does not correspond to the results gained at the other levels of analysis, then *demographic* factors must be influencing the results. If this turns out to be the case, it will subsequently be discussed.

First the correlations of the empirical dimensions at the aggregated level of n=14 companies (company-level of aggregation) will be considered. Table 9 shows the results.

Table 9: Correlations of the empirical dimensions, company-level of aggregation

Correlations					
Spearman's rho	Correlation Coefficient	PARTICUL	1.000	.284	-.297
		EQUALIT	.284	1.000	.332
		AUTONOM	-.297	.332	1.000
	Sig. (2-tailed)	PARTICUL	.	.326	.303
		EQUALIT	.326	.	.246
		AUTONOM	.303	.246	.
	N	PARTICUL	14	14	14
		EQUALIT	14	14	14
		AUTONOM	14	14	14

It shows that at the level of $n=14$ companies none of the correlations between the dimensions is significant. However, if one attempts to interpret the correlation figures in spite of the low number of cases, the following is observed. Equality tends to display a positive correlation with both particularism and autonomy. Particularism and autonomy tend towards a negative correlation.

In terms of the criterion of discriminant validity, the low correlations are certainly a positive result, since they confirm the dimensions' autonomous existence. Considering the criterion of convergent validity, however, the tendency towards a negative correlation between particularism and autonomy suggests that the dimensions do *not* form an aggregate model. This result is a clear warning against aggregating the dimensions to a construct too quickly.

Now to the department-level. For this analysis, those questionnaires that could not be attributed to any of the domains production, Research & Development, Marketing / Sales, or Administration, as well as those questionnaires from departments returning only five or fewer questionnaires, are *removed* from the sample, so that $n=31$ departments are the basis of analysis. It shows the following picture.

Table 10: Correlations of the empirical dimensions, department-level of aggregation

Correlations					
Spearman's rho	Correlation Coefficient	PARTICUL	1.000	.006	-.187
		EQUALIT	.006	1.000	.264
		AUTONOM	-.187	.264	1.000
	Sig. (2-tailed)	PARTICUL	.	.973	.315
		EQUALIT	.973	.	.152
		AUTONOM	.315	.152	.
	N	PARTICUL	31	31	31
		EQUALIT	31	31	31
		AUTONOM	31	31	31

Table 10 shows that the same pattern occurs as that observed at the company-level of aggregation. Again, particularism and autonomy tend to correlate negatively, and equality tends to correlate positively with autonomy. However, one difference can be acknowledged: the 'correlation' between particularism and equality is so insignificant that any form of interpretation is impossible. In this respect, therefore, a nil-correlation between particularism and equality must be assumed. In summary, although the figures are not yet significant, one can state that the structure of the dimensions is consistent at all levels of utilitarian communities.

Now the analysis can move on to the level of individual participants. Basis for this are 975 cases, that is, 991 minus the excluded cases with missing values.

Table 11: Correlations of the dimensions on the bases of all individual respondents

Correlations					
Spearman's rho	Correlation Coefficient	PARTICUL	1.000	-.084**	-.254**
		EQUALIT	-.084**	1.000	.553**
		AUTONOM	-.254**	.553**	1.000
	Sig. (2-tailed)	PARTICUL	.	.008	.000
		EQUALIT	.008	.	.000
		AUTONOM	.000	.000	.
	N	PARTICUL	975	975	975
		EQUALIT	975	975	975
		AUTONOM	975	975	975

** Correlation is significant at the .01 level (2-tailed).

Again particularism correlates negatively with autonomy, and equality correlates positively with autonomy. Hence the conjecture of a nil-correlation between particularism and equality has been confirmed. The result at the level of individual employees shows exactly the same pattern as at the two aggregated levels; due to the high number of cases the correlation coefficients are highly significant. For the analysis of the structure of the dimensions, therefore, there is no reason to look into demographic factors, since they obviously do not account for the results. In view of the consistency of these results,⁶³ there is much reason to assume that the term 'pattern' or 'structure' of the dimensions is justified, since the combination of the dimensions is apparently not coincidental.

The negative correlation between particularism and autonomy raises doubts about whether the construct meets the criterion of convergent validity. Only the aggregation of equality and autonomy seems to meet this criterion. In order to gain more information about whether the three dimensions form a coherent construct, the internal reliability will be considered. The starting point is again the company-level of aggregation with n=14 companies:

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)				
Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	143.7638	125.6966	11.2114	3
Item-total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PARTICUL	101.9975	86.7917	-.0763	.4712
EQUALIT	90.0983	57.7406	.4476	-.9356
AUTONOM	95.4318	96.3464	-.0558	.3545
Reliability Coefficients				
N of Cases =	14.0		N of Items =	3
Alpha =	.1255			

Figure 9: Internal reliability of the empirical dimensions, company-level of aggregation

⁶³ The same analysis carried out for each corporation individually confirms this result. By and large, the companies show individually the same structure. The results in detail are as follows. In all fourteen companies the dimensions EQUALIT and AUTONOM show significantly positive correlations, with coefficients ranging from 0.39 to 0.74. In eight out of fourteen companies the dimensions PARTICUL and AUTONOM show significantly negative correlations, with coefficients ranging from -0.19 to -0.58. In six out of fourteen companies the dimensions PARTICUL and EQUALIT exhibit significantly negative correlations, with coefficients ranging from -0.24 to -0.43.

As expected after the analysis of correlations, the three empirical dimensions do not establish an internally reliable construct. However, without the dimension PARTICULAR, the alpha-value would be 0.47. Although this is still not sufficiently high for Cronbach's alpha, this result raises the suspicion that the particularism dimension might prove unsuitable for the construct of openness. It shows that *particularism stands individually next to the factor on which autonomy and equality load highly positively*. Autonomy loads strongly negatively on the factor established by particularism, which confirms the suspicion of these dimensions being incompatible with one another. Exploratory principal component analyses with oblique rotations present the same results. The analysis at the department-level of aggregation (n=31 departments)⁶⁴ clearly draws the same picture. The factor analysis shows even more distinctly that particularism does not fit in with the other two dimensions. Although particularism does not establish a factor on its own (so that the rotation fails), it loads negatively on the factor established by autonomy and equality.

At this point it must be underlined that the fact that dimensions load on different factors in an exploratory factor analysis by no means prevents them being agglomerated into one construct, since the criterion of convergent validity is not necessarily offended.⁶⁵ However, a negative correlation of two dimensions, or a loading of two

⁶⁴ These results are given in Appendix F.

⁶⁵ Whether a dimension not correlating with the other dimensions should or should not be included in an aggregate construct depends on two points: the number of dimensions and the character of the aggregate construct. With a larger number of dimensions, for example five or six, a nil-correlation between two dimensions does not have a great impact. With three dimensions, however, a nil-correlation between two dimensions is relevant for the convergent validity of the construct, since with such a small number of dimensions the nil-correlation strongly undermines the internal reliability. In the present case, the internal reliability (see the figures in this section) suggests that the nil-correlation clearly provides a warning.

Whether to decide for or against an inclusion of a zero-correlated dimension depends furthermore on whether one assumes a reflective or a formative establishment of the aggregate construct. In a formative establishment of an aggregate construct, a zero-correlation of two dimensions might be still legitimate, since - in a certain theoretical context - even independent dimension can be summarised to a mutual term (in line with a nominalistic as opposed to an essentialistic definition of a construct). In a reflective establishment of the construct, however, the demand for convergent validity is *not* met if the dimensions do not correlate, for a construct established this way would suffer a considerable loss of operationalisation. In such a case one could only consider it a profile model, but not an aggregate model.

In the present case a formative establishment of the construct by the three dimensions (outlined in Section 5.2.2) is assumed. A nil-correlation of two dimensions would hence not contradict. However, there is not only a nil-correlation but also a tendency towards a *negative* correlation between two di-

dimensions on the same factor with different signs (plus/minus), respectively, can definitely not meet the criterion of convergent validity, so that one could conclude that autonomy and equality do in fact form an aggregate construct, whereas particularism must be considered separately.⁶⁶ The last step, a direct comparison of the hypothetical model of openness with the empirical model by means of confirmatory factor analyses, confirms this result. A discussion of this is provided in Appendix E.

In summary, it must be acknowledged that the construct of openness has no sufficient convergent validity, that is, it is not an aggregate construct, but at best a profile model. Hence, on an organisation-cultural level one cannot assume that cohesion goes together with a lack of autonomy, incontestable knowledge, or inequality. This result has significant implications for the discourse on concertive control, which is addressed in Chapter 8.

5.4 Discussion

This chapter has referred to issue B in the research agenda (Section 3.4). The goal was to identify the extent to which the structure of the Popperian approach can be recognised in German corporations. The points of departure were the hypotheses H1 and H2, which were based on the assumption that the distinctions expressed in the dimensions of openness and closure can be recognised in the social reality of industrial companies in Germany, and on the assumption of a certain combination of characteristics, namely collectivism correlating with incontestability of knowledge and a lack of autonomy.

mensions (see the tables in this Section). If it had only been a nil-correlation with another factor, the inclusion of PARTICUL would have been justifiable under the assumption of a formative establishment of the construct. However, since there are clear hints to a negative correlation, it is clearly *not* justified to assume an aggregate construct.

⁶⁶ An examination through a confirmatory factor analysis shows that PARTICUL has a negative factor loading on the total construct 'empirical openness', abbreviated EMPI_OPN (PARTICUL = - 0.37 * EMPI_OPN), and explains remarkably little of the variance of the empirical openness construct ($R^2 = 0.13$), although it is its integral part, for the empirical openness is defined as the mean of PARTICUL, EQUALIT, and AUTONOM.

It has turned out that the distinction between the attitude to knowledge and autonomy on the one hand, and the attitude to social aspects such as cohesion and equality on the other, is (discriminant-) valid. In this respect, therefore, hypothesis H1 has been partially confirmed. In two other aspects, however, the data teach an important lesson. First, the image of control seems so prevalent among employees that the issues of knowledge-incontestability and individual autonomy are not distinguished by them. Second, it must be acknowledged that the classical distinction between individualism and collectivism is too crude. Based on the Popperian approach, this distinction falls apart into a continuum between particularism and cohesion, and another continuum between equality and inequality in organisations. Based on the nil-correlation of these dimensions it must be recognised that social cohesion is independent of the question of whether humans are regarded as equal or not. Therefore, the data indicate *different kinds of social cohesion*. This will be analysed and discussed in greater detail in the context of the correspondence of national and organisational culture (Chapter 7) and in the context of critical organisation studies (Chapter 8).

With this result the paradigm of openness and closure in organisations has lost its holistic character, for an independence of its dimensions (or no sufficient convergent validity, respectively) has been discovered. Although the dimensions 'autonomy' and 'equality' can still be considered as forming an aggregate construct (they meet the criteria of convergent and discriminant validity), the hypothetical construct of openness has lost a fundamental component, for the particularism-part is not only independent of the other dimensions, but actually exhibits slightly negative correlation. This result clearly shows that there is no aggregate model of openness; the construct of openness can only be viewed as a profile model in the sense of Law et al. (1998). The states of openness or closure on all dimensions, and that of a coherent position in the middle, are only possible, but unlikely, combinations of the features.

Do the terms openness and closure have to be abandoned considering the lack of convergence validity? Not necessarily, for openness and closure are still possible, although unlikely, profiles. All three new dimensions have a clear open and a clear

closed pole. Should a corporation adopt either open or closed values on all three dimensions, it is of course still legitimate to employ the terms open and closed corporation. The lacking construct validity indicates that it is not very likely that companies adopt open or closed values on each dimension, but this does not have to be the case in order to employ the terms. The appeal of the distinction of open and closed organisation is not dependent on empirical evidence for extreme types of organisations, but results from the fact that this distinction provides the means for the observation of organisations and their combinations of openness and closure. However, in view of the above results, it is at least necessary to use some caution in the employment of the term openness. The awareness that this is not a convergent-valid construct should be expressed when talking in terms of openness and closure - the dimensions should be referred to independently.

In such a case of misfit between the hypothetical and the empirical model it proves helpful to keep an eye on the extreme types of interpreters: the 'dogmatic believer' and the 'soul seller'.⁶⁷ The dogmatic believer would be prone to maintaining the hypothetical position against any empirical type of opposition, for example, by pointing to methodological difficulties or by summarising dimensions in a holistic construct in a semantic manner, for example because "it still remains an interesting paradigm." The soul seller, by contrast, would regard his 'soul', the hypothetical structure, as 'falsified' and would thus change the hypothetical model until it matches the available data. A well-balanced compromise has to be found between these types of interpreters (Joreskog, personal communication, April 1997). In order to steer towards a compromise between these two positions it must be asked whether the hypothetical structure has been 'falsified' by the new dimensionality. This is certainly not the case. Since a construct cannot claim to be right or wrong, but only helpful or unhelpful, it cannot be 'falsified', especially not on the basis of data from 14 companies. Furthermore, the empirical results merely teach the following: the epistemological and anthropological dimensions are perceived by the respondents as interwoven. This does not mean that there is no difference at all, nor that a distinction between these dimen-

⁶⁷ These phrases have been coined by Karl Joreskog, Uppsala University, Sweden (personal conversation during a LISREL seminar at the London School of Economics in April 1997).

sions makes no sense; but that this distinction cannot be recognised with the methods employed. Moreover, the dimension EQUALIT, an important component of the superseded social dimension, is a construct-valid partner of the anthropological and the epistemological dimension. The initial assumption, that this is a discriminant- and convergent-valid dimension of the construct of openness, is therefore confirmed for this part of the social dimension. Also, the observation that the dimension PARTICUL does not correlate at all with one dimension, and slightly negatively with the other, does not necessarily mean that the assumed coherent pattern of openness and closure does not exist at all, but that there are *different combinations* between PARTICUL and the other dimensions. The tendency towards a negative correlation indicates that the combination 'closure in the dimension PARTICUL linked to openness in the other dimensions' (and the other way round, respectively) evidently appears more often in the perception of the respondents than either closure or openness in all dimensions. This will be examined in greater detail in Chapter 6.

In the end, in terms of keeping or dropping the original dimensionality, it is not crucial to extract an absolutist result from this investigation. As outlined in the epistemological orientation, the empirical-analytical interest pursued in this study is supposed to *inform* hermeneutic approaches, so that an interaction between objectivist and subjectivist approaches induces the growth of knowledge. Hence an answer must be found as to whether it is more *helpful for the understanding* of organisations to base any further reflection and investigation on the theoretical starting position or on the new dimensionality. The empirical results suggest the following conclusion. In terms of the perception of employees it does not make sense to differentiate between knowledge incontestability and individual autonomy. Rather, a general perception of control overlaps this distinction. However, a thorough examination of the dimension PARTICUL (social cohesion versus particularism) - especially with regard to its relation with the other dimensions - will prove highly interesting, because it is obviously in *this* relation, cohesion-particularism towards the other dimensions, that the key point lies.

In German companies, therefore, social cohesion has no obvious correlates such as assumed in the discourse on concertive control. Now the correlates of social cohesion and the resulting forms of collectivism must be investigated. This is investigated and discussed in the context of the structural dilemma of openness and closure in the next chapter. Thereafter, the results will be discussed in the context of German national culture (Chapter 7), before critical discourses in organisation studies (Chapter 8) can be addressed.

6 The structural dilemma of organisational cultures

In this chapter, the Popperian approach is discussed as a structuralist condition influencing organisational behaviour. The point of departure is the dilemma of organisations between the undesirable conditions of openness and closure, discussed in Section 3.3, which are treated as structural constraints that influence organisation-cultural features. Based on the assumption that organisations must adopt a balance between these states, the ways in which German corporations achieve this is empirically examined. The regulation of the dilemma is hereby not introduced as an intentional way of adaptation, because it does not make sense to assume that the investigated features of openness and closure are subject to intentional change. Rather, it is assumed that organisations unconsciously adapt an organisation-cultural pattern that rests between the poles. After a general introduction to structuralist approaches in organisational analysis in Section 6.1, two possible forms of adaptation, interfunctional and interdimensional differentiation, are empirically examined (Sections 6.2 and 6.3).

6.1 *Structuralist approaches in organisational analysis*

Section 2.4 outlined how hermeneutic, and to a large extent also critical, studies concentrate on phenomena that are difficult to turn into subjects of objectivist empirical studies. Although objectivist methods to capture organisational phenomena are often rejected for good reasons, this prevalent aversion has paradigmatically screened out patterns that influence organisational behaviour and contribute to its explanation. Consequently, structuralist approaches informed of the hermeneutic and critical discourses are rarely pursued in organisation studies, and methodologically the meso-level of organisational analysis is largely neglected. As a result, during the recent debate on paradigm incommensurability, in the ongoing discussion of the interplay of structure and action in organisations, and in critical-realism based approaches, the regeneration of structuralist analyses has been repeatedly demanded and attempted - and not only from a positivist-functionalist viewpoint (Ranson et al. 1980, Pettigrew

1985, Whittington 1992, Reed 1997, Barley and Tolbert 1997; in a wider frame Outhwaite 1987 and Mouzelis 1995). Drawing on the structuralist framework by Giddens (1976, 1979, 1984), and sporadically inspired by critical realism in the philosophy of the social sciences,⁶⁸ the case is made against actor-network theory and ethno-methodological approaches, because they only seem to consist

"almost totally of verbs and hardly any nouns; there is only process, and structure is regarded as its passing effect. Structure is denied any kind of ontological status or explanatory power as a relatively enduring entity that takes on stable institutional and organizational forms generating scarce resources that actors, both individual and collective, have to draw on in a selective and constrained manner before they can 'move on' and 'make a difference'. We are left with an entirely process-driven conception of organization in which any, even residual, sense of social structures 'possessing properties which can be understood to be relatively independent of the agents whose behaviour is subject to their influence' (Layder 1990: 23) dissolves away in the analytical fascination with the local, contingent, and indeterminate... Agency and structure are analytically conflated in such a way that the interplay between the two and its vital role in reproducing and/or transforming social structures is denied... Institutional and organizational forms can only be described and interpreted within their local interactional settings or contexts" (Reed 1997: 26-27).

Although Burrell and Morgan (1979) were still discussing radical Weberianism and Marxian structuralist approaches to organisation theory in the late 1970s, structuralist analyses that go beyond the functionalist view and are informed by hermeneutic and critical analyses, have gone out of fashion. As a result, the interplay of methods, frequently demanded during the recent debate on paradigm incommensurability, has been lost (see also for this discussion the epistemological orientation in Section 5.1). Studies that aim to counteract this trend attempt to identify generative mechanisms and causal structures that produce manifest phenomena as observable tendencies or patterns (Reed 1997: 30). In critical realism it is assumed that these properties precede social activities, while in Giddens-oriented structuration approaches social structures are not given an independent and autonomous status, but are (only) re-

⁶⁸ Although the position of critical realism (Bhaskar 1978, Sayer 1992, Archer et al. 1998), which pays much attention to social structures, has long been discussed and found much support in the philosophy of the social sciences, only few suggestions (Marsden 1993 and Reed 1997) to utilise these insights for organisational analysis have been made.

garded as (re-)produced and enacted in social action.⁶⁹ Assumed structures upon which organisational analysis usually draws are class, the state and its regulations, physical and geographical constraints, market conditions, technology, gender, ethnic characteristics, and, of course, organisational structure (cf. Whittington 1992: *passim*). In this regard it is interesting to see that as yet there has been hardly any attempt to develop a concept of *social* dilemmas as structures that constrain and influence organisational behaviour. To the best of my knowledge, only Pennings and Gresov's (1986) theoretical outline, and Sahay and Walsham's (1997) study of Indian social structure and managerial behaviour during an information-technology project, relate to this issue. Hence structuralist approaches that are informed and inspired by the hermeneutic and the critical discourses in organisation studies are clearly under-represented.

This chapter attempts to counteract this trend and treats openness and closure as social dispositions or constitutions and thus as structural conditions. It applies the structural discord of order and conflict (Parsons versus Dahrendorf, see Section 3.3) to the organisational level in that it introduces openness and closure as functionally undesirable states (this has already been done in detail in Section 3.3 and needs no further elaboration at this point). By treating organisations as caught in a dilemma of openness and closure, social hardships of opposite kinds are defined, between which organisations have to find an equilibrium and which may thus provide explanatory power for organisational behaviour. The structure is hence identified through the analytical abstraction developed by Gebert and Boerner (1995). Since this concept of a social dilemma does not refer to norms and legitimacy, it is notably distinct from a neo-institutionalist approach (cf. Barley and Tolbert 1997). Although it can certainly not be assumed that participants in organisations are able to distance themselves sufficiently from the dilemma of openness and closure in order to react strategically (cf. Mouzelis 1989), a mechanism of unaware adaptation to the dilemma can be hypothesised, and empirical data can be collected to test this hypothesis. In this sense, there-

⁶⁹ For a critique of structuration theory see Mouzelis 1989, Held and Thompson 1989, Craib 1992, Walgenbach 1999.

fore, this chapter is designed in accordance with the realist model of explanation which, according to Outhwaite (1987: 58), involves three basic steps:

1. the postulation of a possible mechanism,
2. the attempt to collect evidence for or against its existence, and
3. the elimination of possible alternatives.

A possible mechanism is introduced in this section, and the collection of evidence and elimination of alternatives is carried out in Sections 6.2 and 6.3.

One reason for the idea of applying the Popperian approach was that it might provide explanatory power for organisational features by virtue of the coherence of open and closed characteristics. It was stated that in this case, that is, if the characteristics of openness or closure have strong connections to each other, one could infer from one open feature to another, or respectively from one closed feature to another. Organisation-cultural features could then be conceived of as a coherent pattern. Yet the results in Chapter 5 have shown that such a coherence apparently does not exist. Rather, a number of combinations of dimensions seems possible. The negative correlation between particularism and autonomy even suggests that a combination of open and closed features is more likely than a coherent pattern.

Hence the other possible mechanism is analysed here. If the notion of a structural dilemma between openness and closure holds true, then the way corporations balance the dilemma is to be investigated. This mechanism can best be described in an inverse manner: if companies do *not* internally vary between openness and closure in a recognisable manner, that is, neither among departments nor among the dimensions of openness, then the concept of a necessary balance between openness and closure is not a helpful paradigm and should not be regarded as a structure that influences organisational behaviour. Hence the issues of *if* and *how* utilitarian organisations internally differentiate between openness and closure are to be explored. Measured at any single moment in time there are two logical possibilities as to how corporations can achieve stability between the problematic poles:

-
- Interfunctional differentiation, that is, some departments are more open and some are more closed.
 - Interdimensional differentiation, that is, companies are open with respect to one dimension of openness, but closed with regard to another one.

An investigation and description of the departments in the first section of this chapter identifies to what extent the companies exhibit *interfunctional* differentiation. If this variation turns out to be significant, then it is important to investigate which roles each department (production, research & development, marketing/sales, administration) plays in balancing the openness and closure of the company as a whole. The subsequent section investigates the *interdimensional* differentiation and analyses which combinations of the three dimensions corporations assume in order to balance the dilemma. Again, should this prove to be a significant way of dealing with the dilemma, it is important to analyse whether there is one particular dimension in which the corporations adjust their degree of openness. The axes obtained in Chapter 5 are the basis for these analyses.⁷⁰

6.2 *Interfunctional differentiation*

In order to analyse the companies in terms of interfunctional differentiation, it is first essential to examine whether the companies or departments differ significantly in their degree of openness. Or, in statistical terms, before one can investigate the interfunctional and the interdimensional differentiation of companies, one must examine which entities, company or department, have a significant influence on the three dimensions. Hence, the three dimensions of openness are analysed by analyses of variance, separately using 'company' and 'department' as grouping variables.⁷¹ The investigation of the influence of 'company' as an entity is based on the whole sample of 991 cases and shows highly significant results for all three dimensions. The results,

⁷⁰ PARTICUL: Particularism versus cohesion (items A9, A11, A12). EQUALIT: Equal value of participants/equality of opportunities, versus an established role structure among the participants (items A1, A4, A5, A8). AUTONOM: Autonomy of the participants and contestability of knowledge; versus incontestability of knowledge (potentially ultimate and monopolistic) and low autonomy of the participants (items B4, C1, C3, C4, C5).

given in Appendix E, show that there are highly significant differences between the companies regarding all dimensions; analyses on the basis of the ten samples with 280 cases confirm this.⁷² A Duncan test shows that this result is not only affected by outliers, but that there are four homogeneous subsets comprising at least two companies.⁷³

In order to examine whether there is not only an organisational but also a departmental effect on the three dimensions, each company must be examined individually. The analyses of variance show that within companies the departments differ only in exceptional cases from each other.⁷⁴ Based on these results, it is tempting to conclude that the way employees perceive their professional environment is only to be attributed to the company as a whole, not to the individual department. One could conclude for the medium-size companies investigated here that the term 'organisational culture' is justified, whereas the term 'departmental culture' should not be used for medium-size companies. At this stage of the investigation, however, care must still be exercised when interpreting these results: the fact that the analyses of variance comparing departments show no significant results is strongly influenced by the number of cases (=number of respondents), and this number is naturally much smaller in the departments than in the companies. The only acceptable interpretation is that the results *do not indicate* that there is a departmental culture in addition to the organisational culture.

Hence, as a matter of caution it must also be ascertained whether the differences between the companies (that is, those identified above) are influenced by the fact that

⁷¹ For discussion of the preconditions of the variance analysis see Appendix F.

⁷² Due to space limitations, these ten analyses of variance, and the number of Duncan tests used throughout this chapter, are only reported but not shown.

⁷³ The same analysis was carried out on the department-level of analysis. Those questionnaires that could not be allocated to any of the four relevant domains (R&D, Production, Sales/Marketing, Administration), were not used for this analysis. Those areas from which only a few questionnaires, that is up to four, were obtained, were also omitted. Thus, 31 departments were included, from which a sufficient number of questionnaires were returned in relation to the total number of participants. The results are also highly significant. Again a Duncan test shows that this positive result cannot be traced back to outliers.

⁷⁴ In one case, Chemic.Engineerg_1, the departments differ significantly with respect to particularism; in two cases (Pharmaceut_2 and Pharmaceut_3), the departments differ with respect to equality and

it was impossible to measure the same departments (Production & Assembly, Marketing & Sales, Administration, Research & Development) in all companies. Speaking in terms of *organisational* culture is then misleading, if the *kind* of domains measured in each company differs. That is to say, measuring only potentially open departments in one company, but potentially closed ones in another,⁷⁵ would effect the results for the companies; an aggregation of the results from the departments to the company-level would in this case be misleading.⁷⁶

In order to examine this, it must be assessed whether the domains differ significantly in all dimensions. To this end, all 264 questionnaires from the Production areas of all of the companies are compared to all 115 questionnaires from the R&D departments, all 157 questionnaires from the Marketing/Sales areas, and all 134 questionnaires from administrative areas of the companies. The results of the variance analysis are given in Table 12 below.

autonomy. In all other companies investigated the departments do not significantly differ in any dimension.

⁷⁵ For example, measuring only R&D and marketing/sales in one company, but production and administration in another.

⁷⁶ In this study it is presumed that there is no additional industry effect beyond the company effect. This is because companies, even when they belong to the same industrial sector, very often produce products different enough to be confronted with totally different environments and competition situations. For instance, the company Medical_Engineering_1 produces first and foremost x-ray machines, whereas Medical_Engineering_2 produces dialysis machines. Also, the companies measured in the pharmaceuticals industry produce completely different medicaments, Pharma_1 provides plant products for the reinforcement of the immune system, Pharma_3 provides medicaments against cancer. Hence, the term 'industry' might be appropriate to define a rough physical separation between products like, e.g., food versus electrical engineering. However, the variety within such rough groups is too big to contain reliable information about common characteristics of the industrial sector, such as customer heterogeneity, technological dynamic, or competitive pressure. The allocation of the com-

Table 12: Variance analysis of the domains with respect to the openness dimensions

		N	PARTICUL	EQUALIT	AUTONOM
Domain	Production & Assembly	264	39.62	53.47	50.18
	Marketing & Sales	157	41.91	56.78	49.11
	Research & Development	115	50.80	54.69	48.70
	Administration	134	41.06	53.94	49.39

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
PARTICUL	Between Groups	10411.169	3	3470.390	7.392	.000
	Within Groups	307985.6	656	469.490		
	Total	318396.8	659			
EQUALIT	Between Groups	1114.727	3	371.576	.891	.446
	Within Groups	273660.4	656	417.165		
	Total	274775.1	659			
AUTONOM	Between Groups	220.565	3	73.522	.143	.934
	Within Groups	337157.9	656	513.960		
	Total	337378.5	659			

The analysis of variance in Table 12 shows that the domains differ exclusively with respect to the particularism value, not with regard to equality and autonomy. A look at the absolute figures (see Table 12, top table), combined with a Duncan test (not shown), shows that the domain Research & Development alone, with its significantly higher particularism, accounts for this result. Therefore, the significant differences between the companies may (perhaps only) be determined according to whether they have an R&D department or not.⁷⁷ In order to investigate this further, a variance analysis will again be carried out at the company level of aggregation, this time, however, controlled for the R&D departments.⁷⁸ This shows the following result: in spite of the neutralisation of the particularism values from the R&D departments, the companies differ significantly with respect to their particularism value. Therefore it

panies to industrial sectors is carried out according to the terminology used by the Chamber of Industry and Commerce in Berlin.

⁷⁷ Ten out of fourteen enterprises investigated have an R&D department.

⁷⁸ The same analysis of variance as above, on the company-level of aggregation, is carried out; this time, however, the particularism items from all questionnaires from R&D departments are set as 'missing value'.

is reasonable to speak in terms of *organisational* cultures independent of the kind of departments investigated. The entities to be considered can hence be summarised as follows.

Table 13: Entities to be considered with respect to the openness dimensions

	PARTICUL	EQUALIT	AUTONOM
Significant differences between companies	Yes	Yes	Yes
Significant differences between the four domains in general (independent of their belonging to a company)	No, although R&D is more open than the other domains	No	No

We have now obtained the necessary information for further analyses, which examine whether interfunctional or interdimensional differentiation predominates in the corporations. Interfunctional differentiation is investigated first. The above analysis has already shown that only in one case, Chemic.Engineerg_1, do the departments differ significantly with respect to particularism; and only in two cases (Pharmaceut_2 and Pharmaceut_3), do they differ with respect to equality and autonomy. In all of the other companies analysed the departments do not differ significantly in any dimension. Thus, at this point one could already conclude that interfunctional differentiation is *not* the preferred strategy of companies to cope with the dilemma of openness and closure. Again, however, because of the smaller number of cases in each department (in comparison with the number of cases in the companies), it is not surprising that the difference turns out to be not significant. Therefore, the investigation will be supplemented by another examination of whether similar kinds of departments, irrespective of the company in which they belong, differ from each other. The rough investigation above, which led to the result that only R&D differs from the other domains, has been attained without removing the size effect, so that the investigation must be repeated on the basis of the ten samples with 20 randomly selected questionnaires from each company. This analysis leads to the following results.

-
- In none of the ten samples do the domains show a significant difference in their degree of equality and autonomy.
 - However, seven out of ten samples show a significant difference in the degree of particularism.

This confirms the results obtained before controlling for the size effect. In three out of the seven samples in which particularism significantly differs, research & development is the only outlier. In the other four cases both research & development and administration are the outliers. Interfunctional differentiation, therefore, takes place only on the axis of particularism versus cohesion. The hypothesis that the degree of openness will differ significantly between different domains has thus only partially been confirmed. Only Research & Development is significantly more open than the other domains. And this domain is more open in only *one* dimension (particularism versus cohesion).

This result is interesting in various regards. Interfunctional differentiation, one of the fundamental notions of the contingency paradigm, loses a great deal of its validity. Even though the role, the professional background and hence the socialisation of the employees in different departments are certainly very divergent, it emerges now that these differences are in many respects at least overlapped, if not equalised, by influences from the organisational culture. The questions as to how much social control is perceived and how equal human beings are considered - quite fundamental questions for the social reality of the firm - apparently are not determined at the level of the department, but rather at the level of the company as a whole. This result does not mean that there are no differences between the domains in regards other than the three dimensions investigated. But even if one accepts differences between departments with respect to such classical contingency terms as, for instance, formalisation, interpersonal orientation, goal orientation and time span of feedback (Lawrence and Lorsch 1967), it can now be stated that these differences are apparently not as strong as to determine separate cultures in terms of social control and equality. The endogenous variables suggested in contingency approaches are obviously not so strong as to determine cultural differences between departments as exogenous vari-

ables. In the medium-sized, German companies investigated, corporate culture superimposes departmental cultures.

Back to the question most relevant to the Popperian paradigm: how do companies balance between openness and closure? The dilemma of utilitarian organisations between benefits and drawbacks of both openness and closure, outlined in Section 3.3, led to the question of how companies balance between these poles. The results have shown that interfunctional differentiation is obviously *not* the preferred strategy, so that it must now be investigated whether interdimensional differentiation proves stronger or not. If there is no significant interdimensional differentiation either, it is doubtful whether corporations in fact balance between openness and closure and whether it is useful to treat openness and closure as structural features.

6.3 Interdimensional differentiation

The starting point for this analysis is again the companies' values in the individual dimensions:

Table 14: Overview of the companies' values in the individual dimensions

Company	N	PARTICUL	EQUALIT	AUTONOM
Chemic.Engineerg_1	71	38.09	48.53	53.05
Electr.Engineerg_1	46	55.25	53.53	33.59
Electr.Engineerg_2	31	33.33	57.93	53.55
Electr.Engineerg_3	63	39.55	59.23	49.05
Electr.Engineerg_4	130	57.95	59.55	51.66
Precis.Mechan_1	57	38.23	55.70	52.02
TelecomEnginrg_1	146	43.21	42.68	44.71
Food_1	24	45.49	58.59	57.71
Food_2	27	38.58	46.60	41.76
Medic.Enginrg_1	89	39.89	59.27	43.44
Medic.Enginrg_2	51	40.85	57.35	49.85
Pharmaceut_1	79	39.29	53.88	48.23
Pharmaceut_2	48	40.36	50.26	47.71
Pharmaceut_3	129	34.66	48.21	50.33

0=Closure, 50=Neutrality, 100=Openness

A first glance at the above table shows that two companies, Telecomm.Engineerg_1 and Food_2, are considerably closed in all three dimensions, whereas the pattern of a coherently open company is not recognisable. It also shows that the values of the dimensions differ very much within almost all companies. This could already be expected from the correlation analyses of the dimensions in Chapter 5, and it reinforces the suspicion of significant interdimensional differentiation. The table also provides initial information about the combinations of dimensions: in eleven out of fourteen companies particularism adopts the most closed value. The combination cohesion in conjunction with at least one of the other dimensions seems to occur particularly frequently. T-tests (paired samples) comparing the dimensions within each company confirm this. The following table summarises the results.

Table 15: Interdimensional differentiation of the companies

Company	n	PARTICUL – EQUALIT p-value of t-test	PARTICUL – AUTONOM p-value of t-test	EQUALIT – AUTONOM p-value of t-test	Sign. (5%) inter- dimensional Dif- ferentiation
Chemic.Engineerg_1	71	.002	.000	.067	2 out of 3
Electr.Engineerg_1	46	.764	.000	.000	2 out of 3
Electr.Engineerg_2	31	.000	.002	.277	2 out of 3
Electr.Engineerg_3	63	.000	.068	.000	2 out of 3
Electr.Engineerg_4	130	.522	.034	.000	2 out of 3
Precis.Mechan_1	57	.000	.007	.142	2 out of 3
TelecomEnginrg_1	130	.838	.594	.159	none
Food_1	24	.072	.180	.801	none
Food_2	27	.191	.651	.289	none
Medic.Enginrg_1	89	.000	.351	.000	2 out of 3
Medic.Enginrg_2	51	.000	.025	.013	all
Pharmaceut_1	79	.000	.020	.013	all
Pharmaceut_2	48	.031	.111	.282	1 out of 3
Pharmaceut_3	129	.000	.000	.223	2 out of 3
TOTAL	975*	.000	.000	.000	all

* 991 cases minus those (listwisely) deleted due to missing values

Hence nine of the 14 companies differentiate between particularism and equality, eight companies differentiate between particularism and autonomy, and six between equality and autonomy. The above table moreover shows that only three out of the fourteen companies do not differentiate between any dimensions. Looking at the number of cases concerning these companies, it seems that for Food_1, and perhaps for Food_2, the small number of cases might account for the insignificant result. Only the third company that does not differentiate between any dimensions, Tele-

com.Engineerg_1, adopts a coherent pattern of closure. This is precisely the only company not exposed to competition, since it is a public utility for a certain region in Germany and is therefore without competitors. This can be interpreted as a hint that a lack of market competition coincides with features of organisational closure or, put a little more forcefully, that competition induces processes of opening.

To summarise this result: eleven (maybe twelve, with Food_1) out of the fourteen companies investigated clearly differentiate between at least one pair of dimensions. There is no corporation adopting a coherent pattern of openness, and there are at most two companies taking on a coherent pattern of closure. Although it must be taken into account that the analysis of interdimensional differentiation is based on a larger number of cases than the analysis of interfunctional differentiation,⁷⁹ interdimensional differentiation is therefore clearly the preferred strategy.

This result of interdimensional variation gains support from the following experiment. Suppose one could aggregate the three dimensions in a total construct of empirical openness, ignoring the fact that this contradicts the convergent validity. Then one would define empirical openness as the mean of the three dimensions particularism, equality and autonomy. If one then removed from the sample those four companies with the most extreme values (the two most open and the two most closed) and test the influence of the variable 'company' ('company' as grouping variable) on the total construct of openness and on the individual dimensions, then the residual companies would not differ significantly with respect to the total construct of empirical openness (p-value 0.288), but would still differ highly significantly on the singular dimensions (p-value < 0.001 in all three dimensions). This shows that even those companies that cannot be distinguished in terms of the total value of openness still pursue different ways of interdimensional differentiation.

⁷⁹ Interdimensional differentiation is based on the complete number of cases of each company, whereas to analyse interfunctional differentiation the samples of each company must be split into the domains. In order to bypass this obstacle, however, the analysis was additionally carried out on the basis of the ten independent samples across the companies, see Section 6.2.

6.4 Discussion

The question of the explanatory power of the Popperian approach can therefore be addressed on the basis of the above results concerning interdimensional and inter-functional differentiation. Section 3.3 outlined two potential patterns of openness and closure - a pattern of coherence with either open or closed organisations on the one hand, and the need to balance between the dilemma of openness and closure on the other, that is, organisations are thought of as combinations of open and closed features. Based on these two possible patterns, it had to be *explored* which pattern is more likely to occur and may thus provide a structure that provides explanatory power for organisational behaviour.

In Section 3.3 it has also been discussed why the notion of coherence might provide explanatory power for organisational behaviour: both the pattern of openness and the pattern of closure have an inherent logic - described as the logic of the open society on the one hand, and the logic of closure on the other. It has been argued that organisational features might be traceable back to a certain coherence in the system of values and attitudes. However, the discussion of German national culture in terms of openness and closure (Chapter 4), and the empirical results in Chapter 5, have shown that it is misleading to view German companies in terms of coherent patterns of openness and closure. The empirical data do not support the notion of coherence, hence it cannot provide explanatory power for organisational behaviour. The insight that there are neither companies with coherent features of openness nor companies with coherent features of closure has confirmed the notion of a dilemma of utilitarian organisations between openness and closure and the need to balance between its extreme poles.

On this basis, and by drawing on the critical-realist model of explanation (Outhwaite 1987: 58), possible mechanisms of explanation have been identified, evidence for or against their existence has been collected, and possible alternatives have been eliminated. It has been argued that corporations have two possibilities of balancing the dilemma of openness and closure at one moment of time: interfunctional differentia-

tion, and interdimensional differentiation. It has been said that if the companies turn out not to differentiate at all, either between departments or between dimensions of openness, then not even the paradigm of a necessary balance between openness and closure can contribute to the explanation of organisational behaviour. Now the results have shown that interfunctional differentiation can hardly be recognised in German corporations, and it has been concluded that this is obviously not the preferred strategy of balance. Interdimensional differentiation, by contrast, occurs frequently. Among the fourteen companies investigated, there is only one, or arguably two, companies that do *not* differentiate between the dimensions. In contrast to interfunctional differentiation, therefore, it is reasonable to assume that this pattern serves as a means to handle the dilemma between the two extremes.

From this line of thought it follows that, since it has been theoretically argued and empirically discovered that corporations adopt combinations of openness and closure, it is reasonable to assume that the paradigm holds to some extent, and that there is a dilemma to which organisations have to react, for otherwise companies could 'afford' to be coherently open or closed. Against this claim one may level the empirical objection that the Popperian framework did not hold in terms of a holistic construct and can only serve as a profile model, and that the dimensions on which this result is based are not the initial dimensions of openness anymore (see Section 5.3). This, however, would be a misinterpretation of the empirical results. The result that the construct is only a profile rather than an aggregate model does *not* indicate that the threat of total openness or total closure does not exist, but rather confirms it, since it can now be seen that utilitarian organisation react in terms of this framework.

Nevertheless, the empirical results show that the *way* corporations react to this dilemma takes place in a manner different from that initially presumed. It takes place on different continua (change of the dimensionality), and, regarding the combination of features on these continua, never such that a middle position between the poles is adopted (interdimensional differentiation). The reactions are to be seen in a more complex way than previously assumed, that is, with attention to the individual di-

mensions and their interrelations rather than based on the assumption of coherent middle positions between openness and closure.

As mentioned above in passing, this result can also be levelled against a fundamental assumption of contingency theory. Contingency approaches are based on the (inter-functional) presumption that corporations do not have internally uniform characteristics, but vary between their *domains* in certain criteria. Various characteristics have been the subjects of empirical investigations in this regard (see, for instance, Burns and Stalker 1961, Woodward 1965, Lawrence and Lorsch 1967). Lawrence and Lorsch (1967) can be taken as an example, since it is the most often quoted study of this paradigm. They investigated the influence of the environment on the organisation and assumed that different domains of a company deal with highly different environments. The starting point of their work was the idea that it is not the company as a whole which is affected by one environment, but rather that different functions⁸⁰ vary with respect to formality of structure, interpersonal orientation of the employees, goal orientation, and time orientation. Their study is still regarded as groundbreaking for thinking in terms of internal differentiation. The result obtained here, however, shows that in German, middle-sized companies, interdimensional instead of interfunctional differentiation is the predominant form of variation. Hence, an entire research tradition based Lawrence and Lorsch's (1967) assumption of interfunctional differentiation is in need of being revisited - not with regard to the included variables or in methodological terms, as the common critique of contingency theory suggests, but (based on comparable methodological means) in terms of the entire framework of internal differentiation. Common sense assumptions still prevalent in organisation theory, such as "domains such as marketing and sales have a completely different culture and are in need of a completely different leadership style than such domains as production and assembly" are not supported by the above results on middle-sized German companies. While contingency theory has often been criticised from a methodological and paradigmatic angle, it can now be criticised through its own, objectivist lens.

⁸⁰ Similar to this study, Lawrence and Lorsch (1967) distinguished between sales, research, and production.

A detailed revision of contingency theories on these grounds would certainly be beyond the scope of this thesis. Yet even far beyond contingency theory, namely in the differentiation perspective of the hermeneutic discourse (see Section 2.2), there is the prevalent assumption that different domains within an organisation differ considerably in terms of their culture. In its most radical branch, this view goes so far as to regard the concept of organisational culture in itself as pointless, since the differences within an organisation are assumed to be so strong as not to allow for a comprehensive, organisation-wide perspective (see the references in Section 2.2, Gregory 1983, Van Maanen and Barley 1984, Meyerson and Martin 1987, Martin and Meyerson 1988, Young 1989, Martin 1992, and various chapters in Frost et al. 1991). The empirical results of this thesis on medium-sized German companies, however, point clearly in the other direction: differences between departments are hardly recognisable; middle-sized companies must rather be viewed in terms of an organisational culture in their entirety. In view of these results, the interplay of methods suggested above (see the epistemological orientation, Section 5.1), has gained considerable importance. A case has been made against a lopsided use of ideographic methods and for a mutual enhancement of empirical-analytical and hermeneutic knowledge. The results gained in this chapter shed new light on the hermeneutic view on intra-organisational differentiation, supporting the case for an interplay of different methodological paradigms.

Further, with respect to the hermeneutic discourse, the above results suggest to draw more attention to structural approaches to organisational analysis. In Section 2.3 it has been discussed that the hermeneutic discourse has to a large extent abandoned the goal of explaining organisational features and behaviour. Studies in this tradition rather draw attention to behavioural details and symbols in order to understand the interaction. Structural conditions or cultural constraints are to a large extent left out of consideration. With respect to the test of the explanatory power of the balance-notion between openness and closure, however, one can now say that it has proved helpful to think in terms of internal differentiation, for whose explanation the benefits and drawbacks of the dimensions' extremes are helpful. While positing that it is

reasonable to assume that the dilemma of openness and closure contributes to the explanation of this form of organisational behaviour, the 'causality chain', of course, must remain open for further research. At this point an interesting issue for an interplay between the hermeneutic paradigm and the approach of openness and closure arises: the way openness and closure are perceived as threats by the organisations' members would be an interesting agenda for qualitative research methods. Two programmes come up at this point. First, organisational communication could be analysed in terms of openness and closure. The researcher would have to participate in meetings, etc., in order to observe communicative interaction. This could show how the benefits and drawbacks of openness and closure are (unconsciously) evaluated in the company, and to what extent openness and closure are perceived as threatening. Based on the findings of this thesis, particularly on the interdimensional differentiation, such studies could reveal how perception and communication lead to different actions in different companies and could hence show the different strategies for coping with the dilemma. Secondly, the individual participant could be the centre of attention. Since openness and closure is not only a dilemma at the level of social systems, but also involve self-concept and dispositions on the psychological level (Rokeach 1961: *passim*; Gebert and Boerner 1995: 38), it remains to be investigated to what extent the organisations meet the individual needs for openness (freedom, self-actualisation, individuality, etc.) and/or for closure (harmony, no conflicts, order, predictability, etc.). In this regard, the interdimensional differentiation performed by companies could also be interpreted as a reaction to the needs and demands of the individual participants. The way organisations and their members struggle between the extremes of openness/closure (interdimensional differentiation) could then be interpreted as a 'peaceful coexistence' of features of openness and features of closure.

7 Relations between organisational and national culture

Although the application of a social-philosophical paradigm to the study of organisations must take into account that companies are not to be conceptualised as open societies (see above), the use of the same framework for both organisational and national culture promises an investigation of the link of these two levels. It has already been pointed out that this link has been largely neglected. While organisational structures and work attitudes have already been discussed in the light of national culture (Maurice et al. 1980, Budde et al. 1982, Sorge and Warner 1986, Tayeb 1987 and 1988, Lutz 1992, Stewart et al. 1994), a systematic linkage to organisational culture has only recently been empirically explored by Hofstede et al. (1990; discussed below). The hermeneutic and the critical discourses tend to treat organisations in a purely ideographic manner and undertake few attempts to link organisational phenomena to the wider cultural context. Here, scholars concentrate on the micro-sociological view and treat the organisation as removed from its societal and national-cultural environment. Only the new institutionalism has revised this picture of the severed link between organisational and social theory, but it refers to norms and legitimacy in organisational fields instead of national culture. Informed by hermeneutic and critical analyses, the Popperian framework is applicable to the societal and the organisational level and makes it possible to observe organisational features in the light of national culture. It allows for a comparison of the organisational and national culture and can show to what extent corporations can be regarded as partial, sub-, or countercultures of their societal environment.

The current state of affairs relevant to this discussion is represented by the study of Hofstede et al. (1990), which also led to a publication for a less specialised audience (Hofstede 1991). The reported result of this study is that organisational and national culture are only loosely coupled. The argument is that companies hire people of a certain age, education and sex, and therefore with values that do not reflect the entire population. Processes of organisational socialisation are supposed to reinforce this phenomenon. According to this view, an organisation can only represent a subculture of the society. Hofstede et al. (1990) claim that their empirical results support this

view. However, this study does not measure the two cultural levels within one framework, so that the conclusion of decoupled systems may be an artefact of the methodological approach (this will be discussed in detail below). Hofstede's et al. (1990) study hence supports and justifies the hermeneutic discourse in its treatment of the two cultural levels as decoupled. Contradictory results from a study that deliberately attempts to investigate both levels within one framework may lead scholars to question this assumption.

Information about the pattern of openness and closure at the national level has been collected in Chapter 4, so that this chapter is concerned with the identification of possible patterns appearing in German corporations. Based on the results in Chapters 5 and 6, it can be stated that combinations of supposedly contradictory features are more likely to occur than is a coherent pattern of an open or a closed company, since a pattern of interdimensional differentiation turned out to be predominant in comparison to interfunctional differentiation. Hence the question arises as to *which patterns* of interdimensional differentiation are to be found within German corporations. The focal point is to investigate whether there is a *preferred* strategy of interdimensional differentiation, or whether the combinations of dimensions are rather arbitrary. In particular, this information should make it possible to view the 'population' of German corporations in terms of clusters, of which some may correspond to national culture and some may not. An analysis in this direction, therefore, seems indispensable for the discourse on cross-cultural organisational research. Accordingly, the structure of this chapter will be such that the empirical results of the cluster analyses will be given first (Section 7.1). On this basis a typology of German corporations will be introduced (still Section 7.1) and its consequences for cross-cultural organisation studies (Section 7.2) and for the discourse on the link between national and organisational culture (Section 7.3) will be outlined.

7.1 The clustering of German companies

The goal of this section is to gain an impression of whether German corporations are grouped around certain features in a space delineated by the three dimensions ob-

tained in Chapter 5. Cluster analyses provide the methodological means to this end. The application of cluster analyses, however, must be carried out with great caution, since this procedure has some pitfalls. Only a slight modification of the mathematical procedure, for example the selection of a different algorithm of fusion or measure of proximity, can already cause different results in terms of outliers and clusters. Therefore, the algorithms have to be chosen with great caution. For this reason, the methodological terms are explained in Appendix G.

The companies are compared on the basis of their absolute values in the three dimensions, so that distance measures must be used as opposed to similarity measures (explained in Appendix J). The squared Euclidean distance is employed as the measure of distance, since it is important to stress large differences on the axes. As a cross-check, the same analyses is carried out with another measure of distance, the Minkowski metric. In order to pick out possible outliers, that is, those companies whose values on the three dimensions are very different from the others, the examination will begin with a hierarchical cluster analysis using the single-linkage method (nearest neighbour). After this extraction of outliers, the Ward method is employed due to its advantages in identifying groups without outliers (see Appendix G).

The first step employing the single-linkage method leads to the following results. (The case processing summary, the agglomeration schedule, and the cluster membership matrix are given in Appendix J. For reasons of space no detailed explanation of how to read the output of a cluster analysis can be offered here, and only the dendrogram is shown.)

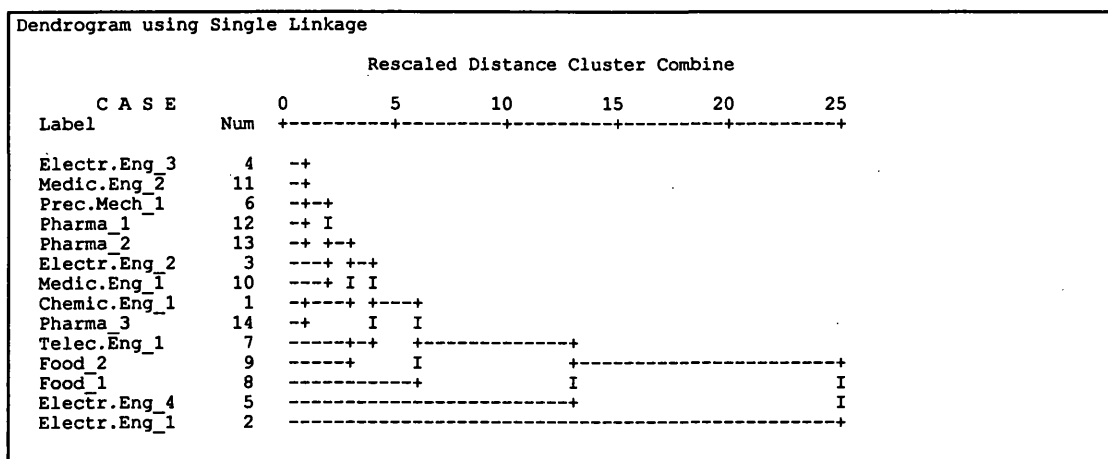


Figure 10: Hierarchical cluster analysis of 14 companies for the extraction of outliers (comprising the three dimensions PARTICUL, AUTONOM, and EQUALIT; algorithms: single-linkage method [nearest neighbour], squared Euclidean distance measure)

The cluster analysis identifies the companies Electr.Engineerg_1 and Electr.Engineerg_4 as clear outliers. Food_1 is another candidate which could be classified as an outlier, but clearly less distinctly. The same analysis employing the Minkowski metric instead of the squared Euclidean distance leads to exactly the same result. As announced above, the clear outliers Electr.Engineerg_1 and Electr.Engineerg_4 can now be removed from the sample in order to execute the same analysis, now employing the Ward method in order to identify clusters. However, an analysis of variance must be run first in order to examine whether the companies still differ significantly after the elimination of Electr.Engineerg_1 and Electr.Engineerg_4. This has been done and it shows that

- the corporations do no longer differ significantly (5%-level) with respect to particularism.
- the corporations hardly differ significantly (5%-level) with respect to autonomy. After the elimination of another company from the sample, Telecom.Eng_1, the companies no longer differ significantly with respect to autonomy.

Therefore, the distinction between equality/equal opportunities versus established role structure/unequal opportunities is the only reliable criterion left in order to distinguish companies. Based upon this information a cluster analysis including only the variable EQUALIT is executed. Since it is no longer the goal to identify outliers,

the Ward method and the squared Euclidean distance are used. (Again, the case processing summary, the agglomeration schedule and the cluster membership matrix are given in Appendix J.)

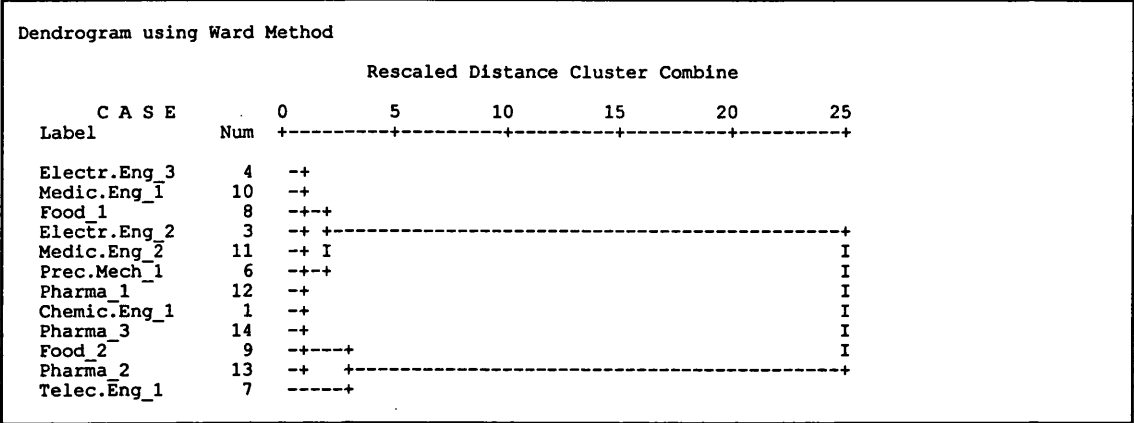


Figure 11: Hierarchical cluster analysis comprising EQUALIT, 12 companies (outliers removed; algorithms: Ward method, squared Euclidean distance measure)

The analysis shows a very clear two-cluster solution. Therefore, the following two clusters have been identified.

First cluster

Corporations:

Electr.Engineerg_2, Electr.Engineerg_3, Prec.Mechan_1, Food_1, Medic.Enginrg_1, Medic.Enginrg_2, Pharmaceut_1

Characteristics:

- high cohesion
- medium social control
- high equality/equal opportunities

→ **Label: romantic cohesion or 'Group of friends'**

Second cluster

Corporations in the cluster:

Chemic.Enginrg_1, Telecom.Enginrg_1, Food_2, Pharmaceut_2, Pharmaceut_3

Corporations in the cluster:

- high cohesion
- medium social control
- low equality/equal opportunities

→ **Label: autocratic cohesion or 'Tribe'**

The fact that only fourteen companies could be administered in this study, and the existence of outliers, suggest that any meaningful interpretation with respect to the population of companies in Germany would certainly be too bold. The fact that both outliers, Electr.Engineerg_1 and Electr.Engineerg_4, have a high degree of particularism shows that apparently not all companies display the German form of communitarianism hypothesised in Chapter 4. Moreover, the fact that Electr.Engineerg_1 exhibits a high degree of social control demonstrates that an assumption that companies have a maximum extent of social control would be too premature. In this connection one should not ignore the way the companies have been collected for this study. It is reasonable to assume that companies with strong social control do not have an interest in taking part in the survey. But in spite of these concerns the following can be stated on the basis of the clusters obtained.

1. All companies, except for the two outliers, combine a medium degree of social control with social cohesion.
2. There are reasons to assume that German companies tend to exhibit two alternative types of social cohesion:
 - social cohesion based on the assumption of humans as *equals with equal opportunities*;
 - social cohesion based on the *hierarchical structure of roles*, the allotted social positions, and the allocation of responsibilities connected to this role structure.

The first kind of social cohesion can be conceived as a 'group of friends' sticking together for reasons of the same interests and emotional togetherness. A utilitarian organisation characterised by this feature can be conceived of as a company with low conflicts between different interest groups. Another example might be a group of military comrades with the same rank experiencing external pressure that makes them stick together. This kind of togetherness shall be referred to as '*romantic cohesion*' or '*group of friends*'. In this kind of cohesion the participants regard each other

as equals, and social cohesion can be conceived of as a result of this equality, in conjunction with mutual experiences or interests.

The second kind of cohesion, by contrast, is not linked to the participants' equality. Apparently, a form of 'organism' that Popper criticised so passionately has here been uncovered. This form of cohesion depends on the feeling of belonging to an organism; the participants are proud to serve the community despite hierarchical stratification. In this kind of cohesion, the hierarchy is regarded as natural, neutral, and justified. The results obtained showing low equality gives reason to assume that cohesion results from the participants' feeling of having an allotted position in the organism, which they do not question and within which they do not desire any other position. This can be labelled '*autocratic cohesion*' and a company characterised by this kind of togetherness shall be referred to as a '*tribe*'.

On this basis one can sketch a typology distinguishing high and low cohesion on the one hand, and high and low equality on the other. Taking the medium amount of social control into account, one obtains four clusters of organisations, and empirical support has been found for the existence of two of them.

Table 16: Two different kinds of cohesion

<u>Medium social control</u>	Low cohesion	High cohesion
Equality	'Partnership agreement' (empirically not found)	'Group of friends' (romantic cohesion, empirically found as a cluster of corporations)
Inequality	'Forced alliance' (empirically not found)	'Tribe' (autocratic cohesion, empirically found as a cluster of corporations)

The 'group of friends' and the 'tribe' are clearly recognisable among the fourteen companies investigated, whereas the results of this thesis do not indicate that 'partnership agreement' and 'forced alliance' patterns occur among German corporations. With this recognition of a 'group of friends' and a 'tribe' Triandis's (1995) distinction between *horizontal and vertical collectivism* has been identified.

"In collectivist cultures, horizontal includes a sense of social cohesion and of oneness with members of the ingroup. Vertical includes a sense of serving the ingroup and sacrificing for the benefit of the ingroup and doing one's duty... the vertical dimension accepts inequality, and rank has its privileges... in contrast, the horizontal dimension emphasizes that people should be similar on most attributes, especially status" (Triandis 1995: 44).

Although Triandis (1995) refers to the societal level, the above result shows that his distinction is also necessary at the organisational level. With respect to the link between the societal and the organisational level, it is appropriate to discuss to what extent the hypothesis on organisational cultures in Germany derived from values at the societal level has held true. This leads to the discussion of whether organisations should be viewed as partial cultures, subcultures, or countercultures of their societal environment.

7.2 The homogeneity of organisational cultures

The study of secondary data on German national culture and work-related values in Chapter 4 led to a hypothetical profile of German corporations between openness and closure. In an application of Gebert and Boerner's (1995) framework, it was hypothesised that German companies are characterised by collectivism rather than individualism, and that knowledge is regarded as incontestable rather than contestable. As opposed to these closed features, the position between high autonomy and voluntarism on the one side, and low autonomy and determinism on the other, was hypothesised to be rather open.

For the discussion of this hypothetical profile, the shift of the dimensions towards an axis of control, a particularism-axis and an equality-axis (Chapter 5) must be taken into account. The anthropological and the epistemological dimension merge to one

continuum of control versus autonomy. In this new dimension the companies examined exhibit a medium value between openness and closure. Since an open value in the epistemological respect and an ambiguous value in the anthropological respect were expected, the hypothesis has only been partly confirmed. Clearly there is less autonomy in German companies than anticipated. This result obviously reflects the application of a social-philosophical paradigm to organisations, for companies are not designed as democracies, but, having at least some degree of social control, are in this regard more closed than the societal total culture.⁸¹

Moreover, the social dimension divides into two different continuums. With regard to the core distinction between particularism and cohesion, the hypothesis of a closed value has been confirmed. Some sort of communitarianism, or collectivism, seems to be a value not only anchored in German national culture, but apparently also manifested in the culture of work organisations. Again, therefore, the hypothesis of a correspondence between national and organisational culture has been found to hold true.

However, the other part of the previous social dimension, the distinction between equality and a stable role structure, shows that two different types of corporations in Germany can be distinguished - and only one type corresponds with national culture as identified in Chapter 4. Section 4.2.1 has shown that a stable role structure is obviously a significant feature of German national culture: Lukes's (1973: 22) identification of individual self-fulfilment within the role structure, Allen's (1987: 79) account of "remnants of feudalism", Dahrendorf's (1968: 110) identification of the lacking awareness of social inequality in Germany (which in his opinion, given the considerable distance between strata, could only be explained by psychoanalytic studies), and the highly significant statistical result from the World Values Survey on the role of mothers in society (the belief that a mother can establish a warm relationship with her children only in 'her allotted position in the society', as a housewife) draw the unambiguous picture that thinking in terms of role structures and allotted positions is much stronger than thinking in terms of equality and equal opportunities.

⁸¹ In Chapter 8 it is discussed to what extent corporations can be regarded as 'closed islands' within an open society.

On this basis, one type of organisational culture has been identified as conforming reasonably closely to national culture - an organisational culture that comprises medium social control, social cohesion, and a stable role structure. Beyond that, however, another type of organisational culture has been identified, which corresponds to German national culture only partially - an organisational culture that values equality and equal opportunities more than the stability of the role structure. The following figure sketches this result.

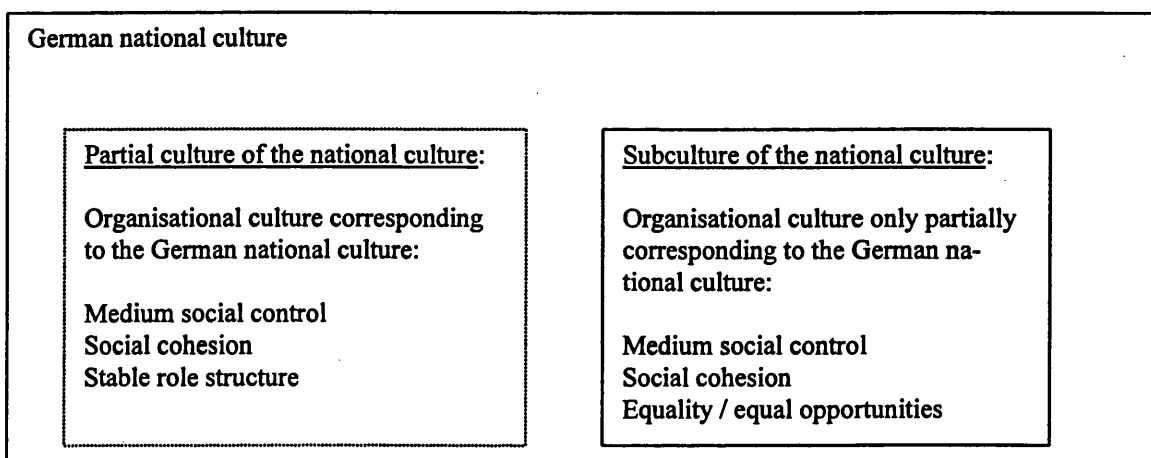


Figure 12: Organisational cultures and their correspondence to the national culture in Germany

The fact that only one out of three dimensions distinguishes these two types of organisational cultures may lead to the conclusion that the difference is insignificant. But this would underestimate the importance of the distinction between equality and equal opportunities on the one hand and the emphasis on a stable role structure on the other. The different assumptions about the equality of the participants throw a different light on the kind of social cohesion. Given the difference on the equality-axis, it is reasonable to assume that organisational culture can be based on two completely different assumptions about the functioning of the organisation: an organic tribe with autocratic cohesion on the one hand, and a group of friends with romantic cohesion on the other. The *kind* of social control can also be discussed in this context. The same (medium) degree of social control identified above may be accounted for by a top-down induced social control in the 'tribe', and commonly held, unquestioned assumptions in the 'group of friends'.

The identification of two different types of organisational culture - one kind fully, the other kind only partially, corresponding to the national culture - leads back to the discussion of German national culture. The above interpretation of two different degrees of correspondence with the national culture is based on the results in Chapter 4, which in turn resulted from the study of secondary data on German values. It is possible that these secondary data only capture a certain part of national culture. One must realise that large parts of the results of Chapter 4 were obtained from data and impressionistic studies gathered in the late 1960s. The interpretation that the image of an organism, or the 'tribe', corresponds to German national culture may be accurate for Germany at that time. However, it is reasonable to assume that German national culture has since undergone major changes. Hofstede's (1980) data and Dahrendorf's (1968) account, for example, do not capture the consequences of the year 1968, and it is very likely that a development from an autocratic image of society and organisations towards an image more based on equality has taken place. In a comparison of Germany and Great Britain, Lane (1992) points this out as follows:

"As argued elsewhere (Lane 1989: ch.4), the common stereotypes of authoritarian German versus democratic British managerial style no longer capture the complex reality, particularly where German managers are concerned. During the post-war period, far-reaching democratisation of political and industrial relations, as well as of parent-child and teacher-pupil interaction, has notably undermined the authoritarian tendency so evident in Germany's earlier history... The trend towards a more democratic management has, however, been more pronounced in the large corporations than in the small and medium-sized family-managed firms where paternalistic and authoritarian styles have remained more prevalent..." (Lane 1992: 86)

Hence, if one were now to imagine that Germany underwent this development only partially, or merely in certain areas of society, while the traditional image of a tribe or of an organism has remained dominant in other areas, then one would come to the conclusion that both patterns of organisational culture, the group of friends and the tribe, correspond to significant parts of German national culture.

Moreover, the data of the World Values Survey employed in Chapter 4 have not been collected by the World Values Study Group with the intention of identifying different patterns *within* one national culture, but rather in order to identify a domi-

nant pattern. It is reasonable to assume that alternative patterns have been overlooked for the sake of generalisations. The goal of the World Values Survey was to identify those patterns within a national culture which separates that nation's culture from other countries' cultures. Hence it is not surprising that especially such results have come to the fore that distinguish Germany from other Western countries. The similarities of German national culture with other Western values may have been systematically overlooked, hence Germany can be assumed to be more 'westernised' than the results of the World Values Survey suggest. This, in turn, suggests that the second type of organisational culture in Germany, that is, the type based on equality and equal opportunities, is not contradictory to German national culture, but rather reflects a different pattern of German national culture than the first type. Based on these results, a review of the primary studies on German national culture appears to be necessary. This may even merit a new research project with the goal of identifying different patterns in national cultures, as opposed to the conservative approach of looking for generalisations.

This result links up with the discussion of national cultures on a continuum ranging from homogeneous to heterogeneous as suggested by Enz (1986a and 1986b). In order to overcome the tendency in cross-cultural studies to assume that culture and nation-state are conceptually similar (that is, that culture is often used as a synonym for nation), Enz (1986b) distinguishes between homogeneous and heterogeneous societal cultures.

"A homogeneous societal culture is one in which the shared meanings are similar and little variation in beliefs exist; that is, the culture has one dominant way of thinking and acting. Diversity exists in all nations, but the critical factor is degree of variation in the shared meanings within the society. For homogeneous societies the degree of consensus is strong...

A heterogeneous societal culture is one in which numerous population groups have specific and distinct values and understandings... Many sets of shared meanings make up the society. These shared assumptions are common to some groups but markedly different from the understandings of other groups. This characterization of a society suggests that multiple cultures coexist.

A dominant societal culture exists in heterogeneous as well as homogeneous societies. The difference is that this dominant set of values is not regarded as the only acceptable set of beliefs and thus much greater variation from this set

of beliefs exists and is encouraged within the heterogeneous society" (Enz 1986b: 177-178).

Enz (1986b: 179) emphasises that the tendency in cross-cultural research to assume a culture to be homogeneous is in many cases misleading. She argues that it is necessary to clarify what the distinguishing variable should be and to diagnose the degree to which the society is homogeneous or heterogeneous. As examples for a heterogeneous societal culture she mentions the United States, Switzerland, and Belgium; examples for homogeneous societal cultures are supposed to be Saudi Arabia, China, and Japan.

To the knowledge of the author of this thesis, Germany's position on a continuum between homogeneity and heterogeneity has never been investigated. The above results, however, allow for a discussion of the German culture in this context. First, given that some sort of communitarianism (cohesion instead of particularism) and a certain degree of social control is to be recognised in the vast majority of the corporations investigated, one can assume that a reasonable part of organisational cultures can be predicted by the German national culture. Based on Enz's (1986b: 174) argument that in a homogeneous society the organisation is merely a passive carrier of the broader culture, this fit of organisational and national culture can be regarded as an indication that Germany has a fairly homogeneous culture. This statement, however, is to be refined in view of the above results. In spite of the general characteristics of communitarianism and medium social control, two types of organisational culture are to be distinguished. In view of the clustering of German corporations into two camps, equality on the one hand and stable role structure on the other, it is reasonable to assume that the *kind* of communitarianism and social control differs significantly.

The question of *how* heterogeneous the German culture is can be discussed with reference to the heterogeneity of corporations. Based on the three distinctions identified (social control, equality, and social cohesion), the organisations studied could theoretically have fallen into a multitude of different clusters - possibly as many as five or six. But they did not. They fell into only two clusters plus two outliers. Even if

one regards the outliers as clusters, which is conceivable given the non-representative sample of fourteen corporations under investigation, one only obtains a very limited number of clusters. Moreover, and probably more importantly, after the extraction of the outliers the companies could only be distinguished on the basis of one out of three original continuums.

Although this dimension sheds a different light on the other dimensions, it seems reasonable to assume that the heterogeneity of the German culture is limited. Enz (1986b: 174) argues that attempts to capture the American culture by identifying one typical American firm would be useless, whereas she implicitly assumes that such attempts might make sense for the Japanese, Chinese, or Saudi-Arabian culture. The results gained in this study suggest Germany to occupy a middle position between these poles. Although the conclusions must be limited due to the potentially non-representative sample of corporations, the results of only two clusters suggest that a small number of organisations may suffice to reflect a large part of the German culture. The 'tribe'-cluster might reflect the traditional German culture, the 'group-of-friends'-cluster might reflect the Western, particularly American, influence on post-war and post-1968 Germany, which has rooted equality and equal opportunities deeply into the German value system, while the German need for social cohesion is simultaneously upheld. This result corresponds to the notably low multi-culturality in Germany; the variety of ethnic groups in Germany is considerably lower than in the United States and the United Kingdom, but presumably higher than in Japan or Saudi Arabia.

To link up with the discussion as to whether corporations can be regarded as partial cultures, subcultures, or countercultures of the national culture, the above results suggest the following. Drawing on Trice and Morand (1991) and other publications in this stream of hermeneutic research on organisations, partial cultures have been defined as constituent parts of the total culture, subcultures as more or less tolerated niches in which the total culture has no influence, and countercultures as deliberately different cultures opposed to the total culture (see Section 2.2).

Two clusters of corporations have been identified; the 'tribe' can be regarded as a partial culture of the German national culture, since it corresponds to the results on cross-cultural research on Germany. The 'group of friends' must be considered a sub-culture, provided one accepts the results on work-related values collected in the late 1960s and the World Values Survey (whose data have been collected in the early 1980s and early 1990s) as the ultimate truth. But as discussed above, there are reasons to assume that the 'group of friends', too, is a partial- rather than a subculture. Also, using the vocabulary of partial, sub- and countercultures, even an interpretation of the outliers might make sense: arguably they can be regarded as countercultures. However, a discussion of the extent to which these countercultures are accounted for by a deliberate separation from the national culture, by special circumstances under which these corporations exist, or perhaps by pure mismanagement, would merely be a speculation at this point. The identification of two different clusters of organisational cultures differently linked to the German national culture, however, shows that the search for general similarities necessary in cross-cultural comparisons can conceal specific differences at another level of sociological analysis, although these differences are essential for the understanding of the general pattern.

7.3 The connection between society and organisations

By looking at the history of studies on the connection between national and organisational culture, it is possible to identify three phases which this research stream has undergone. The first pillar was erected by Crozier's (1964) analysis of bureaucratic structures in French industrial organisations. Part Four of his study shows to what extent the 'bureaucratic phenomenon' in France is a political and social construct. Crozier relates systems of social control and authority in organisations to 'the French' mode of interpersonal relationships. He connects bureaucratic patterns of behaviour to the institutional setting, such as the educational system and industrial relations, and he discusses how bourgeois status in France relates to the role of an entrepreneur. After this integration of cultural elements into the analysis of organisations in the first phase, it is surprising that the second phase, contingency approaches dominant in the 1970s, neglected to deal with this approach (described in Appendix A).

The third and most recent phase, however, adopts a cultural approach having both an institutional and an ideational branch (see Section 4.1), and takes account of Crozier's (1964) findings and attempts to link the two levels of analysis in various ways. The main contributors to the institutional branch, Maurice et al. (1986), looked at work organisations in the light of the interaction between socialisation and organisation and expanded the sociology of work (previously characterised by Marx-based analyses of the work situation) by taking education and occupational training into account. In contrast to the functionalist contingency approach and the Marx-oriented industrial sociology, Maurice et al. (1986) abandoned the border between the firm and its external environment and "regard the work situation as a social construct whose structure depends on the social processes that shape the work domain and the organization of production" (Maurice et al. 1986: 217). By this, Maurice et al. (1986) contribute to an elaboration of the processes by which society shapes organisations and vice versa. Values or value systems as such, however, are not systematically incorporated in their study. A reason for this might be that Maurice et al. (1986) conducted their study in the late 1970s before Hofstede's (1980) systematic cross-cultural comparison of values had been published.⁸² Prior to this publication, the concepts of national culture had been relatively vague and hardly useful for the study of organisations in national cultures.

To the knowledge of the author, the most recent empirical study of the relation between organisational and national culture has been conducted by Hofstede et al. (1990; see also Hofstede 1991). Other links between the organisational and the societal level either remain at a general, conceptual level (Morgan 1990), or address organisational structures or work attitudes rather than cultures (see the references above, Maurice et al. 1980, Budde et al. 1982, Stewart et al. 1994, Sorge and Warner 1986, Tayeb 1987 and 1988, Lutz 1992). Since the study carried out by Hofstede's et al. (1990) has conceptual similarities with the research this thesis is based on, it shall be discussed in detail. In doing so, the shortcomings of that study, and the advan-

⁸² Also, the account of the actor-structure relation in Maurice et al. (1986: 226-234) only discusses Crozier and Friedberg's (1980) and Bourdieu's (1984, first in French in 1979) work. This indicates that they were probably not yet aware of Giddens's contribution to this field, probably because his main contribution was not published until 1984 (Giddens 1984).

tages of the Popperian framework and the methodological concept used in the present study, are outlined.

In contrast to Maurice et al. (1986), Hofstede's et al. (1990) study is systematically based on values attributed to the national culture. They link up with the results on *national-cultural* values gained by Hofstede (1980) and use the questionnaire developed for this earlier study to investigate *organisational* cultures. Since the transnational study by Hofstede (1980) did not reveal anything about the organisational culture of the multinational corporation on which the study had been carried out, the attempt to connect organisational cultures to this study was viewed as the logical next step of research (Hofstede et al. 1990: 289). The researchers were able to investigate twenty units from ten organisations in two countries (the Netherlands and Denmark), which is a significantly larger empirical basis than that of Maurice et al. (1986), even though Hofstede's et al. (1990) organisations are less comparable than those investigated by Maurice et al. (1986). As a first result, Hofstede et al. (1990) found that their items can be separated according to whether they capture 'values' or 'practices'. In this context, value items describe what the respondent feels 'should be,' practices items what she or he feels 'is' (Hofstede et al. 1990: 294). Value items covered work goals (for example, "have an opportunity for high earnings" or "have security of employment") and general beliefs (such as "competition between employees usually does more harm than good"). Practice items captured symbols and rituals, and addressed punctuality, reasons for promotion and dismissal, etc. Through an analysis of variance, Hofstede et al. (1990) found for *value* items that country differences explain more than organisational differences; whereas with regard to organisations, practice items explain more difference than value items. Thereafter, based on 'ecological data' (that is, based on the units as cases as opposed to the individuals), Hofstede et al. (1990) found that the items fall apart into nine different factors - three value and six practice factors. Their empirical results can hence be summarised in the following table.

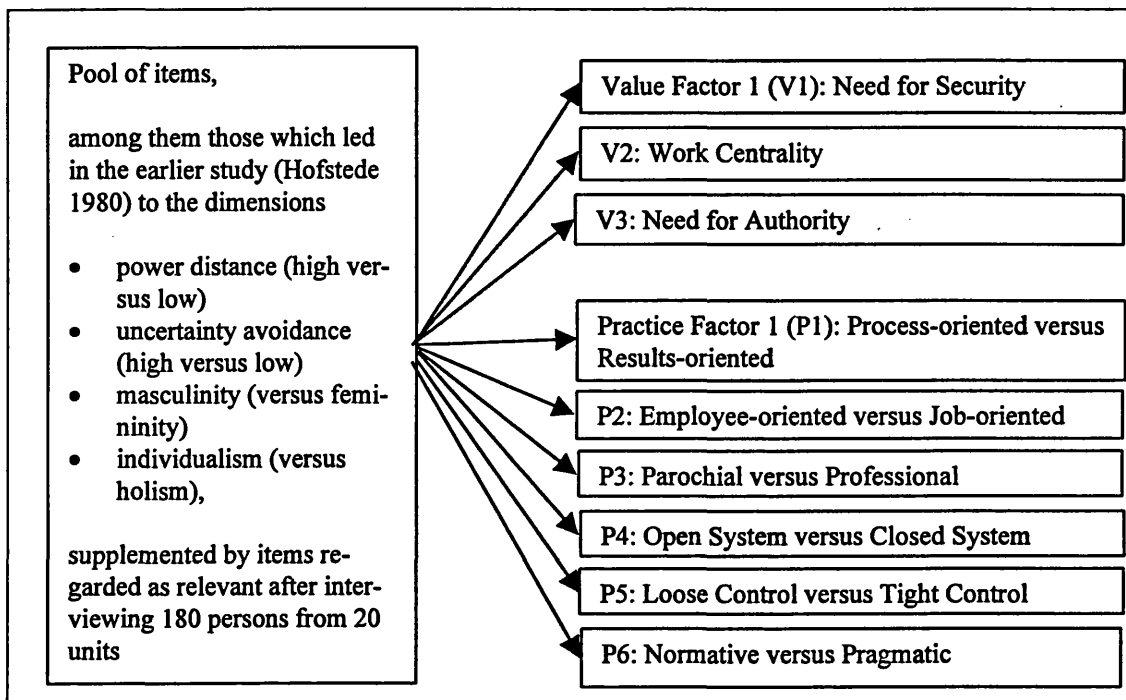


Figure 13: Empirical results of Hofstede et al. (1990) on the connection between value systems and organisational culture

On the basis of this result, Hofstede et al. (1990: 311) draw the conclusion that, in contrast to the popular literature which insists that shared *values* represent the core of a corporate culture, shared perceptions of daily *practices* are the core of an organisation's culture. This statement is based on their result that employee values differ more according to demographic criteria such as nationality, age and education than according to membership in the organisation. In other words, Hofstede et al. (1990) champion the idea of a very loose coupling of values and organisational culture:

"If member's values depend primarily on their demographics, the way values enter the organisation is via the hiring process: a company hires people of a certain nationality, age, education, and sex and, therefore, with certain values. Their subsequent socialization in the organization is a matter of learning the practices: symbols, heroes, and rituals.

Organization culture differences are thus composed of other elements than those that make up national culture differences... Among national cultures - comparing otherwise similar people - we found considerable differences in values, in the sense of broad, nonspecific feelings, such as of good and evil, notwithstanding similarities in practices among IBM employees in similar jobs in different national subsidiaries. Among organizational cultures, the opposite was the case: we found considerable differences in practices for people who held about the same values" (ibid: 312).

For an interpretation of their results, Hofstede et al. (1990) present the following figure.

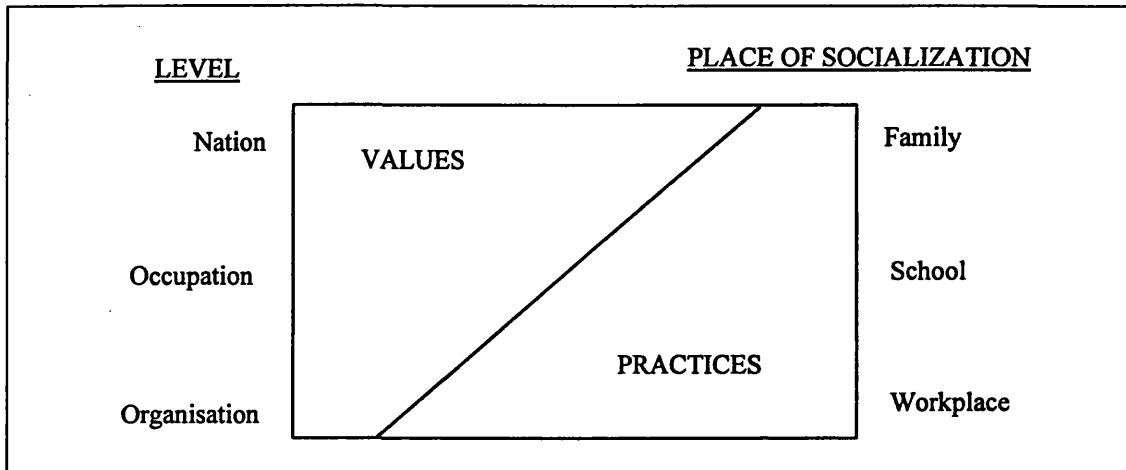


Figure 14: Cultural differences: national, occupational, and organisational levels; Hofstede et al. (1990: 312)

In their opinion, the differences between organisational practices for people who held roughly similar values can be explained by the different places of socialisation for values and for practices. "Values are acquired in our early youth, mainly in the family and in the neighborhood, and later at school. By the time a child is ten, most of his or her basic values are probably programmed into his or her mind. Organizational practices, on the other hand, are learned through socialization at the workplace... , which we usually enter as adults, with the bulk of our values firmly in place" (ibid.: 312). Their interpretation of their data culminates in the following statement:

"After having done both a large cross-national and a large cross-organizational culture study, we believe that national cultures and organizational cultures are phenomena of different orders: using the term 'cultures' for both is, in fact, somewhat misleading" (p. 313).

The results of the present thesis, however, point to the opposite direction. The empirical result above shows that for one cluster of organisations the link of their culture to values at the societal and work-related level is strong. For the other cluster of organisations it has been discussed that weaknesses in empirical studies on the societal level may account for inconsistencies with the organisational level, rather than a decoupling of organisations from their societal environment. We shall now discuss

the extent to which Hofstede's et al. (1990) conceptualisation of their study accounts for their conclusion.

The first point is that Hofstede's et al. (1990) supposed comparison between societal and organisational culture is not based on a theoretical concept of culture. They have not taken the results of the earlier study (Hofstede 1980) for a development of a concept of societal culture in order to compare this with the culture of organisations. Instead, their approach is purely *exploratory*: they only take the items of the earlier study (without a construct of the national cultures in mind), supplement them with other items gained through interviews with organisations' members,⁸³ and explore the factors into which the items fall at an organisational level. With this method, it is certainly not surprising that they conclude that "national and organisational cultures are phenomena of different orders" (p. 313), for a comparability of the two levels through the use of one framework for both levels has never been provided. A proper approach would have been to conceptualise the Dutch and the Danish national culture in terms of the four dimensions gained in the 1980 study. On this basis a questionnaire based on the core items of these four dimensions could have been designed and employed for the empirical investigation in the organisations. Then it would have been possible to analyse:

1. the extent to which the items form the same or similar dimensions (power distance, uncertainty avoidance, masculinity, individualism) as at the societal level,
2. the extent to which organisations exhibit about the same values in the respective dimensions as on the national level, and
3. whether organisations can be distinguished between those corresponding to the national culture and those not corresponding to it.

⁸³ Hofstede et al. (1990) do not describe in detail the way the items have been selected: "About 60 of the questions in the survey were taken from the earlier cross-national study and its later extensions; the remaining questions, with a few exceptions, were developed on the basis of the interviews and were directed at the issues that the interviewers found to differ substantially between units" (p. 290). Since Hofstede et al. (1990) have no initial theoretical concept of culture, they are not able to select those items that make sense in the context of the validation of a construct. Rather, the selection of items is purely based on their interviews in terms of 'what could be relevant', without a concept of culture in mind, and without specified factors to focus on both cultural levels.

Hofstede et al. (1990), however, fail to conceptualise the results obtained in 1980 in terms of a construct of the Dutch and the Danish culture. As a consequence, the three value-factors and the six practice-factors they obtain can not be compared conceptually to the national results obtained in Hofstede (1980), so that the different levels of investigation, society and organisation, necessarily differ. Therefore, their conclusion that "national cultures and organisational cultures are phenomena of different orders" (p. 313) is primarily an artefact of their research design.

The fact that their items fall into value-items and practice-items is also a result of the lack of theoretical and empirical conceptualisation. As they admit themselves (p. 297), those items relating to values were chosen for their potential to discriminant between countries, those about practices to discriminant between organisations. Moreover, the authors only added "five new questions about values on the basis of interviews in the organizations" (p. 297). Of course, if one chooses to select almost exclusively practice items from the conversations with the practitioners in the organisations, and neglects to connect them to value items in order to create a construct of what one actually wants to measure, it is not surprising that the result turns out to separate values and practices. The interpretation that organisations are discriminated through practices, and nations through values, is then merely a reflection of a flawed research design, which is not capable of measuring to what extent organisational values, and organisational practices, *reflect* the values held at the societal level.

Some other shortcomings of Hofstede's et al. (1990) approach shall be discussed at this point. Since they investigated twenty 'units' within ten organisations, they chose the level of organisational sub-systems as the appropriate level of analysis, probably because the number of cases is higher than on the organisational level so that the results are more likely to be significant. This, however, was done without empirically examining whether this level of analysis is appropriate (see in this context Section 6.2 of the present thesis).⁸⁴ It is possible that different units within one organisation,

⁸⁴ In a later publication (Hofstede et al. 1993), they re-analyse the data and realise that at the level of individuals the dimensions are different from those found in the previous study (Hofstede et al. 1990) at the level of 'organisational units'. Yet, at no point they suggest to re-examine the earlier study. Rather, they conclude that the dramatic difference in results "should be a caution to look very care-

or even different units from different organisations (for example, the marketing units in two different companies), do not differ significantly with respect to the factors under scrutiny. In this case, the analysis can only be carried out at the level of organisations instead of organisational sub-systems (provided the factors can adequately discriminate between organisations), since the factors would not sufficiently discriminate between the sub-systems. It is important to realise while that some factors may only significantly discriminate between *organisations*, others may only significantly discriminate between *units*, or between both, or neither. Hence it is important to investigate by analyses of variance which factors discriminate on which level of analysis. Hofstede et al. (1990), however, do not provide such an examination, so that their results may be misleading in this respect. The results on 'organisational practices' are attributed to the units, although values held at an organisational level might influence these practices. This potential bias is reflected in their discussion of which level of analysis to choose:

"As organizational cultures are supposed features of organizational units, not of individuals, the multivariate analysis here was not to be performed on the answers to the questions by individual respondents but on their mean scores for each of the twenty organizational units, so as to move from the individual level to the social system.

Multivariate analysis is based on correlations. If one wants to determine the correlation between two variables measured at the level of individual respondents, who are also members of particular organizational units, one has three choices: (1) an overall correlation across all individuals regardless of their organizational membership; (2) a series of within-unit correlations, one for each unit, across those individuals belonging to the unit, or (3) a between-unit correlation, based on the mean scores of the two variables for each unit. The three choices normally produce quite different correlation coefficients" (Hofstede et al. 1990: 297-298).

It is certainly true that these three levels of analysis *may* produce very different correlations. However, in order to investigate the extent to which the *values* held on the societal level are reflected in organisations, it is particularly relevant to look at *all three* levels of analysis (organisation, organisational sub-system 'unit', and individuals). Only the comparison of these three levels (see Section 5.3.2 in the present the-

fully at the methods of analysis used when comparing the results of different studies" (Hofstede et al. 1993: 501).

sis) makes it possible to draw conclusions on the depth to which the national culture has sunk into organisational values and practices.

In summary, Hofstede et al. (1990) totally ignore the research field of the conceptualisation and validation of constructs, and their results reflect this ignorance. Publications such as Bagozzi et al. (1991) or, for German reading researchers, Homburg and Giering (1996) provide the means for a thorough analysis of constructs. Although these publications were published after Hofstede's et al. (1990) study, the necessity and means to validate and assess the construct on which an investigation is based have long been appreciated. In this regard, therefore, the present thesis supplements the discussion on the linkage between national and organisational culture through an empirical assessment of the extent to which values anchored in the society are reflected in organisations within this society. In contrast to Hofstede et al. (1990), a framework has been used that allows for an application to both levels. As a result, the conclusion differs meaningfully: the link between national and organisational culture seems significantly stronger than the most recent influential study suggests.

7.4 Summary

The relation between national and organisational culture in Germany has been investigated in three steps. In the first step (Chapter 4), secondary data on the German national culture has been studied so as to conceptualise German values in terms of the Popperian approach. On this basis, a profile of German values between openness and closure was developed, and it was hypothesised that this pattern is also reflected in the organisational culture of German business corporations. The conceptualisation of values in a framework applicable to both national and organisational cultures made it possible to investigate

1. the extent to which an organisational culture can be conceived of in terms of the same dimensions as on the societal level, and

-
2. whether organisations can be divided into those corresponding to the national culture and those which do not correspond.

To these ends, having gained a profile of German values regarding openness and closure, the construct of openness and closure has been conceptualised and validated at the organisational level (second step, Chapter 5). This has led to the result that the dimensions of openness and closure are, on the organisational level, empirically different from those previously assumed. Two dimensions have merged to one dimension, and one dimension has split into two parts. Moreover it has been found that the construct of openness and closure does not hold as an aggregate model, but only as a profile model, for the dimensions have no sufficient convergent validity. As a consequence, openness or closure have never been treated as total values. Instead, the values on the individual dimensions and the profile, or pattern, between the two extreme poles have been the focus of attention.

In the third step, the pool of corporations has been investigated in terms of the clustering of the firms according to similar characteristics. Two clusters, each comprising a number of corporations, and two outliers, have been identified. Although it must be taken into account that the new dimensions are different from the initial concept of openness and closure, it has been found that the corporations in one cluster have considerable similarities with the pattern of German values between openness and closure found in Chapter 4. The corporations in the other cluster correspond only partially to this pattern, but it has been discussed that these corporations might correspond to a different part of German national culture which is not systematically represented in studies on German national culture. This led to the conclusion that it is reasonable to assume that corporations are partial cultures of their societal environment rather than sub- or countercultures.

On the basis of this result it has been discussed to what extent Germany can be thought of as a heterogeneous as opposed to a homogeneous culture. The extent of heterogeneity among German corporations has been taken as an empirical basis for a debate as to the degree of heterogeneity in the national culture. The fact that the cor-

porations investigated fell into only two clusters (plus outliers) has been interpreted as a hint that the heterogeneity of German national culture is very limited. At the same time, the identification of two different clusters which were assumed to correspond to different aspects of German national culture has been interpreted to imply that German national culture is significantly more heterogeneous than supposedly homogeneous countries such as China, Japan, or Saudi-Arabia.

This considerable congruence between national and organisational culture stands in stark contrast to the most recent, comparable study addressing the link between these levels, Hofstede et al. (1990). Based on a study of Dutch and Danish organisations, Hofstede and his co-workers concluded that national and organisational cultures are phenomena of different orders. However, since they did not attempt to use a comparable framework for the two levels, their results can be seen as an artefact of their procedure. The employment of a single framework in this thesis suggests that national culture is reflected to a considerable extent in the culture of organisations within the country in question.

This result has lent considerable weight for the way in which organisational cultures are to be investigated in the future. In the description of the hermeneutic discourse on organisational culture (Sections 2.2 and 2.4), it has been discussed that organisations are in the first instance treated as independent entities. Although it is never explicitly stated in this research field that national culture is irrelevant for the study of organisations, organisations have been studied in a micro-sociological, ideographic manner which, in its most extreme form, treats organisations as cultures in their own right without systematically taking national cultures into consideration. The methodological partiality of critical organisation studies, as identified in Section 2.4, has led to a renunciation of nomothetic approaches in this discourse, although this would have made possible a systematic incorporation of empirical results on national culture into the study of organisations. Future research on organisations, and particularly ideographic approaches, needs to take into account that, according to the results of the present study, organisations are not to be treated as cultures with closed borders to the national culture. In a more recent publication, Hofstede (1996) treads the tight-

rope between two statements: on the one hand he stands by the results reported in his publications from 1990 and 1991 (Hofstede 1996: 438), but on the other hand he explains that

"management is not a phenomenon that can be isolated from other processes taking place in society. During our trip around the world we saw that it interacts with what happens in the family, at school, in politics, and government. It is obviously also related to religion and to beliefs about science" (Hofstede 1996: 434).

Such contradictory statements confuse rather than illuminate. The obvious contradictions are caused by inconsistencies in the frameworks applied to the levels of organisational and national culture. The approach in this thesis makes a step towards disentangling this confusion by employing the same framework for both levels. Hereby, the socio-philosophical framework conceived of for societies is not artificially imposed on the level of organisations. Instead, through a validity-check of the construct on the organisational level, the differences are systematically taken into account, while the similarities are assessed by observing which dimensions at the societal level correspond to dimensions at the organisational level. The result suggests a considerable correspondence between organisational and national culture. In particular, ideographic research with its tendency to consider organisations as cultures in their own right, removed from national cultures, should take this into account, instead of regarding itself as justified by Hofstede's et al. (1990) results.

8 The Popperian approach and critical organisation studies

The empirical results have shown that a coherent pattern of an open or a closed company hardly occurs. Two patterns, the 'group of friends' and the 'tribe', representing horizontal and vertical collectivism, have been identified as the preferred combinations of openness and closure. In light of these results the tenets of the critical discourse, particularly the claim that a shift to concertive mechanisms of control take place, are to be discussed (Section 8.1). In addition, the Popperian approach also allows for a discussion of organisational behaviour with regard to the issue of individual disintegration as a feature of contemporary Western societies. Therefore, the above results are discussed in the context of whether organisations, or corporate life, can be conceived of as a buttress to the open society. Arguing on the basis of open and closed human needs and the 'problem of freedom' (Fromm 1942, Willmott and Knights 1982), it is here discussed to what extent corporations can meet the demand for closure without conveying the tenets of the closed society (Section 8.2). This, in turn, leads to a discussion of whether individualism is a universal feature of capitalism, or whether capitalism is in fact based on multiple forms of collectivism (Section 8.3). The empirical results on the German case, in which capitalism has assumed a different shape, shed light on this relation of capitalism to different forms of togetherness.

8.1 *The Popperian approach and concertive control*

In Section 2.4 the debate on concertive control has been criticised for ignoring non-controlling forms of community and for neglecting the question that organisational cultures do not necessarily foster the emergence of concertive control, but can also hamper it. Consequently, it was concluded, the prevalent image of organisations might be too gloomy and pessimistic. Hence, instead of leaning the critique of hermeneutic and critical studies on Donaldson's (1985) purely positivist viewpoint, in which society appears screened out from organisational analysis, the opposite has been suggested: the case has been made to take organisational and national culture

systematically into account in order to examine the assumptions of the discourse on concertive control. It has been argued that a trend towards control in one respect might be cushioned or counter-balanced by a trend into the opposite direction in another respect, for example by an organisational culture in which individual autonomy or the contestability of knowledge plays an important role. On this basis, the Popperian approach has been introduced in Chapter 3. Popperian social philosophy is concerned with patterns of thinking that precede and/or accompany totalitarianism. This social philosophy has been put in concrete form by Gebert and Boerner (1995) and Bunge (1996), and Gebert and Boerner (1995) have applied the Popperian notions to organisational analysis. Their dimensionality has made it possible to analyse organisational control not as a coherent construct, but as consisting of different facets that may or may not be related. In the theoretical conception of Gebert and Boerner (1995), the Popperian approach comprised three dimensions: one regarding the social inclusion and embeddedness of the individual within the social collective of the organisation; a dimension regarding the autonomy of the individual participant, in particular with respect to action within the organisation; and the distinction regarding knowledge as contestable or incontestable.

By this, the Popperian approach has already shown a theoretical benefit: making it possible to observe what has never before been explicit - organisational control conceived of in dimensions and their interrelations. The theoretical benefit can be seen clearly when the framework is used for the analysis of concepts of control in critical organisation studies. As in Chapter 2, the article by Barker (1993) will be taken as an example, since it was particularly influential for critical thinking on organisations and is often referred to within this discourse. In his concept of concertive control, he uses the elements of collectivism, lack of autonomy, and incontestability of knowledge in an interwoven way:

"These new collaboratively created, value-laden premises (manifest as ideas, norms, and rules) become the supervisory force that *guides activity* in the concertive control system. In concertive control, then, the necessary social rules that constitute meaning and sanction modes of social conduct become manifest through the *collaborative interactions* of the organization's members. Workers in a concertive organization *create the meaning* that, in turn,

structure the system of their own control. Rule generation moves from the traditional supervisor-subordinate relationship to the actors' negotiated consensus about values... [T]he locus of authority... transfers from the bureaucratic system and its rational-legal constitutive rules to the value consensus of the members and its socially created generative rules system" (Barker 1993: 412, emphasis added).

Concertive control, thus conceived, clearly comprises three aspects of what Popper referred to as a totalitarian pattern and what Gebert and Boerner (1995) structured in three dimensions: collaborative interaction forms ideas and norms, and these in turn form the activities of participants. Barker's (1993) observation that collaborative interaction creates the meaning controlling participants refers to a strong, mutual dependence of these dimensions. The inherent assumption of the above quote, which represents the narrative of the discourse on concertive control implies, that this amalgamation of collective action and norm creation effects the rules of action and hence the autonomy of the participants.

The Popperian approach enables one to view the hermeneutic approach to concertive control in the light of organisational culture. On this basis it can be asked to what extent an organisational culture fosters or hinders concertive control. The *contents* of the rules and norms may contradict mutual control and the loss of autonomy and may even affect the way of collaborative interaction. As the examples mentioned in Chapter 2 show,⁸⁵ the interdependence of the three dimensions may be much smaller than assumed in critical organisation studies. The Popperian approach and the dimensions of openness and closure open the researcher's eyes in this respect. It provides a framework by which observations such as Barker's can be examined in detail and reveal the inherent assumptions of such studies. This does not mean that Barker (1993) and other scholars in this area are not right in their observation of a trend towards concertive control. It is quite possible that Barker has investigated exactly such an organisation in which the three dimensions in fact correspond with each other and hence meet the conditions of closure in the Popperian sense. However, this

⁸⁵ See Section 2.4: a professional association of 'loosely connected' estate or insurance agents (common cognitive orientations without social cohesion), a project team consisting of members of very different ethnic or national-cultural groups, or the French work communities as described by Fromm (1956: 306-321) (social cohesion without mutual cognitive orientations), are exemplary cases.

is not necessarily the case in any organisation. In their ideographic approach to study organisations it is impossible to observe a pool of organisations, so that critical organisation studies always risk concentrating on those organisations in which their assumptions hold true. Since they cannot cover a number of organisations in order to investigate their differences, those organisations realising different combinations - which would tend to temper the criticism of the discourse - can easily be overlooked. Nomothetic studies of a pool of organisations are hence a necessary supplement and counterbalance to this research field.

On this basis an empirical investigation has been carried out, which led to notable results. Chapter 5 has shown that the continuums between high and low autonomy and between the treatment of knowledge as contestable and incontestable merge into one dimension that captures the distinction between autonomy and control. The absolute figures of the companies in the three dimensions (Table 17 below) show that only one company, Electr.Engineerg_1, has a strong amplitude towards control.

Table 17: Overview of the companies' values in the individual dimensions

		N	PARTICUL	EQUALIT	AUTONOM
Company	Chemic.Engineerg_1	71	38.09	48.53	53.05
	Electr.Engineerg_1	46	55.25	53.53	33.59
	Electr.Engineerg_2	31	33.33	57.93	53.55
	Electr.Engineerg_3	63	39.55	59.23	49.05
	Electr.Engineerg_4	130	57.95	59.55	51.66
	Precis.Mechan_1	57	38.23	55.70	52.02
	TelecomEnginrg_1	146	43.21	42.68	44.71
	Food_1	24	45.49	58.59	57.71
	Food_2	27	38.58	46.60	41.76
	Medic.Enginrg_1	89	39.89	59.27	43.44
	Medic.Enginrg_2	51	40.85	57.35	49.85
	Pharmaceut_1	79	39.29	53.88	48.23
	Pharmaceut_2	48	40.36	50.26	47.71
	Pharmaceut_3	129	34.66	48.21	50.33

0=Closure, 50=Neutrality, 100=Openness

Another three companies (TelecomEnginrg_1, Food_2, Medic.Enginrg_1) may be on the threshold of a high degree of control, but the variance analysis carried out in Section 7.1 has shown that, after the elimination of outliers, the companies do no

longer differ significantly in this dimension. Therefore, these results do not confirm the narrative the critical discourses that corporations establish a high degree of control in the defined sense. Rather, according to these results on the basis of fourteen German companies, a high degree of control appears to be the exception rather than the rule.

To say that this contradicts the results of Barker (1993) and other publications on concertive control, however, would be much too premature. One of the most significant results is that after the removal of outliers, companies can no longer be distinguished on the continuums between particularism and cohesion or between autonomy and control (see Section 7.1). A pattern has been identified whereby German companies establish a medium degree of control and a substantial degree of social cohesion. Hence a certain degree of control is systematically linked to social cohesion, which *confirms* the notion of concertive control. Barker's (1993) observation that the value consensus of team workers account for a new, even more effective form of control can hence be recognised in the pattern of German organisations between openness and closure. But in this regard it must be emphasised that the result about the medium positions of the companies between autonomy and control can be interpreted in both directions. On the one hand, the closeness of the pattern to the concept of concertive control, conceived of as a shift of control from the management to the workers, is striking. On the other hand, a 'medium' degree of control can also be interpreted the other way round: as a 'normal' degree of consensus due to the common goal of the organisation, and hence as absence of total control.

At this point, the methodological approach of this thesis reaches its boundaries. If companies achieve a medium position without any comparability to a control group, then the quality of control cannot be recognised within the boundaries of this one continuum without ideographic methods. The multidimensionality of the Popperian approach, however, allows for an interpretation in relation to the other continuums. In German corporations, a medium degree of control is clearly achieved in conjunction with social cohesion. Control does not go together with the Weberian 'impersonal order' in bureaucracies in conjunction with formal rules, but rather with the

embeddedness of the individual in the collective. By this, Weber's (1978: 215) three kinds of authority – legal, traditional and charismatic⁸⁶ can hence be supplemented by another, fourth kind: the 'authority of the collective', resting on 'collective grounds', that is, based on the need for social integration – and on 'the belief that the common opinion cannot be wrong'.

To a large extent, therefore, the tenets of the current discourse in critical organisation studies, that is, the trend from bureaucratic towards unobtrusive and concertive mechanisms of control, is confirmed by these results. In addition, however, on the basis of the two clusters of corporations found in Chapter 7, these tenets need to be refined. It has been observed that a medium degree of control and a considerable degree of social cohesion go, on the one hand, together with a stable role structure (first cluster), and, on the other hand, with the perception of equality and equal opportunities (second cluster). The first cluster certainly reinforces the above interpretation of a shift of control. In a stable role structure, where every participant has his or her allotted position, questioning the position would be equal to attacking the norms and the ideational fundament of the organisation. In corporations in this cluster, it is not only the 'belief that the common opinion cannot be wrong', but also the 'belief that the structure of roles cannot be wrong' that contributes to social control. This pattern is strikingly reminiscent of Burawoy's (1979) concern that supervision and discipline can be hegemonically organised in such a manner that a sense of autonomy among the participants is 'manufactured' in the modern corporation. This perceived autonomy then contributes to the consent of the employees to their own subordination to the capitalist labour process.⁸⁷ In this regard, therefore, the tenets of the critical perspective are certainly justified. In addition it must be recognised that companies with high social control do not have an interest to take part in the survey. As mentioned

⁸⁶ Legal authority rests on "rational grounds" and "on a belief in the legality of enacted rules and the right of those elevated to authority under such rules to issue commands." Traditional authority rests "on an established belief in the sanctity, of immemorial traditions and the legitimacy of those exercising authority under them." Charismatic authority rests "on devotion to the exceptional sanctity, heroism or exemplary character of an individual person, and of the normative patterns or order revealed or ordained by him." (Weber 1978: 215)

⁸⁷ An important difference is, however, that the German sense of autonomy is based on their qualification, while Burawoy's (1979) critique of orthodox labour process theory is based on 'shopfloor games' into which deskilled (!) workers are "sucked... as a way of reducing the level of deprivation" (p. 199).

above, it is reasonable to assume that the 'population of German corporations' has a higher degree of social control than the companies investigated. Particularly against the background of this assumption, the tenets of the critical perspective can be regarded as confirmed to a large extent, for even in the sample of the present study a considerable degree of control has been found. Chapter 7 has shown that there is obviously less autonomy in German companies than expected on the basis of the German national culture and work-related values (Chapter 4).

The second cluster of companies identified in Section 7.1, however, suggests a different picture. In the 'group of friends', the feeling of togetherness is connected to the perception of equal opportunities and equality among the participants, and hence on completely different assumptions about the functioning of the organisation compared to the tribe. While the kind of control in the tribe-cluster is characterised by a hierarchical aspect reflected in the stability of the role structure, social control in the 'group of friends' is more characterised by commonly held assumptions without a hierarchical aspect.

From a critical point of view, it would be easy to classify even this cluster as unobtrusive social control, because it is also characterised by commonly held, unquestioned assumptions, though without a hierarchical aspect. But caution is in order for this interpretation. Before even the 'group of friends' is thus classified, it must be acknowledged that here participants do not believe in a justice of the social order, but rather in the equality of the participants and hence in the equality of their career chances. Although social cohesion can be conceived of as a result of this equality in conjunction with mutual experiences or interests, it is contestable whether the concept of social control as used in the critical discourse goes together with the equality of career prospects for all participants. Can the term 'unobtrusive control' be employed for an organisation in which the participants in their career prospects are not limited by their political opinions (item A1) and where employees themselves have the right to decide how they work with colleagues (item A5)? As Wrong (1961) long ago pointed out, the image of humans as completely socialised individuals may easily be distorted. The discourse on concertive control risks an oversimplification, or a

kind of critical parochialism, when it does not acknowledge the distinction between different kinds of collectivism.

With regard to such organisations, therefore, critical organisation studies must beware of going overboard. Put in Popperian terms, it can be assumed that a minimum extent of closure is a necessary condition to practice openness. For example, in order to establish a high degree of individual autonomy it is essential to establish autonomy as a value. A precondition for this is a least extent of collectivism, a *mutual* definition that autonomy is important and to be upheld in the organisation. With respect to the continuum between autonomy and control, this requires that there is an ideational consensus about autonomy being a positive value. As a consequence, any organisation attempting to establish individual autonomy of the participants faces a paradox: autonomy must be established as a shared, ultimate, unquestioned value. Since the contents of an organisational culture might be compatible with individual autonomy, organisations need to be given a chance to establish values without being criticised for its culture's strength. In empirically testing the difference of the two clusters of corporations, the 'group of friends' and the 'tribe', in terms of the standard deviation on the three dimensions (particularism, equality, and autonomy), no significant differences can be found. The strength of the culture, therefore, does not seem to be the crucial factor. Critical organisation theory must acknowledge that a 'strong' culture cannot simply be demonised as a step towards social control, without regard to the culture's facets.

8.2 *The Popperian approach and the social disintegration of the individual*

The observation of social cohesion in German corporations is not only to be discussed from a critical viewpoint in terms of a shift of control from bureaucratic to unobtrusive mechanisms, but also in terms of the social and cultural disintegration of the individual – an issue often neglected in organisation studies. It was more than ten years ago that Alvesson (1987: 200-201) observed:

"... to a rapidly accelerating degree during the past 10-20 years, the economic development, above all under late capitalism, has resulted in a previously uniform and coherent culture to break up... In relation to the cultural patterns which existed merely a couple of decades ago, contemporary social culture is characterized by fragmentation and heterogeneity...

The general social fragmentation, the loss of integrated cultural patterns, the 'anomic' character of social life, the loss of traditionally internalized work ideology, a 'motivation crisis' towards traditional work conditions... the experience of purpose in different contexts, as well as the rapid changes in these conditions in recent years might be seen as a general cultural background of the greatest significance to research into culture/symbolism and similar topics...

The focusing on the culture aspect of organisations can be understood as an effort to counteract disintegration problems in society... The 'strong' organizational culture thus becomes an attractive 'solution' to problems involving fragmentary, anomic and vulnerable identities... One way to understand organizational culture research and practice is to see it as a response to cultural fragmentation in society and indirectly, at work places."

This psychical survival of individuals in a fragmented society, characterised by a modern form of Durkheim's anomie, namely "weak moral ethics where the only notion of a coherent self can be achieved through compensatory acts of consumption" (Bowles 1994: 906), has been discussed with reference to organisations by Bowles (1990, 1993, 1994). For the critical observer, this phenomenon of late modernity guides the cognitive interest to the issue of management control. The decay of traditional culture and social fragmentation produce vulnerable identities, which are easier to seduce by means of corporate missions, notions of organisational elitism, or simply management goals and remunerative incentives. This renders them easy to control through normative means. But the individual need for social integration can also be seen in a more optimistic light, not only in the context of control. Organisations may also function as remedies to the social disintegration of the individual without the bitter taste of social control. Gebert and Boerner (1995: 371-381; 392-399) make the first steps in this direction by discussing that organisations may function as buttresses that can support the openness of the society. Their argumentation can be summarised as follows:

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1. Human needs are characterised by both open wants (freedom, independence, autonomy, self-actualisation) and closed wants (social integration, harmony, consensus, purpose of life, law and order).
 2. The concepts of openness and closure are fundamentally conflicting and incompatible.
 3. There is a societal demand for both openness and closure which causes a dilemma due to the incompatibility of these paradigms.
 4. The contemporary societal condition meets in the first place open rather than closed needs.
 5. A pendulum-swing from an open to a closed society is to be avoided.
 6. Sectoral or functional existence of closed spheres may prevent a pendulum swing from an open to a closed society.
 7. Commercial companies may provide such closed spheres and hence buttress the openness of the society.

Since families, the military and the church, the traditional carriers of closure, are increasingly losing their importance, alternative models must be developed to meet the societal needs for closure. Gebert and Boerner (1995) refer to the communitarian agenda and to the suggestion of Bellah's et al. (1985) to support local, traditional structures of community. On this basis, they discuss the extent to which the workplace offers the opportunity to satisfy closed needs. On the one hand it is conceivable to conceptualise the company as a "closed island" (Gebert and Boerner 1995: 376) that, by virtue of meeting needs for social integration, purpose of life, and consensus, may cushion the demand for closure at the societal level. On the other hand, this carries the danger that the support of closed values in companies may generate further need for closure and hence, instead of cushioning the demand for closure, might promote the closed society as a better alternative than the open society. As a conclusion, Gebert and Boerner (1995: 381) argue that social communities are best conceived as supporting the openness of the society, if they are not conceptualised as completely closed islands but with ideational features of openness.

The results gained in the present thesis suggest that the concepts of openness and closure are not mutually exclusive. The examination of the construct's coherence in Chapter 5 has shown that it does not make sense to speak in terms of archetypes of openness and closure, but that companies realise profiles along the dimensions of openness and closure. German corporations combine a closed value (social cohesion) with both open and closed values on the continuum between equality and inequality. Thus the empirical results show that a combination of open and closed features is conceivable in German corporations, so that the question then becomes which of these patterns of openness and closure buttress societal openness.

Either pattern, the 'group of friends' and the 'tribe', is characterised by social cohesion. If one regards the social integration of the individual into a community as an important pillar for an open society as suggested by the communitarian agenda (since it may cushion the closed need for embeddedness), then there are reasons to assume that in German corporations this criterion is to a large extent met. However, more important for the judgement of whether this supports openness, or whether it carries the danger of advocating the tenets of closure, is the question upon which convictions such a social cohesion is based. In this regard the two patterns are to be distinguished. In the tribe-culture, where togetherness is based on the feeling of belonging to an organism and where the participants are proud to serve the community irrespective of a hierarchical stratification, hierarchy is regarded as natural, neutral, and justified. This kind of organisation is certainly not supportive of an open society, since it can be assumed that convictions are conveyed which cement rather than question the societal stratification, the inequality of opportunities, and the exclusion of minorities. In the 'group of friends', however, where participants regard each other as equals, and equal opportunities are regarded as a virtue rather than as a breach of social norms, social cohesion can be conceived of as a result of equality. Thus, here the organisation conveys the values of the open society and hence functions as its supporting pillar. Having found this pattern, therefore, there are reasons to assume that the features of openness and closure can be combined in such a manner that an essential element of the needs for closure (social integration and consensus) can be met in organisations without tipping the balance in favour of closure.

This result points to the blind spot in Popper's work and to the Achilles' heel of liberalism in general - the flawed, negative view of community. Eidlin (1997) argues that the idea of community that Popper describes as flawed and related to totalitarianism, plays an important role in liberal-democratic states; in the first place because the legitimacy of a liberal democracy, and hence of a liberal society, rests on community:

"Governments routinely take actions that would be considered criminal if carried out by other institutions or by individuals. Taxation, imprisonment, execution, and expropriation, for example, are considered rightful if and only if the regime that carries them out is viewed as legitimate... the absence of community can severely strain legitimacy and stability. The reasons for this are clear. Where citizens feel that they are part of a community and have a stake in it, they are more likely to abide voluntarily for its common interests. The Athenian polity, which provides the model for the modern democratic state, rested on both tribal community and bonds of friendship among citizens" (Eidlin 1997: 7).

For Popper, however, community appears as a problem rather than a solution. He pays little attention to the contribution community can make to the legitimisation of a regime, also of a democratic one (Eidlin 1997: 8). A feeling of community fosters the legitimacy of a government and can hence contribute to a liberal society.

Beyond the issue of legitimacy, there is another reason why community plays an important role in non-totalitarian societies. Eidlin (1997: 8-9) points out that Popper, as well as many other liberals, tends to overlook that the "demand for community is widespread in human societies. Whether we like it or not, individuals tend to identify with social wholes - for example, with family, tribe, clan... scout troop, or nation. Even when a set of individuals is randomly divided up into Team A and Team B for purposes of an athletic competition, a process of identification and bonding usually takes place within each team." Eidlin works out that the gap left by the liberal decline of community cannot only be filled by totalitarianism, but also by benign versions of conservatism, nationalism, socialism or social democracy. And if liberalism nowadays loses battles against its enemies, then it may be because liberals do not adequately address the issue of community. Eidlin (1997: 22) concludes that Popper

failed to recognise that ideas of community are "not always pernicious, but rather that they can and do exist in benign forms or are tempered by other ideas."

The example of the United States shows that liberalism and community need not contradict one another. In this country there is an amount of nationalism and patriotism that people from other democratic states often find childish and distasteful. Many Americans, by contrast, would probably be surprised if they were told that in the opinion of many European liberals ideas of community and liberalism contradict each other. The communitarian agenda, certainly not coincidentally of American origin, is a mixture of open and closed values. The subscribers to this agenda attempt to convey the American feeling of togetherness on the national level (nationalism, patriotism) to the level of local communities. This could cushion the hardships raised by liberalism, which probably finds its most extreme form in the United States.

Coming back to critical perspectives in organisation studies, there are reasons to assume that its tenets only apply to a certain cluster of organisations, not necessarily to a general pattern. Just like Popper and other liberalists on the socio-philosophical or political level, critical analyses often fail to recognise that ideas of community exist in benign forms or come tempered by other ideas. The above empirical results suggest to view organisations in the light of the social integration of the individual, without simultaneously sketching the dark image of unobtrusive mechanisms of management control. The question is how far a collectively produced sense of equality can objectively foster the inner-directness and autonomy of the participant. In a Foucauldian approach, for example in the sense that individuality is to be viewed as subdued sovereignty, one would certainly question the possibility of such combination. But what kind of collective remains 'allowed' then? For this question it is important to refer back to Fromm's (1942) distinction between 'freedom from' (from the bonds of pre-individualistic society and its political, economic, and spiritual shackles) and 'freedom to' (to realise an individual self; see in this context Willmott and Knights 1982: 204). If collectivity is understood only in terms of bonds that limit and align individuality, and this picture is drawn by the discourse on concertive control and Foucauldian approaches, then the other side, the collectivity that may guarantee

'freedom to', is left out of consideration. In the communitarian approach, for example, collectivity is seen as *enabling* autonomy and inner-directedness. Autonomous individuals can *choose* to establish a collective, since this fulfils needs that could not be met otherwise. Israeli kibbuzes may be an example (Boerner 1994: 68), or the following optimistic speculation on Germany: as opposed to the Nazi era and not least after 1968, the value of autonomy may now have deeply penetrated into the German society. Yet collectivism traditionally continues to be a strongly felt need in Germany. As a result, autonomous individuals choose to establish a community-oriented organisation, into which dogmatism and a loss of autonomy cannot intrude. Or, collectivism and individualism conceived the other way around: if one did not take collectivism as a point of departure and investigate its correlates, but rather autonomous individuals and what they do with their autonomy, the result of the combination of autonomy and collectivism could make a lot of sense. Fromm (1942) postulated that individuation is based on both freedom *and* security. Critical approaches in organisation studies should also take the second pillar into account.

Hence, ever since Fox's (1974) notion of a liaison of high trust and high autonomy, a one-dimensional picture of community and trust has become contestable. The extent to which this liaison is based on peer group control remains a matter of debate and empirical inquiry. In light of the results of this thesis, which suggest two different kinds of collectivism, the picture drawn by critical approaches only covers vertical collectivism. It risks mistaking co-operation for conformity and overlooking that collectives may be the loci from which individuation and ethical orientations (Maffesoli 1996) emerge. It is based on the assumption of an antithetical nature of the terms 'individual' and 'collective', with the 'individual' conceived of as an autonomous entity.⁸⁸ But it has been shown that this assumption can be misleading. Elias (1991 and 1994), in particular, elaborates that the relation between I-identity and we-identity is not fixed but subject to transformations over time, so that the concept of a

⁸⁸ This conviction is also constituting for Miller's (1967) rather value-driven discussion of the relation between individualism and the open society in the United States, as well as for the edited volume by Kolenda (1988) discussing individualism as a psychological, ethically positive concept.

we-less individual is misleading.⁸⁹ In a profound, depth-psychological analysis of organisational life, Bowles (1994) discusses how organisations can both hinder and foster individual maturation. The problem she identifies is one of openness:

"In Western culture... there is at present no ethos or myth that binds any particular society together; the only binding force is law, which attempts to regulate social action. When societies lose their myths and accompanying rituals, social and psychological disorientation occurs, which causes the maturational process to be further blocked and the conditions of 'collectivism' and the 'mass society' to be more readily evoked" (Bowles 1994: 918).

Organisational life, in this view, can encourage or retard the maturation process in that they offer both an escape from freedom in Fromm's sense, and a sense of security that allows individuals to be more risk taking. The argument is that there are two forms of control. One is associated with the organisation man in Whyte's (1956) sense, the other one is of an enabling kind.

"It is the era of the 'organization man', albeit now cast in a new frame, who is expected to align, conform, submit and serve the 'organization master'... The outcome is the adoption of a personality conditioned by the cultural pattern, where the individual is expected to become exactly what others want him/her to be. The individual's self-definition is then achieved only through a world external to him/herself... There is no easy path to maturation and it must be recognized that maturation always implies struggle... Whether it be the family or organization, maturation can be helped rather than hindered by adversity. Contemporary management systems could thus, at least in theory, be argued to promote, at least for some, the climate through which the maturation process is set in motion... Clearly, it is necessary for an organization to have some degree of unity. Organizational control itself is not necessarily negative in that it can provide a sense of security that allows an individual to be more creative at risk taking than might otherwise be the case. Organizational control can be considered negative when it lacks the capacity to cater for the diversity of its members abilities, potential and maturation drives" (Bowles 1994: 916-917).

Bowles (1994) argues that the negative type of organisational control is more typical of organisations today. But it remains a matter of the content, of the convictions on which the collective is based, whether autonomy and individuation (conceived of in Jungian terms as the process of identity formation, deepening of personality, or sim-

⁸⁹ In this context, see also the edited volume by Hosking et al. (1995), in which several assumptions about the relation between the individual and the collective in the organisation, taken for granted in traditional organisation theory, are questioned and discussed, mostly from a 'social constructionist' viewpoint.

ply maturation) is fostered or hindered. The results of this thesis have no persuasive evidence that social cohesion always functions as a form of control and hinders autonomy. Rather, it leaves room to interpret companies as playing a 'positive' role for individuation and autonomy, and against social disintegration. Individuation can occur in and be fostered through life in organisations, even, or particularly, in a collective culture. As singular persons, individuals often cannot realise essential elements of their personality. Personality is not only shaped, but even only discovered on the collective stage. Without social conflict, which is based on social bonds, individuality would remain a dull abstraction.

8.3 The Popperian approach and the character of capitalism

The empirical results contradict a rigid juxtaposition of functionalist order views (Parsons) on the one hand and conflict theories (Dahrendorf) on the other. One of the criticisms levelled to Dahrendorf's (1959) juxtaposition of these two sociologies has been that their mutual exclusiveness is mistaken. Cohen (1968) suggests that theories can involve elements of both order and conflict, and that both are necessary for the explanation of social phenomena. The empirical results above support this view and suggest a reconciliation of order and conflict views. At the level of organisations, the existence of horizontal collectivism shows that the order and integration view is not necessarily connected to a suppression of conflicts. Although the empirical discovery of vertical collectivism restores the concerns of the conflict view, the point has been made that under conditions of horizontal collectivism the community may serve as a locale to freely articulate conflicts without the threat of immediate exclusion. The interest group, according to Dahrendorf (1959) the main carrier of conflict in societies, can keep its function for social conflict precisely then, if vertical forms of control as under conditions of vertical collectivism, is structurally weakened. Under conditions of horizontal collectivism, order can potentially be maintained in spite of conflict, without stretching an integration viewpoint too far. The juxtaposition of order and conflict hence conflates to a continuum, which involves important distinctions of degrees and, certainly, different kinds of conflict, since revolution or war can certainly not be captured by these notions.

The finding that the general pattern of corporations in Germany establish a considerable amount of social cohesion should also be discussed with respect to the relation between capitalism and individualism. While a strong connection between these two aspects has traditionally been assumed, since the 1980s there have been doubts as to whether this assumption is helpful. In a historical framework, Abercrombie et al. (1986) address the rise of ontological individualism by their notion of the 'Discovery of the Individual' as an era. They come to the conclusion that the widely disseminated assumption of a close connection between individualism and capitalism is misleading. Rather, this often posited strong connection is purely contingent; individualism and capitalism developed independently and separately, and the contingent simultaneity of individualism and capitalism is limited to a past historical epoch and to a specific region, the West. Individualism has given Western capitalism a certain shape, distinct from more collectivist shapes among which Abercrombie et al. (1986) count Japanese capitalism. The above results confirm the widely held assumption that German Rhine-capitalism, too, is more of a collectivist shape, which traditional liberalists could interpret as a fundamental lack of openness.

Moreover, Abercrombie et al. (1986) argue that contemporary capitalism is acquiring a more collectivist character, since individualism is losing its dominant position. Certain features of the modern corporation and the replacement of private by corporate ownership should be seen in the context of "the potential of a new functional circle of collective discourse and collective capitalism" (p. 191). They draw attention to the paradoxical situation of the demand for welfare and the extension of social equality, which protects people from the inequalities of the market and thereby serves the individual on the one hand, but causes a new bureaucracy (growth of census material and social survey investigations) and hence a centralised system of social control on the other. Contemporary capitalism, they argue, has rather a collectivist character in terms of a collective compatibility with the bureaucratic structures of production and industrial control. Individualism, by contrast, can be identified as promoting instability and inefficiency.

The above results identify a similar paradox at the level on organisations. On the one hand, the emphasis of a corporation-wide organisational culture can indeed be viewed as a trend towards collectivism which, seen through the critical lens, carries the danger of a trend towards social control. On the other hand, however, organisational cultures differ so widely that even a cohesive culture, depending on the nature of this cohesion and the assumptions on which it is based, can emphasise equality and methodological individualism. Although Hofstede (1980) found that the gross net product per capita correlates positively with individualism as a societal value, nothing is known about the relation of a hypothetical 'national average strength of organisational cultures' to national economic success. Moreover, a distinction between horizontal and vertical individualism as well as between horizontal and vertical collectivism (Triandis 1995: 44-52), has not been made in Hofstede's analysis. It is one of its main weaknesses that Hofstede's study (1980) could not pay attention to the interplay of individualism and collectivism, particularly in such ambiguous countries as Germany, so that the result of the present study, corporate collectivities within an Western, achievement-oriented country, leaves a lot of room for the thesis of Abercrombie et al. (1986) that capitalism flourishes best in the absence of an individualistic culture. Perhaps it is precisely the combination of achievement-orientation and corporate collectivities which biases Hofstede's (1980) results of individualism being economically superior.

In essence, the above results can also be read as an empirical support of Maffesoli's (1996) argument that in contemporary mass consumption society individualism develops into tribalism. Maffesoli argues that the growing massification of contemporary society is less characterised by individualism than by the development of, and individual membership in, a variety of groups (e.g., sports clubs, associations of hobbyists, work colleagues, neighbourhood watch, or single-issue pressure groups such as consumer lobbies; cf. Shields 1996 in the foreword to Maffesoli 1996). According to Maffesoli, these groups are a central element rather than a marginal phenomenon in society, and the formation of individual identity is strongly marked this variety of influences. Beyond discussing the aspect of de-individuation and conformity, and leaving aside the possibility of negative aspects of this tribalism (exclusion

of dissenters and minorities, ethnic nationalism, etc.), Maffesoli draws attention to a libertarian component of tribalism, namely the flexibility of identity, polyculturalism, and the shaping of ethical rules through the increased possibility of comparisons of lifeworlds. One of his concerns is that the ethical orientation that may emerge from collectivities is underestimated in contemporary literature. Given that the present thesis has identified two clusters of German corporations associated with social cohesion, Maffesoli's (1996) observation of an increasing importance of tribalism can be viewed as seconded. Moreover, the above result of two different kinds of collectives allows one to interpret one of the two kinds, the one associated with equality and equal opportunities, as corresponding to Maffesoli's hope of positive influences.

8.4 Summary

By virtue of Gebert and Boerner's (1995) conception, the Popperian approach makes it possible to observe what has never systematically been observed before in organisations: the interrelations among social cohesion, individual autonomy, and attitudes to knowledge. On this basis, prevalent assumptions of the critical discourse in organisation studies have been discussed and questioned. It has been argued that the Popperian approach offers the theoretical benefit of observing different dimensions of control in organisations and hence their possible independence.

The empirical findings indicate that a medium degree of social control goes hand in hand with social cohesion. On this basis, the main concern of the critical discourse - the shift from bureaucratic to concertive control in organisations - has been confirmed. It has been suggested that an 'authority of the collective' is to be supplemented to Weber's traditional types of authority, since legitimacy is attributed to collective assumptions.

Based on the result of two different clusters of corporations in Germany, however, it has been suggested that this critical view should be refined. While the first cluster with its vertical form of collectivism corresponds to the concern of the critical dis-

course, the second cluster suggests seeing collectivism in a more positive light. Since this horizontal form of collectivism is connected to equality and equal opportunity, the point has been made that collectivism as such is not necessarily connected to social control. Rather, the actual content, the convictions on which collectivism is based, need to be analysed, before collectivism is interpreted in this way.

Thereafter, attention has been drawn to the social disintegration of the individual in contemporary Western societies, and to the question of whether corporations can cushion this trend (and hence buttress the openness of the society) by establishing collectivism without simultaneously advocating the tenets of the closed society. Again, a distinction has been made between the 'group of friends' and the 'tribe'. While it can be assumed that the tribe-culture would rather advocate the tenets of closure, the horizontal collectivism of the group of friends can be viewed as a way to achieve open values in a collectivist social order.

The empirical results have also been discussed in light of the relation between capitalism and individualism. They show that collectivism is an inherent part of contemporary capitalism, particularly in Germany, and draw attention to a form of neo-tribalism. This tribalism, however, need not be viewed in the traditional, critical context of social control, exclusion of minorities, etc., but can also be seen in the context of polycultural individuation and the development of flexible, liberal identities.

9 Conclusion

This thesis has addressed four ongoing debates in organisation studies: the critical discourse on concertive control, the German discourse on open and closed organisations, the discourse on structural explanations of organisational behaviour, and the relation between national and organisational culture. It has argued that a conception of organisations in Popperian terms of openness and closure, as suggested by the German organisational psychologist Gebert, addresses a number of assumptions in these discourses and hence provides considerable potential to contribute to these research fields.

In the discussion of current discourses in organisation studies, the thesis identified an assumption in the discourse on concertive control that organisational collectivism is strongly connected to dogmatism and to a loss of individual autonomy. Concertive control is discussed as a coherent phenomenon in work organisations with little regard for possibly different principles, or bases, of collectivism in organisational cultures. As a result, it ignores whether the assumed features of concertive control do in fact correspond to each other, or whether trends towards this form of organisational control are cushioned by cultural features of a more liberal, autonomy-oriented kind. Moreover, the present work underlined how studies that address the relation between national culture and organisational features tend to concentrate on issues such as organisational structures, work attitudes, or managerial objectives, rather than on organisational culture in a comprehensive way. Hermeneutic studies, by contrast, prefer a micro-sociological view and treat organisations in an ideographic manner detached from the national culture. In this context, a retreat from explanatory approaches in organisation studies has been identified. Attempts to construct theories in order to explain and predict organisational behaviour tend to be dismissed as positivist and have withdrawn from the main discourses.

On this basis, the Popperian approach to organisational analysis has been embedded into these discourses. It has been argued that the Popperian framework matches the

assumptions in the discourse on concertive control and makes them explicit. Moreover, it has been stressed how this framework provides means

- (a) to understand collectivism in organisations with attention to its different forms, to look at various correlates of collectivism in corporations, and to discuss their interrelations;
- (b) to view corporations in a structural dilemma between openness and closure, which may account for certain kinds of organisational cultures and function as an explanatory pattern for organisational behaviour;
- (c) to observe culture at a societal and organisational level within the same framework and hence to provide the means to discuss the connection of these levels on empirical grounds.

A study of corporations in one specific country, Germany, has been set up on this basis. Germany is a particularly interesting country for consideration in this regard, because its culture is characterised by a higher appreciation of collectivism than other Western countries, while, in contrast, independence and free will is expressly cultivated. An investigation of German national culture and work-related values on the basis of secondary sources has been conducted, which revealed that in Germany, roughly speaking, collectivism is related to regarding knowledge as incontestable, but at the same time related to a significant appreciation of individual autonomy. In terms of openness and closure, therefore, the German pattern shows a combination of open and closed values.

On this basis, the analytical focus was put on the pattern of openness and closure at the level of work organisations. Since the goal was to investigate potential patterns of organisational cultures in terms of openness and closure, it was necessary to investigate a pool of corporations and hence to address the meso-level of organisational analysis. A nomothetic approach with questionnaires also aimed to balance the current methodological partiality in organisation studies, whose approaches to organisational culture and critical analyses are lopsided towards ideographic methods, and thus to foster an interplay of methods. It has been suggested that this can nurture a mutual enhancement of empirical-analytical and hermeneutic knowledge. Fourteen

corporations from seven industrial sectors could be included in the study, within which four domains, production and assembly, marketing and sales, research and development, and administration, could be investigated.

With respect to the discourse on concertive control, the investigation examined the extent to which a national-cultural and organisation-cultural background corresponds to or contradicts the pattern of concertive control. Through this connection of nomothetically conceived organisational culture on the one hand, and concertive control as a phenomenological issue on the other, it has been considered to what extent cultural conditions can foster or hinder the phenomenon of concertive control. It turned out that the corporations investigated can be described in terms of two clusters. Corporations in the first cluster exhibit collectivism in conjunction with equality and equal opportunities among the participants. This combination has been labelled 'horizontal collectivism', or 'group of friends', and clearly has more features of openness. Corporations in the second cluster exhibit collectivism in connection with a stable role structure, which has obviously more features of closure and has been labelled 'vertical collectivism', or 'tribes'.

Since in a tribe-culture social cohesion was revealed to be connected with a certain degree of control and inequality, it has been concluded that the main concern of the discourse on concertive control is justified. The tribe-culture is obviously a pattern of organisational culture that facilitates and fosters the emergence of concertive control. However, in the other cluster of corporations, the group of friends, social cohesion is not connected with the vertical component of a stable role structure. Although this does not rule out the emergence of concertive control, this cultural pattern does certainly not foster the phenomenon of a collectivist alignment to organisational goals. On this basis it has been concluded that whether collectives should be viewed as a force of social control is a matter of the content on which collectivism is based. Although the results confirm the concern for the rise of concertive control, an opposition against collectives as such seems unjustified, since the results also indicated that there are types of collectives that support equality and equal opportunities, which in turn can foster individuation and autonomous identities.

The leitmotif of this thesis, the question of whether German corporations are open or closed societies in the sense of Karl Popper's 'The Open Society and its Enemies', can hence be answered with reference to the two clusters of corporations. There are no hints that German corporations realise openness or closure in a coherent manner. Rather, there are reasons to suppose that German corporations exhibit two alternative combinations of openness and closure, namely either a tribe-culture with vertical collectivism, or a group-of-friends culture with horizontal collectivism. The tribe-culture must be viewed as more closed, whereas the groups-of-friends culture is certainly more on the open side of the bipolar construct.

The contemporary discourse in Germany on open and closed organisations has been addressed through embedding of the Popperian paradigm into the current Anglo-American discourses, and by carrying out an original empirical investigation. With the empirical results concerning the dimensionality and the coherence of the construct of openness, a step forward has been made from theoretical explications towards empirical results. The work of Gebert and Boerner (1995) has been drawn on by embedding this promising paradigm of organisational analysis into the context of topical Anglo-American discourses, by applying parts of their work to the wider sociological context of one nation's culture (Germany), and by elaborating and deepening the paradigm through an empirical investigation in order to extend the knowledge on forms of openness and closure in corporations. The empirical results led to a modification of the paradigm. The shift of the dimensionality indicates that the distinction between openness and closure takes place on different continuums than paradigmatically assumed. German corporations vary on continuums between autonomy and control, equality and a stable role structure, and particularism and cohesion; hence the characteristics of openness and closure are differently connected than hypothesised. Moreover, it can no longer be assumed that corporations as a whole vary coherently between openness and closure. Rather, it is to be taken into account that the construct of openness has no sufficient convergent validity, so that the dimensions are to be observed in terms of a profile model rather than an aggregate model.

Another discourse the thesis has addressed is the continuing debate on structural approaches to organisation studies and on their potential explanatory power for organisational features and behaviour. This discussion of structures has either been the domain of radical Weberian and Marxian approaches to organisational analysis, or it has taken place within the functionalist paradigm, that tends to ignore hermeneutic and critical analyses. In this thesis, openness and closure were presented as undesirable conditions that constrain and hence influence organisational culture. Thus, the thesis presented a structuralist viewpoint informed by hermeneutic and critical analyses, and tested it for explanatory power along three steps: the postulation of a possible mechanism, the attempt to collect evidence for or against its existence, and the elimination of possible alternatives. The alternative mechanisms for corporations to react to the undesirable conditions of openness and closure are either to attain a coherent middle position, or to differentiate between different domains, or else to differentiate between different dimensions of openness. Evidence indicated that German corporations tend towards interdimensional differentiation, that is, to differentiate between dimensions of openness and closure rather than between functional domains. Since no corporation realised total openness or total closure, and interdimensional differentiation emerged as a significant feature of German corporations, it has been concluded that it is reasonable to view corporations in a dilemma between openness and closure and thus to attribute explanatory power to the Popperian framework.

This result encourages a re-establishment of structural approaches in organisation studies in order to explain organisational features on something other than organisation-historical grounds or path-dependency. In particular, the hermeneutic branch has given up the project of explaining organisational features. At best, historical patterns of the particular organisation are accepted as an explanatory model; structural constraints are largely left out of consideration. The results of this study, however, suggest that organisation studies benefit from taking structural features into account, and the dilemma of organisations between openness and closure is certainly only one out of several frameworks worth looking at in this regard.

The encountered pattern of interdimensional differentiation also questions fundamental assumptions of contingency approaches and of the differentiation perspective in the hermeneutic discourse. Contingency theory is largely based on the perspective of interfunctional differentiation. The results of this thesis, instead, show that interdimensional is the predominant form of internal variation. While contingency theory has long been attacked from a hermeneutic viewpoint, the assumption of interfunctional differentiation now loses its credibility also on the basis of nomothetic methods. In the differentiation perspective of the hermeneutic discourse, it is doubted whether organisational culture is a useful concept to apply to companies as wholes. The pattern of a culture is rather seen in terms of differentiation or even fragmentation. Yet the above results indicate that in medium-sized companies in Germany, neither different domains nor demographic characteristics on the individual level fragmentize the organisation-wide pattern of openness and closure. The empirical results of this thesis on medium-sized German companies show that differentiation between departments is hardly recognisable: middle-sized companies must rather be viewed as organisations in their entirety in terms of interdimensional differentiation. If the differentiation or fragmentation perspective goes so far as to regard the concept of organisational culture in itself as pointless, since the differences within an organisation are assumed to be so strong as to not allow for an organisation-wide pattern, then the above results suggest revising this picture, at least for medium-size companies in Germany. In terms of research methods, this result strongly confirms the case for a necessary interplay of nomothetic and ideographic approaches.

The thesis also addressed the relation between national and organisational culture. In this respect it argued that, perversely, organisation studies that take national culture into account tend to concentrate on issues such as organisational structures, work attitudes, or managerial objectives, rather than on organisational culture. Hermeneutic studies, by contrast, prefer a micro-sociological view and treat organisations in an ideographic manner as decoupled from national culture. It has been argued that this view is backed by the most recent study on the relation between national and organisational culture, Hofstede et al. 1990, which concludes that these two cultural levels are phenomena of different order. In this thesis, the empirical results on the patterns

of openness and closure in German corporations were systematically compared to German national culture, which was conceptualised in terms of openness and closure on the basis of secondary data. This comparison showed that the relation between national and organisational culture in Germany is much stronger than the current assumptions in this discourse suggest. The tribe-culture was identified as considerably connected to values on the societal level and to German national culture. The group-of-friends culture appeared only partially connected to the national culture, yet it was stressed that since the late 1960s a development has taken place in Germany that might not be reflected in large parts of the available secondary data on German national culture.

This result of a substantial connection between national and organisational culture clearly contradicts the most recent study in this field, Hofstede et al. (1990), which has therefore been thoroughly examined with respect to its methodology. It turned out that this study contains considerable flaws, which suggest that its result of decoupled cultural levels is an artefact of the methodological procedure adopted. On this basis, the present work concluded that in Germany corporations must be viewed as partial cultures rather than as sub- or countercultures of their societal environment. This result is relevant to the hermeneutic discourse, in which organisations are understood as ideographic entities independent of the national culture. It suggests to take national culture more strongly and systematically into account than is currently done. Again, therefore, as with respect to the other discourse, the case for an interplay of nomothetic and ideographic methods has been supported.

The result of a significant correspondence of organisational and national culture led to a discussion of the homogeneity or heterogeneity of the German national culture. As a thought experiment it was suggested that the variety among corporations in a particular country in terms of organisational cultures can be taken as an index for the heterogeneity of the national culture. The corporations investigated only fall into two different clusters, which was interpreted as an argument that the heterogeneity of the German national culture is apparently limited; a result that corresponds to the low

multiculturalism and the ethnic homogeneity in Germany in comparison with other Western countries.

The discussion of the heterogeneity of a national culture led to the question of whether corporations, through fulfilling closed needs and hence cushioning the demand for closure, may function as buttresses of an open society at the societal level. In the interpretation of the empirical results for this question, a case distinction has been made. Since in tribe-cultures not only closed needs are met, but also - particularly through the esteem of the role structure - the tenets of closure can be presumed to be advocated, it has been concluded that these corporations cannot stabilise an open society. By contrast, it was argued that corporations with horizontal collectivism not only meet the need for affiliation, but also advocate tenets of openness (equality, equal opportunities) rather than closure. These corporations, therefore, can indeed be viewed as pillars of an open society. Interpreting the results with regard to the relation between capitalism and individualism, it has been concluded that at least in Germany, collectivism is an inherent part of contemporary capitalism.

These results have repercussions for the Popperian social philosophy. Collectivism as such should no longer be seen as unequivocally belonging to the closed, and hence totalitarian side of the paradigm. Rather, one should take into account that collectivism can also be based on the tenets of openness. The results indicate support for the communitarian viewpoint that openness rests on some sort of collectivism, since the hardships of openness need to be cushioned. This parallels Eidlin's (1997) critique of Popper's treatment of community. Eidlin argues that some communal matters are essential for the open society; liberalists such as Popper who overlook this have a blind spot in their social philosophy. He concludes that Popper failed to recognise that ideas of community are not always pernicious, but rather can and do exist in milder forms, or are tempered by ideas towards autonomy and liberalism. Among others, the present study found exactly this in organisations: communities in benign forms (in terms of the absolute value of cohesion) and tempered by other ideas, that is, by the relation to equality and equal opportunities in the first cluster of organisations, the 'groups of friends'. On this basis one could argue that even autonomy might be based

on collective grounds: it may emerge from membership in a number of communities, since such a polyculturalism may foster the process of individuation and hence shape an autonomous identity. Forms of collectivism do not have to be explained in the light of concertive control, but can also be interpreted in the context of multi-membership in different communities, which may foster independent, liberal identities - but this interpretation might just be a reflection of the nationality of the author.

Appendix A - Corporations in their cultural environment

I. Theoretical perspectives

a. The contingency perspective

On the basis of contingency theories with their roots in the 1960s and their elaboration in the Aston studies, Hickson et al. (1974) and Hickson et al. (1979) argued that there is evidence for a theory of organisations which is to a large extent independent of cultural factors. Independent variables such as the size of organisations and the scale of production, market and geographical diversification, the closeness of interdependence with other organisations, etc., show a considerable stability across national samples with respect to the organisational structure. Although this 'supranational' organisation theory leaves a large part of the variance unexplained and hence a lot of room for culturalist interpretation, Hickson et al. (1974 and 1979) state (on the basis of their empirical results) that there are clear factors that influence organisational structure independent of cultural differences. Hence, cross-cultural contingency theory is based on the argument that corporations have to face specific and similar imperatives in all countries: a parallel technological development sets the conditions for certain features of jobs and organisational design; products and production technology become increasingly complex, and the demand for cost-effectiveness and performance requirements is equally high. Furthermore, due to market pressures companies need to commit to technical diversification, which in turn shapes their organisational structure in a similar way. And, lastly, the interaction with other organisations institutionalises and formalises certain positions or departments (cf. Child and Tayeb 1982: 26-27).

Yet, looking back on contingency approaches after more than 20 years, their deficiencies become obvious. First of all, only to some extent do independent variables account for the variance of dependent variables (the operationalised features of organisational structure). Hence, since a large proportion of the variance of independent variables remains unexplained - and even if one accepts the positivist way of argumentation and method -, there is still a lot of room for culturalist, political-economy-based, or other perspectives. More importantly, however, contingency arguments are based on the assumption of rationality in the decision-making processes about organisational structures, a perspective which is meanwhile rarely found in organisation studies, for the new institutionalism and organisational symbolism have increasingly questioned this assumption of rationality. Organisational structure is more understood as the institutionalisation of myths (Meyer and Rowan 1977, Ransom et al. 1980) or as a trend towards institutional isomorphism triggered by coercive, mimetic and normative processes (DiMaggio and Powell 1983); and the location of the organisation within their institutional and cultural context has assumed much greater importance. Even if similarities are observed between organisations in different societies, it is uncertain whether they are caused by structural constraints, as contingency theory would suggest, or rather are accounted for by the diffusion of managerial methods (cf. Engwall 1997, Jamieson 1982, Mueller 1994).

As a result, a culture-free theory of organisational structure is no longer supported in organisation studies. In principle, however, the contingency approach enables to embed cultural traits in the paradigm - a notion already acknowledged by Hickson et al. (1974 and 1979) and expressly suggested by Child (1981). Had studies such as Hofstede (1980) been available and widely accepted at the time of Hickson's et al. (1974 and 1979) writings, it is well possible that these findings would have been included in the thinking in contingency terms. It would have been interesting to see how much of the variance of the organisational structure was accounted for by the cultural dimensions elaborated by Hofstede (1980). In the conclusion of their edited volume (Lammers and Hickson 1979a), acknowledge the evidence for cultural differences provided by the contributors of their volume and state that the majority (not all) of the contributors, at that time the major researchers in this field, suggest that culture does affect differences in the form, regime, climate and performance of organisations in different societies (Lammers and Hickson (1979b: 410). Yet contingency rationales have never been totally rejected, since it would mean a clear step towards relativism if one totally abandoned thinking in terms of factors that influence organisational design, organisational behaviour, and work relations. As argued in Section 4.1, the later cultural perspective does not differ too much from contingency approaches as so often stated, especially not from neo-contingency approaches such as those by Sorge (1991) or Mueller (1994).

Child's (1981) suggestion to regard culture as another contingency inevitably leads to the contrast of nomothetic versus ideographic approaches. Child himself suggests that methodologically culture cannot be treated in the same way as the earlier recognised contingencies. Hence, a purely nomothetic approach seems inappropriate on the one hand, but to some extent inevitable in order to grasp the complexity of culture on the other. Contingency theory, therefore, is not a monolithic block that denies the impact of culture, but in many cases regards it as complementary to its own approach. Child and Kieser (1979) developed a general model of cultural and ideational variables intervening in contingency relationships. On this basis a 'neo-contingency' approach has arisen. Mueller (1994) argues that the societal effect approach might have been over-emphasised. Besides his acknowledgement of a societal effect, he re-introduces an organisational effect by pointing out the factor of organisational learning across borders, benchmarking, and the diffusion of technologies.

b. The development of industrialism and the political economy perspective

At the beginning of the 1960s, and hence prior to the contingency studies in organisational research, scholars had a great interest in the development of capitalism in Western (and other) societies. The cold war and the competition with socialism had reached an alarming state and influenced scholars' concerns and Anglo-American academic writing of the time. Kerr et al. (1960) argued that the process of industrialisation leads to a homogeneous type of economy and society that he labelled 'industrialism'. According to this theory, all industrialised and industrialising countries will sooner or later assume certain economic and societal features that render these states very similar. The differences of both culture and political economy (capitalism and socialism) will eventually be overcome by the imperatives of the industrialisation

process. Kerr et al. (1960) mark their difference from the Marxian view by stating that Marx had seen a uni-linear course of history while they see a multi-linear one (p. 12). They viewed the industrial business corporation as the core of this societal and political change and hence the technological development of production processes as the trigger of this process of homogenisation. Their line of argument reads as follows: technological development requires certain skills and abilities which have to be provided by an appropriate educational system. Since the technological development and production processes become increasingly similar due to the demands of cost-efficiency and productivity, the educational systems also goes through a process of homogenisation. Moreover, the increasing variety of tasks in industrial corporations, in conjunction with the similarity of this variety of tasks across nations, accounts for similar functional differentiation and for the establishment of control systems in the form of hierarchy and bureaucracy.

An important element in Kerr's et al. (1960) argumentation is the trend towards large scale production with its implication of specialisation and extensive need for co-ordination. The resulting 'web of rules' is not only shaped by intra-organisational technology, differentiation, and budget constraints, but also by external agencies such as trade unions and government, so that a sort of standardised management becomes the rule. Their argument is supplemented by parallel claims by Inkeles (1960) and Haire et al. (1966). Inkeles (1960) argues that the institutions of industrial society, in particular industrial work organisations, produce a relatively homogenous 'industrial man'. Haire et al. (1966) argue on the basis of their empirical results that the ideas of managers about management are very similar across nations and political systems. Along these lines, Harbison and Myers (1959) argue that the modern production process requires increasing specialisation, decentralisation, and reliance upon rules - irrespective of the cultural setting and also in industrialising countries. In their opinion, cultural factors may influence this process to some extent, for example in terms of slowing it down, but the logic of industrialisation prevails whatever the cultural setting and the political-economic system. Hence the argument that industrialism has an inherent logic relatively independent of cultures goes along the lines of the earlier contingency studies and their claim of a supranational theory of organisations. Accordingly, Child and Kieser (1979) do not distinguish between these two lines and summarise them under the heading of culture-free arguments.

The studies by Inkeles (1960) and Haire et al. (1966) have never been uncontroversially accepted. Jamieson (1982: 97-98) shows the major methodological problems of these studies and concludes that their results and interpretations have to be treated with considerable caution. Moreover he points out that this trend in the 1960s towards a universal management theory should be remembered with respect to (a) the fact that research on culture and national character was completely in the hands of cultural anthropologists at this time, and (b) that in the 1960s "economics as a discipline had found that enormous progress could be made by adopting a highly rigorous and positivist methodology that left no room for the relatively 'soft' measures of sociocultural factors" (p. 80). Lane's (1989: 22) critique of the industrialism thesis is based on findings of more recent organisational research. She draws attention to the "number of sweeping generalisations", particularly to the generalisation that technology is said to determine organisational structure and behaviour across nations and

cultures. Moreover she criticises industrialism theory because it "discounts the powerful impact of history" (p. 22) and rejects this theory in favour of cultural approaches. This links up with Child and Kieser's (1979) model of cultural and ideational variables intervening in contingency relationships.

Writers within the political-economy perspective support the notion of a universal trend of industrialism and refine this argument with Marxian based ideas. In the course of the labour process debate (see Chapter 2), Braverman (1974) and other studies draw attention to the common characteristics of capitalism and their universal implications such as a (controversial) deskilling process due to the standardisation of tasks, increasing managerial control over the production process, and, in view of the unemployment figures today even more relevant than in the 1970s, the displacement of labour (see Chapter 2, above). Furthermore, one of the major concerns of the industrialism approach was that even educational systems go through a process of convergence. This leads to the fundamental critique that an educational system not only matches the demands of industrial elites, but also reinforces the normative acceptance of the capitalist system by people in education (Child and Tayeb 1982: 36). The pressures of the development of world capitalism are therefore transnational and invade those spheres formerly unconcerned by political economy. Cultural differences are then in the first place conditions that may, at best, slow down or speed up this process triggered by these pressures. Only those cultural traits that have a clear connection to the capitalist system have any importance, that is, the cost of labour and the conditions for the flow of capital and information.

In the first place, therefore, in the political-economy-viewpoint, national or cultural differences are regarded as relatively unimportant in comparison to the fundamental similarity of these implications of capitalism. Child and Tayeb (1982), however, discuss how cultural differences are incorporated in the body of the radical view of political economy:

"The underlying dynamic forces are the same, but their manifestation may differ according to the country's place in the international division of labor. When cross-national organizational differences do arise among capitalist countries, they are accounted for in terms of those nations' places in the international capitalist system and the contexts these generate for organizations, rather than in terms of the great significance of 'cultural' factors" (pp. 36-37).

By and large, therefore, the perspective of political economy has identified a universal trend in which cultural differences between nations or regions play a minor role. However, as opposed to the industrialism view, this trend is not seen as an equilibrium between all countries concerned, attention is instead drawn to the 'skewedness' of the industrialism process, that is, to the inequality of opportunities for different countries.

c. The cultural perspective

The cultural perspective is explained in the main text in Section 4.1.

II. Frameworks for the description of values and national cultures

To the knowledge of the author, Parsons and Shils (1951) were the first to provide a systematic framework for the description of cultural values; they attempted to classify values that guide human actions. These can be conceived in terms of five fundamental alternatives: affectivity versus affective neutrality, diffuseness versus specificity, particularism versus universalism, ascription versus achievement, collective orientation versus self orientation. These variables enable to analyse systems in terms of patterns between these values; hence a claim for universality is connected with the elaboration of these pattern variables. Social systems such as the family or a business organisation can be conceived in Parsons's (1951) systems terms and will show different patterns across the five dimensions. This framework, too, makes it possible to compare corporations or business practices across nations. Yet, to the knowledge of the author of this thesis, there is no study comprising Germany and using Parsons's framework, so that it cannot be referred to in the creation of hypotheses on Germany.

About ten years after Parsons and Shils's pattern variables, Kluckhohn and Strodtbeck (1961) attempted to elaborate a systematic framework for the description of cultures and developed a concept of value-orientations.

- Human nature orientation (What is the character of innate human nature - good, evil, neutral, or mixtures of good and evil?),
- Man-nature orientation (What is the relation of man to nature (and supernature) - subjugation to nature, harmony with nature, or mastery over nature?),
- Time orientation (What is the temporal focus of human life - past, present, or future?),
- Activity orientation (What is the modality of human activity - being, being in becoming, or doing?),
- Relational orientation (What is the modality of man's relationship to other men - individuality, collaterality, or lineality?)

Kluckhohn and Strodtbeck (1961: 4) claim that the most important difference to former treatises of systems of meaning is that their definition of value orientations as complex principles are variable only in patterning rather than in the question what belongs to the concept. Again, as in the case of Parsons and Shils, we have a claim of universality of dimensions. Kluckhohn and Strodtbeck, however, go much further than this theoretical conception and provide a profound empirical investigations of five different cultures within a radius of about forty miles in the Southwest of the United States (a Texan homestead community, a Mormon village, a Spanish-American village, a decentralised Navaho-Indian band, and a centralised pueblo of Zuni-Indians). Considering the last three points in Kluckhohn and Strodtbeck's concept, we realise a similarity to the concept of openness and closure: Relational orientation goes together with the social dimension of openness and closure, and activity orientation has clear similarities with the distinction of high and low autonomy. If there were information on Germany's position on the axes suggested by Kluckhohn and Strodtbeck, one could infer open and closed characteristics in the German na-

tional culture. Since this is not the case, however, Kluckhohn and Strodtbeck's dimensions cannot be used for the generation of hypotheses.

Another concept, and more closely related to 'national culture', stems from a study on national character and 'modal personalities' conveying the culture's features. Here, Inkeles and Levinson (1969) derive three standard issues of national character from the literature:

- the individual's relation to authority;
- the individual's conception of the self, including concepts of masculinity and femininity;
- primary dilemmas or conflicts, and the individual's ways of dealing with them, including the control of aggression and the expression versus inhibition of affection.

Again we see clear similarities to the concept of openness and closure, but due to the lack of information about Germany's position in this framework we cannot apply it to our study.

Hampden-Turner and Trompenaars (1993) suggest a model with seven dimensions:

1. Universalism versus particularism

With this first dimensions the authors refer to the treatment of exceptional cases for which no rule exists. A 'universalist' way of treatment would be to impose the most relevant rule, so that the existing system of rules, 'law and order', remains unquestioned. A 'particularist' way of treatment would be to consider each case "on its unique merits, regardless of the rule" (Hampden-Turner and Trompenaars 1993: 10). This dimension has been taken from Parsons and Shils (1951).

2. Analysing versus integrating

Here the authors refer to the way problems or phenomena are analysed. They suggest two different approaches: (i) the analysis of issues in terms of their parts, i.e., "facts, items, tasks, numbers, units, points, specifics" (pp. 10-11), or (ii) the analysis of issues in terms of integrating details "into whole patterns, relationships, and wider contexts." In the endnotes, Hampden-Turner and Trompenaars (1993: 391) mention that this dimension refers to Kurt Lewin's distinction of 'specific and diffuse modes of relating' and to the distinction of 'analysing versus synthesising' attributed to the left and right brain hemispheres.

3. Individualism versus communitarianism

This distinction needs no further explanation at this point anymore. The authors refer to Emile Durkheim's *Division of Labor in Society* and Ferdinand Tönnies *Community and Society* (cf. Hampden-Turner and Trompenaars 1993: 392). The term 'communitarianism' has replaced 'collectivism'; probably the authors have taken the new term from Etzioni who, to the knowledge of the author, first introduced it.

4. Inner-directed versus outer-directed orientation

A distinction is made between what guides human action, inner-directed judgements, decisions and commitments, or signals, demands, and trends in the outside world. The authors refer to Rotter's (1966) distinction between internal and external locus of control (cf. *ibid.*, 1993: 11 and 392).

5. Time as sequence versus time as synchronisation

This distinction is described as follows: "Is it more important to do things fast, in the shortest possible sequence of passing time, or to synchronize efforts so that completion is coordinated?" (*ibid.*: 11). Again Hampden-Turner and Trompenaars refer to the work of other authors, in this case to T.J. Cottle's 'The Location of Experience: A Manifest Time Orientation' and publications by other authors (see Hampden-Turner and Trompenaars 1993: 392).

6. Achieved versus ascribed status

In this dimension the question is addressed as to whether the status of employees depends on their achievement and performance or on other characteristics such as age, seniority, gender, education, potential, or strategic role (*ibid.*: 11). For this dimension the authors draw on the work by Ralph Linton (*The Study of Man*) and a journal article by S.L. Nock and P.H. Rossi (cf. *ibid.*: 392).

7. Equality versus hierarchy

For this dimension a distinction is drawn between the treatment of employees as equals and the treatment according to the hierarchical position. Here the authors draw on the work by Kluckhohn and Strodtbeck (1961) which has been introduced above.

Appendix B - Operationalisation of the construct

Gebert and Boerner (1995) apply the dimensions of openness and closure to organisations by focusing on organisational culture, leadership (the vertical view), and teamwork (the horizontal view) within the organisations. In an operationalisation these distinctions cannot be upheld, because they overlap to such an extent that the target construct and the alien construct would always overlap, for organisational culture is not an entity independent of leadership and teamwork; on the contrary, it reflects them. The complexity of the construct, structured by Gebert and Boerner's dimensions, cannot be reduced so far as to be recognised in each organisational detail. Furthermore, there are also survey-methodological reasons: an academic differentiation between organisation culture, leadership, and teamwork cannot be demanded from the respondents, and a division of the questionnaire in addition to the three dimensions is methodologically unacceptable in order to avoid an over-complexity of the questionnaire.

I. The indicators of openness and closure

a. The organisation as a Popperian 'organism' or as an individualistic market-place

The guiding question of the social dimension, that is, as to whether the individual or the collective is in the foreground, can be transferred to organisations by the question of whether the collective or the individual is regarded as worthy of protection (Gebert and Boerner 1995: 241). In an open, individualistic organisation the specific interests of the members are prioritised over those of the organisation as a whole. Such an individualistic organisation might be described as an abstract association of interests or even as a self-help group, which has only been founded to serve the well-being of the individual member. In the closed, collective company, however, it is assumed that the individuals must serve the well-being of the whole. In such an "apparatus" (Gebert and Boerner 1995: 241), the personality of the individual does not count; he is only 'a cog in the machinery' of the organisation. Accordingly, the employees must subordinate their personal aims to those of the collective (Item A2), and there an emphasis on all employees acting in concert (Item A16). As mentioned in Chapter 2.1, the social dimension is characterised by three factors: particularism versus cohesion, equality versus established role structure, and heterogeneity versus homogeneity.

Particularism versus cohesion

An important factor within the social dimension is the question of whether members of an organisation are satisfying a need to be totally involved in a community, or whether the organisation is just an abstract, loose association of individuals who - more or less by chance - pursue a mutual goal. In the closed organisation, the members may see their life's work in serving the organisation. Accordingly, Popper (1945 (I): 199) calls the longing of human beings for unity, perfection and beauty an "aestheticism, holism and collectivism," and "product as well as symptom of the lost

group spirit of the tribe." The self-concept of the members here is accordingly not to be independent individuals, but rather caught up with a sense of belonging to the community (Item A13). Cohesion and harmony rule the social reality (Item A18); different opinions and deviation from the collective are regarded as an offence or an attack against unity (Item A6, A17, A20). With the satisfaction of closed needs, the individual is expected to offer a return service: loyalty, gratefulness and faithfulness are taken for granted (Items A4, A14).

Equality versus established role structure

Beyond the assumption that human beings have a need to be completely wrapped up in a community, in the closed organisation even some inequalities are acceptable in order to protect the community as a whole. That human beings are not equal, and therefore not of equal value, is seen to be a natural state of affairs. Individuals are therefore not allowed equal opportunities. Instead, for the good of the whole, everyone accepts his 'natural' role. Power struggles, conflicts regarding the role of the individual or arguments about responsibilities do not arise in such an organic organisation. In the company's reality this is expressed by the acceptance of inequalities and status symbols as a matter of course (Item A5). The company is characterised by social static in which career opportunities are reserved to a selected few whose career paths are already marked out. In an open organisation, however, there are no career filters based on gender, age, education, academic title, nationality, political opinion or other criteria⁹⁰; everyone can "acquire" status (Dahrendorf 1991: 140) within the social structure (Item A1). In the closed organisation, by contrast, the borders between subsystems are non-traversal (cf. Gebert and Boerner 1995: 244) in order to stabilise the traditional structure (Item A12).

Another assumption of the individualistic organisation is that human beings have a need for self-assertion within the social structure. The members are not concerned with becoming wrapped up in the company, but pursue their own interests. The organisation is a means to an end rather than an end in itself. Positions within the societal order are not taken for granted, and the right for development and promotion is awarded to everyone. Moreover, connected values such as emancipation and strong individualism as well as the legitimacy of pursuing one's own needs and self-actualisation are indicated by the treatment of conflicts within organisations. Disagreements are taken for granted and are permanent parts of social reality in the organisation (Item A6). 'Conflict culture', which makes control mechanisms such as documented instructions, revision departments and sophisticated report systems superfluous, is a characteristic of this type of organisation (Item A10).

Heterogeneity versus homogeneity

On the closed pole of the social dimension (collectivism), under the assumption that the individual has to serve the good of the whole, it is also presupposed that the

⁹⁰ In this context, Gebert and Boerner (1995: 245) emphasise that even if 'performance' is the chosen criterion, the question remains as to what is exactly being assumed with this term. 'Personality', or the readiness to take part in a certain political game can be the crucial criterion understood in the term 'performance'. The criteria behind the term are still intransparent or pseudo-transparent (cf. Gebert and Boerner 1995: 245). It always remains a matter of the power of definition whose (or what kind of) performance is regarded as good.

members of a organisation have basically homogenous interests. Disagreements are not permitted; the same basic assumptions, opinions and even behaviour among members are demanded. Those members adhering to the uniform ideal are favoured, while those who do not are discriminated against (cf. Gebert and Boerner 1995: 281). Uniformity is seen to be a value of major importance or even perceived as aesthetic. It is believed to ensure freedom from conflicts, 'silence' and order (Items A15, A19).

On the open pole of the social dimension it is assumed that the members of an organisation have basically heterogeneous interests. Disagreements are regarded as normal and conducive to the development of the organisation. Applied to leadership, the distinction can be drawn between whether a superior engenders homogeneity or heterogeneity among his subordinates. In the social dimension, open leadership means therefore the support of a variety of attitudes and behaviours, the aim is to induce plurality among the employees. Concrete indicators can be found in the breadth of scope, which the superior tolerates when the employees perform their task. In contrast to this, if a wide scope is missing, i.e. if exceptions to the basic rules are neither desired nor tolerated, the leadership is shown to tend towards uniformity, and therefore closure. This is particularly indicated by the extent to which restrictive rules exist in the company (Item A11).

Beyond the concrete interaction between persons in the leadership relation, indicators of a style that supports heterogeneity or homogeneity can also be found at other levels in the organisation. Training courses and other measures of human resources management can, on the one hand, be conducted uniformly for every member of a unit, or they can be tailor-made for the conditions of each employee. According to the employee's strengths and deficiencies, he can be sent for training, which supports technical or social skills of a certain kind (Item A8). Even in the promotion politics certain indicators for an individuality or collective supporting style can be found. If employees who fulfil the image of a certain 'type' are favoured (e.g. in terms of gender, age, type of education, but particularly attitude and behaviour), to such an extent that the organisational 'elite' confirms itself and reproduces its system, then the criterion for a uniformist style is met.

However, uniformisation can already be set in the production of mutual attitudes. Under third-order control (Perrow 1986: 129; Wilkins 1983: 84), i.e., the uniformisation of basic assumptions and attitudes, there is no necessity for any control on the lower two levels. Neither direct action during the working process nor general behaviour in the company needs to be controlled when the basic assumptions have once been made invariable. Repeated joint behaviour (e.g. during the working process) also leads to joint attitudes, therefore it might be sufficient to control the process and to sanction deviations at the beginning of the teamwork. A new employee experiences socialisation in the company, learns what is considered right and wrong, and internalises this more the longer he remains. Eventually he considers the parameters universally valid, as 'natural'. (These internalisation processes are founded in social constructivist theories, Berger and Luckmann 1966). An organisation penetrated by and filled with shared attitudes is indicated well by the fact that trying to be different, e.g., by one's clothing, is frowned upon (Item A9). The emphasis on an individual

personality is considered as disturbing for the desired aesthetic of uniformity (Item A3).

b. Assumptions about individuals and about the organisation as a whole: high autonomy and a voluntaristic attitude, or low autonomy and a deterministic attitude

Boerner (1994) transfers the guiding principle of the anthropological dimension - what degree of freedom the human being enjoys regarding the future - into the life world of organisations through the question of what degree of freedom the members have, and perceive themselves to have, concerning the design the social reality of the organisation (Boerner 1994: 101 ff.). The crucial distinction is hence made between a high and a low *degree of autonomy*. Boerner (ibid.) understands a company in which the members perceive themselves as objects of prescribed plans as deterministic - here, their degree of autonomy is low. This closed organisation can be discerned through the employee's assumption that the company's reality is a reflection of 'objective constraints', which he cannot influence. By way of contrast, Boerner describes an organisation in which the members can set up their own plans as voluntaristic. Here, members perceive the social reality as a reflection of their own will - their degree of autonomy is high.

Again, for the operationalisation it is important which definition of the situation is assumed, both with respect to the organisation as a whole within its environment - e.g. its competitive position in the market - and with respect to the social reality within the organisation. A deterministic view with respect to the company as a whole is expressed by the definition of the staff as objects of the development of the entire economy, of the industrial sector or of erratic consumer preferences (Item B10). With respect to the reality within the organisation, even the organisation's structure and the value chain processes are assumed to be 'natural'. Change processes are therefore not brought about from within the organisation, but are perceived to be brought about by the environment (Item B12). The success of the company is not attributed to its initiative but to the preservation of traditions (Item B6) combined with the values of silence, law and order in the company (Item B1). Creativity and the initiative to set things in motion cannot be recognised in such companies (Item B20). A 'doer-mentality' is frowned upon; 'sit and wait' becomes the most promising strategy (Item B5).

With respect to leadership, Gebert and Boerner (1995) bring the freedom perceived by the subordinate to the foreground. The basic principle of the anthropological dimension is projected to leadership in organisations by the question of what degree of freedom and how much control the employee can expect. The closed pole is marked by the deterministic assumption of the subordinate to be merely a victim of events and circumstances that he cannot influence. The open pole is characterised by the assumption of the employee that his will and the will of other employees is crucial in the design of social reality in the organisation. The distinction is drawn between organisations in which the members perceive themselves as creative and dynamic subjects of organisational design, and organisations in which the employees see them-

selves as mere objects of powers beyond their control, such as superiors or other 'higher forces' (cf. Gebert and Boerner 1995: 268-280).

Gebert and Boerner (1995) describe the open pole of leadership as behaviour that aims to engender within the employee a sense of being a manipulator of events, rather than just a manipulated victim. In order to give the subordinate this "internal expectancy of control" (Rotter 1966), the senior manager promotes the development of appropriate skills and encourages him to seize his own opportunities for action. In this case, the employee considers himself as capable of influencing and controlling events. Moreover, Gebert and Boerner use the term "liberal" leadership here in order to point out that the employee needs space for unfettered activity. In the company's reality, this might be reflected by a leadership style that encourages initiative and a feeling of independence in the employee (Item B8). Senior managers must therefore have the courage for delegation (Item B2), and employees are urged to think and act independently and entrepreneurially, enjoying the freedom to test their own ideas (Items B9, B11, B14, B19). This is particularly reflected by the employees' knowledge that they may question fundamental practices and methods and act themselves if changes are deemed necessary (Item B3, B13).

The closed counterpart of this liberal/promoting style can be described as a leadership which denies any feeling of independence in the employee. An impression of the non-existence of self-regulation is imparted to the subordinate (Gebert and Boerner 1995: 275). The employee is 'incapacitated' and relies upon an external locus of control (cf. Rotter 1966) in such a way that he perceives the reality in the organisation as an 'objective constraint' in the sense of the deterministic pattern. With this "directive-incapacitating" (Gebert and Boerner 1995: 270) style of leadership, the superior has a monopoly on power; the subordinate can only reduce his level of demand and gain, at best, a resigned kind of job satisfaction (Item B16). Beyond this, a certain image of human beings is connected with this kind of leadership: humans are considered to be incapable of development; the 'human resources' of the company are therefore considered an objective constraint (Items B7, B18).

However, this "directive/incapacitating style of leadership," which reflects the closed pole, also affects the perceptions and actions of the employees. Without any internal locus of control, they tend towards dependence (Item B15), hesitate to make their own decisions or even re-delegate decisions to their superiors (Item B17). By contrast, in a voluntaristic company, the personnel would not be considered an objective constraint, but - to an extent - as changeable. In this case humans are regarded as being capable of development (Item B4).

c. Knowledge as contestable or incontestable

The underlying concern of the epistemological question is, how reliable human knowledge is to be assumed within the organisation (cf. Boerner 1994: 106). In an organisational culture tending to openness, members assume that the organisation's actions serve to obtain new knowledge. Since it can never be assumed that a solution has been found that cannot be improved upon, the company's action can be under-

stood as constant improvement in the sense of Popper's piecemeal engineering. In the closed organisation, however, human knowledge is assumed to be potentially free from error. Consequently, if human knowledge is both final and faultless, this 'knowledge' only has to be implemented in order to achieve the well-being of the organisation. Organisational action therefore implies applying the respective ideal. The epistemological continuum applied to organisational culture therefore reads as 'searching for knowledge' versus 'applying knowledge' (cf. Boerner 1994: 101).

At this level of analysis the first items are already to be formulated. It follows from the provisional character of knowledge that no solution in the company is regarded ultimately as the best (Item C2)⁹¹. New regulations are accordingly not being considered as final wisdom, but as potentially ridden with error and thus object to revisions (Item C11). If knowledge is constantly being sought, a necessary tolerance of errors must therefore be assumed, since the correction of mistakes is regarded as a method for increasing knowledge (Item C19). However, if the achieved knowledge is seen to be final and is to be utilised, the methods of 'rationality of planning' and 'strategy' are emphasised. Achieving knowledge by trial and error does not fit in with this second assumption (Item C14). An intolerance of error in conjunction with the value of 'rational planning' leads to the assumption that the term 'learning' is equated with the admission of error and is therefore perceived as weakness; changes are therefore legitimated in the light of traditional convictions (Item C9).

If knowledge is assumed to be certain and free from error it becomes a dogma (Item C1). In the closed organisation, 'truth' is not discovered, but 'revealed' and 'proclaimed'. Moreover, the dissemination of dogma is reserved for certain individuals whose authority is not in doubt (cf. Gebert and Boerner 1995: 250). These can be hierarchically the highest, but also persons or advisers who are assumed to be special 'experts'. A belief in the judgement of experts is therefore extremely significant in the closed organisation (Item C8). A rationale is not necessary: under the assumption of potential freedom from error the word of the boss, the advisor or the 'expert' is sufficient basis for action. Action is therefore performed without debate and rationale (Item C7).

If 'incontestable knowledge' is a value within the organisation, those members who internalise this value, or even transmit it to others⁹², are potentially the most successful. The behaviour of the organisation members is accordingly of a kind which presents their knowledge as final; strength is supposedly shown by sticking to an opinion, whatever it may be (Item C20). Self-confidence, particularly in the form of freedom from contradictions, is shown outwardly (Items C5, C7). Doubts about the 'logic' of the organisation have to be kept to oneself (Item C15), and dissenters are regarded and treated as troublemakers (Item C13). Differing opinions are considered as deviations or even as threats and are therefore 'swept under the carpet' (Item C12).

⁹¹ These item numbers refer to the first draft of the questionnaire, which is printed below. The final questionnaire used in the study is the result of the validation procedure described in Section 5.2.3 (for the details see Appendix C). It is printed subsequently in this Appendix.

⁹² See in this context the 'organisation man' by Whyte (1956), also Presthus (1978).

With respect to leadership, Boerner (1994: 118) projects the guiding paradigm of the epistemological dimension onto the question of whether a unilateral or a bilateral influence takes place in the relationship between superior and subordinate. Under the open assumption that human knowledge is always ridden with errors and can never be final there is no reason to assume that the superior is always right. An increase of knowledge is sought by the bilateral exchange of information. Both sides avoid the suppression of information. Not only does the employee provide relevant information resulting from his work, but the superior also informs the employee extensively about the background of the problem and its possible solutions. "Dialogue" and "enlightenment" therefore best describe the open pole of a leadership relation (Boerner 1994:126-129).

Under the closed assumption of a potential incontestability of knowledge, however, the superior has no interest in any statement by the employee, since the latter is assumed not to have any relevant contribution to make. This is expressed in the interaction between superior and subordinate by the senior's monologue (cf. Boerner 1994: 119). In order to maintain the illusion of the all-knowing leader, the senior person can go even further: he can choose to forward only that information deemed necessary for the employee to fulfil the task. He can therefore hold back any information about the context and the background of the problem. The senior person disguises everything else and monopolises knowledge. Gebert and Boerner (1995: 270) describe this kind of leadership accordingly with "monologue/disguising"; it marks the opposite pole of an undistorted discourse in the sense of Habermas (1970a and 1970b). For the simple language of the questionnaire the term 'authoritarian leadership' can be used (Item C18). The closed assumption also has implications for the treatment of decisions: decisions which are admittedly based on 'common sense' (in the sense of uncertainty about the information basis and impacts) contradict the value of a 'rational method' and the know-it-all claim of the superior. The decision making process is therefore disguised by faking the 'truth' of the outcome (Item C4, C14).

The language used is also important in this context. While argumentative language is employed in open leadership relations (discussion, debate, discourse, cf. Gebert and Boerner 1995: 295), a didactic tone dominates the closed relation (Item C10), leading to the 'persuasion' and 'education' of the employee. This association may even become 'guru-like' with an accordingly manipulative form of communication, if the subordinate also subscribes to the value of the infallibility of knowledge and attributes a 'know-it-all' status to the superior.

Even in the closed organisation, however, the superior, equipped with structural power, is by no means omnipotent towards the employee. The latter always has the opportunity to influence the activities of the superior through certain resources gained inevitably through carrying out the task. In order for the closed organisation to remain in a stable condition, the superior and the employee reproduce the organisation's values; that is, the manipulative and anti-emancipatory language of the superior must find a mental correlate in the employee (see in this context also Rokeach 1960). Through his communication, the senior person meets and satisfies closed need structures of employees. Employees' demand for closed goods is expressed in a demand for a senior manager with a 'strong personality' (Item C17). Here only a senior

manager who not only 'manages' but also 'leads' is seen as successful (Item C3). In the case of a guru-relation, the employee does not only perform his task uncritically, but is even grateful to serve the guru. High and uncritical loyalty, admiration of the superior and identification with his ideas and goals, may characterise this leadership relation. Obedience increases and becomes an inherent precedent. The employee not only demands a transactional task, but also a transformational 'orientation', asking for 'sense-making' within the organisation. This means that, in the life world of the organisation, the employee gives up his Kantian 'courage to use his own mind' and demands clear tasks instead of room for manoeuvre (Item C16).

Hence, the first draft of the questionnaire comprised the following items:

A1. Everyone in this company has the same career chances, irrespective of nationality, confession or political beliefs.

A2. In this company it is expected that employees place organisational goals above their personal goals. **(recoded)**

A3. Individuality is more important than conformity in this company.

A4. Loyalty to the management is very important in this company; in doubt its mistakes have to be concealed from others. **(recoded)**

A5. In spite of all discussion about partnership, employees are not equal in this company; differences in status are very accentuated. **(recoded)**

A6. In this company, differing opinions are considered as a way of developing ideas rather than as potential conflict.

A7. In this company, every employee himself/herself has the right to decide how he co-operates with his colleagues.

A8. Personnel management (e.g. training) is not carried out in a standardised manner in this company, but the measures are tailor-made for each employee.

A9. Trying to be different is frowned upon in this company. **(recoded)**

A10. The principle 'Trust is good, control is better' operates in this company. **(recoded)**

A11. There is a permanent effort to regulate and standardise the guiding principles of the different departments in this company. **(recoded)**

A12. Promotion prospects for employees who do not hold a doctorate or another type of academic qualification are low in this company. **(recoded)**

A13. Company employees are not recognised by their function or department (e.g. researcher or developer) but rather as a member of the company as a whole. **(recoded)**

A14. This company does not only expect the full effort from the employees, but also gratefulness and faith. **(recoded)**

A15. In this company the following principle operates: The staff should be as homogeneous as possible to avoid conflict. **(recoded)**

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- A16. The philosophy of this company is: We all act in concert. **(recoded)**
- A17. In this company quitting the job is regarded as leaving the company in the lurch. **(recoded)**
- A18. This company places a high value on harmony and a sense of community. **(recoded)**
- A19. One can never calm down in this company: if one has just got used to something, there is always a new issue to jeopardise the situation.
- A20. Not to attend company fetes is regarded as an offence against the sense of community in this company. **(recoded)**
- B1. Law and order are virtues as such in this company. **(recoded)**
- B2. Even less important decisions are made by the management in this company. **(recoded)**
- B3. In this company, employees have the feeling that they can freely question and shape fundamental company practises.
- B4. The goal of training employees to enlarge their horizons is equally important to training for technical skills.
- B5. In this company, a 'sit and wait'-strategy is more successful than a doer-mentality. **(recoded)**
- B6. This company relies very much on successes in the past and on the preservation of its traditions. **(recoded)**
- B7. Interpersonal conflicts are not regarded as solvable but rather as result of inevitable human deficits. **(recoded)**
- B8. This company has a lack of managers who encourage initiative and a feeling of independence in the employees. **(recoded)**
- B9. Innovative thinking is more important in this company than sticking to bureaucratic rules.
- B10. During a crisis, employees of this company are more inclined to feel like victims (e.g., of economic circumstances or erratic consumer preferences) rather than like perpetrators. **(recoded)**
- B11. Decentralised self-regulation and self-control are very often practised in this company.
- B12. This company tends to have changes forced on it rather than taking an active part in forcing change. **(recoded)**
- B13. If employees in this company decide that something needs to be changed, they take an active part in changing it.
- B14. In this company, to act in an entrepreneurial manner is not only a demand on paper, but can be seen in day-to-day-operations.

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- B15. In difficult situations, employees of this company are paralysed and tend to wait for decisions from management. **(recoded)**
- B16. There is a lot of resignation and inner emigration in this company. **(recoded)**
- B17. Re-delegation of decisions back to the management takes place very often in this company. **(recoded)**
- B18. Humans are considered to be incapable of development in this company. The opinion is prevalent that one cannot do anything about some people. **(recoded)**
- B19. Testing new ideas is often actively repressed in this company. **(recoded)**
- B20. Active and creative moods to get things done can be seen everywhere in this company.
- C1. Social control and know-all attitudes are prevalent in this company. **(recoded)**
- C2. In this company no solution is regarded as ultimately the best.
- C3. The technocrats dominate over the visionary in this company.
- C4. In this company the management makes decisions more by common sense than by total claim of truth.
- C5. Acting without contradictions is regarded as a virtue as such in this company, independent of the objective of the action. **(recoded)**
- C6. In this company many people are missing a binding orientation in fundamental issues.
- C7. Rationales are often covered by marked self-confidence in this company. **(recoded)**
- C8. Even for trivial questions the judgement of experts is regarded as very important in this company. **(recoded)**
- C9. Learning is equated with the admission of error in this company; changes are always explained in the light of traditional convictions. **(recoded)**
- C10. Many managers are behaving like teachers in this company and speak with a rather condescending tone. **(recoded)**
- C11. New regulations in this company are not regarded as scientifically proven, but as potentially ridden with error and subject to revisions.
- C12. Differing opinions are regarded as normal in this company; little is swept under the carpet.
- C13. Dissenters are regarded as troublemakers in this company. **(recoded)**
- C14. Achieving knowledge by trial and error is never admitted in this company. Rather, rational planning and strategy are emphasised. **(recoded)**
- C15. Fundamental doubts about the operations have to be kept by oneself in this company. **(recoded)**

C16. Clear and unequivocal tasks are demanded more often than room for manoeuvre in this company. **(recoded)**

C17. Managers who do not only convince by argumentation, but also by their personality are viewed highly positively in this company. **(recoded)**

C18. This company has many managers who lead in an authoritarian manner. **(recoded)**

C19. There is a great tolerance of errors in this company: correction of mistakes is regarded as a method for increasing knowledge.

C20. Sticking to an opinion is regarded as a strength, while being open to suggestions is regarded as a weakness in this company. **(recoded)**

II. The questionnaire

(The respondents had the choice between five boxes: **yes – more yes than no – neutral – more no than yes – no**)

Dear Sir/Madam,

In the course of a research project we are currently investigating openness and closure of corporate cultures. We are investigating the question as to what extent of openness is conducive for the success of companies.

For this purpose we have developed the enclosed questionnaire and request that you complete it. There are five possible answers for each question. Please always tick the box which corresponds to your company or, for big companies, which corresponds to this part of the company you are familiar with. The following points are important to us:

- 1.) Please have a straightforward look at your company (or part of the company, respectively). Please express with your ticks how the situation is and not how it ought to be.
- 2.) Please only look at one company or at one part of the company, respectively. That means, please do not look at domain A for question 1 and at domain B for question 2.

This investigation is of course anonymous. It is not necessary to write your name or the name of the company on the questionnaire. Please find enclosed an addressed envelope, by which you can send us the questionnaire. We would be pleased if you could do so until _____.

Thank you very much for your co-operation.

Section A. This section assesses the degree to which individual employees or the group are in the foreground.

A1. Everyone in this company has the same career chances, irrespective of nationality, confession or political beliefs.

A2. In this company it is expected that employees place organisational goals above their personal goals.

(recoded)

A3. Individuality is more important than conformity in this company.

A4. In spite of all discussion about partnership, employees are not equal in this company; differences in status are very accentuated.
(recoded)

A5. In this company, every employee himself/herself has the right to decide how he works with his colleagues.

A6. The principle 'Trust is good, control is better' operates in this company.
(recoded)

A7. There is a permanent effort to regulate and standardise the guiding principles of the different departments in this company.
(recoded)

A8. Promotion prospects for employees who do not hold a doctorate or another type of academic qualification are low in this company.
(recoded)

A9. Company employees are not recognised by their function or department (e.g., researcher or developer) but rather as a member of the company as a whole.
(recoded)

A10. In this company the following principle operates: The staff should be as homogeneous as possible to avoid conflict.
(recoded)

A11. The philosophy of this company is: We all act in concert.
(recoded)

A12. This company places a high value on harmony and a sense of community.
(recoded)

A13. In this company, differing opinions are considered as a way of developing ideas rather than as potential conflict.

A14. Trying to be different is frowned upon in this company.
(recoded)

Section B: This section assesses the degree to which the company believes it can plan the operations itself or to which it believes it suffers from objective constraints.

B1. In this company, employees have the feeling that they can freely question and shape fundamental company practises.

B2. During a crisis, employees of this company are more inclined to feel like victims (e.g., of economic circumstances) rather than like perpetrators.
(recoded)

B3. This company tends to have changes forced on it rather than taking an active part in forcing change.
(recoded)

B4. If employees in this company decide that something needs to be changed, they take an active part in changing it.

B5. In difficult situations, employees of this company are paralysed and tend to wait for decisions from management.
(recoded)

B6. Active and creative moods to get things done can be seen everywhere in this company.

Section C. This section assesses the degree to which norms of clarity and certainty predominate as opposed to ambiguity and learning.

C1. Social control and know-all attitudes are prevalent in this company.
(recoded)

C2. Decisions in this company are more made by common sense than on a demand for truth.

C3. Rationales are often replaced by exaggerated self-confidence in this company.
(recoded)

C4. Differing opinions are regarded as normal in this company; little is swept under the carpet.

C5. Dissenters are regarded as troublemakers in this company.
(recoded)

C6. Sticking to an opinion is regarded as a strength, while being open to suggestions is regarded as a weakness in this company.
(recoded)

Appendix C - The details of the survey

Respondents

The questionnaires were delivered by the person in charge of the survey in the company, in most cases the chief executive himself or the human resources manager. This person was instructed by the author of this thesis to cover all hierarchical levels in the respective departments. In many cases, the companies expressed the wish to cover not only the departments demanded by the researcher, but all departments of the company (for their own information or in order not to neglect other departments). Questionnaires returned from departments such as 'Purchase' or 'Logistics' were included in the analyses for the companies as a whole ('company-level of analysis'), but not in the departmental analyses ('department-level of analysis'). The return of questionnaires from domains such as cleaner service and kitchen staff documents that the survey has reached the shop-floor. The number of questionnaires delivered to the departments was negotiated with the companies with respect to the number of employees in the different domains; some accepted to include the entire staff.

The questionnaire was filled out in self-completion. Since completing the questionnaire was not compulsory for the employees, the number of returned questionnaires varies. In order to avoid overly loyal answers and the bias of social desirability, an envelope addressed to the Technical University Berlin came with each questionnaire given to the interviewees, so that the respondents could mail the completed questionnaires directly to the author's associated institution in Germany. The companies and respondents were instructed to seal the envelopes before they were collected together (for example when put in the company's internal post to the post outbox), so that anonymity was continually ensured.

For each company a special evaluation of the questionnaires was done, so that the management boards obtained a direct and detailed response from the researcher about their company's values on the respective dimensions. For this study, the questionnaires from Production and Assembly, from Marketing and Sales, and from Research and Development were each aggregated to one domain. For the domain 'Administration' the questionnaires from Personnel, Accounting and Finance were aggregated. The questionnaires from other departments such as Purchase, Logistics, Cleaner Service or Kitchen were only considered for evaluations on the company-level of aggregation, not for evaluations on the departmental level.

Questionnaire structure; type of questions

On the questionnaire, following the cover with the instruction, the questions are arranged in terms of the three dimensions developed by Gebert and Boerner (1995). In order to avoid contextual effects, questions within a dimension that could possess similarities were separated as far as possible from one another.

In formulating the questions care was taken to generate only one stimulus in each. Moreover, in order to avoid the stimulus of the question being eclipsed by the stimulus of an emotive word, questions that contained an emotive word such as

"Guru" or "hushed up" were removed or rearranged. In order to place the interviewee in the position of a kind of an arbitrator of his company, rather than obtain his personal opinion, the questions are formulated in terms of "In this company does one think...." With this form of indirect question - requesting a statement regarding others - the willingness to answer increases (Kromrey 1995: 281), which seemed appropriate considering the sensibility of some questions. In this way, and in contrast to direct questions regarding their personal opinion, a greater amount of information can be requested from the interviewees. Considering the danger of drowning out shared opinions in the organisation by personal dispositions of interviewees, this seemed to be a necessary step.

A first pool of questions was made available by the Section of Organisational Behaviour at the Technical University Berlin⁹³, where the fundamental publications by Boerner (1994) and Gebert/Boerner (1995) have been written. In order to examine this pool and to formulate additional and independent questions, questionnaires published in the 'Handbuch sozialwissenschaftlicher Skalen' ("Handbook of social scientific scales", ZUMA: without date) were considered carefully. For the epistemological and the anthropological dimension the 'social control-scale' by Roghmann (1966) was particularly considered, as were those authoritarianism-scales (given in ZUMA, without date), which were partially developed on the basis of Adorno's et al. 1950 'fascism-scale'. Ideas for questions regarding the anthropological dimension were also gained by screening scales on internal versus external control (given in ZUMA, without date), which are based on the work of Rotter (1966).

Type of scale and scale model

An ordinal scale with five grades was used: yes -- more yes than no -- neutral -- more no than yes -- no. In case the interviewee has no association with one or another question, a neutral answer in the middle of the scale is provided. This case might arise because the interviewees do not perceive their organisations in terms of the theoretical categories of openness and closure and the perceptions of the interviewees cannot always be hit precisely. The neutral answer choice prevents the interviewee, in spite of the lack of an association, from having to choose for or against, which would cause an error since it can be assumed that the interviewees would answer in this way rather than not answer at all.

Test Instructions

In the instructions (cover letter, see Appendix B) the interviewees were first asked to consider their companies in an honest light, in order once again to make them aware that the survey does not concern an internal questionnaire and what matters here is not to attach a great deal of importance to loyalty. The interviewees were further asked to answer with respect to only one area of the firm, that is, not to consider domain A for question 1 and then domain B for question 2, but always to consider only a single area. The interviewees could fill out the questionnaire either at work or at home.

⁹³ At this point, Sabine Boerner should be gratefully thanked for this support.

Test Analysis

For methodological reasons (to avoid a tendency to answer in one way, due to consistently having answered in a single way) the wording of the questions was chosen in such a way that by some questions a "Yes" answer meant closure and by others openness. In the analysis, these questions were correspondingly recoded (recoding instruction see questionnaire in Appendix B), so that for each item 100 means 'total openness' and 0 means 'total closure'. There was no weighting of the questions. Consequently, the value attached to each of the dimensions results from the mean of the items establishing the dimension.

Preparations and pre-tests

At the beginning of the research, a draft questionnaire with about 23 items per dimension (social, anthropological, epistemological dimensions) was developed; altogether about 70 questions to capture the total construct since the author considered this amount to be a necessary measure for the content validity and also favourable to envisage the complexity of the construct. This first, rough questionnaire was then tested in two pre-tests. The first pre-test was to clarify which questions are difficult to understand, which questions can be misinterpreted, and whether there are any questions that could be disliked by the respondents (cf. Schnell et al. 1993: 359). Four senior managers (heads of department, domains) of different organisations were presented with the pool of questions and were individually requested to reformulate in their own words the question contents to the author. It turned out that the questionnaire had to be modified: eight questions contained linguistic misunderstandings, vagueness of contents, or double stimuli. Four questions were henceforth eliminated and another four were semantically altered.

After this rough 'face validation' (Schnell et al. 1993: 359) and in order to gain an impression of the frequency distribution per indicator, the questionnaire was presented for a second pre-test to another 24 members of different organisations (again mainly heads of departments or domains, although others than previously), asking for an answer to all questions. The aim of this second pre-test was to examine whether and how the questions follow normal distribution, to eliminate answers tending towards yes or no (e.g., due to social desirability of the answer), and to analyse first item-to-total correlations. Another two questions were expelled due to their lack of item-to-total correlation (both the dimension-sum and the total sum were used for the total). Then, after examining the histogram and the normal distribution of the items using the Kolmogorov-Smirnov-test and in order to alter the skewed distribution to normal distribution, six questions were semantically changed. This was achieved by adding or omitting stimulus intensifying words, such as "very" or "particularly."

At this early stage, and despite the still small amount of $n=24$ questionnaires, a factor analysis was executed to obtain a first impression of the dimensionality. However, due to the strong discrepancy between the number of items (ca. 65) and the number of questionnaires ($n=24$), this result was evaluated with great caution. However, it

indicated that a factor with an eigenvalue of almost 10 strongly dominated the other factors with eigenvalues of 1,0 to 2,0. All those questions that integrated a trace of vertical contemplation of organisation (e.g. items which are closely knit with leadership or contain the term management board) loaded strongly on this first factor. Despite the daring interpretation of this first factor analysis, it is apparent that this result is influenced by a general factor, which can be interpreted as a hierarchy, or leadership, effect. Since this factor is only presenting one part of the target construct (see Section 5.2), which is not supposed to represent a general factor in terms of openness/closure, this general factor must be viewed as a disturbing construct. Therefore, by changing the item formulation the vertical character of the questionnaire was reduced. For example, the formulation

"In this company the management makes decisions more by common sense than by total claim of truth."

was changed to:

"Decisions in this company are more made by common sense than on a demand for truth."

The resulting draft questionnaire provided 60 questions (see above, Appendix B) and was used for investigations in the first 4 companies.

The previous procedure corresponds therefore with the recommended model in Homburg and Giering's (1996) procedure for the conceptualisation and operationalisation of complex constructs:

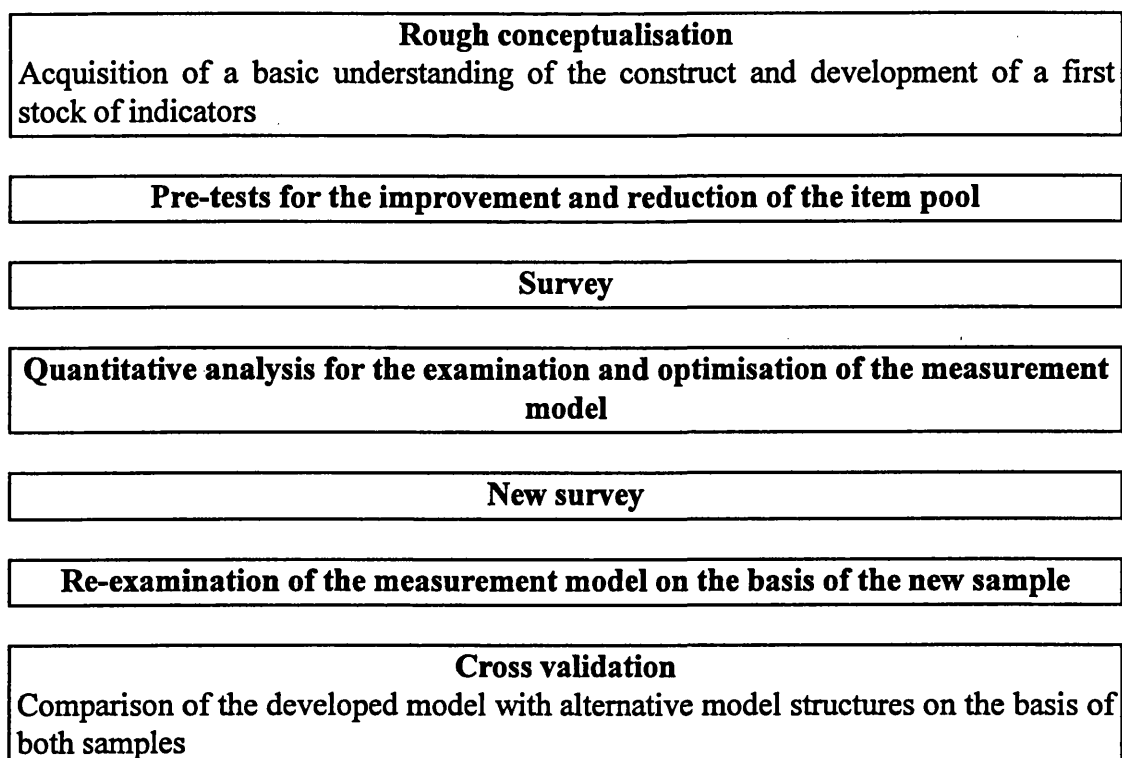


Figure 15: Recommended procedure for conceptualisation and validation of complex constructs, cf. Homburg and Giering 1996: 12

Homburg and Giering's third step, the survey, is described in the main text. In this step the following difficulties arose, which influenced the design of the questionnaire: while trying to involve further companies in the survey after the initial four, the author recognised extensive acceptance problems of the questionnaire due to its length. The managers in charge of the research project in the companies, normally the chief executive, being presented six closely printed pages of 60 questions, clearly rejected the quantity of questions and hence refused the author's request. The necessity arose to reduce the number of questions despite the risk of lowering the construct validity. After the survey in the first four companies and the return of approximately 300 questionnaires, the following criteria were to influence whether a question should be expelled or remain:

1. The authors qualitative reflections about content validity: questions that focus more on marginal areas than on centre points of the dimensions were eliminated.
2. Item-to-total correlation with the total construct of openness/closure as well as with the respective dimension.
3. Consideration of the internal reliability of the dimensions using Cronbach's alpha.

Theoretical, content-orientated considerations were always given priority in the process of item elimination. Before considering the item-to-total correlation and Cronbach's Alpha, those questions were chosen that capture the cores of the particular dimensions. These questions were not considered for elimination. Only after this step, the quantitative evaluation was carried out. In the case of contestable item-to-total correlations, the content-orientated reflections were always preferred to statistical results.

The reduction of questions in the anthropological and epistemological dimension proved to be considerably easy, since many items correlated to the sum of dimensions, including those who had been theoretically viewed as central questions. In this case questions were reduced to six per dimension. The reduction process proved to be considerably more difficult in the social dimension. Questions that had been perceived as essential questions of the social dimension showed little, even negative correlations to the sum of dimensions. For the first time, the suspicion of the dimension to be multi-factorial occurred (this is described in detail in the main text, Section 5.3). For reasons of caution, and not to endanger the content validity, all continuums of the social dimension that are regarded as constitutive for the social dimension were covered by several items.

The items of the social dimension could not be reduced to less than 14. The resulting questionnaire hence comprised 26 items and was employed for the investigation in all further companies. The results of the companies investigated with the first, long questionnaire were then compared to the figures they had taken on with the new questionnaire. The differences were far from significance and hence negligible. These companies were then taken into the sample only on the basis of the items of the new questionnaire.

Homburg and Giering (1996) suggest to carry out another, subsequent data collection in order to cross-validate the first return flow. However, since this study is based on 10 different random samples of 20 questionnaires from each company (see Section 5.2.4 in the main text), a cross-validation is given through the comparison of the ten samples (only those factors are interpreted that are stable in all ten random samples). Section 5.3 in the main text describes this validation through the examination of the construct dimensionality on the basis of the ten samples with 280 questionnaires each.

Appendix D - Confirmatory factor analyses and goodness of fit indices

It is essential to distinguish between exploratory and confirmatory factor analyses. Like the exploratory factor analysis, the confirmatory factor analysis assumes a hypothetical construct behind the variables observed. The exploratory factor analysis, however, ascertains the hypothetical construct on the basis of the empirical data, whereas the confirmatory factor analysis assumes a precise picture, or a theory, of the hypothetical construct and its relationship to the variables observed. On this basis, the confirmatory factor analysis examines the fit between the covariance structure of the observed variables and the parameter of the assumed model. In other words, it *examines the fit between the observed and the hypothetical model*. (cf. Jöreskog and Sörbom 1993: 22). The goodness of fit is expressed in a number of output variables, which are explained below.

Since the confirmatory factor analysis is based on precise assumptions about the relations between the variables under scrutiny, it is in most cases inevitable to start the analysis with methods of the 'first generation' (Homburg and Giering 1996) such as item-to-total correlations, Cronbach's alpha, and exploratory factor analyses (see the procedure pursued in this study, Section 5.2.3). Ignoring this rule is hazardous: even if the goodness-of-fit measure indicate a sufficient fit of the total model, some relationships between elements of the model (dimensions, factors, or individual variables) might be different than assumed, but overlapped by (a larger number of) other elements. For example, a dimension formed by 20 variables may behave in accordance with the expectations, but a few variables of this dimensions may behave differently. If these variables are actually assumed to be essential for the total construct and ought to capture the core of the dimension, then an immediate use of a confirmatory factor analysis can be strongly misleading, since the other variables of the dimensions may overrule the core variables. Therefore, especially if a large number of variables is used, it is essential to first scrutinise the elements of the assumed construct independently with methods of the first generation (cf. Homburg and Giering 1996; see Section 5.2.3). Jöreskog and Sörbom (1993) put it this way:

"The results of an exploratory analysis may have heuristic and suggestive value and may generate hypotheses which are capable of more objective testing by other multivariate methods... It is highly desirable that a hypothesis *which has been suggested by mainly exploratory procedures* should subsequently be confirmed, or disproved, by obtaining new data and subjecting these to more rigorous statistical techniques" (p. 22, Italics added).

Because of the feature of statistical programs such as LISREL to use confirmatory factor analyses in an exploratory manner (by means of a sequence of confirmatory factor analyses and stepwise modifications of the model with modification indices, cf. Jöreskog and Sörbom 1993: 93-100), it is tempting to neglect the methods of the first generation and to employ confirmatory methods at once. However, the modification indices can be used to modify a 'bad' model such that it fits the data in a misleading manner (that is, the actual, theoretical idea is given up). In such a case, the model would not be scrutinised in a bottom-up way, since the modifications of the

model are always based on the initial model. This may lead to the suppression of information essential for the understanding of the data.

The assessment of the goodness-of-fit statistics are based on Jöreskog and Sörbom (1993), Browne and Cudeck (1993), Homburg and Giering (1996), and Bagozzi et al. (1991), and can be described as follows. The chi-square value measures the distance between the sample covariance matrix and the fitted covariance matrix. It is a 'badness-of-fit' in the sense that a small chi-square corresponds to good fit and a large chi-square to bad fit. Zero chi-square corresponds to perfect fit (Jöreskog and Sörbom 1993: 122). Controversial is the relation of chi-square to the degrees of freedom. Jöreskog and Sörbom (1993: 122) suggest that chi-square has to be 'in the vicinity' of the degrees of freedom, whereas Homburg and Giering (1996: 13) apparently regard this as an unrealistic criterion and consider a ratio of chi-square to the degrees of freedom of smaller or equal to three as sufficient.

Actually, the p-value as the result of the chi-square test of exact fit indicates whether the model is to be accepted or rejected. With a p-value of smaller than 0.05 the model has to be rejected on the 5% significance level, since in this case it is likely that the sample covariance matrix differs from the fitted covariance matrix. However, not least because the sample size strongly influences the p-value, also here is a controversy on how serious a breach of this criterion is. Again, Jöreskog and Sörbom (1993: 130) demand a p-value bigger than 0.05, whereas Homburg and Giering (1996) do not mention the p-value bigger than 0.05 as a necessary condition for the acceptance of the model. Particularly with regard to the comparison of two models this criterion plays a minor role if neither of the models can meet it, but both models have acceptable goodness-of-fit-indices.

The goodness-of-fit index 'GFI' measures the fit between the sample and the fitted covariance matrix by one minus the ratio of the minimum of the fit function after the model has been fitted (numerator) and the fit function before any model has fitted (denominator) (Jöreskog and Sörbom 1993: 123). Its values range from 0.00 (fit as if no model had been specified) to 1.00 (perfect fit). *A GFI of 1.00 would mean that 100% of the empirical correlations can be explained by the model* (cf. Backhaus et al. 1994: 416). Homburg and Giering (1996) regard a GFI of 0.90 as acceptable. The adjusted goodness-of-fit index (AGFI) adjusts the GFI for the degrees of freedom, that is, it 'punishes' the loss of degrees of freedoms. Homburg and Giering (1996) again demand an AGFI of bigger than 0.90, which is therefore harder a criterion than a GFI being greater than 0.90.

As Jöreskog and Sörbom (1993: 123) point out, the use of chi-square is based on the assumption that the model holds exactly in the population, which may be an unrealistic assumption. By this, they refer to Browne and Cudeck's (1993) suggestion of the root mean square error of approximation (RMSEA), which measures the discrepancy between sample and fitted covariance matrix per degree of freedom and particularly take into account the error of approximation in the population and the precision of the fit measure itself. According to Browne and Cudeck (1993), a RMSEA of smaller than 0.05 is acceptable, while values up to 0.08 represent reasonable errors of

approximation in the population. The following table summarises the discussed goodness-of-fit indicators.

Table 18: Goodness-of-fit criteria in confirmatory factor analyses

<u>Indicator</u>	<u>Criterion for a sufficient fit between empirical data and hypothetical construct</u>
Chi-square and degrees of freedom	Jöreskog and Sörbom (1993: 122): degrees of freedom "in the vicinity" of chi-square Homburg and Giering (1996: 13): ratio of chi-square to the degrees of freedom smaller or equal to three
Probability level (p-value)	Jöreskog and Sörbom (1993: 130): $p \geq 0.05$ Homburg and Giering (1996): no criterion for the p-value (p-value decreases with larger sample size)
Goodness-of-fit index (GFI)	Jöreskog and Sörbom (1993): as close to 1.00 as possible Homburg and Giering (1996): $GFI \geq 0.90$
Adjusted goodness-of-fit index (AGFI)	Jöreskog and Sörbom (1993): as close to 1.00 as possible Homburg and Giering (1996): $GFI \geq 0.90$ (harder criterion than $GFI \geq 0.90$)
Root Mean Square Error of Approximation (RMSEA)	Browne and Cudeck (1993): $RMSEA \leq 0.08$

After this introduction to the goodness of fit indices the reader should be able to make his/her own judgement on the figures presented in Section 5.3 and its appendix.

Appendix E - Examination of the construct's dimensionality

Examination step A

Epistemological dimension (items C1-C6)

In all ten samples the items of the epistemological dimension prove a high internal reliability with an alpha value (Cronbach) of about 0.8 with 6 items. By eliminating item C2, which has only a small item-to-total correlation, the alpha-value increases in most samples to approximately 0.83. Item C2 is therefore omitted and the dimension proves to be very reliable with a high alpha-value for 5 items.

The ten samples are examined through exploratory factor analyses as to whether or not the epistemological dimension splits into several factors. As expected we only receive one factor in each sample. It shows eigenvalues of 3.0 to 3.5 and explained variances of 50-60%, which can be considered as sufficient. A confirmatory factor analysis with the 'big sample', that is, without removing the size effect⁹⁴, confirms that the factor is sufficiently stable (chi-square=44.16, df=5, $p < 0.001$, GFI=0.98, AGFI=0.95, RMSEA=0.089).⁹⁵

Anthropological dimension (item B1-B6)

The anthropological dimension also proves to have a high internal reliability presenting alpha-values of about 0.77 with 6 items. Only in two out of ten samples does the alpha-value still rise if the item with the lowest item-to-total correlation (B1) is omitted. Item B1 is therefore retained and the dimension is recognised as reliable.

This dimension is also examined through exploratory factor analyses with the ten samples and expectedly shows again only one factor (eigenvalue between 2.7 and 3.2, explained variance between 45 and 52%). A confirmatory factor analysis confirms the result of a very stable factor (chi-square=27.69, df=9, $p = 0.0011$, GFI=0.99, AGFI=0.98, RMSEA=0.046).

Social dimension (items A1-A14)

The social dimension causes greater difficulties. The items A1 to A14 present an alpha-value of ca. 0.59, which is, given the larger number of items, much worse than the other two dimensions. Moreover, the alpha-value steadily increases when those indicators with the lowest item-to-total correlations are (stepwise) removed. These are the items A12, A9, A11, A7, A14 (and in some samples A10). However, since these items cover the continuum of particularism versus cohesion, they are absolutely constitutive for the social dimension. Consequently, the social dimension is apparently multi-factorial.

⁹⁴ The results given are from the test with the 'big sample', that is, without removing the size effect. A comparison of the results from the 'big sample' with the results gained on the basis of the ten samples with twenty randomly chosen questionnaires prove to have only marginally deviating results. The size effect is apparently not very strong.

⁹⁵ For the assessment of these figures see Appendix D, above.

This is examined through exploratory factor-analyses in the ten samples, which show that the items of the social dimension split into two clear factors: one factor with the items A1, A3, A4, A5, A6, A8 and A13, an eigenvalue between 2.6 and 3.0, and an explained variance of 17-22 %, and another clear factor with the items A9, A10, A11, A12, an eigenvalue of ca. 2.0 and an explained variance of 12-16 %.

In summary, the social dimension splits into four to five factors in each sample; yet only the two above-mentioned can be traced clearly. Factor analyses with a pre-selection of three factors repeatedly show only one third factor with an unsatisfactorily low factor loading of the items (much below 0.50). Finally, factor analyses with a pre-selection of two factors show that the items not mentioned in the factors above join the above factors with factor loadings below 0.50. The suspicion that the social dimension divides into two factors plus a (not interpretable) residual is therefore confirmed.

A confirmatory factor analysis shows that the hypothetical model of the social dimension (with the hypothetical factors heterogeneity, equality, and particularism) is not stable⁹⁶ (chi-square 812.24, df=61, $p<0.001$, GFI=0.87, AGFI=0.81, RMSEA=0.11). Nor is the model of the social dimension with all 14 items without any specification of factors (chi-square 1060.76, df=77, $p<0.001$, GFI=0.84, AGFI=0.78, RMSEA=0.11). The structure suggested by the exploratory factor analysis proves much better, but is still not satisfying (chi-square 388.76, df=43, $p<0.001$, GFI=0.93, AGFI=0.89, RMSEA=0.09).

Considering the factors suggested by the principal component analysis it is to be acknowledged that the first factor (items A1, A3, A4, A5, A6, A8 and A13) draws a rough picture of equality/equal opportunities. The second factor (items A9, A10, A11, A12) sketches a rough image of particularism (versus cohesion). Therefore, those items are removed that capture only marginal components of these constructs rather than their core. The factors obtained through this procedure (equality: A1, A4, A5, A8; particularism: A9, A11, A12) draw a much better picture: chi-square=66.77, df=13, $p<0.001$, GFI=0.98, AGFI=0.96, RMSEA=0.065. Thus we have obtained one core factor for the distinction between particularism and cohesion, and another core factor for the distinction between equality/equal opportunities versus established role structure/unequal opportunities.

Examination step B

After having obtained this information about the three factors separately, it is now important to assess the items as a whole. Exploratory factor analyses in all ten samples show that all indicators of the anthropological (six items) and the epistemological dimension (five items), as well as two to three (out of 14) indicators of the social dimension, load on one first factor, which has eigenvalues of about 7.0 and an explained variance of about 28%. *This strong factor suggests that the anthropological*

⁹⁶ Again, the results given are from the test with the 'big sample', that is, without removing the size effect. And again, the tests with the ten samples with twenty randomly chosen questionnaires prove to have only marginally deviating results, so that the size effect is apparently not very strong.

and epistemological dimension cannot be recognised as different continuums, but, based upon the perception of the respondents, merge to one dimension that also slightly influences the social dimension.

In eight out of ten samples the items A9, A11, and A12 form a further factor with eigenvalues from 1.5 to 2.5 and an explained variance of about 8%. In six out of ten factor analyses the item A10 also joins this factor.

In seven out of ten factor analyses the items A1, A3, A4, A5, A6, A8 and A13 form a further factor (whereby A4 and A13 load higher on the first factor of the epistemological and anthropological dimension). The items loading on this indistinct factor as well as this factor's eigenvalue and its explained variance vary. However, under a stepwise pre-selection of a decreasing number of factors per analysis, this factor emerges more and more clearly.

In six out of ten factor analyses the items A2, A6 and A7 display a further factor which, however, is very weak and unclear. This factor also gains profile under a pre-setting of a decreasing number of factors per analysis, but by far not as clearly as the other indistinct factor. This factor must therefore be left out of consideration.

In summary, these results strongly suggest a merge of the epistemological and the anthropological dimension, as well as a split of the social dimension into the two factors obtained in step A.

Examination steps C to E

The results of steps C to E are outlined in the main text.

Analysis of the construct of openness on the company-level of aggregation

The analysis of internal reliability is shown and explained in the main text. Here, the results of the corresponding principal component analysis (orthogonal Varimax-rotation, without selecting a number of factors, company-level of aggregation with n=14 companies) are shown. The results are explained in the main text.

Communalities

	Initial	Extraction
PARTICUL	1.000	.864
EQUALIT	1.000	.869
AUTONOM	1.000	.837

Extraction Method: Principal
Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.350	44.996	44.996	1.350	44.996	44.996	1.298	43.252	43.252
2	1.221	40.704	85.701	1.221	40.704	85.701	1.273	42.449	85.701
3	.429	14.299	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component	
	1	2
PARTICUL	-.552	.748
EQUALIT	.458	.812
AUTONOM	.914	4.495E-02

Extraction Method: Principal
Component Analysis.

a. 2 components extracted.

Rotated Component Matrix^a

	Component	
	1	2
PARTICUL	.902	.224
EQUALIT	.165	.918
AUTONOM	-.675	.617

Extraction Method: Principal
Component Analysis.

Rotation Method: Varimax with Kaiser
Normalization.

a. Rotation converged in 3
iterations.

Component Transformation Matrix

Component	1	2
1	-.770	.638
2	.638	.770

Extraction Method: Principal
Component Analysis.

Rotation Method: Varimax with Kaiser
Normalization.

Figure 16: Exploratory factor analysis of the three dimensions, company-level of aggregation

Analysis of the construct of openness on the department-level of aggregation

RELIABILITY ANALYSIS - SCALE (ALPHA)

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	143.3762	200.0496	14.1439	3
Item-total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
PARTICUL	100.1727	154.7363	-.1422	.4439
EQUALIT	90.3716	107.1100	.1957	-.5273
AUTONOM	96.2081	134.7904	.0342	-.0392

Reliability Coefficients

N of Cases = 31.0 N of Items = 3
Alpha = .0260

Principal Component analysis:

Communalities

	Initial	Extraction
PARTICUL	1.000	.256
EQUALIT	1.000	.443
AUTONOM	1.000	.664

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.364	45.462	45.462	1.364	45.462	45.462
2	.982	32.717	78.179			
3	.655	21.821	100.000			

Extraction Method: Principal Component Analysis.

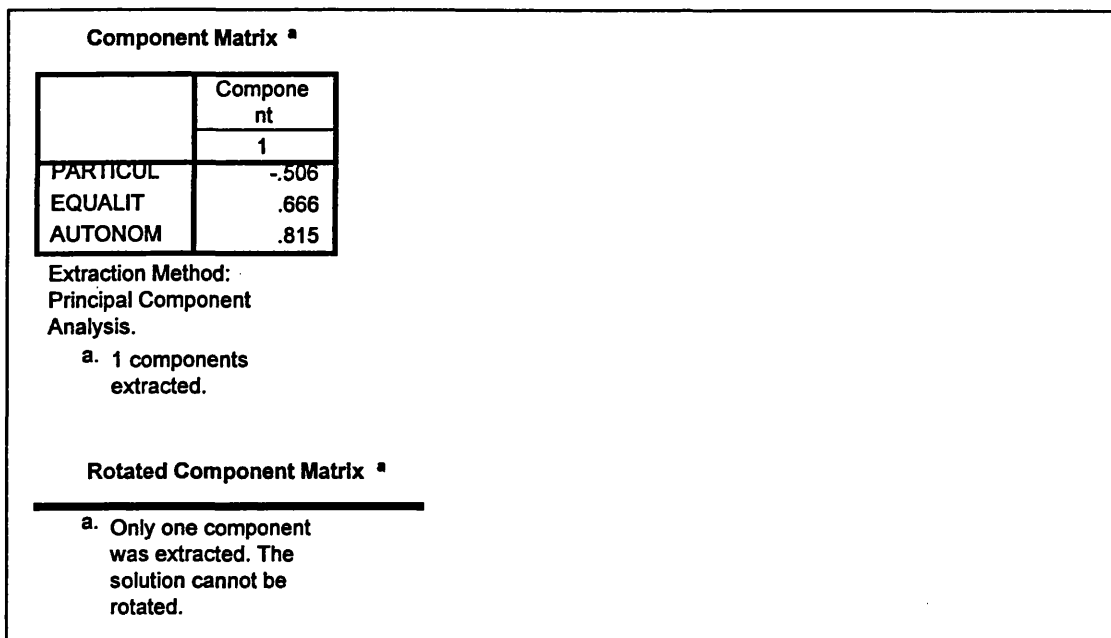


Figure 17: Internal reliability and exploratory principal component analysis of the three empirical dimensions, department-level of aggregation

Comparison of hypothetical and empirical model of openness through confirmatory factor analyses

A direct comparison of the hypothetical and the empirical model by using confirmatory factor analyses leads to the following results. As expected after the previous tests, the hypothetical model⁹⁷ presents unacceptable figures: chi-square=2028.17, df=296, $p < 0.001$, GFI=0.85, AGFI=0.82, RMSEA=0.077. Although these figures can be improved by modifications with respect to the modification indices and the residuals (as suggested by Jöreskog and Sörbom 1993: 126-128), most of these modifications would be clearly misleading from a theoretical point of view and, even after several modifications, do not reach an acceptable level. This result hence contradicts the hypothetical model.

The empirically gained model, by contrast, proves much better results: chi-square=181.25, df=51, $p < 0.001$, GFI=0.97, AGFI=0.95, RMSEA=0.051. All three dimensions meet both criteria of discriminant validity (see above: chi-square difference test and the Fornell-Larcker criterion), but PARTICUL definitely fails to meet the criterion of convergent validity.⁹⁸ This leads to the following conclusion: after balancing discriminant versus convergent validity and after considering the fact that the dimensions establish the construct *formatively*, we decide not to include PARTICUL into the empirically gained construct of openness and consider PARTICUL always separately from EQUALIT and AUTONOM.

⁹⁷ Items A1 to A14 = social dimension; items B1 to B6 = anthropological dimension, items C1 to C6 = epistemological dimension

⁹⁸ Measured by the significance test of the factor loadings according to Bagozzi et al. 1991: 434. PARTICUL's loading on EMPI_OPN is not significantly (5%-level) different from zero according to a one-tailed t-test.

Appendix F - Variance analyses

Discussion of the preconditions

The results of the variance analyses employed in Chapter 6 must be interpreted conservatively, since several presuppositions are not met. First of all, it is important to the multifactorial variance analysis (several independent nominal variables, in this case company and department, and one dependent variable, which must actually have an interval scale) that the independent variables are perceived separately from each other by the respondents (Backhaus et al. 1994: 84). In the case of this study, this cannot be totally guaranteed, since in the respondents' perception the terms department and company do not clearly differ from each other. They might assume that what relates to an area relates to the whole company too. Therefore, respondents cannot be asked to give separate answers for the company and the department, because this would enhance the danger of methodological artefacts. The respondents might feel forced to mark a difference between company and department in order to show their capability of differentiating, although they actually cannot perceive differences between the two entities. In addition, it must be mentioned that the dependent variable must comply with a metric scale (Backhaus 1994: 84), which could not be achieved in this study (PARTICUL, EQUALIT and AUTONOM were measured on an ordinal level). Such use of either ordinal data or metrically scaled figures might lead to disruptions concerning the results.

Two important presuppositions of the variance analysis's linear model, normal distribution of the cases within, and homogeneity of variance between, the groups (grouping variables: company, department) have been investigated. This investigation is not based on the basis of the total record of 991 cases, but on the 10 samples with 280 questionnaires (20 randomly chosen cases from each company), for the varying number of questionnaires received from the different companies account for the size effect discussed above. The results are summarised in the following table.

Table 19: Examination of the preconditions of analyses of variance

Proportion of cases, in which the presuppositions for analyses of variance are met	Normal distribution*	Homogeneity of variance**
PARTICUL company-level of aggregation department-level of aggregation	In 9 out of 10 samples	In 9 out of 10 samples
	In 10 out of 10 samples	In 10 out of 10 samples
EQUALIT company-level of aggregation department-level of aggregation	In 9 out of 10 samples	In 8 out of 10 samples
	In 10 out of 10 samples	In 10 out of 10 samples
AUTONOM company-level of aggregation department-level of aggregation	In 10 out of 10 samples	In 5 out of 10 samples
	In 10 out of 10 samples	In 9 out of 10 samples

* Kolmogorov-Smirnoff-Test of normal distribution with Lilliefors Significance Correction; Shapiro-Wilk Test of normal distribution is employed when the number of cases is below 50; significance level 5%

** Levene-Test, significance level 5%

While the variables PARTICUL and EQUALIT give no reason for concerns, a disruption concerning the homogeneity of variance of AUTONOM is evident. There-

fore, when interpreting the results of AUTONOM, the violation of this presuppositions of linearity must be kept in mind. For any post-hoc analyses, e.g. post-hoc multiple comparisons of subsets of companies or departments, only those tests can be employed, which do not assume equal variances. The *analysis of variance*, however, is considered to be very robust against violations of the presuppositions of linearity, especially with respect to the fact that it is all about whether there *is* a link or not (cf. Backhaus 1994: 85). Therefore, the irritations regarding the variable AUTONOM do not have to be regarded as severe. In different analyses, for example in a Multiple Classification's Analysis (MCA), which is often used to find out how strong a link is, violations of the presuppositions would account for much more room for misinterpretations (cf. Backhaus 1994: 85), so that such an MCA is not taken into consideration in this study.

Assessment of whether the companies differ significantly with regard to the three dimensions of openness

Table 20: Effect of the entity 'company' on the openness values

Company	N	PARTICUL	EQUALIT	AUTONOM
Chemic.Engineerg_1	71	38.09	48.53	53.05
Electr.Engineerg_1	46	55.25	53.53	33.59
Electr.Engineerg_2	31	33.33	57.93	53.55
Electr.Engineerg_3	63	39.55	59.23	49.05
Electr.Engineerg_4	130	57.95	59.55	51.66
Precis.Mechan_1	57	38.23	55.70	52.02
TelecomEnginrg_1	146	43.21	42.68	44.71
Food_1	24	45.49	58.59	57.71
Food_2	27	38.58	46.60	41.76
Medic.Enginrg_1	89	39.89	59.27	43.44
Medic.Enginrg_2	51	40.85	57.35	49.85
Pharmaceut_1	79	39.29	53.88	48.23
Pharmaceut_2	48	40.36	50.26	47.71
Pharmaceut_3	129	34.66	48.21	50.33

0=Closure, 50=Neutrality, 100=Openness

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PARTICUL	Between Groups	54484.295	13	4191.100	9.892	.000
	Within Groups	407171.9	961	423.696		
	Total	461656.2	974			
EQUALIT	Between Groups	34179.919	13	2629.225	6.811	.000
	Within Groups	370997.1	961	386.053		
	Total	405177.1	974			
AUTONOM	Between Groups	22430.148	13	1725.396	3.608	.000
	Within Groups	459500.5	961	478.148		
	Total	481930.6	974			

Appendix G - Cluster analyses

Methodological introduction

The following introduction to cluster analyses is based on Backhaus et al. (1994), a publication that captures large parts of the methodological discourses on this issue.

Cluster analyses can be divided into partitioning and hierarchical methods. Employing an exchange algorithm, partitioning procedures keep allocating objects into different groups until an optimisation function has reached its optimum. Hierarchical procedures merge objects into groups, which can no longer be separated after a fusion. Among hierarchical procedures one can distinguish between agglomerate and divisive methods. Divisive methods start by the largest partition and separate it into smaller groups, whereas agglomerate methods start with the smallest group and add the objects to the groups until all objects are allocated. Agglomerate hierarchical procedures are the most common in scientific practice (Backhaus et al. 1994: 285).

Among the agglomerate hierarchical procedures there are basically two algorithms of fusion, i.e. two algorithms to merge two corporations to a cluster, or two clusters of corporations to a single cluster, respectively. Measures of *distance* (a) are to be employed if the absolute distance between the objects is of interest (Backhaus et al. 1994: 277), i.e. if the dissimilarity is defined as the absolute difference of the corporations' values on the three dimensions. Measures of *similarity* (b) are to be employed if the similarity of two objects is seen as the equality of their profiles regarding the dimensions, rather than the absolute values on each dimension (Backhaus et al. 1994: 277). That is, two corporations are seen as similar, if their profiles along the dimensions are similar, although the absolute values of the first one might be high and the absolute values of the second one low. In terms of this study, employing a measure of similarity would contrast archetypal corporations on the one hand (regardless of whether they are open or closed archetypes), and interdimensionally differentiating corporations on the other (regardless of whether they differentiate on different dimensions). Measures of distance, however, would contrast corporations adopting similar values on each single dimension on the one hand, and those adopting different values on the other.

With respect to measures of distance one can distinguish between the *Minkowski metric* and the *squared Euclidean distance*. The Minkowski metric is based upon the absolute difference between values, whereas the squared Euclidean distance is based on the squared difference between values on each dimension. By employing the squared distance, larger differences are attributed a stronger weight, so that smaller differences become less important. Therefore, it is most important to realise that the decision between the Minkowski metric and the squared Euclidean distance influences the similarity of the objects and hence accounts for different results in the fusion of clusters (Backhaus et al. 1994: 274).

Furthermore, different methods of agglomeration must be distinguished. The *single-linkage method* (a), also called nearest-neighbour method, merges in the first step the

objects with the smallest distance, i.e. those corporations which are most similar. The *complete-linkage method* (b) ('furthest-neighbour') uses the largest distance for the distinction between different clusters. The single-linkage method is capable of discovering outliers, since it always uses the smallest values for the fusion of an object into the cluster and leaves objects with a bigger distance over. The complete-linkage method, however, tends to the fusion of small groups and is hence not suitable to recognise outliers (Backhaus et al. 1994: 290-291). The *Ward method* (c) does not merge those groups with the smallest distance, but unifies those groups, the fusion of which causes the lowest increase of heterogeneity⁹⁹. *Since the Ward method is seen as the procedure that finds "very good" partitions, if outliers have been removed beforehand (Backhaus et al. 1994: 298), it is recommended to use the single-linkage method first and after removing the outliers the Ward method (Backhaus et al. 1994: 300)*

The output of a cluster analyses is the agglomeration schedule and the dendrogram, which must be interpreted by the researcher. The 'coefficient' in the agglomeration schedule indicates the measure of heterogeneity¹⁰⁰. This measure has to be kept small, so that this solution of clusters must be taken, after which the measure of heterogeneity increases unproportionally largely (Backhaus et al. 1994: 307). In the dendrogram, the measure of heterogeneity is transformed in such a way that the measure of heterogeneity of the last step of fusion is equal to 25. The researcher, therefore, can interpret the steps of fusion on the basis of the graphs of the dendrogram. Again, this solution must be taken, after which the measure of heterogeneity increases unproportionally largely.

Hierarchical cluster analysis of the 14 companies, based on the three dimensions particularism, autonomy, and equality

- Single-linkage method (nearest neighbour)
- Distance measure: Squared Euclidean Distance

⁹⁹ The criterion of variance is used as the measure of heterogeneity, that is, the sum of squared errors, cf. Backhaus et al. 1994: 292-293.

¹⁰⁰ This is the case for the Ward method. In the other methods the coefficient indicates the similarity or the distances, respectively, of the merged objects or groups (Backhaus et al. 1994: 309). The criterion to choose the best solution, however, remains the same.

Case Processing Summary

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
14	100.0	0	.0	14	100.0

a. Squared Euclidean Distance used

b. Single Linkage

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	4	11	5.848	0	0	2
2	4	6	14.269	1	0	4
3	12	13	14.494	0	0	4
4	4	12	17.148	2	3	6
5	1	14	19.244	0	0	8
6	3	4	31.296	0	4	7
7	3	10	31.550	6	0	8
8	1	3	36.661	5	7	10
9	7	9	45.540	0	0	10
10	1	7	51.938	8	9	11
11	1	8	84.743	10	0	12
12	1	5	192.774	11	0	13
13	1	2	366.130	12	0	0

Cluster Membership

Case	7 Clusters	6 Clusters	5 Clusters	4 Clusters	3 Clusters	2 Clusters
1:Chemic.Eng_1	1	1	1	1	1	1
2:Electr.Eng_1	2	2	2	2	2	2
3:Electr.Eng_2	3	1	1	1	1	1
4:Electr.Eng_3	3	1	1	1	1	1
5:Electr.Eng_4	4	3	3	3	3	1
6:Prec.Mech_1	3	1	1	1	1	1
7:Telec.Eng_1	5	4	4	1	1	1
8:Food_1	6	5	5	4	1	1
9:Food_2	7	6	4	1	1	1
10:Medic.Eng_1	3	1	1	1	1	1
11:Medic.Eng_2	3	1	1	1	1	1
12:Pharma_1	3	1	1	1	1	1
13:Pharma_2	3	1	1	1	1	1
14:Pharma_3	1	1	1	1	1	1

Dendrogram using Single Linkage

Rescaled Distance Cluster Combine

CASE	Num	0	5	10	15	20	25
Label		+	+	+	+	+	+
Electr.Eng_3	4	--					
Medic.Eng_2	11	--					
Prec.Mech_1	6	---+					
Pharma_1	12	-- I					
Pharma_2	13	-- ++					
Electr.Eng_2	3	---+ ++					
Medic.Eng_1	10	---+ I I					
Chemic.Eng_1	1	---++ +---					
Pharma_3	14	-- I I					
Telec.Eng_1	7	---++ +					
Food_2	9	---+ I					
Food_1	8	---++ I					
Electr.Eng_4	5	---++ I					
Electr.Eng_1	2	---++					

Figure 18: Hierarchical cluster analysis of the 14 companies, based on the three dimensions particularism, autonomy, and equality

Hierarchical cluster analysis of the 14 companies, based only on the dimension EQUALIT (equality / equal opportunities versus established role structure / unequal opportunities)

- Ward method (nearest neighbour)
- Distance measure: Squared Euclidean Distance

Case Processing Summary ^{a,b}

Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
12	100.0	0	.0	12	100.0

a. Squared Euclidean Distance used

b. Ward Linkage

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	4	10	9.449E-04	0	0	4
2	1	14	5.392E-02	0	0	6
3	3	11	.220	0	0	7
4	4	8	.506	1	0	7
5	6	12	2.171	0	0	9
6	1	9	4.249	2	0	8
7	3	4	6.562	3	4	9
8	1	13	11.170	6	0	10
9	3	6	30.572	7	5	11
10	1	7	56.794	8	0	11
11	1	3	358.177	10	9	0

Cluster Membership

Case	7 Clusters	6 Clusters	5 Clusters	4 Clusters	3 Clusters	2 Clusters
1:Chemic.Eng_1	1	1	1	1	1	1
3:Electr.Eng_2	2	2	2	2	2	2
4:Electr.Eng_3	3	3	2	2	2	2
6:Prec.Mech_1	4	4	3	3	2	2
7:Telec.Eng_1	5	5	4	4	3	1
8:Food_1	3	3	2	2	2	2
9:Food_2	6	1	1	1	1	1
10:Medic.Eng_1	3	3	2	2	2	2
11:Medic.Eng_2	2	2	2	2	2	2
12:Pharma_1	4	4	3	3	2	2
13:Pharma_2	7	6	5	1	1	1
14:Pharma_3	1	1	1	1	1	1

to be continued on the next page

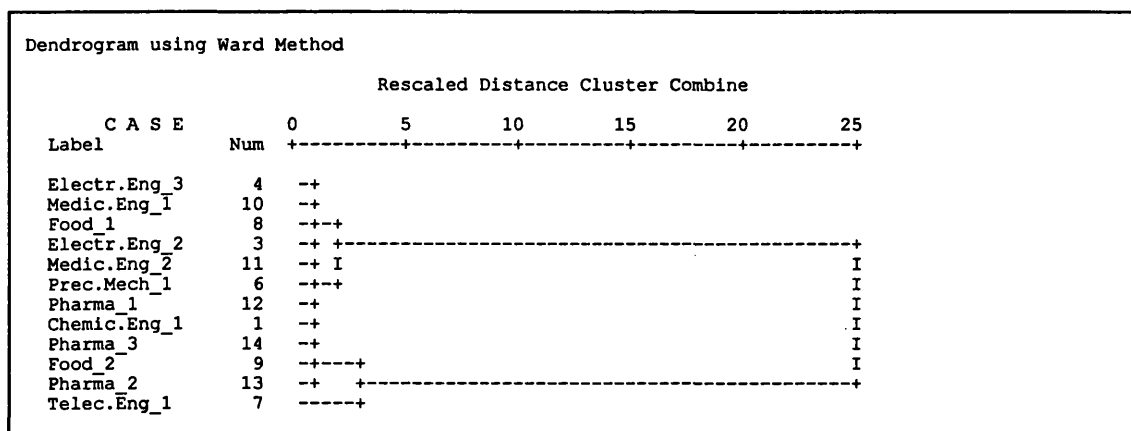


Figure 19: Hierarchical cluster analysis of the 14 companies, based only on the dimension EQUALIT (equality / equal opportunities versus established role structure / unequal opportunities)

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