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Polycentrische orde in organisaties: een dialoog tussen Michael Polanyi en IT-consultants over kennis, moraliteit, en organisatie

Proefschrift

door
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geboren te Amsterdam

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Acknowledgements

List of Abbreviations

SFS   Polanyi, M. (1946). Science, Faith and Society. Chicago: University of Chicago Press.

LL   Polanyi, M. (1951). The Logic of Liberty: Reflections and Rejoinders. Chicago: University of Chicago Press.

PK   Polanyi, M. (1962). Personal Knowledge. London: Routledge & Kegan Paul.

TD   Polanyi, M. (1966). The Tacit Dimension. London: Routledge & Kegan Paul.

CI   Polanyi, M. (1967). Creative Imagination. Tri-Quarterly, 8(Winter), 111-123.

KB   Polanyi, M., & Grene, M. (Eds.). (1969). Knowing and Being: Essays by Michael Polanyi. London: Routledge & Kegan Paul.

M   Polanyi, M., & Prosch, H. (1975). Meaning. Chicago/London: Chicago Press.

SEP   Polanyi, M., & Allen, R. T. (ed.). (1997). Michael Polanyi: Selected Papers on Society, Economics and Philosophy. Rutgers: Transaction Publishers.

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1 Introduction

This thesis brings forward the idea that professionals can impact their organization on the basis of their insights. The last decade there has been a tremendous interest in literature and management practice for the role of knowledge in organizations. Using terms such as "post-industrial age", "knowledge management", "knowledge intensive firms", or "communities of practice" both academics and practitioners have tried to find ways to manage professionals, to facilitate organizational learning, and to develop an effective organizational memory. However, the predominant approach has been fairly one-sided. The question that was usually posed was: "How can organizations develop knowledge?" without posing the reverse: "How can knowledge develop organizations?"

This thesis emphasizes that knowledge and organization should be understood in their interdependence and that therefore both questions are relevant. It is written from the position that any understanding, decision, meaning, or norm is rooted in a personal history and a social context. We always rely on a tacit dimension of assumptions and skills, images and memories, conventions and mutual expectations. This idea of an inescapable tacit dimension that makes us understand, communicate, and value in different ways, while at the same time makes us share much more than we can imagine through tacit adjustments, lies at the basis of this thesis.

One implication of the tacit dimension is that our knowledge will never be objective. The inescapable tacit dimension limits the pretenses that we can have about our claims, but at the same it is what makes our knowledge potentially valuable. Intellectual, artistic, or religious passions, our ability to immerse ourselves in phenomena and to sincerely connect to others are the requisite ingredients for new and valuable creations.

A second implication is that we have to wonder what a fair and just social, organization or societal order can be in the face of a multiplicity of personal histories and different social contexts. This thesis addresses a small portion of this issue, which could be summarized in the following research question: "*How should small groups of professionals organize in the face of a plurality of perspectives, and how should they relate to their organization*?"

The term *professional* is not unproblematic. It is more an honorific term than a technical term (Abbot, 1991). But in the diversity of opinions of what counts as a profession, it seems that a recurring theme is the existence of an occupational community or culture that carries criteria on quality in relation to a client orientation. A second theme is that a profession relies on a body of knowledge and techniques acquired through training and experience. (Alvesson, 1995; Sharma,

1997; ten Bos, 1998). In my use of the term professional, I restrict these two themes by following Reed's description of a knowledge worker who "specialize{s} in complex task domains which are inherently resistant to incursions by the carriers of bureaucratic rationalization and control" (Reed, 1996: p. 585). Their power base relies on a body of knowledge that is, according to Reed, inaccessible for non-experts, non-substitutable, yet applicable to other organizations as well. This research is thus not focused on what we could call the traditional professionals (lawyers, physicians, etc.) but on the professionals that rely on a less formal and standardized body of knowledge and who are thereby also less concerned with occupational and organizational credentials.

In order to address my research question I will bring Michael Polanyi's concepts of tacit knowing, participation, emergence and polycentric order in a "dialogue" with my findings in an ethnographic study of a group of IT-professionals. Polanyi's concepts have sensitized me to notice particular events, and gave me a particular analytical approach. Vice versa, the events and conversations of the IT-professionals made me re-interpret parts of Polanyi's philosophy. As a result I have brought the concept *polycentric order* to the level of groups of professionals in an organization. In that context I found that polycentric order could imply an economic, cognitive, social space in which professionals could safeguard their professional development, through establishing rationales that are independent from the organization, developing their own resources, and controlling the information. This space I will describe as a *safe haven[1]* for professional development.

In the remainder of this chapter I will give some of the most relevant backgrounds and motivations, together with an overview of this thesis. But I would like to start with the background of the research question, as even research questions are rooted in a personal history.

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[1] *Vrijplaats* is a Dutch word that would translate, according to the three main dictionaries I have consulted, as "asylum", "sanctuary", or a "haven for refuge". But *vrijplaats* has another connotation as well. It refers to "free city", "city state", or "free market" to describe places where participants develop their own local rules, and resist more global jurisdictional rules. The idea of "vrijplaats" originates from the Middle Ages, for criminals to seek asylum from persecution, for people to profess their forbidden religion, and for artists to gather. There is not a proper translation of the Dutch word "vrijplaats", and thus I will use the term *safe haven* which I think comes closest to the original term.

1.1 Personal History

In 1997, I was a software designer at Documix[2], working at my first job since my graduation in computer science two years before. I worked in an IT-consultancy of about 50 employees. The company's services entailed user interface advice, company documentation, and providing a content management system[3] for their customers. Apart from these consultancy projects, there were internal projects. These internal projects entailed the development of this content management system, an Intranet and a tool to create a style-guide for user interfaces of corporate applications. I was to a varying extent involved with all of these internal projects. Over a period of one year virtually all software engineers left. This led to a problem that endangered the existence of Documix. Promises to customers and service contracts could no longer be fulfilled. Preceding this event, a problematic relationship between software engineers and managers had developed. At times they attributed completely different meanings to what were supposed to be the same events, at crucial points the two groups had a completely different set of goals and criteria, and looming behind all that, an inability to understand the other's rationality.

For instance, at that time, ideas of Peter Senge on the learning organization (Senge, 1990), together with the appliance of complexity theory took root in Documix. The top manager, who supervised the internal projects, would enthusiastically deliver stories on self-organizing teams. He brought the story on termites, developing grand hills without top-down steering, as the metaphor for organizing in Documix. Developers pointed out to each other that the top manager was ordering them what to do, while he lacked the requisite insights they had. They argued that self-organizing was a cover-up for a management that was not able to take responsibility and take initiatives to solve the organizational chaos. The top manager complained on his turn that the software engineers were inconsistent. They demanded the managerial directives, but when these were given, they complained and sabotaged the decision.

What I had find striking, was how fundamental the differences in perspectives were, how impossible consensus seemed, and how limited one group was to enforce directions on the other group. I resigned, and started at the end of 1997 a Ph.D. on knowledge management in the belief that a place at university would enrich my understanding and abilities to reflect on what happened. Organizational knowledge and innovation had played a vital role for this organization. Surely, knowledge management literature had addressed the role of conflicts and the diversity of perspectives in the development of organizational knowledge and

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[2] A pseudonym.

[3] A content management system is meant to manage data or documents. It includes tools for search and retrieval, publishing, format management, etc.

innovation.

However, I was amazed to find how hard it was to find literature that addressed this combination. Going through different management theories, I asked myself: "Would that have worked in Documix when management had acted that way?" Most of this literature assumed a fairly unproblematic role for the manager, as if they could really decide on the definition of organizational structures and goals. I had seen the enormous potential of developers to sabotage any top-down decision that they would not subscribe to. I found it astonishing to see the neglect of the issue of resistance in these theories.

1.2 The Management of Professionals Paradox

Shoshana Zuboff was the first author I came across who addresses this situation. Zuboff's critique on managerial decision-making is that in this Information Age, *the legitimacy of managerial authority* is in question, and thereby the manager's ability to decide and organize (Zuboff, 1988). She uses Max Weber to define managerial authority in an organization as the legitimate exercise of imperative control. *Imperative control* is the situation in which commands yield a high level of obedience. For Zuboff, managerial authority thus depends on legitimacy. Legitimacy is not merely an ideological means to persuade subordinates. It is a "moral fact assumed by those in the hierarchy" (page 221). I think this is true for employees and managers who actually participate in an organization and not merely act from an opportunistic and individualistic standpoint. For when legitimacy is corrupted all that remains, is the imperative power that fully depends on the availability of coercion power. But then also managers will be directed and exploited on their turn by other opportunistic managers. There is quite some support in literature for this dominance of arbitrariness in organizations, as we can read for instance in the descriptions of Watson (2001) and Jackal (1988).

Zuboff supports her critique mainly with two arguments. Her first argument states that the increased abstract level of tasks renders the managerial supervision of tasks impossible. Workers have gone from concrete and visible tasks to largely invisible symbolic manipulations; a manager cannot look in the heads of its subordinates. There are several illustrations in her book as to why the abstraction of tasks impedes managerial supervision. For instance, Zuboff describes the discontent of the controllers in a paper mill. For a while the controllers tell each other that this is the last month that the production level is so high. Then indeed, the production level goes down. In response, managers try to catch the controllers on sabotage. It turns out that the decline in production level came from the things they did not do, rather than what they did, and thus management was seldom able to catch the controllers.

Her second argument states that an increasing decentralization of knowledge undermines hierarchical relations. Managers no longer have access to the relevant knowledge, which makes their decisions seem arbitrary for participants. The knowledge that is needed to decide on criteria to judge the results, or to decide on who knows what, is no longer centralized in the managerial hierarchy.

With Documix as my point of reference, I fully subscribed to her conclusion that managerial authority is problematic in this Information age and thereby manager's ability to decide and organize as well. I had been amazed to see how effective and motivated software engineers had been in frustrating managerial decisions when they disagreed. They were using the inability of managers to specify their demands. For them, this inability was a reason for contempt with the managers. Their profession relied on careful specification. If a manager was apparently incompetent in specifying his demands then his authority was in question. Ignoring management as much as they could, they redrew to a technical idiom, and attempted to pursue their own goals to a large extent.

On their turn, the managers interpreted the use of the technical idiom as a shortcoming of the software engineers to communicate. In their eyes they not only failed to collaborate, but they even failed as human beings. Since managers could allocate finances and people in ways that frustrated software engineers, they had their revenge. Both groups had power, but it did not amount to any synergy.

I found that there is a recurrent criticism on the managerial decision-making in the context of specialization, and professionalization. For instance, Burns and Stalker (1961) question the efficacy of assumptions of managerial omniscience in their groundbreaking studies of organizing processes in firms in the Scottish electronics industry in the late 1950's. They claim that in cases where knowledge is decentralized, an organization is dependent on the responsibility of its employees, which is destroyed through imperative and coercive power. Garrick and Clegg (2001) point out the problem of performative stress that comes from the instrumental approach in project-based learning. Fiol (2003) critiques the instrumental orientations in managerial writing on knowledge processes for similar reasons. Both Alvesson (1995) and Gherardi (2001) question the paradox of the term *knowledge management*, as something that seems impossible to manage, as it is too fundamental to the organization. There are many more critiques on the instrumental approach to knowledge in organizations, yet a substantial portion of the knowledge management literature neglects these important problems. Many of these authors use the concept of tacit knowledge, but actually Polanyi's tacit dimension is at odds with an instrumental perspective on organizing.

As I developed my investigation on the relation between knowledge and organization increasingly my emphasis came to lie on *participation*. Participation seemed to be the key to limit the arbitrariness of managerial decision-making, and to organize in knowledge intensive firms. For this investigation, Michael Polanyi's work proved crucial. He had developed a framework of concepts that related knowing, being, morality and emerging organization. I will argue that in Polanyi's

philosophy the tacit dimension is meant to conceptualize knowledge in a real interdependence with organization.

1.3 Polanyi's differences

Triggered by the sheer quantity of references in knowledge management literature to *Personal Knowledge* and *Tacit Dimension* I came to Michael Polanyi's work. As I started reading Polanyi's work I found that Polanyi's tacit dimension could be useful in understanding coordination problems. Differences between people in tacit knowledge imply that people may see, speak, and value shared situations very differently.

I learned that Polanyi's theory of knowing, or epistemology, is an intuitively approachable way to explore the multiplicity theme, and yet touch on many complex subtleties. There is no introduction of an extensive philosophical jargon and the ideas are presented quite informal. This makes his philosophy intuitively easily approachable. At the same the lack of philosophical rigor, makes Polanyi sometimes seem to contradict himself. In Polanyi's texts that relate knowledge to social order, I see three efforts:

- Perspectivity: people may understand their world in very different ways, speak in different ways, and have very different criteria for judging a shared experience.
- Participation: people participate in communities, organizations, or society. Participation can be defined in terms of indwelling membership, and a reaching out to the social, and thereby impacting social order.
- Emergence of polycentric order: social and economical order emerges from participation of people with different perspectives. The crucial quality of this emergence is that the differences in perspectives are not reduced to this new order.

All three efforts indicate important ideas and fruitful directions, but they are by no means a systematic description of the relation between knowledge and social order. Every time I went through Polanyi's texts I was still at a loss of answering what that would have implied for Documix. I missed depth and richness in the descriptions concerning the relation between participation, perspectivity, and polycentric order. Moreover, the concept of emergence was more of a black box than a description of the dynamics of particular social processes.

Still, I found that all the relevant aspects came together in Polanyi's philosophy: knowledge, commitment, morality, and emerging social order. This convinced me to try and solve the lack of conceptual depth at the places in Polanyi's philosophy where I thought this was needed.

Polanyi conceived of *polycentric order* as a way to keep the valuable tacit elements in knowing and being from being reduced to mere organizational explicit

agreements or structures. *Polycentric order* was an effort to balance the need for coordination against intellectual, artistic, and spiritual freedom. It is a spontaneous social order, that is unplanned, and that relies on a free, but common dedication of its participants. My concept of *safe haven* is largely inspired on the concept of polycentric order, and may even be seen as a particular instance of it.

It should not be underestimated how controversial the concept of polycentric order is. Usually, the essence of organization is understood in terms of hierarchy (Simon, 1951). In economic theory hierarchy and market are understood as alternative means for organizing similar kinds of transactions (Coase, 1937). Markets are a spontaneous coordination mechanism that imparts rationality and consistency to the self-interested actions of individuals and firms. No one relies upon another to give direction; prices alone determine production and exchange.

An organization is characterized by the fact that formal power is always centralized although informal power can be decentralized (Aghion & Tirole, 1997; Baker *et al.*, 1999). Both market and organization are the result of human action. However in contrast to an organization, where the visible hand of management gives direction, the market is governed by the so called invisible hand and equilibrium spontaneously occurs (Hayek, 1945).

Polycentric order is not a hierarchy since there are different centers of power. Nor is it a market since there is accumulation of benefits and power on the basis of history. Polycentric order is also different from a community, as its structures and processes are not limited to the informal organization.

Polycentric is most similar to the much more recent concept of *organizational networks* (Powell, 1990). Polycentric order has in common with the network concept that both rely on the quality of the relationship. In both the sharing of knowledge is crucial, and the rigidity of hierarchies should be avoided.

However economic theories, including the theories about organizational networks, have a starting point that is fundamentally different from Polanyi's. Their basic ontology is that there are different actors, who have different properties, assets, and property rights. These economic actors pursue a maximization of their own interest. Through negotiations resulting in particular distributions of property rights, and contracts, different actors align their interests.

Polanyi starts at the opposite end. *Indwelling*[4] comes before identity. There is not a given actor, with predefined interests, and inherently valuable property rights or capabilities. Instead the starting point is the shared experience in which the participants through mutual adjustments produce meaning, identity, interest, and value. There is no polycentric order without participation. Identity, meaning and direction of employee and organization become interdependently defined.

It is for this reason that Polanyi's philosophy is so relevant to me. The problems

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[4] Indwelling is a specific concept used by Polanyi that I will elaborate on in chapter 2. It has many similarities to both Heidegger's *Dasein* and Dilthey's *Verstehen*.

in Documix had to do with differences in understanding, unclear positions, and opposing values. For Polanyi, indwelling implies that in cases where different perspectives are relevant, knowing and organizing should be intricately connected. Power structures should not a priori determine what could be learned and discovered. Instead, new insights should have the potential to redefine power structures.

The idea of polycentric order is not similar to bottom-up organizing. Nor is it about a more enriched interaction between the top of the organization and the work floor, such as Nonaka's top-down-bottom-up management (Nonaka & Takeuchi, 1995). Nor is polycentric order necessarily a defense for informal non-hierarchical organizational structures, such as Communities of Practice (Brown & Duguid, 1991; Wenger, 1999).

Polycentric order is more fundamental than these ideas. There can be hierarchy, but what is top and what is bottom is to result from rich interactions and is an inherently temporary constellation. The coordination principle for polycentric order is not a market mechanism or central governance but *emergence*. Polycentric order is about the idea that there can be hierarchy, while avoiding central planning.

Polanyi has not clearly outlined his ideas on polycentric order. He gave descriptions of particular features of the scientific community as an example of polycentric order. In his works there are descriptions of the *free society* implemented by polycentric order. He contrasts the free society order to totalitarian regimes and polycentric order to the failures of central planning. On the basis of these descriptions and reflections on an ethnographic study (the EDM-case) we will explore what polycentric order could entail for small groups of professionals, how it can be characterized, and the implications for organizing. With the latter we will find an alternative to both the instrumental and consensual approach in knowledge management, organizational learning and communities of practice literature (as described in chapter 5).

In this dialogue between the EDM-case and Polanyi's work the four themes - emergence, participation, perspectivity, and polycentric order – play a vital role. The EDM[5]-case is about a group of IT-professionals in an organization that I call Asperix. The reason to create a developing contrast between Polanyi's philosophical works and the EDM-case is that the Members of the EDM-group have tried to address a similar motive as Polanyi: to organize while using and respecting the differences in personal and social history and context.

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[5] EDM stands for Electronic Document Management, which is what this group of IT-professionals were involved with.

1.4 Roadmap

In the following chapter, I will give an introduction to Polanyi's epistemology and social philosophy. This interpretation of Polanyi followed after several iterations of reading his work, and my efforts to confront my readings of Polanyi with the findings in my ethnographic research.

In chapter 3, I will describe the development of my research perspective, and the methodological implications of Polanyi's philosophy. In essence, my general research approach could be characterized as hermeneutic; the development of an interpretative frame in relation to the development of meaning of the social text.

The most important concepts in this thesis are *indwelling, participation*, *perspectivity* and *emergence*.

In chapter 4, I will describe my ethnographic study of a group of IT-professionals. The idea of these professionals was that if they could find a synergy in their group using their different disciplines, they would be able to offer a valuable service to their customers. In many ways they succeeded in bridging these differences, and indeed offer a more 'complete' service to their customers. However, this search also led them to negotiate as a group with the top management, and create a *safe haven* for their professional development, and thus establish a basis for actual participation.

In chapter 4, I will reflect on some of the recurrent positions in knowledge management and organizational learning literature. I will relate descriptions on the relation between knowledge and organization with the findings in my ethnographic study, and the philosophy of Polanyi. I will point out a widely spread misinterpretation of the concept of tacit knowledge, the artificiality of the separation between individual and collective knowledge, and the drawback of the instrumental approach to knowledge.

In chapter 5, I will add to Polanyi's ideas on the emergence of meaning and social and economic order, using developments in complexity theory. I will use the EDM-case to reflect on these issues and introduce the concept *catalyst of meaning*.

In chapter 6, I will emphasize Polanyi's motives for introducing the concept of *tacit knowledge*. I will use the EDM-case and the concept of participation to explore the reasons and qualities of a safe haven for professional development.

In chapter 7, I will summarize the previous chapters. There I will also discuss the implications for a methodology of the tacit dimension to organizing, and the implications for practice in the form of simple guiding principles for professionals to develop a safe haven for professional development.

2 A Paradigm of Indwelling

Before going into the concepts of Michael Polanyi, I first would like to go briefly into Polanyi's history, for his concepts arose from a specific motivation. Even the short clarification that I will give to his motivation, I think already clarify the ambiguities in his texts to a large extent, for there are different ways to interpret Polanyi's texts. His text contains traditional terms, commonsensical terms, while at the same time the implications he takes from some notions of Gestalt psychology uproot any traditional philosophical or scientific perspective. For instance, Polanyi uses terms such as subject, object, human or society. But at the same time central notions in his philosophy, such as *indwelling* and the *emergence of meaning and order*, redefine or even destabilize these traditional terms. From this perspective subject and object, human and society can only be understood in their interdependence. There is no substance to these terms assumed.

This description is already an interpretation of Polanyi that is not commonly shared. The bulk of references in organizational literature speak of a very different interpretation, where tacit and explicit are merely attributes of an organizational resource, called *organizational knowledge*. I will give arguments for my interpretation listing references, quotes, and other authors. But I think the most convincing argument is Polanyi's motivation.

Michael Polanyi was born March 11, 1891 into an urbane Jewish family in Budapest. He completed his medical studies in 1913 and became a physician in the Austro-Hungarian army during World War I (Sanders, 1988). During a hospitalization and convalescence, he was able to write a dissertation in chemistry. After the war Polanyi went to Germany. Eventually, he landed a position at a prestigious German scientific institute in Berlin, but left in 1933 for a position in physical chemistry at Manchester University in Great Britain (Nye, 2000). Polanyi's best-known work from this period was in the field of chemical kinetics and dynamics. He actually contributed greatly to establish the modern field of chemical dynamics (Nye, 2000).

Through his life, Polanyi thus encountered the effects of both Hitler's and Stalin's regime. On the basis of those experiences, Polanyi became not only concerned with the role of oppression in these regimes but also with the nihilistic tendencies he encountered there[6]. His concern became so large that he started a dramatic career change when he was over fifty years old. From being a respected scientist in chemistry he attempted to establish an uncertain position in philosophy. After pursuing philosophical writings during the years of the Second

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[6] There are many texts in Polanyi's work where one can straightforwardly derive such a conclusion. For instance the introduction of *Meaning* is quite explicit in this respect.

World War, Polanyi in 1948 exchanged his chemistry professorship for a chair of 'social studies' at Manchester.

His philosophy was based on two scientific theories from widely differing fields. He used Gestalt psychology to construct an alternative direction for science that he thought inhumane, too rational, and too reductionistic. His alternative emphasized that knowledge was always partly subjective and personal. In fact he argued that the personal aspect was also what gave knowledge its value. From the field of chemistry, he must have taken the concept of *emergence*. Emergence was for Polanyi the common denominator between chemistry and Gestalt psychology. Order and meaning could both result from a sudden change that made separate particles emerge as a whole. As the emergence of order is not dependent on a top down governing principle, this made Polanyi use emergence as an alternative for totalitarian government.

With the application of the concept of emergence to the social domain he was thereby a forerunner to the Santa Fé movement and complexity theory. Evolutionary Economics have been using Polanyi's concept of the emergence of polycentric order via authors such as Friedrich Hayek and Vincent Oström to argue that central planning and formal structures were only limited means to organize (Hayek, 1960; Oström, 1991). This movement on its turn has had impact on the Santa Fe movement[7] and systems theory.

As some substreams in complexity theory come close to Polanyi's original intentions, and perhaps without knowing have been influenced by his interpretation of emergence, I will come back to parts of the initiatives there to enrich Polanyi's ideas on the emergence of polycentric order (in chapter 5).

Now that we have established his general motivation, let us go into some of the central concepts in Polanyi's work.

2.1 Tacit Knowing

Tacit Knowing is a concept with far reaching implications. Andy Sanders has even described Polanyi's philosophy as a *Paradigm of Tacit Knowing* (Sanders, 1988) to show that this concept has implications for the fundaments of science. Concepts such as truth, identity, and communication become redefined after assuming the idea of *tacit knowing*.

Polanyi's argumentation in the "Tacit Dimension" starts with the argument "we

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[7] The part of the Santa Fe movement that concerns itself with economy and business, tries to find an alternative for neo-classical economy. Instead of equilibrium, authors such as Brian Arthur, emphasize process and emergence.

can know more than we can tell" (TD: 4)[8]. With this he introduces the tacit dimension of knowledge. When for instance articulating knowledge, we rely implicitly on our skills to communicate. Moreover the content of what is communicated reflects a certain attitude, an assembly of beliefs and intentions. Although these beliefs and skills play a part when we communicate the message, we are focused on the message itself.

Observing a difference between knowledge of which we are explicitly aware, and knowledge that is implied in this awareness, Polanyi makes a distinction in two levels of awareness; focal awareness and subsidiary awareness: "When focusing on a whole, we are subsidiarily aware of its parts" (PK: 57)[9]. The subsidiary awareness provides the clues that are *integrated* by a person into a coherent whole or entity on which one's attention can be focused. This attention is focal awareness.

Polanyi relates focal awareness to explicit knowledge and subsidiary awareness to tacit knowledge. Tacit knowledge is the content of subsidiary awareness together with performative and integrative skills.

2.2 Indwelling

Indwelling, one of the main concepts in Polanyi's philosophy and this thesis pertains to the dynamics between explicit knowledge and tacit knowing. There is an awareness of focus, and a tacit undertow that manifests *through* the focus. Polanyi's illustrates this with the example of the blind man with the probe. A blind man explores a cavity, using a probe. The focus of the blind man is on the end of the probe, being only tacitly aware of the changing pressures on the palm of the hand. The sensations in his hand get meaning only in terms of the probe touching the cavity. In other words he projects (without explicitly knowing it) the sensation in his hand on to the end of the probe, so that the probe *tells* the blind man the shape of the cavity (cf. TD: 12). According to Polanyi the blind man has dwelled in, or interiorized, his hand, arm and body, by focusing on the end of the probe and the cavity.

The focal awareness lies on the end of the probe and the cavity. But this awareness *implies* a flow of impressions (i.e. the changing stimulation of the hand by the probe). But it also presupposes skills: the directing of the probe, and the interpretation of the flow of impressions. For this interpretation traces of previous experiences and meanings are summoned to create the focus.

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[8] The term TD:4 stands for Polanyi's book "*The tacit dimension*", page 4. For an overview of abbreviations please refer to the beginning of this thesis before the table of contents.

[9] Likewise PK: 57 stands for "*Personal Knowledge*", page 57.

Thus there are two different levels of tacitness. One is the flow of impressions and traces of previous experiences. All impressions, all remembrances, and all interpretative and performative skills, which are used for attending to the focus, may be regarded as *interiorized* or *dwelt in* (cf. TD: 16). The other level pertains to performative and integrative skills. This he also describes as tacit inference.

In order to illustrate the dynamics between explicit and tacit knowledge, I would like to introduce a metaphor, comparing knowledge to a theatre stage[10], to emphasize the dynamic interplay between the tacit dimension and focal awareness. A reason to use this metaphor is to counter the often-used image of the iceberg. This conception we can find already in the first uses of the concept of the tacit organizational literature (Hodgson, 1988: 126; Nelson & Winter, 1982: 79), and is still popular (Beijerse, 1999). The iceberg seems actually a reference to Freud to distinguish unconscious knowledge from conscious knowledge (Allen, 1990). From my reading of Polanyi, the image of the iceberg fails to show the dynamics of the interplay between tacit and explicit knowledge. Let us now turn to the explanation of the *theatre metaphor*
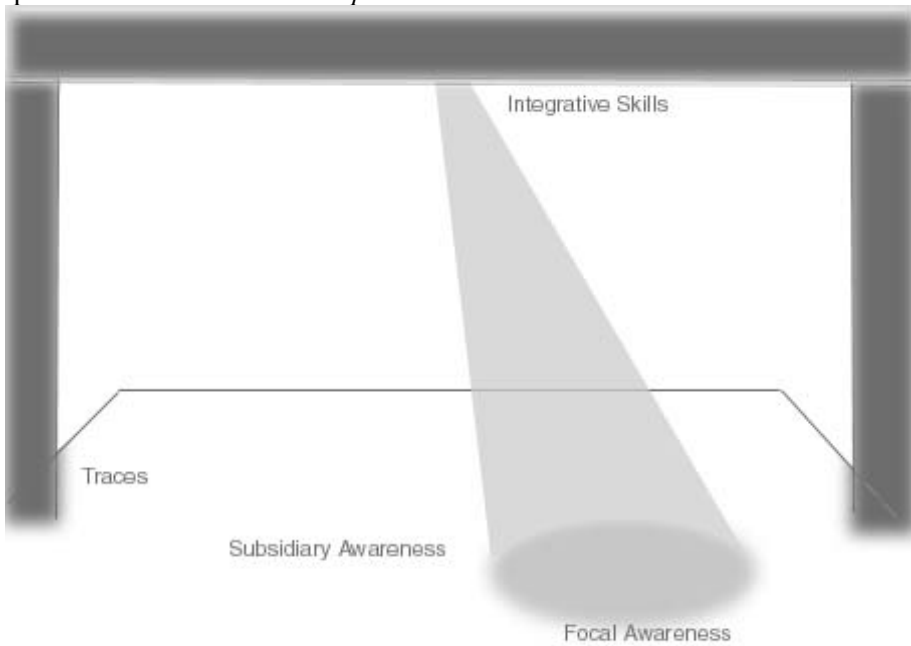
Figure 1: Knowing as a Theatre Stage

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[10] Erving Goffman is well known for his stage metaphor (Goffman, 1963). However while his metaphor indicated the portrayal of identity, this metaphor is to indicate the process of knowing.

On the stage there is a certain setting with actors and theatre requisites. The spotlight indicates the current focus of the play. It shows what is relevant; it creates a foreground, so that the rest of the stage becomes background. The attributes and actors in the background are not unimportant. However, they contribute only in terms of the current focus. This focus, being a particular piece of the entire setting, is established through the use of spotlight, the positioning of actors, the use of requisites, and the story. The director governs the production of a story that is developed through a moving focus, so that parts of the background become the foreground and vice versa.

The theatre in its entirety represents us as a human in our social contexts with our personal histories. The stage corresponds to consciousness. The requisites and actors on the stage represent the impressions on our consciousness. Some of these impressions become a part of the play that develops on the stage. They bear on the focus of the play. This focus stands for the focal awareness. Just as in a theatre play, the focus is a Gestalt, a coherent whole. At the same time it is also suggestive of development in the play, just as the content of focal awareness suggests meanings to come and bodily actions to perform.

Then there is the audience. Their laughter, cries, or rumors, even their silence, makes them present on the stage. Knowing often – if not always – takes place in a social context, whether other people are present, or merely imagined or presumed. It is this aspect that connects Polanyi's epistemology to his social philosophy. But to explain this we need the director of the theatre.

The director is the principle that creates meaning on the basis of tacit clues, and that integrates bodily movements into action. A director has particular tendencies in scripting plots, and thus also stands for tendencies in understanding, developing meaning and performing. He summons memories, clues, and bodily movements to fit a focus he demands. The director stands for a principle that I will define in the following section as a *perspective*.

The director has no complete control over the story. The development of the plot depends on the requisites and actors that enter the stage. Likewise, we cannot interpret our impressions to create any meaning. Thus settings can appear on the stage that makes it hard on the director to produce a focus that would fit the plot. At such times the director either has to improvise, or request another director to take over. For this is the case, there is more than one director to indicate the multiple sets of tendencies we have to interpret and act. We have more perspectives from which we act and understand.

The advantage to choose the stage metaphor allows us to investigate the dynamics of knowing in relation to changes in the focus. The vital implication of indwelling is that what we explicitly know is related to the way we see the world, and that our engagement leads to tacit adaptations in this perspective. Therefore, think that Polanyi did not intend the concepts tacit and explicit knowledge as means to characterize knowledge.

2.3 Perspectivity

The idea that each of us has a particular perspective from which we understand the world (Weick, 1995), is almost a truism. However indwelling entails a very detailed description of this idea with specific implications. Let me summarize indwelling as described in the previous two paragraphs by the following citation:

> *"We may comprise this whole set of faculties – our conceptions and skills, our perceptual framework and our drives—in one comprehensive power of anticipation"*
>
> <div align="right">Citation 1. PK:103</div>

Polanyi uses different terms to indicate that each of us has tacit principles that structure our interpretations, actions, and communications. For this he uses terms such as idiom, schemes, or integrative framework. Thomas Kuhn, who bases his ideas for an important part on Polanyi's philosophy, uses the term *paradigm* in combination with an embodied *standard example* to refer to the tacit structuring principles that create a particular personal scientific practice (Kuhn, 1970). David Bohm conceives of dialogues as a means to notice and change the psychological mechanisms that we are usually caught in that create the phenomena and habitual tendencies (Bohm, 1996). For this he also relies strongly on Polanyi in combination with the eastern philosophy from Krishnamurti.

There is thus a principle, be it an embodied standard example, a psychological mechanism, or an idiom, that I will from now on term *a perspective* that structures the process of indwelling. The perspective is a general tendency to anticipate events, integrate particular impressions into meaning, and bodily movements into action. To elaborate on the latter; Polanyi refers to William James to describe bodily actions as the work of the imagination[11]:

> *"We start imagining the action that we are about to perform, and this forward thrust of our intention evokes the muscular contraction which will implement it"*
>
> <div align="right">Citation 2. SEP: 326</div>

The imagined action is not the action itself. It is perhaps what is intended, but the integrative act, and the resulting focus, is more complex, more rich than the imagined. Indwelling must thus not be seen as a $push$ that creates meaning from remembrances and impressions. We are not just overcome by meaning. Indwelling

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[11] A similar understanding of a relation between meaning and bodily and sensory experiences or action is not uncommon in the embodiment literature (MacWhinney, 1999)

is also a *pull* from a suggested focus that tries out and adapts existing perspectives, summons remembrances, searches for fitting impressions, and imagines.

Thus in Polanyi's description of the process of indwelling, a perspective not only structures the process of indwelling, it becomes adapted in the process of indwelling as well. The suggestion in the focus creates a tension "between our faculties and the end at which we are aiming, and our imagination fixes on this gap and evokes attempts to reduce it" (CI: 103)[12]. Polanyi gives the example of learning to dance (cf. TD: 29-30). Through focusing on the movements of the master, the student indwells the complexity of the master's skill, whereby the integrative skills develop. The tension between the imagined (the dance movement) and the current faculties (of the student) create new integrative skills (dancing skills). In sum: the focus is not merely the result of an act of integration; it is also suggesting new acts of integration. Indwelling is perhaps best described as the development of a triadic relationship between tacit clues, a focus, and tacit inference (cf. KB: 194).

Before going into the further implications of indwelling, let us schematize indwelling (fig. 2). The focus is a combination of meaning and suggestion. It emerges from a collaboration between the imagination and different integrative skills. These integrative skills entail intuition, moods, rationales, habitual tendencies, etc. The integrative skills on their turn rely on other skills that summon the particles the focus requires: memory, imagination, and bodily skills.

A perspective is thus a recurrent combination of integrative skills that structure perception, action, and communication in a particular way. In terms of the stage metaphor, the director applies particular interpretative and performative skills. But it is a part-time job; the theatre of knowledge requires different directors for different audiences.

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[12] The term CI:103 stands for Polanyi's article "*Creative Imagination*", page 103. For an overview of abbreviations please refer to the beginning of this thesis before the table of contents.

Body   Bodily skills
Impressions Imagination   Meaning
Memories   Attitudes   Integrative   &
Thoughts   Anticipation   Skills   Suggestion
Emotions

Tacit   Focal
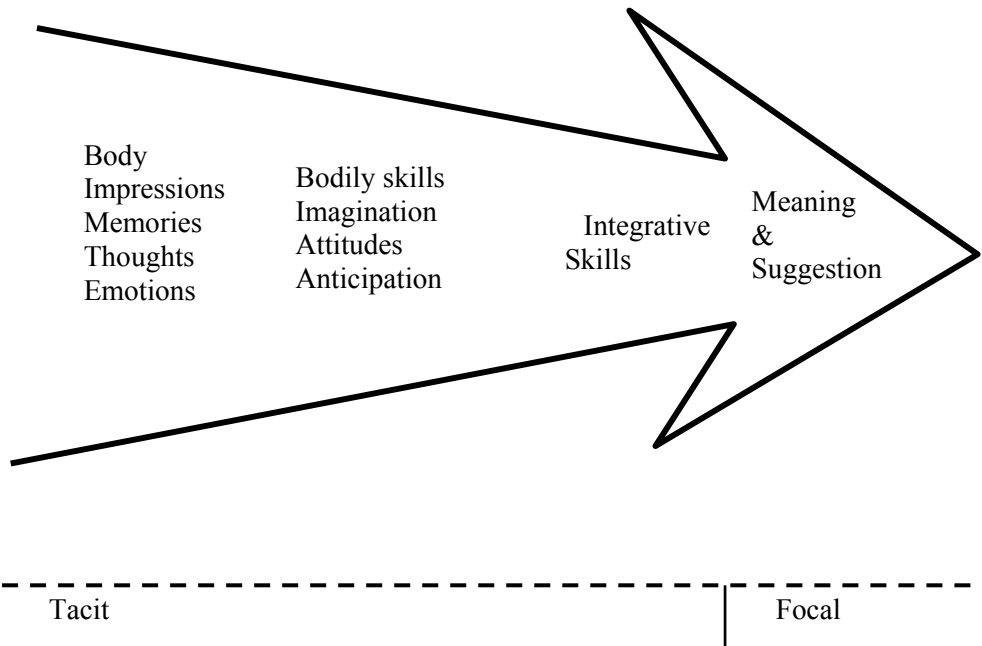
Figure 2: The Process of Indwelling

The example of the student dancer showed that the development of a perspective could be a social process. People develop a perspective by participating in a community. The tacitly learned perspectives are fundamental to anyone as it structures their phenomena; it tells a person how to act. It is an alternative for being at the mercy of circumstances and an incomprehensible world. This leads to the possibility to learn to see things in very similar ways as other participants of a community, but it also implies that people may have fundamental disagreement on matters. They may have learned to see things in very different ways:

> *Different vocabularies for the interpretation of things divide men into groups which cannot understand each other's ways of seeing things and of acting upon them. For different idioms determine different patterns of possible emotions and actions. If and only if, we believe in witches may we burn people as witches, if and only if we believe in God will we build churches; if we believe in master races we may exterminate Jews and Poles, if in class war, we may join the Communist Party…*

Citation 3. PK: 112-3

In the beginning of this section we have seen that the concept of perspective implies that our knowledge of things is not simply dependent on observations, but

relies on integrative skills that structure our explicit knowledge in pre-given ways. Polanyi's description of a perspective in terms of a *comprehensive power of anticipation* indicates that these structuring principles almost become a live of their own, which is again emphasized in the citation above.

The tacit dimension implies that there is no neutral ground from which to coordinate matters centrally. This conceptualization of perspectivity is more radical than a plea for tolerance of multiple perspectives[13]. It confronts us with the fact, that in the end there may not be sufficient shared ground to decide who is right and who is wrong (Essers & Schreinemakers, 1996a). The limitations to organizing with respect to rationality are hereby understood quite differently than bounded rationality[14] would have us do. It is not just the fact that our cognitive powers are too limited to comprehend the whole, for reasons of lack of information, processing abilities, or lack of memory. But it is the problem of people experiencing at crucial points too little common ground to reach consensus. The lack of common ground comes from the fact that at these crucial points people experience different phenomena, have different criteria, and use language in essentially different ways[15].

The final ingredient is that we become attached to our perspectives, and are usually very willing to defend our own, but also to manipulate the other in assuming the same perspective as we do. Polanyi never explicitly states this. However this theme of attachment to perspectives is clearly assumed in David Bohm's use of the tacit dimension. He sees this mostly as hindering a real dialogue. Also Chris Argyris and David Schön emphasize the negative aspect of the tacit dimension as the unwillingness of the professional to learn of his experiences (Argyris & Schön, 1978). In Thomas Kuhn's work the same attachment implies a battle between scientific paradigms, and an inertia in science to change (Kuhn, 1970).

Although I concur with these authors that this aspect of the tacit dimension limits our ability to organize and innovate, the very same attachment allows organization. Organization needs inertia in order to have gradual development and avoid chaotic change[16].

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[13] This is a position that I often encounter in interpretative approaches to organization theory, as for instance in: (Hatch, 1997; Hutchins, 1995; Morgan, 1986; Weick, 1995)

[14] Bounded rationality is the idea that we can not comprehend all facts required to make a rational decision. For precise definitions of bounded or limited rationality look at for instance (Hendrikse, 2003; March, 1994).

[15] These are the three ingredients for Thomas Kuhn to understand different scientific communities as incommensurable. The idea that this idea of incommensurability can be applied to other social groups as well can be found in for instance Raz (1996) and Essers (1996b)

[16] I will elaborate on this aspect in chapter 5.

2.4 Participation

In the previous paragraph we have started to understand indwelling not only as an individual process, but also as a process that links knowledge to social interactions. A perspective is not solely an individual achievement; it also develops from participating in social groups. This allows both for shared perspectives and fundamental differences.

Polanyi's concept of participation relies on conviviality; a well being that arises from being with the other. This kind of conviviality is on a basic or even a primordial level (PK: 209) before articulation; it is merely the sharing of experience, an exchange on solely the tacit dimension. It involves being with the other, "reaching out for the other and sharing in each other's life" (PK: 210). Participation in joint activities or joint performance relies on this conviviality, they are not separated (PK: 211). Participation "affirms the convivial existence of the group, as transcending the individual, both in the times present and through times past" (PK: 212).

A practice is shared and developed only by relying on and committing to a whole set of shared assumptions (cf.: PK: 266-268). The focus of the participants in a practice or conversation should be on establishing a shared understanding, they commit themselves to an adaptation of their idioms – language in a similar way (cf. PK: 205).

The adaptation of our conceptions and of the corresponding use of language to new things that we identify as new variants of known kinds of things is achieved subsidiarily, while our attention is focused on making sense of a situation in front of us. Thus we do this in the same way in which we keep modifying, subsidiarily, our interpretation of sensory clues by striving for clear and coherent perceptions, or enlarging our skill without focally knowing how by practicing them in ever new situations.

<div align="right">Citation 4. PK: 112</div>

Polanyi's idea is that we are usually too occupied with making sense of the situation, to notice that we are unwittingly modify our perspective to fit the idiosyncrasy of the event. The same principle applies to our use of language.

Speaking and writing is an ever renewed struggle to be both apposite and intelligible, and every word that is finally uttered is a confession of our incapacity to do better; but each time we have finished something and let it stand, we tacitly imply also that this says what we mean and should mean it to the listener or reader. Though these ubiquitous tacit endorsements of our words may always turn out to be mistaken, we must accept this risk if we are ever to say anything

Thus, in the intention to utter or understand a sentence, both perspective and meaning develop. Polanyi also used the term *mutual adjustment* to emphasize the shared process of tacitly adjusting each other's perspectives. Participation is thus significantly different from an exchange of messages. Participation entails a continuous adaptation in how we relate ourselves to that particular social context. These tacit adaptations entail the changes in interpretative tendencies, the ways we stage our social performances, and the anticipations we develop of the other participants.

In essence, participation is the move between self and social. It is the source of identity, both the personal and the social. It entails doing, talking, thinking, feeling, and belonging. Participation both depends on and results in mutual adjustments.

Perspectivity and participation are the two concepts that help to conceptualize the emergence of meaning and order. The next paragraph will show how polycentric order tries to address that issue, emphasizing the social and political aspect.

2.5 Polycentric Order

Polanyi describes *polycentric order* by means of two kinds of dialectic opposites. He describes polycentric order in terms of effectiveness; positing central planning against spontaneous organic development and then discusses polycentric order. The second dialectic opposite he uses is to posit the free society against totalitarianism. Let us start by looking at polycentric order in terms of effectiveness.

> *"Suppose we started building a house without plans, each workman adding his part according to his own ideas ... the result would be a hopeless confusion. If science really does prosper by allowing each scientist to follow his own bent, the systematic structure of science must differ fundamentally from that which underlies the structure of a house...The nature of scientific systems is more akin to the ordered arrangement of living cells which constitute a polycellular organism. The progress of science through the individual efforts of independent scientists is comparable in many ways to the growth of a higher organism from a single microscopic germ cell."*
>
> Citation 6. LL: 88

Polycentric order is a social order without one dominant center, but with different centers that exercise varying amounts of power depending on the issue at

stake. The particularity of this kind of organizing is that it uses the tensions arising from a diversity of perspectives in a group of people. It is possible to organize and at the same time allow for different understandings and perspectives.

> *"... for it shows that the social tasks we have been discussing - science, law, art, etc.– can be achieved only by independent mutual adjustments. They are, in a word, poly-centric tasks. They can reach a solution only if they are worked at from many centers, free to interact continually with one another in the formation of a system of mutual adjustments. This means that these tasks can be accomplished only through a spontaneous order, not through deliberate efforts to order them corporately."*
>
> Citation 7.   M: 207-8

In Polanyi's conception of the emergence of a social order, the result does not solve the differences; there is no equilibrium. For what is vital for this emergence is that it occurs in a field of tension created by a diversity of perspectives. This brings us to the second way of how Polanyi introduces polycentric order. Polycentric order Polanyi takes as characteristic for the "free society". He poses the free society as a dual to totalitarianism. In a totalitarian system one group of people decide what people do and think. In that case knowledge and insight would follow power.

> *"It would seem to be clear ... that many of the affairs of the {free} society would be managed through the development of various spontaneous order, ordered wholes that develop freely by means of mutual adjustments... It is our contention that a system ... develops ...through free interaction of its parts upon one another ... is the only social system that can meaningfully be called free. The alternative is to control social affairs centrally, from the top down, and so establish a corporate order– which is the essence of totalitarianism."* [17]
>
> Citation 8.   M:204

The solution does not settle the differences between those centers, although their conceptions do change through mutual adjustments. For Polanyi, a *spontaneous order* does not imply a doing away with power structures. The crucial thing about polycentric order is that power follows knowledge, concern and insight.

The ethical principle of polycentric order consists of the commitment of people to the emergence of meaning and order through a process of mutual adjustments. It is based on an appreciation of the dedication of other members to shared goals. This commitment stands, even when temporarily agreements are made where participants do not concur with, as they have participated in the emergence of

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[17] I have added the text between accolades to suggest a meaning that I found appropriate to the context of the citation.

those agreements.

In sum, from a shared participation shared interpretative tendencies and collective practices emerge that constitute polycentric order. Participation implies commitment to polycentric order, but at the same time it depends on the conviviality that comes from being with the other. Hereby individual ethics and social order become intertwined.

2.6 Polanyi's Ethical Appeal

In this chapter we have seen Polanyi's motive to make an ethical appeal by means of his epistemology and social philosophy. Polanyi's theory of knowledge entails that the tacit dimension both limits us in how to gain knowledge, and on the other hand allows us to discover the world through its creative potential. There is no way to perceive the world in any objective, absolute sense (see section 2.1). There is always the reliance on impressions, memories, and interpretative skills. There can thus be never any objective truth.

On the other hand, deeply indwelling a complex of phenomena allows us to come to new discoveries and explorations. The tacit dimension entails the promise of a more direct contact with reality, uncontrived by particular perspectives, not influenced through socialization processes. The tacit clues surface from time to time despite existing perspectives, in the form of intuitions about potential coherency, sudden unease with the usual assumptions[18].

Thus although the tacit dimension implies that we can never rely on objective truths, at the same time the only way to develop any knowledge is to immerse us into the phenomena under study and rely on our tacit clues to suspect coherency. Polanyi's standpoint is that any such dedication earns respect.

> *"Because they {participants in a polycentric order} understand one another to be dedicated, they can respect, not try to stamp out, one another's differing views."*

> Citation 9. M:190 (accolades added)

The commitment and the universal intent that underlie indwelling constitute Polanyi's answer to the dangers of absolute relativism[19] (see also 3.1). Thus

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[18] For instance in *Personal Knowledge* Polanyi speaks of intellectual passions, in Meaning he speaks of universal intent. Both reflect the idea that tacit clues can penetrate into a focus despite our usual perspectives.

[19] Absolute relativisim is the position that any perspective is just as valuable as another. From absolute relativism to nihilism is only a small step; it just requires the evaluation of one perspective as unimportant.

Polanyi's moral position entails the respect for this universal intent and a plea for allowing alternative ways of being. Polanyi's defense of pure science[20], his attack on objectivistic and reductionistic science, his descriptions of the deficiencies of central planning and the immoral qualities of totalitarian order express a concern with societal tendencies to reduce one set of practices and meanings in terms of another.

Let us for instance look at how Polanyi described his encounter with Bukharin in 1935, a leading theoretician of the Communist Party, where he described his concerns and motive explicitly:

> *"This conception {of Bukharin} denied altogether any intrinsic power to thought and thus denied also any grounds for claiming freedom of thought. I saw also that this self-immolation of the mind was actuated by powerful moral motives. The mechanical course of history was to bring universal justice. Scientific skepticism would trust only material necessity for achieving universal brotherhood… It seemed to me that our whole civilization was pervaded by the dissonance of an extreme critical lucidity and an intense moral conscience and that this combination had generated … the tormented self-doubt of modern man … So I resolved to inquire into the roots of this condition.*

Citation 10. TD:3-4 (accolades added)

Polanyi is here concerned with the freedom of thought. He understands the combination of universal morals and skepticism as a threat. Scientific skepticism denies power to thought, by pointing out its subjectivity and thereby doubting its value. Universal morals deny freedom of thought, by subjugating the individual to the larger good.

The same principle of subjugation applies to "collective planning":

> *the essence of planning is the absorption of the actions held under control by a single comprehensive scheme imposed from above…The plan is not communicated to the subordinate unit, which must not consider the general purpose in which it participates, but attend exclusively to the execution of the specific order received.*

Citation 11. SEP: 127

In *collective planning* individual thought is subjugated to a rational principle. The subjugation completes itself in hiding the choices that are made and the reasons for it. Although Polanyi fails to point this out explicitly, collective

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[20] Polanyi occupied himself with the defense of 'pure science'. Scientific discovery should be an attempt in itself, and not be judged in terms of for instance economic potential.

planning, universal morals, objectivism, and skepticism take the responsibility away from the participant. Collective planning structurally denies the participant the knowledge to act responsibly. Universal morals deny the individual the possibility to make out his or her own ethics. Objectivism reduces human intent to social and psychological laws such as conditioned behavior, opportunistic need maximization. Skepticism denies that humans cannot but rely on their personal history and social context and that that makes their life and explorations valuable.

I understand Polanyi's standpoint as the opposite. Polanyi's standpoint is based on indwelling. There is no individual, but participation. The tacit dimension is vital for the social; it is how we relate to the other. There is a basic shared conviviality that is spontaneous and not shaped by social conventions. Perhaps we cannot even exist without this shared conviviality[21]. Even if we hate the other person, we usually cannot but tacitly connect to the other. It usually remains hard to kill another person, even when you are convinced that you should[22].

The social practices in, for instance, science are indispensable for creating truth claims, discoveries, etc. The social practices of the communities we participate in very much structure the way we relate each other. But to me, it seems that those social practices – to use the machine metaphor - are merely the engine, while in a much more hidden part of the tacit dimension the fuel resides; a conviviality based on sharing our lives (see 2.4). This is the basis of indwelling that underlies communication and social practices: the intention to reach out to the Other[23].

It is this point that makes ethics irreducible to merely a social practice. This intent to reach out to the Other is not produced from social practices, but is something that underlies all practice, communication, and knowing. Perhaps surprisingly the basis for the respect of differences seems to lie for Polanyi in the basic intent to reach out for the other.

The alternatives to totalitarian, nihilistic forms of social systems that respect differences, Polanyi associates with *liberalism*, *polycentric order*, or *the free society*. In this alternative there are no structural borders that deny participants access to the knowledge that they need to decide or to act. Polanyi's combination of structure and openness is based on his proposition that practices of self-

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[21] Polanyi argues this explicitly in his discussion on conviviality in *Personal Knowledge*.

[22] To illustrate this, Polanyi describes an event at the start of the Holocaust (PK: 206). Himmler ordered a mass execution by gun fire of some hundred Jews in his presence. Himmler nearly fainted and complained that such was too much discomfort for the soul. After this the gas chambers were introduced.

[23] The "Other" is an implicit reference to Levinas. For both Levinas and Polanyi, who are both Jewish, their reflections on the Second World War have led to such similar ethical themes. Both defend the potential for differences. Both see the intent to reach out for the Other, the meeting of the Other, as more basic than socially constructed meaning. (Levinas, 1969, 1978, 1987)

government or tolerance are sustained by tradition.

> *{political and cultural freedom} ...is not in the explicit content of its {free societies'} rules, but in the tacit practice of interpreting these rules. It is on the unspecifiable art of conducting free activities that the preservation of freedom must rely; and similarly, all formulations of liberal principles must derive their meaning from a prior knowledge, diffused inarticulately among the citizens of free countries, of what freedom is"*

<div align="right">Citation 12. SEP: 203</div>

His concern involves the reduction of differences, and allowing space for these differences to exist.

Polanyi's philosophy is a continuous search for a balance between traditionalism (Sanders, 1988) and a call for continuous change on the basis of discovery and exploration. Valuing the tacit dimension implies an appreciation for history, existing practices, and social structures. Not every new discovery and exploration needs to be appreciated. Not every new scientific discovery should lead to a new paradigm, not every new idiom should revolutionize society, and not every critique should uproot current systems of meaning and organization.

On the other hand, the emergence of polycentric order Polanyi bases on mutual adjustments. The moral question that polycentric order thus brings is thus, in how far the polycentric order allowed participants to impact the order so that it reflects and accommodates the needs of its participants.

2.7 Closing

Polanyi's distinction between tacit and explicit knowledge is regularly used in organization and management literature. Often this distinction is understood in terms of a static differences such as indescribable / describable, or unconscious / conscious. In my reading of Polanyi, I see indwelling as the basis for his epistemology, social philosophy, and even his moral position. Indwelling is the production of a *dynamic* difference between tacit and explicit, or subsidiary and focal awareness.

In my attempt to offer an alternative for the static conceptualizations between tacit and explicit knowledge I have introduced a stage metaphor. The focus on the stage corresponds to explicit knowledge. As we can imagine the agility of the spotlight, and the limited space that the spotlight can capture, the metaphor suggests already two important characteristics of the dynamics between explicit and tacit knowledge.

In the explanation of the metaphor I elaborated on the role of the director, whom directs the focus and the development of the plot. The director stands for one of

the multiple perspectives that we have to make sense of and act in the world. He also stands for our creativity in sensemaking.

The director has only limited means to summon attributes and actors to the stage. He has to design a focus and adapt the plot to whatever turns up on the stage. The advantage of the stage metaphor is that it calls attention to the dynamics of knowing in relation to changes in the focus. The vital implication of indwelling is that what we explicitly know is related to the way we see the world, and that our engagement leads to tacit adaptations in this perspective.

I have chosen to emphasize *perspectivity* and *participation*, as two important aspects of indwelling that provide a clear reading of the relation between Polanyi's epistemology, moral position and emergence of social order. Perspectivity tells us that each of us has multiple ways of understanding and acting, and that our conflicts with others may be rooted in differing perspectives. Participation tells us that we adapt or even create our perspectives mostly tacitly through our interactions.

Polycentric order was thus characterized in terms of perspectivity and participation. Shared perspectives and collective practices constitute polycentric order. These emerge from a shared participation. Now participation implies a commitment to polycentric order, but at the same time it depends on the conviviality that comes from being with the other.

If we would apply the theatre metaphor to polycentric order, the metaphor looses its simplicity. However, it would be something like a Tamara[24]; a house with several theatre stages. Gradually, by replacing doors and walls participants would share a stage, but would also keep a stage apart from the others. In this Tamara, we would aim to enhance and develop each other's plot, adding requisites and playing guest roles. This sharing in play, would enrich the private stage, and vice versa.

The concept of polycentric order thus reflects a particular moral position. In my reading of Polanyi, his moral position can be summarized as a plea for different ways of being, based on the respect for people's dedication to truth, justice, religion, or esthetics. It is a plea for allowing people to deeply participate on the basis of mutual adjustment. And finally it is a plea to appreciate the solutions from the past, while not loosing the openness to new initiatives.

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[24] The term I borrow from David Boje. His use of the Tamara metaphor is to conceive of an organization in terms of multiple theatres playing at the same time, where the visitor can walk through the house and finds his or her own unique story of the organization (Boje, 1995).

3 A Methodology for the Tacit

The use of the concept of indwelling or even tacit knowledge cannot go together with an engagement in objectivistic science. There can be no objective facts as knowledge is always rooted in personal integrative skills. This raised methodological issues for me. These propositions on knowledge inevitably questioned me on my own claims of producing knowledge and the meaning of those claims. I felt it would simply be inconsistent to apply one concept of knowledge to my object of study and use another for the resulting knowledge claims. This led me to consider: "What are the methods to investigate the role of tacit knowing in relation to organizing?"

This is not an easy question, as the tacit cannot be observed directly. Although this question has been addressed before[25], until now I have not found any initiatives that linked this investigation fundamentally to indwelling. In this chapter I will address that question.

At first I will describe what a knowledge claim entails for Polanyi (see 3.1). Secondly, I will go specifically into the relation between text and knowledge (see 3.2). Thirdly, I will show what a dialogue between Polanyi's philosophy and the consultants in my case will entail. Finally, I will describe the development of my conceptual frame. I will conclude the chapter by summarizing the methodological principles that resulted from this search. They are not simply deduced from Polanyi's work but a result of my efforts to understand and clarify the EDM-case[26].

3.1 An Intent for Universality

The essence of Polanyi's concepts of indwelling and tacit knowledge is that any standpoint or any proposition relies on tacit assumptions, integrative and performative skills, and on the richness of our own history and perceptions. There is no understanding that does not rely on this tacit dimension, and hence there are no objective facts. The tacit and personal dimension does not just make our meanings relative; it is what allows meaning its value. Although we can never assume an objective standpoint to do our observations from, we can develop theories from the fact that we are part of the world and reflect on our assumptions

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[25] Examples of some interesting efforts are (Patriotta) (Georg von Krogh *et al.*, 1996; Spender, 1998).
[26] As Paul Ricoeur argues: verstehen and erklären should come together, one reinforcing the other (Ricoeur & Thompson, 1981).

(thereby relying on other tacit knowledge). For Polanyi, the commitment is vital here; a commitment to the construction of truth, creation of beauty, or to the defense of justice. This commitment he describes as *universal intent* or *intellectual passion*.

However, Polanyi is a realist; he assumes a reality existing "independently of our knowing of it" (PK: 311). In contrast to classical realism, there is no unproblematic access to this reality. Moreover, he sees no possibility to represent facts in scientific theories. "A statement of fact can bear on reality only by virtue of the tacit coefficient associated with it" (SFS: 110). Statements of facts, or scientific theories, in themselves hold no truth. They require intellectual passion for their development, interpretation and assessment (cf. PK: 134) and for this they should always be understood in the time and context these theories were used (cf. Sanders, 1988 :108-109).

Despite this, some theories are more valuable than others. But, the criterion to distinguish one theory from the other is personal and not objective. One name Polanyi gives to this criterion is *intellectual beauty*, which "is recognized as a token of a hidden reality" (PK: 189). Intellectual beauty is beyond merely formal elegance, as it establishes a new contact with reality (cf. PK: 148). The mark of *true discovery,* "is the intimation of its fruitfulness" (PK: 148). From Polanyi's descriptions of *fruitfulness* I gather that it is the invocation of lines of thought and investigation that establish a consistent contact with reality (cf. SFS: 34, SR: 192, PK: 147) and the mutual reinforcement of the theory with other (or future) explorations from researchers (cf. SR: 187-189).

Again, intellectual beauty is a personal criterion. It relies on one's tacit background, context and qualities of one's contact with reality. Consciousness and reality are closest on the most tacit level. Meaning results from interpretative and performative skills structuring a non-conceptual, tacit undertow, and is thereby further from reality than the tacit undertow of experience is. However, there are ways of structuring perceptions that are more meaningful and have a more general application than others. Polanyi emphasizes that for science the intent to develop such interpretative frames is essential.

I interpret Polanyi's vantage point on truth in science as a hermeneutical position. Scientific theories result from interpretations, and need to be interpreted for their use. The reliance of any interpretation on the tacit dimension makes any interpretation personal, and is hence possibly different from person to person, but also provisional. This applies to the development and interpretation of scientific theories as well. But some interpretations give rise to the experience of intellectual beauty, which is again a personal valuation. But the crux is that personal is not the same as subjective. It is the intent we have for universal truth in describing and exploring reality, and judging each other's theories, that creates the fence against a strong subjectivism, or nihilism (cf. PK: 311).

At the same time, the acknowledgement of the personal in knowledge, prevents a scientist to attempt convert others and disrespect other perspectives in a holy

crusade for the truth. I consider the *tacit dimension* also as a plea for tolerance, even though our intellectual passion may lead us to try and persuade others to take our own perspective. But we can appreciate the search of others, even if they go in a different direction, on the basis of the sincerity of their attempts to explore and describe reality.

3.2 The Tacit hidden in the Text

Polanyi's describes extensively the possibility for different interpretations of the (spoken) text and the problem of the author to convey the object in the focal awareness to an audience (cf. PK: 87-95). In these descriptions there is a difference between language and knowledge. Language is then described as a system of words, signs, and grammar. Language is then not a medium for the transference of knowledge. Knowledge is not transferred or reflected by the text, but reproduced by an individual:

> *Our knowledge of the things denoted by words will have been largely acquired by experience, in the same way, while the words will have acquired their meaning by previously designating such experience… Therefore when I receive information by reading a letter and when I ponder the message of the letter, I am subsidiarily aware not only of its text {but also} … {of} the objects indicated by the text.*
>
> <div align="right">Citation 13. PK: 92</div>

On the other hand, Polanyi describes the production of the text as part of the entire process of indwelling. Text and meaning were thus interdependently and inseparably produced (cf. KB: 192). Existing perspectives become adapted, just as text is performed.

> *… every use of language to describe experience in a changing world applies language to a somewhat unprecedented instance of its subject matter, and thus somewhat modifies both the meaning of language and the structure of our conceptual framework.*
>
> <div align="right">Citation 14. PK: 104-5</div>

Mutual adjustment is an important principle for *deep participation*. For instance, Polanyi starts the second part in 'The Tacit Dimension' by describing a student who learns to dance by following the movements that his teacher makes. Both the teacher and the student experience this dance from their own point of view, but the communication involves a shared indwelling of the performance (cf. TD: 29-30).

Likewise in any interaction that makes the participants invent new meanings and performances the process of indwelling leads to an adaptation of perspectives. The intricate relation between communication and tacit adaptations implies the possibility of arriving at similar perspectives over time.

I believe that even though people may conceivably misunderstand any particular word addressed to them, they can, as a rule, convey information reliably enough by speech. For I think that the tacit judgments involved in the process of denotation do tend to coincide between different people and that different people also tend to find the same set of symbols manageable for the purpose of reorganizing their knowledge.

Citation 15. PK: 205

Thus on the one hand, language and knowledge are different domains. But the performance of text and the process of constructing meaning are inseparable tacit processes. In the performance and interpretation of the text we thus adapt our perspectives at the same time. As MacWhinney describes this from an embodiment perspective:

"In general, the extent to which we elaborate our understanding of any particular sentence depends on our ability to assume a perspective from which we can enact the entire sentence."

Citation 16. MacWhinney (1999)

The potential social effect is that the participants that share the practice or engage in the conversation gain similar perspectives. The concept of embodiment in its phenomenological use (Csordas, 1994; Laderman, 1994; Low, 1994; Varela *et al.*, 1992) is very similar to that of indwelling. Both acknowledge perspectivity, and a non-fixed subject. Especially when Polanyi explains indwelling in terms of interiorizing or 'pouring the self into' (cf. KB: 183) is there little difference. Embodiment takes the 'self' as embodying a perspective, body, technology, or matter whereas Polanyi's epistemology describes the production of the subject and the object from the process of indwelling. The nuance may be that indwelling lays more emphasis on the relation subject-object, whereas in embodiment the constitution of the embodied self is of interest.

In sum, Polanyi's theory of tacit knowing can hardly be about the uttered text. Instead communication is conceived of in terms of tacit adaptations. Communication entails a continuous adaptation in how we relate ourselves to that particular social context. These tacit adaptations thus not only entail changes in interpretative frames, but also entail the way we stage our social performances, develop anticipations of the other participants, and develop our identity.

3.3 A Methodology of the Tacit Dimension

In the previous chapter we have seen that focal awareness has to rely on a tacit dimension; a subsidiary awareness of tacit clues, integrative skills, and imagination. In a previous section of this chapter we have seen that a similar principle applies to a social exchange that was described as mutual adjustment. This is a form of communication in which there is a mutual adjustment of perspectives on the basis of clues in the conversation (i.e. utterances, signals) in an effort to make collective sense of the conversation. This has led me to the following methodological standpoint:

Any focus implies a tacit dimension, but the tacit is by definition not observable. Any shared focus in a conversation, or a shared understanding of matters, implies a shared effort to apply similar integrative skills to a similar set of tacit clues. Thus as the researcher participates in the conversation s/he will over time be able to learn to interpret utterances in a similar way. The way to arrive at a similar focus, is the combination of a shared intent for shared understanding, mutual adjustment, and recurring participation.

This was my initial methodological principle based on indwelling, straightforwardly derived from Polanyi's texts (as described in the previous section). In the application of this principle, I learned that this was highly similar to the concept 'verstehen' in hermeneutic approaches in social sciences (Korthals, 1989: 91ff.) that rely directly or indirectly on works such as those of Dilthey (1910 / 1981). For instance, the use of *participant observation* (Spradley, 1980) or empathy in ethnography "as the process through which the point of view of the other becomes transparent to the fieldworker" (Baszanger & Dodier, 1997 / 2004:14) is based on the same idea as 'verstehen' in Dilthey. Ethnography, as a research activity, is the investigation and elucidation of the meanings that have become shared in a particular group of people. As a research activity, ethnography is situated *between* powerful systems of meaning. As Clifford states

"it {ethnography} poses questions at the boundaries of civilizations, cultures, classes, races, and genders. Ethnography decodes and recodes, telling the grounds of collective order and diversity, inclusion and exclusion. It describes processes of innovation and structuration, and is itself part of these processes."

Citation 17. (Clifford, 1986: 2).

In terms of ethnography: mostly my role was 'the fly on the wall' (Hammersley & Atkinson, 1995), with just enough participation to be a natural part of the environment. However, at a later stage, I have also participated in a part of their

practices, being involved in product development and sales activities. For the larger part, I posed as the secretary of the EDM-meetings, keeping notes and giving out summaries of the meetings.

Later hermeneutic approaches such as those of (Gadamer, 1975) have criticized this idealistic transparency and have emphasized a less pretentious goal; to provide a plausible reading of events. I concur that there always remains a mystery as to the intentions of the person speaking or writing.

Hermeneutics is about, "the obligatory passage through the world of language and signs" (Jervolino, 1996:71). Instead of trying to define an ontology of the self or the social, the passage itself becomes the focus. Or we could say in terms of Polanyi's paradigm of tacit knowing: as the text becomes indwelled, text and awareness become inseparable (see previous section). This inseparability of text and awareness is the starting point from which the construction of individual identity and social identity will be understood.

The process of interpretation is sometimes describes as the hermeneutic circle. Just as Polanyi's concept of indwelling, the hermeneutic circle describes the interdependence between particles and a comprehensive entity in the process of interpretation. The only difference that I see, is that indwelling pertains to interpretations of all phenomena, while the interpretation process of the hermeneutic circle is limited to text. *Text*, in current hermeneutic approaches (Gadamer, 1975; Ricoeur & Thompson, 1981), entails any symbolic interaction: talk, written text, signs, gestures, etc. The main difference is that there is a 'Gedanke', an intention in text (Gadamer, 1975) that is not common to all phenomena. But since I want to make use of the intention in the text, as the methodological standpoint above shows, I am after the hermeneutic version of indwelling. In what follows, I would like to make a Polanyian variation to the hermeneutic circle, based on what I have in this and the previous chapter.
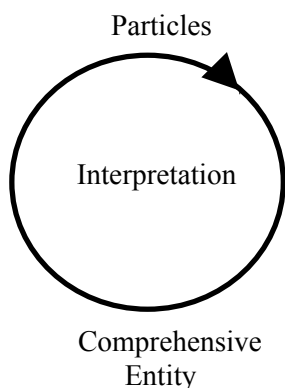
Figure 3: The Hermeneutic Circle

The idea of the hermeneutic circle, essentially is that the meaning of the whole of the text is constructed from the parts in the text, and that the meaning of the parts in the text should be understood in their context.

In the previous chapter I discussed indwelling initially as attending *from* particles in the subsidiary awareness *to* the comprehensive entity in the focal awareness. Soon after, I added the nuance that focal awareness need not necessarily contain a comprehensive entity. It can also be a heuristic sense (cf. PK:142f.), a sketch of the meaning to develop. Indwelling is thus not simply a push for meaning, but is also a pull demanding particles. This process of going between particles and focus develops interpretation (see figure).

This interpretation is guided by our anticipatory framework, or perspective. But does this mean "that any interpretation which is to contribute understanding, must already have understood what is to be interpreted" (Heidegger, 1927/1962:152)? In other words: "Is interpretation not already given by our perspective?", "Can we know something we do not already know?"

In Polanyi's texts I see some answers to that question. The most important one is that in the process of speaking and listening, writing and reading, we tacitly adjust our perspectives to the particles in our subsidiary awareness and the suggestion in our focal awareness. Thus there is the potential for a development of perspectives. As we have already seen in the discussion of *intellectual passion* (see section 3.1), this potential seemed to be the basis for any exploration or description of reality. This "innate affinity for making contact with reality moves our thoughts – under the guidance of useful clues and plausible rules- to increase ever further our hold on reality" (PK: 381). With this, Polanyi even argues against a methodology, based on strict rules. There is no a priori justification to select or reject possible interpretations or events. There should be a fundamental openness to alternative interpretations (cf. PK: 381).

Thus we have to deal with multiple interpretations. It all depends on how we integrate particles into a whole, and what other particles we encounter, summon, and add to it. Adding to this multiplicity is the fact that the whole can be a part of another whole. Hence, for the reading of a text, or any social phenomena, we have to take not only its multiple contexts into account, but also the contexts of the contexts in a potentially never-ending contextualization.

One way of developing alternative interpretations is by starting at the realization that our meanings are connected to the anticipatory framework that we have. This gives the possibility of shifting our focus from the resulting meaning to the question: "could I have understood this differently?". The integrative skills that were operating during the interpretation will remain tacit, they will never enter the spotlight. However, we can attempt to develop an alternative focus, if we can find enough clues. The way I developed alternative interpretations was through being sensitive to paradox and dialogue. In the following section, I will describe some of my surprises and contradictions that I encountered, which led to new

considerations in my research.

For this research, I not only wanted to interpret the EDM-case using an anticipatory frame that was influenced by my reading of Polanyi. I also wanted to develop some of Polanyi's concepts by reflecting on the EDM-case. The way I solved this was by doubling the hermeneutic cycle and constructing a *dialogue* between Polanyi's philosophy and the events, conversations, and practices in the EDM-group. Thus, I developed alternative interpretations of events in the EDM-group, using Polanyi's philosophy. And vice versa, I reinterpreted Polanyi's texts on the basis of the conversations and stories in the EDM-group.
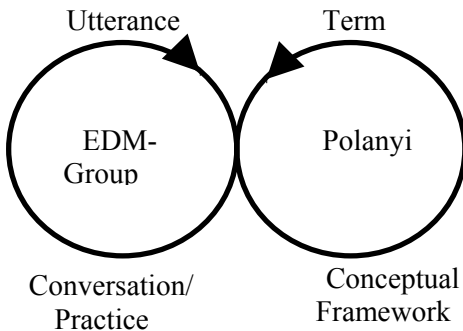
Figure 4: Doubling the hermeneutic circle

The idea of doubling the hermeneutic circle is close to Gadamer's description of an intention for the fusion of different horizons (Gadamer, 1975). A horizon is all that what one can conceive, bound by the limits of one's perspective (perspective as defined in chapter 2). The intent for the fusion of horizons is meant to expand one's perspective. The same principle Gadamer uses to describe the possibility of dialogue between persons. However, it is the intention that counts, and not the actual fusion of horizons. The intention allows to notice unsuspected similarities, but also to reflect on the differences. This can be "a source of knowledge, not least about ourselves" (Czarniawska, 1997: 62). Thus one hermeneutic circle consisted of my reading and rereading Polanyi's texts. Another circle consisted of me making sense of the developments in the EDM-group through participation.

At several moments this dialogue lost momentum. The concepts from Polanyi's philosophy and their relations remained at too much of a distance to the texts from the EDM-group. At such moments I expanded the dialogue with related literature. I compared concepts from Polanyi's philosophy with those from related literature, bearing in mind the particularities from the EDM-case.

Hence, the hermeneutic cycle became tripled:
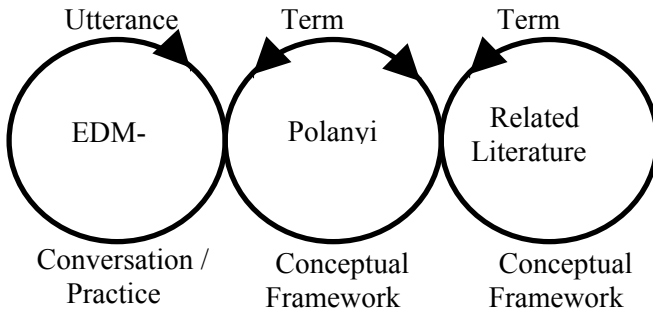
Figure 5: Extension of the dialogue

All this provides the general methodological frame, that states that the only methodological rule is that there are no (strict) rules. In the following I will describe the development of the dialogue in a bird's flight. This development is crucial for explorative research, for the reasons mentioned above. If there would be no change in the conceptual frame that would probably indicate a flaw in the research process. The researcher would then have observed what the researcher thought s/he would observe, and thus the quality of the interaction with the object of study would have become questionable. In ethnographies one can often find a description of the development of the research perspective (Kunda, 1993; The, 1999).

In the development of the dialogue there were several methods I used to relate the particles to the whole, encounter new situations, and distinguish particles. Moreover, the development of my reading of Polanyi's texts, led via an enriched knowledge conception to new ways of developing the dialogue. In the following section, I will thus describe the development of methodological principles. These methodological principles are of course not strict rules, but merely different takes on the hermeneutic circles.

3.4 The Development of the Dialogue

My original approach to my Ph.D. entailed the question: "How can knowledge be organized?" The literature that has addressed this question is the knowledge management and organizational learning literature. However, from my work experience at Documix I had experienced that the differences in perspectives had been crucial in frustrating product development, innovation, knowledge dispersion, and organizational learning. My initial research focus was thus the multiplicity of perspectives that people have when working together and what working together could mean in such a context. The theoretical starting point has been the work of Michael Polanyi, whose work often has been referenced in

knowledge management literature. Polanyi's epistemology allowed me to explore the diversity theme, i.e. people understand the world in particular terms relative to their own subject: history, education, mood, etc.

Already my first entrance in Asperix in January 2000 gave an abundance of possibilities to explore that theme. However, when I joined my first EDM-meeting, in February 2000, I found that theme too little constructive. At most, I could show the limitations to organizing. But here in the EDM-meeting was the effort to create some form of collaboration, while even acknowledging differences.

Going back to Polanyi I found a name to my new theme. Polanyi referred to it under the term *polycentric order*. Polycentric order addresses the issue of what order would mean from a diversity perspective. Until then I had left this part of his work aside. The concept was not well-defined and Polanyi's work lacked detailed descriptions. The relevant text fragment referred to interesting concepts though: emergence of social order, ethics, conviviality, and commitment. All these concepts implicitly assumed a crucial relation between polycentric order and the tacit dimension, without being explicit and clear about this relation. When I went through the books Polanyi had written, I found that most of them contained a piece on polycentric order. Apparently it had been crucial to Polanyi, but at the same time he had missed to bring it to any substantial, convincing whole.

Something interesting happened: even while lacking a satisfying description, the concept polycentric order gave direction to a stream of questions: "What would polycentric order mean?", "Did the group process during the EDM-meeting portray properties of polycentric order?", and "Was the development of a new and shared perspective in the EDM-group a sign of subtle domination or of polycentric order?", etc.

I applied the "methodological indwelling principle" by making sense of the conversations in the EDM-group, trying to build an understanding as the participants would. I made use of "open coding" (Strauss & Corbin, 1990) as a technique of breaking down the conversation into paragraphs and sentences. I labeled text elements using key words from the participants themselves, brief comments on anything that triggered me, guesses at tendencies of participants to interpret and act, and guesses at their subtext (hidden thoughts and emotions).

However, after a while the dialogue between Polanyi's texts and those of the EDM-case lacked momentum. In order to develop the concept polycentric order and the relation to indwelling I investigated concepts that had to do with shared cognition. At first I looked at *boundary objects* (Star, 1989) and related ideas (Hutchins, 1995; Pinch, 1984; Weick & Roberts, 1993), to deal with different cognitions that connected on particular points. I had hoped that that would give me possibilities to describe the emergence of polycentric order.

However, an event in March 2000 questioned that direction. The leader of the EDM-group mentioned that he experienced several drawbacks of the currently altered company strategy (a change from project organization –consultancy- to product organization: Application Service Provider). The members of the group

reached closure on the point, where they saw ASP as an unviable direction. After they negotiated amongst themselves what they thought of 'ASP', a part of their reality was unsettled. All of a sudden they had to renegotiate an entire constellation of meanings. These renegotiations touched on the changing relationship with top management, several other 'units' within the company, the group identity and commitments. In this case a breakdown did not intervene with one meaning, but unsettled an entire web of meanings or beliefs.

Apparently, I was after the *web of meanings* and not the nodes. The idea of understanding meaning as part of an interrelated web of meanings can be traced back to Saussure, but also Thomas Quine (1960). Interestingly, Thomas Kuhn used Polanyi's tacit dimension, Thomas Quine's web of beliefs, and Wittgenstein's language games to construct his paradigm / incommensurability thesis. Apparently Kuhn also saw the relation between webs of meaning and the tacit dimension as implying one another. Currently the idea is still very relevant for understanding the development of meaning and culture (Strauss & Quinn, 1997).

The research focus developed in the direction of describing the emergence of polycentric order as related to the development of networks of meaning. As I wanted to learn about the characteristics of the development of meaning in the EDM-group I attempted to follow the changes in the focus of the conversation. I tried to map how the changes in foci, made different meanings connect. I thus constructed the development in *networks of meaning* on the basis of movement in the focus of the conversation. This is a variation on a method for narrative analysis that is described for instance by David Boje. Whereas usually this technique is proposed as taking a snapshot of the network, Boje emphasizes the development of associations (Boje, 2001a). For instance in the second meeting "ASP" became associated with "a technology orientation", "commodity", the strategy of the mother organization, and opposed to "consultancy", "integrity", "independence". This helped me to see how particular concepts were constructed and stories were developed.

As I went through the transcripts of the EDM-meetings, while drawing a series of maps of networks of meaning, I noticed that there were also networks that developed around *a lack of meaning*. With this I mean that the members of the EDM-group were unable to solve differences between members, to solve inconsistencies, or to collectively make sense. Although the discussion often failed to produce immediate solutions, the mere fact that they identified this problem brought forth an element that enhanced the succeeding conversations. This element, which was more a lack of meaning than meaning itself, I termed a *theme*. A theme seemed like a black hole, a void, which attracts meaning, without swallowing it.

There was another event that triggered the development of the theme concept. In the April-meeting there was a moment in the EDM-meeting I had a strong sense of wanting to leave. I was irritated and bored at the same time. The meeting was 'not

going anywhere' to my feeling. There was no clear subject to the conversation, instead it was fragmentation all over. I realized that this was more than simply a waste of time. The EDM-members lacked a theme, and this incoherent talk was an attempt to find new themes. Meaning then became broader, leading to this idea that it could also be a void, requesting further meaning.

The idea of *themes* made me rethink the concept of *indwelling*. Before I had assumed that the content of focal awareness was always meaning. Now it turned out that the focus could also be a lack of meaning. I reread Polanyi's descriptions of indwelling and noticed that Polanyi not necessarily saw indwelling as the production of meaning from its tacit constituents. The focus could also summon the tacit dimension to fulfill the demanded focus. Looking in detail I saw that indwelling should probably be understood as a continuous move between a focus and subsidiary awareness. This tidal move between focus and tacit is highly creative: it produces meaning, performance, images, and at the same time adapts integrative skills.

This brought me to the following methodological principle:

> *The movements of the focus are not arbitrary, but indicate how an utterance relies on another for its meaning. The order in which different foci are established strongly suggests relations between the different foci, in the way they support and suggest each other.*

These first two principles (including the one from the previous section) led to the general descriptions in the first part of chapter 4, and via an extension of the dialogue (see previous section) to the contrasts made between the developments in Asperix and the EDM-group on the one side and the communities of practice literature and knowledge management literature on the other (chapter 4). The networks of meanings gave me arguments to support and enhance my original understanding of the concepts of the EDM-members.

One of the goals of the dialogue was to conceptualize the relation between the tacit dimension and the emergence of polycentric order. The methods of analysis that I had used until then, pinned me down to a too detailed level. I started to experiment with what I could do with the focus / background principle in conversations. An important step was to look at startling things that happened to the focus. The moments that were confusing, annoying, interesting, or surprising would perhaps have a different kind of focus, or dynamic between back- and foreground than the usual line of conversation. This led me to notice several things. One was a diffuse focus. At times the EDM-members seemed tired; what they said was merely a repetition of previous texts, and familiar standpoints, and the conversation hardly reached out to new texts. At other times, they were frozen, in long silent moments that lasted up to fifteen seconds, not being able to repair a deter of meaning. It also led me to notice the times when people disagreed and the focus was on the difference in opinion. Additionally, I noticed abrupt changes in focus. What I noticed, reading through the transcripts and listening to the

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recordings, was that at some points there were abrupt changes of focus in the conversation, often coinciding with an effort of the speaker to bring the conversation on a different subject. Although the abrupt changes in focus were easy to notice, it was hard to understand what it was so that I experienced them as abrupt. This is thus something different then the turn-taking in conversation analysis. Conversation analysis looks at the moments when people have their turn in a conversation, the speed of words, the tone of voice and thereby construct the mechanics of particular semantic functions in conversations (Hutchby & Woolfitt, 1998; Sacks, 1992). Instead, I was interested in the breaks in the thread of the conversation. People may very well take their turn while continuing the same line of discussion or a conflict.

Some changes in focus gave new possibilities for the succeeding conversation, while other changes indicated that an EDM-member brought an incoherent story, or had lost the thread of the conversation. As I was interested in the emergence of polycentric order, obviously I was after the first type of shifts, but there was also a grey area in-between. The breakthrough came after I attempted to develop the concept of *emergence* through the extended dialogue, using authors that combined concepts such as emergence, self-reproduction, with concepts as meaning, culture and narrative. After reading about the emergence of autocatalytic chemical reactions I asked myself whether I could see catalysts in the EDM-meetings.

This led me to question the parts of the texts, which I considered as related to abrupt focus changes, what catalyst of meaning it introduced. The criterion for defining a part of the text as a catalyst was that I needed to see the catalyst return in a subsidiary role in succeeding conversations. To operationalize this: it needed to be a part of the networks of meaning that developed immediately after, and unless it was transformed into another catalyst of meaning, it needed to return later on. After that I categorized these catalysts of meaning, in a variation of theme analysis (Boje, 2001b), or axial coding (Strauss & Corbin, 1990) on the basis of the way they received focus, on the basis of their subsidiary contribution to the conversation, and on the relation to existing concepts. These concepts came from the same authors that I used to enrich Polanyi's concept of emergence.

The next step was going from catalysts of meaning to the emergence of polycentric order. In the same extended dialogue this led me to describe developments in the EDM-group as emerging interpretative tendencies or collective performances. Vice versa, it led me to conceptualize polycentric order for small groups as emergent from collective performances that in their turn relied on catalysts of meaning. This resulted in chapter 5.

To this framework I could relate many of the issues that I had noticed over time. This was necessary, for polycentric order was not a goal in itself, but it was a way to conceptualize a more just relation between the involvement of professionals and organization. A theme that I had noticed for instance happened in May 2000. I had been surprised to see how easily members forgot the conclusion of discussions that had previously taken hours or even several meetings. 'Collectively forgetting'

became an issue in my research. If these catalysts of meaning could return months later, what was their secret to be able to resist oblivion? The interesting thing was that this gave another criterion to distinguish one set of catalysts from another.

Then there was a discussion that I attended between the facilitator of the EDM-meetings and a colleague. This discussion could be summarized as a discussion on the nature of emergence in conversations. A conflict arose, as the colleague demanded clear definitions that would create the basis for collaboration. The external consultant refused: he valued a 'process of play' over clear definitions. I started to realize that coherence was perhaps also not about reaching a set of shared and definite conclusions. Emergence was probably much closer to play, than defining the rules of the game was. In any way, this connected to some texts of Polanyi on totalitarianism that would entail the subsumption of any rationale, and any meaning under the party line.

From September 2000 on, several conflicts between the group leader and other EDM-members became overt. EDM-members were fed up with having to travel large distances for a particular customer. This brought many clashes of meaning with respect to 'Sittard', the place where they had to travel to. Sittard meant missing family life, demands from partners, but also 'being billable', and being useful, even bringing a sacrifice for the EDM-group. This clash brought with it all kinds of deter of meaning. People would work fewer hours then they claimed, which opposed the EDM-value for openness, classified 'traveling hours' as work time which undermined the shared value for professionalism, etc. During this time I noticed how fragile the coherence of the group was. On the other hand, the EDM-group had to endure a changing strategy from top management and was quite resilient against that. This led me to hypothesize that polycentric order should be fragile from the inside, but strong to the outside. The difference was that participants had the power to directly impact the catalysts of meaning, but outsiders did not. All this raised issues on the ethics and qualities of polycentric order.

The experience of the EDM-group that had developed its own momentum and resistance to the outside, questioned my belief of a group as a collection of individuals. Until then, I had seen knowledge as a property of the individual. But the experience of the group being something that was also a whole, a kind of entity, made me rethink this, and reinterpret *indwelling* as in-between social and individual. This led me to emphasize this reinterpretation of indwelling as *participation* which has become the essential concept in this dissertation that connects emergence with the tacit dimension, and social order to ethics and power.

These conflicts inspired me to reflect on the aspects of power and ethics in polycentric order. Polanyi has been very brief on the role of power in relation to knowledge, and fairly incoherent about ethics and knowledge. I had acknowledged that morals and ethics were strongly present in Polanyi's philosophy, but since I perceived the theme as too large to discuss in this thesis as well, I had tried to avoid the theme. Via concepts in Polanyi's work such as *conviviality*, and his

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comparisons between *free society* and *totalitarian order*, I could bring in the work of other authors and attempt to relate ethics, emergence, power and participation (see chapter 7).

For the sake of simplicity I have described these developments as a dialogue. But actually, I developed three understandings in their interdependence:

- the development of the EDM-group
- the relation between indwelling, participation, and emergence of polycentric order from Polanyi's philosophy
- a methodology to investigate the role of the tacit dimension on the emergence of organization.

Comparison

EDM-Group

Polanyi

Methodology
Development

Methodological
Frame
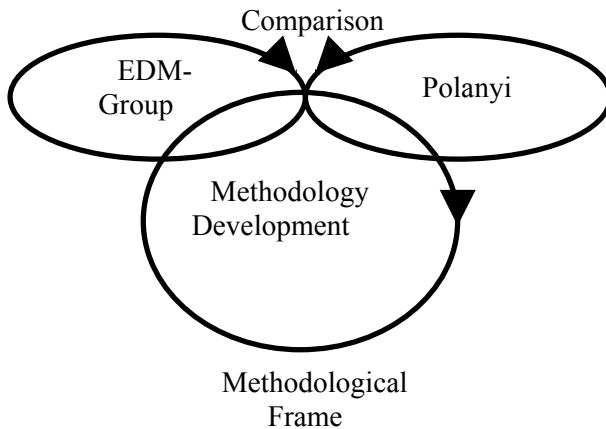
Figure 6: Development of Methodology

The development of methodology was all the more necessary, since Polanyi's texts also had methodological implications. It would be inconsistent to have one definition of knowledge for the knowledge in the EDM-group and apply another definition for the claims to knowledge in this dissertation.

Outcomes of this third process we have already come across. For instance, I had to investigate whether the interplay between background and focus in the process of human indwelling, worked for shared sensemaking as well. A part of this argumentation we have seen in the previous section, but nuances will be added later (see chapter 5). Another example, is the idea of the focus in a conversation as suggestion, instead of a comprehensive meaning (this chapter). This idea confirmed me that it made sense to do a network of meaning analysis, but then in relation to the specific focus of that moment, hence emphasizing the dynamics of the development of the network of meanings. Another methodological step was to look for catalysts of meaning, using a technique similar to axial coding.

3.5 Closing

I have described my methodology not as a fixed set of method, but as something that has developed during my research. Since Polanyi's philosophy is also an epistemology I felt it would simply be inconsistent to base my methodology on one knowledge conception (each methodology has an underlying knowledge conception) and use that to reflect on another (i.e. Polanyi's philosophy). My solution led to an extreme case of the hermeneutic cycle; not only did my conceptual frame develop in relation to the development of my understanding of the EDM-case, but even the methodology itself developed. It is for this reason that I cannot yet give a complete description of a methodology to investigate the tacit dimension to organizing. A part of the result of bringing the texts of Polanyi in dialogue with those of the EDM-group was the conceptualization of *Catalysts of Meaning* and *Conversation Tendencies*. Since these concepts amount to a characterization of social systems and reflections on the quality of participation, I will fully explain this methodology of the tacit in the last chapter, in the discussion of my results.

What I did describe, was the larger part of the methodology I used. It mostly comes down to a simple principle: follow the focus of the conversation. This focus is not an abstract notion, it is perhaps the most clear and vivid experience we have during a conversation. If we understand tacit knowing and the explicit focus in their interrelation, then the focus implies the tacit. Polanyi's philosophy allows for a very interesting understanding of the focus in the conversation. It is both the Gestalt that the participant produces, as well as a void that demands further sensemaking.

In summary, the methodology I developed on the basis of bringing Polanyi's texts in dialogue with the EDM-case, entails the following applications of the hermeneutic circle:

- Through participant observation one can follow the shared focus in the conversation. There is the potential for a shared focus in the conversation as a shared perspective emerges due to participation and mutual adjustments. Sharing the perspective and following the focus allows the researcher to reflect on and interpret the perspectives that participants assume.
- The content of the focus suggests shared tacit assumptions, while the movement of the focus suggests relations between different foci. Tacit knowledge implies that meaning depends on tacit events, previous actions or communications.
- The focus not only relies on previous experiences and foci, but it also suggests new foci. The focus is not merely the top of an iceberg supported by tacit knowledge. It is also a void, attracting further actions, and new meanings. The focus should therefore not only be considered in terms of how it integrates previous meanings into a new coherent whole, but also as a

potential catalyst for new foci.

- An abrupt change in focus leads to investigate what developments in the conversation were rejected and what new catalysts of meaning had been introduced.
- Conversations and catalysts of meaning are mutually dependent. Just as conversation and practice produce catalysts of meaning, they are also relying on them. The emergence of polycentric order could therefore be described in terms of the mutual reinforcement of sets of catalysts[27].
- The emergence and self-reproduction of polycentric order rely on the quality of participation. What are the qualities of and contexts for such a participation?

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[27] In chapter 5 we will go deeper into this relationship between catalysts and emergence.

4 A Group of IT-professionals Emancipates

After entering three IT-companies and studying their business I arrived at Asperix. The previous ones allowed me only a limited access or were too small to study the combination of organizing and the role of differences. Asperix did not give me those problems, although initially the limitations in access seemed problematic as well.

My first encounters with Asperix were during a two-day company meeting. During this time the Asperix management team (MT) announced that they changed from an IT-consultancy to an Application Service Provider (ASP). Although, at the moment I did not have a clue what ASP was, I perceived that this was a dramatic change for many of the consultants, as many of them were expressing revolt or resignation. From that time on, I tried to track the historical context of this change, and to study how these professionals would respond.

This led to historical research which results are summarized in the second section. After that I focused on one group in Asperix called the EDM-group. The reason for this is that they tried to address explicitly what I was interested in: to organize in the face of differences. This led to an ethnographic research that is described in the remainder of the chapter.

4.1 Overview of the Data

Over the period of almost one and a half years: I followed the entire life span of a particular group of IT-professionals, the 'EDM-group': from its rise to its fall. I attended all group meetings, which were organized once a month on average. These meetings were the only time when the members of the EDM-group would meet. For the rest they were at the customer's location or involved with internal projects. During the projects they would hardly meet other members. In that sense the meetings were essential to the identity of the EDM-group.

During this period tremendous amounts of text were gathered, from group meetings, quick scribbles of informal (telephone) conversations, one-on-one interviews, and also notes of my own experience of engaging with them in their actual business practice.

The Asperix case includes:
- Notes, recordings and transcripts of all EDM-meetings in 2000 (ten meetings in total, each taking at least three hours) and the EDM-meetings until May in 2001 (three meetings in total). Except for two, all meetings were recorded.

- Interviews conducted in 1999, 2000 (24).
- Transcript of a company presentation of Asperix by two employees, and discussions on Asperix during a conference (100 pages). In this conference two employees discussed the problems of Asperix with organization theorists and consultants, over a period of three days.
- Observational data, in the form of field notes on EDM-members during sales activities, project meetings, and development of software..
- Notes resulting from informal meetings and phone calls with EDM-members all through 2000, 2001
- Internal documents

4.2 Asperix: from Intelligent Enterprise to ASP

Asperix started as a virtual organization, an IT-consultancy, in the spring of 1998, growing from 10 till about 150 people over the period of three years. The demand for IT-consultancy at the time was high, as both the millennium problem and the Euro-conversions created extra demand on the market for IT-services. Nina Brink had not pulled her stunt with Worldonline[28], creating the first stock market scandal for Dutch IT-businesses. After the Worldonline IPO[29], a lot more turbulence followed on IT-market, such as the series of dives of NASDAQ. In short: IT-business was booming, IPO strategies were popular, and there were no signs yet that the IT bubble would burst.

Employees of Asperix were recruited from September 1998 on, mainly through the network of the five founders. The founders convinced some of their previous colleagues by a particular story. Asperix was not about 'body-shopping'; it was not a traditional 'hour-factory' that would only focus on the number of accountable hours. In contrast, Asperix was a 'network of professionals'.

The concept network of professionals meant that members were strongly autonomous. They made their own agreements with customers. Supervision was minimal and wages were simply related to the income an employee would generate. The mission of Asperix was to support the 'Intelligent Enterprise', by means of a holistic approach to technology that would include an organizational and strategic perspective. Asperix would sell 'business propositions' to their customers that would consist of a combination of 'state-of-the-art' technologies,

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[28] Nina Brink was the CEO of Worlonline, a Dutch internet provider. She sold a significant proportion of her stocks shortly after the IPO (see next footnote). While she sold her stocks for a good price, the value of the stocks took a deep dive shortly after.

[29] IPO is an abbreviation for Initial Public Offering. It is a company's first sale of stock to the public.

particular intervention strategies, and actual business experience in a relevant market segment.

The founders had learned from their own work experience that consultancy projects tended to cannibalize the innovation of consultancy practices. For these IT-professionals the innovation of consultancy practice was needed in order to prevent Asperix from becoming outdated and obsolete. In response to that conclusion they organized Asperix in the form of a matrix organization. Employees participated both in project teams for creating revenues, and in autonomous groups for innovating consultancy practices.

The story about the Intelligent Enterprise and the Network of Professionals worked. In a tight labor market, many IT-specialists felt attracted to Asperix and signed up as employees. They became so committed that many bought Asperix shares. Also, the story functioned to attract investments from venture capitalists. On January 1999, Asperix was about thirty people, structured as a matrix organization containing knowledge groups that developed business propositions, and project teams creating revenues.

The knowledge groups organized half-social, half-work meetings, with very little traditional structure, usually at pubs, restaurants or at one of the members. There was no traditional hierarchy and little planning within the groups. Spread over a period of more than a year the groups had had a substantial amount of time. In total they spent a time-span equivalent to four months full-time work to innovate their practices.

In September 1999 and January 2000, external consultants were hired to assess and comment upon the presentations of the results of each community. Their comments were harsh. They critiqued the business proposition for the disconnection between technology and organization, for the failure to target any market, and for the imbalance between ambitions and the actual competencies in the group. In general, it was agreed that the groups at Asperix had failed to create new consultancy practices.

What went wrong? One recurring narrative was that members could skip responsibility too easily. One group leader complained that he had no means to exercise pressure on members and make them fulfill their commitment. The communities were defined as *network of professionals*, which meant that everyone was equal and there were no differences in power. The term *group leader* meant nothing more then the representative of the group to the management. Since there was no supervision in the groups, the activities in customer in the project teams (where there was supervision) turned out to be more pressing to members than the innovation activities.

Another recurring narrative entailed the distance between talk and practice. The conversations during the group meetings had had too little impact on member's daily business practice. Consequently, members experienced the meetings as becoming increasingly meaningless.

Another issue seemed to be the unstable course of the management of Asperix.

At several moments in time the demand of management for increased revenues virtually stopped the groups. Along with the changing management appreciation of the groups this led to a strong decline in the motivation of participants.

Meanwhile, the Intranet that had originally been intended as a support for the *network of professionals* had become redefined as a product that Asperix intended to sell to its customers. The disappointment of the management of Asperix with the lack of results from the communities led them to focus on the product development of the Intranet. At the end of 1999, Asperix had grown to 60 people and had effectively doubled in size during that year. While the investments in the Internet technology had been substantial through the employment of dedicated staff (nearly a million Euro), the consultancy branch had only created a small profit. As a result, at the end of 1999 Asperix lacked financial funds and was threatened with bankruptcy. The revenues from consultancy activities alone would not back up the required investments by far. In their effort to attract more funds they hired an investment banker for advice. This advice entailed the emphasis of the Intranet product and raise funds on the basis of portraying Asperix as an *Application Service Provider* (ASP). Asperix could position itself as a first-mover and establish a strong position. The management team thus reconstructed Asperix as an ASP, and succeeded in raising funds from investors.

In January 2000, at a company meeting this drastic change in business strategy was announced. A large radio advertisement campaign in the first months of 2000 announced Asperix as *the* ASP in the Netherlands. Where before revenues were mainly created through implementing technology at customer's sites, and supporting their transition towards new organizational routines, now Asperix aimed at creating revenues by renting technology via the Internet[30].

As customers would become dependent on these information services that Asperix would rent, these customers would demand a high level of reliability of Asperix and would reinforce Asperix' performance via contracts such as *Service Level Agreements*. In order to reach this level of reliability the management team of Asperix concluded that they had to transform Asperix to a bureaucracy.

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[30] The idea of ASP is that clients get access to information and functionality via the Internet. A very common example of this is webmail. A user only needs a browser, such as Netscape or Internet Explorer, to have access to e-mail functionality. The software that provides this functionality and the data that it operates on, is not installed at the user's computer but at the server of the providing company. The client thus has no access to software, but only to its functionality. This saves the user the trouble of installation, updates, and software failures. On the other hand, the user has less control over the configuration of the software and its data. There are many more examples of this; personalized information portals such as MyYahoo, games over Internet, sites with support for the creation of homepages, etc.

4.3 The EDM-group: the Beginning

Let us return to the company meeting in January 2000, where Asperix management announced the change to ASP to the IT-professionals.

The assignment for these IT-professionals was to redefine their group activities in terms of technological product innovation. Henri was an external facilitator, hired to partly facilitate this transition. During this period, the new leader of the EDM-group (an abbreviation of Electronic Document Management) and Henri agreed to organize monthly *EDM-meetings*. Henri would facilitate the meetings by supporting the group development and lecture on the *new economy*. The new economy had connotations with different ways of doing business, an increased role for knowledge in and between organizations, and it had to do with outsourcing services.

The group leader introduced Henri and me to the EDM-group in the first meeting that took place in February 2000. Henri was introduced as an external advisor, someone who was knowledgeable about the 'new economy'. I was introduced as a secretary, someone who came along with Henri.

What struck me at the start of the very first group meeting in February 2000 was an explicit address to the diversity of perspectives in the group. The EDM-members saw this as crucial to their shared identity: the possibility to use the differences as a part of the quality of their services. Thus almost paradoxically: the acknowledgement of the differences constituted a shared identity.

This reminded me of how Polanyi had characterized the *free society*[31] as being constituted by a free interaction between different perspectives and practices. The different practices existed on their own terms and were not defined by some encompassing more general rationale.

The monthly meetings of the EDM-group displayed collective sensemaking and decision-making. During these meetings there were no predefined hierarchical or power differences. Only in-between there were power differences. There were representatives of the group that would supervise, coordinate, or negotiate, and would therefore have a different status. This connects to polycentric order, as there were no organizational structures that created a fixed dominant perspective to subjugate, or dominate other perspectives.

4.4 The Practice of the EDM-group

The EDM-group offered a wide range of consultancy services aimed at document management. However, most of their revenues, they generated through

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[31] Polanyi responded with this to Karl Popper's concept of the Free Society. Polanyi's main criticism lies in Popper's neglect of a diversity of perspectives.

adapting *Documentum* for a customer organization. Documentum was - and still is - a document management system that allows for all kinds of security and access measures, workflow functionality, and the management of complex data structures. Additionally, it has possibilities to integrate with other software packages, for data synchronization and transparent interfaces, such as Microsoft Office, Windows, SAP, Oracle, Quillion, etc.

For the EDM-members, the customization of Documentum entailed more than simply 'tweaking buttons'. It involved developing insight in the business processes of their customers, modeling and designing the workflow of documents, structuring all kinds of data together with these documents, integrating the document management system with existing information systems, and migrating the data and procedures of legacy systems to Documentum.

Although Documentum provided building blocks to integrate with all kinds of information systems, there were so many interdependencies that this was a complex task. The technical consultants regularly found errors in the software of Documentum. Documentum was unable to test on all possible configurations of hardware and software. Finding and solving these 'bugs' in Documentum added to the complexity of the task of the technical consultants in the EDM-group.

The amount of interdependencies also implied that the building blocks in Documentum for integrating other information systems were rather crude in their functionality. Customer demands often entailed more than could be delivered through standard adaptations of Documentum. The technical consultants programmed *scripts* to meet the additional customer demands. Apart from technical consultancy the EDM-group also offered organizational consultancy. It supported the integration of the system into the organization, through the education of employees, and end-user sessions. Infrequently, the EDM-group was also involved on the advice on the strategic issues of content management.

4.5 The Development of the EDM-group in a Bird's Flight

The very first meeting of the EDM-group made clear that the EDM-group was incoherent; the EDM-members did not have more than a vague sense of how to develop their practices. What was shared was the need to distance themselves from the new strategic directions (i.e. the ASP-strategy) in Asperix. On the other hand, they lacked an alternative vision that they could propose and negotiate. As a start they used the old Asperix narrative about a network of professionals that had made them sign up in the first place.

From the second meeting on there was an explicit address to the rules of the EDM-meetings. The facilitator brought in the rules of democracy, thereby intervening on a tacit value that some of the members shared for equality. During

that meeting the ASP-strategy of Asperix became counterpoised to the EDM-ambitions with respect to consulting. This led to the constitution of a difference between the EDM-identity and the Asperix-identity. This difference then became enacted by succeeding negotiations of the group leader, backed up by the other EDM-members to establish an interface between the EDM-group and the management team (MT). This interface entailed a commitment of EDM-members to earn an amount of revenues. In exchange the EDM-group could use the surplus in time and resources for the development of their group.

In the third meeting, a new member entered who defended the ASP-strategy tenaciously. From the resulting discussion the EDM-group learned that an ASP spin-off of their consultancy-activities could be profitable. This discussion had the effect that an EDM-discourse developed with an open-ended, materialistic rationale. Whereas before, the EDM-group sought for an anti-ASP ideology to counter Asperix' ideology, now their pretense had become much more limited. The rationale that they developed was that the more effective the EDM-group could create revenues, the more resources they had to pursue their ambitions and do the things they liked. In this sense their discourse became materialistic, but not reductionistic; creating revenues was a means, not an end in itself.

In the fourth meeting, the grounds for the central position of the MT became questioned. This became the start for the EDM-group to initiate moves in the organization. They felt that although their collective ambitions were still developing, their understanding was more coherent than that of the MT. The negotiations between the EDM-group and the MT became to entail demands of the EDM-group to the Asperix organization. Not only did the MT determine no longer what the EDM-group was; but the EDM-group started to confront the MT with its role. As the EDM-group, being one of the smaller groups in Asperix, was the group who was financially successful, the MT asked the other groups to establish an interface similar to the EDM-group. For the MT, the EDM-group was easy to manage, and they created the revenues Asperix so eagerly needed.

In the fifth meeting, the emphasis lied on the relationships the EDM-group had with its customers. Customers approached Asperix to have a particular technical problem solved. However, the consultants of the EDM-group wanted to deliver a more comprehensive solution that would entail organizational change and strategy. Their strategy had been that they were hired by middle managers of a large organization and then introduced a more elaborate solution. But this solution was restricted by their dependence on that particular middle manager and its limited political powers. There were no EDM-members or Asperix employees who were 'clubbable' enough to enter the strategic level of a large organization. Asperix members were simply not part of the high society in the Netherlands in which these kinds of assignments are negotiated. Moreover, the EDM-group did not have the capacity to do a large company-wide project. Their conclusion was to concentrate on getting hold of innovative pilots by researching some of the 'state-of-the-art' technology.

In the succeeding meetings the discussions on the EDM-strategy were completed. The members of the EDM-group increasingly detached themselves from the goals and meanings in Asperix. Moreover they started to define their own environments. They even discussed whether they still wanted to be a part of Asperix. The EDM-group started a joint venture with a small IT-company to combine document management with new search technologies. Two of the more commercial members in the EDM-group developed a sales story on knowledge management. Interestingly, now these members were able to negotiate with the strategic level of organizations. Unfortunately, the partner in their joint venture had the usual start-up problems: the organization was taking a fickle course, and in the end went bankrupt through a lack of customers and faith of the venture capitalist.

4.6 Dissolution

From October on, the management team of Asperix, in their efforts to cut costs and increase revenues, gradually started to reverse the agreements with the EDM-group. The Dutch economy was decreasing; in fact the Netherlands was heading towards a recession. Companies delayed IT-investments so that the IT-market became tight and strongly competitive. Asperix needed substantial investments to complete their ASP-technology, while the ASP-branch was not creating any substantial revenues yet.

The effect was that the EDM-group had fewer resources to pursue their plans. EDM-members became irritated from the cuts in traveling expenses, and the scanty salary increases. In addition, the most important customer -financially wise- was located at the far South East of the Netherlands. The EDM-members working for this customer had become weary of the long traveling times. However, the EDM-group was unable to find enough new customers to abandon this large customer. Whereas before, Documentum had recommended Asperix on a regular basis for the implementation of the software, this stream of customers dried up after the summer of 2000. This was probably a consequence of Asperix' marketing campaign; Documentum might not have wanted to recommend an ASP-organization for the implementation of their software.

These events marked the start of an increasing dissolution of the EDM-group. The role of the group leader became difficult. Carl tried to defend his group from being squeezed out by the MT. On the other hand, he had to defend the unpopular compromises that he made with the MT. Moreover, Carl was largely involved in the sales activities, which did not yield enough results. Some of the EDM-members felt that Carl was failing, but were unwilling to confront him directly. They spread individualistic stories of being exploited by the MT (while their salaries were at least 60% over Dutch average salaries), that the EDM-group was

not functioning as a whole, and that one had to think of one's personal interest, etc.

As the MT denied or reversed the agreements over time, members reverted to rebellion. For instance they handed in false declarations or weekly reports. This put the group leader in an awkward position. They betrayed him as well. The rebellion was on an individual basis; coordinated action seemed abolished.

Over the year 2000 Asperix made a net loss of millions of Euros. The revenues that they obtained mainly came for consultancy activities, and most of those came from the EDM-group. However, Asperix presented itself increasingly as a pure-play ASP in the media, suggesting that the obtained revenues were derived only from ASP-actvities. It would seem to me that they also presented this to investors, or they would not have collected millions of Euros at the start of 2001[32] from investors for a company with a consultancy branch that was hardly able to sustain itself, and an unproven ASP-technology. Carl's worries that he expressed a year before, during the second EDM-meeting, seemed to become true: Asperix would abort consultancy activities the moment the ASP-activities delivered enough revenues. But now the resources did not come from customers, but from investors.

In February 2001, the MT led by a new CEO decided that they would cancel the EDM-group together with other knowledge groups, in order to create a product organization. From then on many of the EDM-members started leaving. In May 2001 the cancellation was formally enacted. From press releases (and sometimes the lack thereof) I deduce that until 2004 Asperix was not able to generate any significant revenues. Still, the millions of Euros investments finally took effect. The recent state of affairs, according to current press releases, is that Asperix was no longer making losses and they seemed to have gained a good market position.

4.7 Membership

In the previous paragraphs I have given an overview of the development of the EDM-group. In this section I introduce the players, the members of the EDM-group. The EDM-group had been one of the knowledge groups in Asperix, but it had virtually not been able to develop new practices. In January 2000, there had not been any meetings for half a year. The group consisted of seven members of which three were new to Asperix, amongst them the group leader. The group thus had hardly any identity, except for a shared notion of belonging to Asperix. But that did not amount to much since the company was in the process of radical change.

However, the EDM-group did not start from scratch. Some of the members had a shared history in the previous project teams. All of them had bought into the

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[32] As according to www.nieuwsbank.nl.

'network of professionals' narrative that led them to sign up as Asperix employees. From its restart in 2000 the group consisted of different disciplines: business analysts, technical consultants, and management and accounting. The group soon grew to about 10 members. New members usually either stayed for long, or quickly disappeared, which resulted in a steady core of about 7 people.

The initial business analysts (Lucy, John, Cindy) were relatively junior in their task, and had trouble establishing what their job was about and what their ambitions were in that. The group leader, Carl, had been a manager in the petrochemical industry, and had its experience with IT-consultancy in that role as managing the outsourcing of some IT-projects. Carl's task was to be involved with the management of all project teams -to a varying extent- that had to do with document management in Asperix.

The other members in the EDM-group were technical consultants. Two of the three were fairly experienced software engineers (Menno, Jack, and Huub). During the year more experienced consultants entered. Marco, Ivan and Niels, reinforced the technical consultants, and Gert-Jan, David and Carrie added to the business analysts.

Roel became involved through sales activities and account management of the projects in which the consultants in the EDM-group participated.

A special member is Henri, the facilitator. Some months before he described his role in Asperix as follows:

> *"I, of course, have positioned myself as an intellectual consultant to Asperix because I cannot have any responsibility for the question you just posed {the question: "what does Asperix sell?"}. I positioned myself subconsciously not to have that responsibility, which I will explain as I answer you. My position is to pose the same sorts of questions as have been posed now to Asperix people: What are you doing? What is happening? What's the coherency? What is the relationship between how you are working with each other to what you proclaim etc.? This is the agenda to which I am attached to for this company and not another agenda".*
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> <div align="right">Citation 18. Boston 1999, second tape</div>

The term 'intellectual consultant' speaks of a distance to Asperix; his engagement is only intellectual. From an institutional point of view he is not an employee either. All that Henri subsequently says about responsibility, or rather avoiding responsibility, is that he is not responsible for establishing anything in the company. Any changes have to be implemented by others, his role is asking questions. Over the period of a year the group grew from 5 to 13 people, 11 people joined, three left.

In the remainder of the chapter I would like to go into the details of the first few meetings. After the following chapter I would like to reflect on the specifics of the emergence of polycentric order in the EDM-group, using these details. From the

start on, the EDM-group had tried to create some form of collaboration, while acknowledging and respecting the differences between them. They had resisted the efforts to bureaucratize their little part of the organization and had developed a position to negotiate the space for their safe haven[33].

4.8 The first Meeting: A Start of Something Old

In preparation of the first meeting, Carl, the group leader, had asked John and Cindy, two new members of the EDM-group, to write a document about the 'business propositions' of the EDM-group. The concept 'business proposition' had belonged to Asperix from its foundation. A business proposition entailed a '*mission*' and a '*vision*'. The mission was about posing targets concerning a market, and goals for internal developments. The vision was about a particular and unique holistic '*approach*'.

The meeting started with everyone reading the document. Its text claimed that the EDM-group approach entailed a constellation of technology (or knowledge technologies), IT-strategy, and change management. The EDM-group was to address the tensions between organization and technology, between management control and entrepreneurial freedom. The three perspectives of the approach were adaptations from Asperix original 'holistic vision' on consultancy. The mission about addressing the discrepancy between technology and organization had also been derived from Asperix' previous ideology. Two previous group leaders of the EDM-group had joined the meeting as well. Bruce and Kees were now members of the management team in Asperix. I wondered about their presence: did they think that the meeting could be important and could have impact on the Asperix strategy, or did they still feel connected to the EDM-group?

It is important to realize that this was in effect the start of a new group. Many members were new, and the members that had been part of the group had not participated in meetings for more than half a year. The document that John and Cindy prepared referred to the start of Asperix. It referred to the story they and the other EDM-members were told when they applied for their jobs. The succeeding conversation is then also full of echoes from the past. Not only the stories from Asperix' past were reproduced, but also some of its problems.

In the conversation there is a recurrent demand for a certain 'concreteness' of the business proposition, that members fail to address in the conversation. Either the question was circumvented or the answer consisted of general and abstract terms, such as 'approach' or 'methodology'. Unfortunately these terms lacked content, and the EDM-members realized this as well. At best, they understood a

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[33] For the definition of "safe haven" see the footnote at the introduction, before the first section.

'methodology' as an *abstracted* set of interventions on a customer organization. At best, for there were never elaborate definitions such as this. Writing a methodology would thus require an abstraction from the concrete consultancy practices into a coherent set of guidelines that were valid over the different business contexts.

There was thus the problem of translating abstractions into actual practices, that had played in Asperix past as well. Several efforts to define a consultancy methodology had been undertaken in Asperix before. However, I found that there was no set of guidelines functioning to guide any consultancy practice.

Probably this first meeting was also frustrating to its members. The document only showed how far the EDM-group was off from being able to present an identity to customers, or to Asperix. The previous group leader, Bruce, even suggested that they had no credibility yet, as they had no success stories, or examples of consulting. Apparently, there were no stories on practice available. Repeated questions for concrete implications were answered with broad statements, general dilemma's (e.g. approaching a broad market vs. deepening or specializing in a segment), or acknowledgement of the limitations of their consultancy practice (e.g. our consultancy is tying the loose ends together in an organization). The wry and skeptical remarks from Bruce and Kees, indicate part of their reason to join the meeting. They had been probably worried that this meeting will be the start of a series of meetings that will also not yield any result, just as before.

The facilitator then addressed this problem explicitly.

> Facilitator: *"The conversation is quite stuck. We need to change the level of abstraction. Now a little more concrete: it is ten minutes past four, what do we have to do?"*

For some time there was a silence. The statement 'ten minutes past four' in combination with the sense of lack of direction, made the issue urgent:

> Lucy: *"We have to detail our business propositions"*

> Carl: *"We are not getting much further, we are stuck"*

> Facilitator: *"How do you get from here to a concrete story for your customers?*

<div align="right">Citation 19. EDM2000,feb: 151-154</div>

The conversation changed into telling experiences at customers. One plot that was starting to emerge was that there were recurrent difficulties in becoming a real partner in the conversation for new customers. The point of entrance for the EDM-group had never been on the level of board. Instead they were hired as an IT-problem solver. The customer had already identified an organizational problem as

technological, and then Asperix was invited for a series of interviews.

Then there was a discussion on the criteria to select between customers. Again there was no closure reached: "Should the EDM-group widen its market-scope", or "Should it first become good in a particular market segment?" But as the group leader gradually realized that the abundance of work is also a problem the discussion abruptly changed. There was no lack of customers, and thus the discussion on which market to target was not so relevant. The first worry was to address the current demand. There could already be a too large demand on the group, which endangered their aim to develop business propositions. As they drew tables to develop an overview of project demand versus the skills and capacities of the EDM-group the group made plans to attract people with particular profiles. The discussion turned to the growth of the group in terms of numbers and required capacities. Their conclusion was that the group should grow to at least 12 members to fulfill the promises that were already made to customers. From the perspective of potential customer demand there would be a need for 37 people.

I think that this was for some members 'concrete', there was some relief around the table. But the real firework had gone largely unnoticed. The EDM-members had adopted part of the old Asperix story. Terms such as 'network of professionals', 'business propositions', and norms about equality, professionalism, and autonomy were imported as group values. Many unresolved issues had been introduced, concerning their presentation to customers and implicitly to Asperix. But in all this, there was not a word about ASP. All this had happened in the presence of two MT-members. In short, the meeting was full of suggestions to create an Asperix identity separate from that of Asperix.

All the demands for concrete measures, all the statements that lacked contents, and the fact that the fireworks of this meeting had been in the suggestion told me that *meaning* is just as well a Gestalt, a coherent whole, as well as a void, that demands further sensemaking. There were so many new paths for shared sensemaking that were possible from this first meeting. The question, obviously was, what will be actualized?

4.9 The second Meeting: Identity through Difference

Henri, the facilitator, started the meeting by describing how the EDM-group had to consider not only their strategy, but also their organization, such as the relation of the group to Asperix as a whole. After a notable silence, where Carl and Lucy voiced their appreciation of the analysis, Carl followed up by elaborating on his experiences with the consequences of the new Asperix strategy. He described how consultancy was changing. Consultancy as a department within Asperix, functioned as the 'money maker', to finance the developments in Asperix to an

ASP. He suggested that the real interest of the MT was on ASP, and that consultancy might well be aborted the moment ASP would generate enough income. He argued that onsultancy as a task was devaluated into a management, sales, and support function for the ASP-activities in Asperix.

Lucy voiced her agreement with Carl, but Menno and Huub were much more hesitant. Especially Menno spoke up. Menno said that consultancy was to become 'implementation services'. He thus implied that consultancy still had an important role within Asperix. This was thus a highly ambiguous remark. It could refute only Carl's 'abortion'-statement, and it could mean that Menno preferred another definition of consultancy.

Carl answered that consultancy was not necessarily the management and administration of ASP-services. Thereby he responded as if Menno had claimed that "implementation services" is what the task of consultancy should be in Asperix. In the tension that built up both were speaking from a different angle on consultancy. Menno understood the conversation in terms of organizational tension, while Carl was problematizing the definition of consultancy as it is propagated by the MT. The ambiguity of the notion 'consultancy' was embodied by Carl versus Menno in this conversation.

Henri followed up on Carl's response by stating:

This leads to the question: are you {going to be} conscientious, independent consultants or are you an ennobled sales apparatus?

Citation 20. Mar00:44

This was a rhetorical question: from the two alternatives, one is obviously the bad choice. The question even implied the moral standpoint a consultant should take. I had wondered why Henri had pulled such an obvious rhetoric trick. He had been sensitive to rhetoric and was usually very careful with it in the EDM-meetings. He probably was too engaged at that point in the conversation. Henri had been concerned with coherency in Asperix, or rather the EDM-group. He probably had his agenda ready, the EDM-group had to stand up as one to Asperix in order to negotiate as a business unit. In this respect Menno posited a real threat: when Menno would keep on identifying with the Asperix strategy he would rupture the group.

Huub supported Menno. But the other members, especially Carl exercised pressure on Menno. Menno and Huub had sympathy for the ASP strategy. They had been part of the development and even design of the enabling technology. Especially Menno had until then strongly identified with Asperix, being one of its first employees. Now he stood for the dilemma to indentify with the group over Asperix as a whole, or vice versa.

The pressure was created by the morality issue Henri introduced. Carl elaborated on what consulting *ought to be*. In a clause, Carl accused Menno of coming too late, while at the same time stating that Menno understood consultancy as only

supportive to ASP. The sentence functioned to put Menno into an extreme position. The subtext is: 'you are not a good consultant'. It might also have contained the intent to expel Menno by defining him as a non-member. On hindsight, it seemed this offensive move was unnecessary. Menno was hardly late, and he did not talk about the meaning of consultancy at all. This situation, with conflicting view is perhaps more prone to rhetoric violence than others.

When Menno elaborated on how the two departments 'consulting' and the ASP-department could work together, Carl asked whether Menno wass not saying the same as he did. This question was to the point in the sense that there were not necessarily conflicting positions in the discussion. Menno and Huub came from a different angle as Carl and Henri did. However, the question 'are you not saying the same as I am?' was not only informing whether there were actual differences, but it also demanded of Menno to assume the same position as Carl.

John supported Carl by affirming that Menno said the same. When Lucy asked Menno for the difference between their different standpoints Menno described Carl's point of view, and hesitatingly handed in that consulting should be broader than the management and sales of ASP-services. He insisted though to repeat that consulting could be a part of ASP. Carl responded immediately: '*can be*' and repeated that consulting should be broader.

In this part of the meeting, there were three different but closely related meanings constructed through contrasts. The first contrast was about the altered status of consultancy in Asperix. Consultancy had changed from core business to 'moneymaker'. The role of consultancy was to support Asperix in becoming an ASP. This was all the more bitter as the technology that had before created to support consultancy had now become the main focus of the MT of Asperix.

The second contrast opposed the organizational forms as they had been with the plans of the MT to organize Asperix in business units. The 'network of professionals' and the 'business proposition groups' would be sacrificed to become a management and support structure for ASP-activities.

The third contrast was explicitly normative: 'consulting as it should be' versus 'implementation services for ASP'. With 'consulting as it should be' there were references to the previous EDM-meeting, to the holistic, integrated approach, 'addressing the gap between technology and organization'. The 'implementation services' were customizing more general applications, and in general fixing the gaps in customer demands that could not be fixed with the commodities that Asperix really wanted to sell.

Apparently, the paradox were redefined as a lack of clarity. The contrasts were then described in several ways. Initially the narration of the contrasts was not fluent. It contained interrupts, and abrupt changes of direction. The history of Asperix and the current situation were described as a given, but from the demands for clarification I suspect they were not so obvious. Thus although the emphasis was on establishing the problems with the current changes in Asperix, I suspect that the 'shared' history and situation were invented on the spot, as well. In

sketching the contrast the members found themselves not just describing a history and a current situation but also inventing it.

What had happened with Menno and Huub, and to a lesser extent with the other members as well was far more than simply solving a misunderstanding. It was actually a demand to distinguish their identification with the EDM-group from that of Asperix, prioritizing the first over the latter. The telling and repetition of the contrasts between consultancy and ASP amounted to the first story in the EDM-group about their identity.

After the telling and retelling of the "EDM as different from Asperix"-story Henri tried to change course.

> *"But we have to be careful, for the unit itself it makes no difference what the holding does with the profits. Even if they {Asperix} want to flush it through the toilet every month. As a unit that is of no interest... {The question is} are you able to effectively operate as a business unit, in a way that you can support? {And the question} what will be done with the profit is, ultimately, not your problem."*
>
> Citation 21. March 2000: 171

Henri set the boundaries here about what the concerns of the group should be about and thereby reduced the complexity of the environment. Carl went into the money maker issue again, complaining that the focus of Asperix is no longer on consulting. Henri responded:

> *"There is a negotiation between a ... business unit ... and a holding. The bottom-line is can the unit do her work within the norms that are being set? ... When you say no, then there is something wrong in the rules of the game, and then you need to discuss what needs to change."*
>
> Citation 22. March 2000: 173

Building on the first story where EDM distinguished its goals and ambitions from those of Asperix, Henri took a new step and introduced a completely new element. In answer to Carl's complaints (and the assumption of a passive position that is inherent in the complaint), Henri brought up that the EDM-group could negotiate. The term 'business unit' was reinterpreted. The term came from the MT to emphasize the hierarchical relations. Henri made the start here of an alternative formal relation. A "business unit" could also mean a fairly independent organizational unit that negotiates with the holding, about its targets.

Still the EDM-members seemed to miss the implications of Henri's point. They discussed the unfairness of the 'rules of the game'. The previous remarks of Henri culminated in the next one, which I think is a turning point in the conversation where Henri said:

"If one wants to do something one has to do it as EDM {-group} and not as an individual. As a business unit one can negotiate strategy, but not as an individual"

<div align="right">Citation 23. March 2000: 207</div>

A long silence followed (12 seconds!), the EDM-members were amazed and intrigued, after which Henri continued:

"Thus you are only as strong as your shared vision. Insofar you are able to collectively stand behind a decision or standpoint you are able to be effective"

In effect this was a call to the members will you stand up as one to the Asperix organization? But it was also asking: "will you backup Carl when he negotiates with the MT?", Carl being the obvious representative of the group, the MT had appointed him group leader.

I think this remark was on Henri's agenda. Actually he had literally announced it as such in the very beginning when he was describing 'the agenda' for the meeting:

"The more progressive, the more ambitious, the more you pose: this is our identity, this is what we do - the stronger the need to have your own organizational model…if you want to give EDM such a strong identity than you will inevitably have to negotiate with the holding."

<div align="right">Citation 24. March 2000: 3-5</div>

Many things happened after this call for collectivity (citation 25). After a little pause, Menno responded first, after which Huub and Cindy also expressed their support. The event was the members speaking out as uniting in a business unit. After they did, Carl returned to this point at least twice using terms such as 'solidarity', 'as a group', 'group effort', apparently making sure that this point and some of its implications had sunk in.

After some stammering, Carl was back and all business:

"…I think we should formulate concrete points of actions as EDM-group…"

This is a theme that is recurrent with Carl. He demands the "concrete" consequences of the talk, in the form of commitments, point of action, milestones. In this he seems to complement Henri. Where Henri unfreezes the ideas and conceptions, Carl seeks to freeze the ideas into formal roles and documents.

As if to underline that this meeting was about identity, the EDM-members discussed why they are better than the other groups, the mistakes in the ASP-departments, and the miscommunication in Asperix.

At this point the second meeting was halfway, one hour and about 15 minutes have passed. It is noteworthy that Henri's agenda had been followed, almost to the letter.

The second half of the second meeting I construct at the moment Bruce entered the room. As Bruce entered the room, he was friendly greeted by Lucy, Henri, and John ("lunch is there"). Carl continued as if nothing happened. Henri however, addressed Bruce: "did you sell it?". Bruce answered with a hint at great success.

Carl reluctantly gives focus to Bruce: "Well, okay then, tell it in five minutes that relieves the tension". After which Bruce reported on his meeting with a potential customer for the EDM-group. Carl summarized the meeting until then: opposing consulting as it had been with how it is becoming:

> *"...the idea behind consulting in Asperix was the network of autonomous professionals, facilitated by an Intranet, and supported by a home office function. And now actually – the question is whether this is still true, or whether we are a money maker for another part of the company, which is demanding of us ... {to be} a business unit to play a part in the management and support of the other part of the company..."*
>
> Citation 25. March 2000: 371

Carl closes with bringing forth the implications "… in this light we should perhaps put ourselves in a more independent position". Carl was fast in embodying the new EDM-identity. He enacted Bruce not as a member, but as a representative of the MT. Bruce suddenly found himself defending the ASP-strategy.Bruce had difficulties interpreting the confronting message. He gets that there is a confrontation in the text, but missed the point.

Henri went in:

> *"To put it very simply: what is the core competence of this group, what is the economical justification for its existence in the market, and what is the relation between the core competency of this group ... and the relation to the holding?"*
>
> Citation 26. March 2000: 376

The venom was in the tail of the sentence: questioning the relationship between the EDM-group and Asperix as a holding. Bruce admitted he was stunned: "I am still like 'is this what I really heard?' It seems it is." After a long silence (11 seconds) he continued: "How should I respond?" In his search for a response, he described the state Asperix was in, an anecdote, without coming to an answer to the question.

Henri then brought in a new theme: investment in the EDM-group. The theme was controversial in that the contemporary rhetoric in Asperix spoke only of investment in combination with ASP. Bruce acknowledged that Asperix has no vision on how consultancy should develop.

Henri contrasted a network of professionals with a bureaucracy: "do you want to have … a service and support department … a group of people waiting for the

orders of the center, or do you want a network of professionals that has a story for the organization?" The consistent answer would be of Bruce to answer: "I want a service and support department". But Bruce was not ready to give that up yet - "you would take the heart out of the organization". Indeed, if that would be the official and explicit standpoint of Asperix than probably half of the consultants would leave. The consequential tension manifested immediately. In the succeeding discussion Carl protested against EDM-members being dedicated to develop the ASP-platform. His offer was to help development only against a tariff that would in conformance with the market.

Carl then negotiated with Bruce that the EDM-group would create 70 Euros per working hour on average. That would leave the EDM-members at least 30% of their working hours to dedicate to investment in the group. Furthermore, EDM-members would no longer be dedicated to ASP developments, unless the EDM-group could bill Asperix fully. The demarcation between the EDM-group and Asperix had become quite clear. So much that Bruce warned against a 'we-them' mentality. However, he noticed this as he was enacted as outside the group.

Not only does Carl embody the new EDM-story, and started negotiations with Bruce in completely new ways, but he also formalized their ideas in concrete agreements by enacting Bruce in his MT-role.

The difference of the second meeting with the first meeting was huge. In comparison they were almost complementary. The first meeting was an orientation of the group in search of *their shared* motivations and ambitions. In contrast, the second meeting was an *outward* orientation in how the members want to position the group as *different* from Asperix as a whole.

On the other hand, it was quite a continuous development. From the first meeting on, the EDM-group increasingly distanced itself from ASP. ASP was associated with 'commodity', 'technology push' (Feb 2000), derivative consulting (March 2000). In contrast, consulting was associated with 'business solutions', 'customer orientation' (Feb 2000), broad views, independence, integrity (March 2000).

4.10 The third Meeting: A Demand for Embodiment

In April 2000, the MT was in the process of reorganizing Asperix from a matrix organization of consultancy project teams and knowledge groups into business units. Moreover, the group leaders were to take a more formal role, as head responsible of the business unit. As Carl described these developments on the basis of his meetings with the MT, the tension in the second meeting grew. This was the change that the EDM-members had guessed and dreaded only three weeks before. In this context Carl introduced Roel:

"I do not know whether we want to make these issues part of this meeting and

how your role fits in…"

Apparently, the MT had enforced the addition of Roel to the EDM-group. This intervention was part of the ASP-strategy, which the EDM-group condemned. The EDM-members did not even have to think of an agenda; this seemed enough for the next hour.

Henri: at the previous meeting you … emphasized the network of professionals, while now you state that …you have received managerial responsibility {from the MT}

Carl: indeed

Henri: How do the two relate?

Carl: Well they don't, and this brings us back to the schism in the company…You {Henri} have brought up last time to be a business unit as the EDM-group. I have that idea as well … therefore these conversations with Bruno {MT-member}… Archie {CEO} has confirmed that he wants business units. I want to confront them with the consequences concerning my –eh- our authority and influence…"

Carl hardly addressed the question that Henri posed. His goal was to create a certain level of autonomy. The reason for this followed:

"In Asperix … the emphasis lies on hosting {hosting applications, i.e. ASP}… But I think that {Asperix} invests in something without considerations of return on investment."

Carl went on to argue that when the EDM-group would be a business unit, it would need to balance expected revenues against investments. He argued that in the case of Documentum[34]-related activities the expectations concerning the return on investment for consultancy would be much better than for ASP. He argued that there was a choice: an investment in ASP would imply that one couldnot invest in the training of the consultancy skills, and the development of consultancy services.

Then he added another reason for preferring consultancy, which followed from the characteristics of Documentum. He quoted Ivan's standpoint on this issue.

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[34] Documentum is the document management system that the EDM-group often uses for their technical consultancy.

Apparently Ivan had argued that hosting an EDM-application is no business:

EDM-applications are only interesting for organizations when they are customized {tailored to fit the specific characteristics of the customer organization}. {Since this is expensive} this means that you need fairly large customers…with so many users that the customer is better off {financially wise} to manage its own systems. Indeed, Asperix used to position its hosting activities as pertaining to small and medium enterprises. Documentum is absolutely not a tool for small and medium enterprises. What he {Ivan} does think, and I agree with him, is that we could… {host Documentum to} make a platform for business to business exchange. Something with a high added value, that is now relevant, that you can sell in small numbers {as there will not be many customers}, with high customization.

<div align="right">Citation 30. April 12, 2000: 38</div>

The last sentence is very compact. Hosting Documentum would lead to an expensive service, as there would not be many customers who would require such an elaborate information infrastructure, and the software would always require a high level of customization. The height of the license fee of Documentum would make this document management system hardly ever interesting for small and medium enterprises (SME). High added value would thus be a precondition for any use of Documentum, including the use of Documentum as an ASP-service.

All this was congruent with the standpoint that the EDM-members had reached on the previous meeting. In contrast to Asperix, the EDM-group would stay focused on consultancy. New elements in the conversation were thus Carl's more formal role, the 'return on investment' as a financial rationale, and the difficulties of creating a hosting proposition based on Documentum. For the EDM-members all these elements confirmed them to stay focused on consultancy. However, Roel did not agree:

This discussion {on what can be done with hosting Documentum} needs to be held. For Asperix, and we are a part of that… emphasizes hosting. There is the Asperix suite…that is now marketed…that will contain Documentum. Thus I think we have to decide as a group whether that is business that we will be pursuing and how we will do that.

<div align="right">Citation 31. April 12, 2000: 45</div>

The idea of Asperix hosting a suite of applications, entailed that customer organization could then choose to rent a number of applications. The idea was that this way Asperix could allow different applications to exchange data, which should make hosting more attractive for customers. Roel told the EDM-members they should identify in a particular way, portraying quite a lot of bluff in merely two sentences. Firstly, he mentioned that the EDM-members should identify with

Asperix in a mere clause "and we are part of that". Secondly, he spoke of "we as a group", boldly ignoring that the EDM-members still want to decide on his membership.

Roel's bluff did not work. The identification with Asperix was denied under the term of not following the hype, and finding even more arguments to discredit the ASP-strategy in general and in relation to Documentum. However, they returned to the idea of using Documentum as a business to business platform[35]. The conversation had come again and again to the reasons for the EDM-group to continue a focus on consultancy –strategy. However, the real issue was: "What to do, now Asperix is about to demand that the EDM-group will focus on hosting?" Then Henri said:

> *But Asperix cannot permit itself to deflate the cash cow value of EDM. That is partly our power position.*

Carl agreed:

> *The EDM-group in the timetables that I received from Bart {MT-member} nothing to do with hosting... there is merely a prognosis of profit. We bring in the most revenues in this {organization} ... that is fine. But then we will organize it the way we think it should be.*

<div align="right">Citation 32. April 12, 2000:79- 80</div>

The focus remained for a moment on the power position of the EDM-group. It turned out that Documentum had only a few consultants that could implement Documentum in Dutch organizations. In fact, Documentum recommended Asperix to Dutch organizations that were interesting in buying a Documentum license. Later, I learnt that the EDM-group obtained most of their customers via Documentum. This part in the meeting that discussed the power position of the EDM-group, reminded me of the previous meeting, where Henri had proposed the EDM-group to negotiate as a group with the MT. Both moments were preceded with a gathering of arguments around one issue; i.e. why should the EDM-group stay focused on consultancy and avoid involvement in the ASP-strategy? After the group understood their power position immediately negotiations with the MT were planned.

After the break, the focus of the conversation lied on the process in the EDM-meetings. The facilitator characterized the meetings as democratic, for all the

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[35] A business to business platform is meant to create higher efficiencies through automating sales channels over the Internet, to facilitate the exchange of information between the customer organizations, to reduce search costs (Williamson, 1975) by creating a more transparent market, and lower transaction costs in general (Clemons *et al.*, 1993; Malone *et al.*, 1987) [35].

important issues were out in the open. Lucy added that the facilitator should stimulate all members to have their say, and that now some members had hardly said a word. Henri responded that a considerable amount of time was devoted to the socialization of a new member. This works as a challenge to Roel: "What do you mean with socializing?" Henri explains:

The way of conversation, of explaining each other. You did several things that were outside of what was presumed. Several times you were told: "we decided on that already". You were told three or four times:" this is the norm of the group, adapt!" Thus there was a considerable amount of time devoted to updating you.

Citation 33. April 12, 2000: 182

Indeed, Roel was in the process of identifying with the EDM-group, which was conflicting with his previous identifications. This became clear when Roel explained why he could not agree with the EDM-emphasis on consulting:

While I am being told from marketing and sales: " ... consultancy is important, but so is hosting. And that is what we should do in the EDM-group". And I think that that discussion is not finished, so that is my background. And when you say: "Well that has been decided already, well that is possible, but that does not convince me".

Citation 34. April 12, 2000: 183

Roel identified with the sales and marketing department, and with the new Asperix strategy. The succeeding conversation was a response as if Roel's question really was: "can you please convince me?" This created a loop in which many of the previous arguments were repeated. Apparently, Lucy had had enough of that. She intervened: "Has anyone thought of an agenda for the second half of this meeting?" Carl and Henri insisted however, on continuing the line of conversation, or rather the loop. But surprisingly, the statements did change. When Roel claimed that he could not see a role for himself in the EDM-group, when the EDM-group is only about consultancy, Carl responded:

You should not say that our vision is pure consultancy ...I think that ... {the MT} should be clear on what they want, and that they then give authority for that. Then it is up to us ... our honor and conscience, to make the best of that. When they say: "sell one hundred thousand seats" {hosting}, then that is up to them. Then you have a discussion. When they say: "I want revenues" then it is up to us to earn them through consulting or not.

Citation 35. April 12, 2000

All of a sudden, there was much more nuance. Carl was only saying that when

the MT was not able to define a consistent goal for the group then the EDM-group should do what they think is best. Apparently, for Carl this theme was developing as well. He saw a business-to-business platform as an interesting opportunity for the group, and also as a means to negotiate with Asperix. Carl returned to the identity theme:

Carl: I mean we must not say: somebody is partaking in the group, does not know what he actually wants, and pulls down the group so that he creates a niche for himself. We cannot allow that.

Roel: But that is not my intention.

Carl: no, but the discussion does come down to the point where you defend the golden egg of Archie {the CEO}, while that is perhaps not even defendable at all. And it is unclear at this table what is in the egg at all.

<div align="right">Citation 36. April 12, 2000: 221</div>

Thus, there was a dispute on embodiment, one could represent Asperix or one could represent the EDM-group. The difference made out membership.

After Henri informed for the potential tasks of Roel in the EDM-group, Carl proposed account management and possibly the sales of the business-to-business platform. Roel responded that account management would not be appealing. However, the opening for solving the conflict lay in the nuance that Carl made. A business unit would decide itself what the most profitable area was. In that sense Carl's subsequent offer to develop with Roel a business proposition for a business-to-business platform was quite diplomatic. The platform could probably be sold to several customers, and perhaps even on an ASP-model. Such an initiative could use Roel's sales efforts and experience. In that process Roel increasingly participated and enjoyed himself. He started to manage the separate customer accounts for the EDM-group, which turned out not to be so unappealing after all.

4.11 The fourth Meeting: Ideology

The next meeting was only two weeks later. Meanwhile, the MT had increasingly redefined Asperix in terms of a product organization. The MT introduced the concept 'Value Added Reseller' (VAR) into Asperix to describe the changing role of the business unit. This term suggested two developments. Firstly, this term - especially in combination with the term 'business unit'- suggested an increased independence of the groups. Secondly, 'value added reseller' in the context of the ASP-strategy of Asperix entailed the redefinition of the consultancy tasks into a sales, development and maintenance function of particular ASP-

functionality. In line with this reconceptualization of the knowledge groups as a business unit and a VAR, Asperix management explained that the members of the sales and marketing department were to take part in the business units.

The next step of the MT in their effort to create business units was to create bureaucratic standards. In a meeting with all the leaders of the business units, Bart (a MT-member) demanded them to make the business units predictable in turnover. Each business unit was to be billable for 70% of their time, which meant that on the average each person was to generate revenues for 70% of their time, against 70-80 Euros per hour. But if that comprised the sales representatives, who were not paid by customers at all, then this would lay a heavy pressure on the rest of the group, let alone for a small group, such as the EDM-group. Moreover, the 30% that the groups could use for their innovation activities were to include holidays and individual education. These measures entailed implied that the EDM-members had to work for customers 90% of their time. With this, the MT had effectively sabotaged the previous negotiations by withholding the means to innovate their practice. In this meeting the group leaders answered that with these measures they could not develop any hosting activities. Bart, the attending MT-member, did not have an answer to that inconsistency. Succeeding discussions with Bruno, another MT-member, did not solve these issues either.

Also Henri concluded from his meeting with Bruno, that the MT-members were overtaken by the speed of developments and were not ready to deal with the side effects and inconsistencies that developed from their interventions. The vision of the MT entailed Asperix as a product organization, with business units that would develop, maintain, and sell ASP-services. Apparently, the MT saw their role in their function of creating a synergy between the different business units. Henri's critique was that this vision did not correspond to the actual state of affairs and neglected the resistance in Asperix against these measures. Furthermore he doubted whether the MT has the skills and experience to create this synergy.

The EDM-members responded by telling their experiences that related to these developments. Carl then came with the idea to develop an alternative to Asperix' ideology. The facilitator argued that the EDM-members were not as good in that as the CEO of Asperix, and proposed an alternative:

> *… {an} alternative metaphor … is that of the magnet. You pull the other into your activity… The moment you'll do benchmarking consulting you get someone from another group, or external… Your power is your position in the market and your skill. I would advise that way, and that of ideology.*
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> <div align="right">Citation 37. April 25, 2000: 69</div>

Then about half an hour after the meeting started, Bruce (MT-member) entered. Carl summarized the meeting. After some vague indications and the statement that the EDM-group emphasized its development as a fairly independent business unit, the confrontation came:

...then the question arose what is the role of the center of the organization when there are only business units?

<div align="right">Citation 38. April 25, 2000: 79</div>

With that Carl implicitly suggested that the role of the MT will become largely obsolete. After a silence, Bruce responded:

How to respond? ... After the enormous change to ASP, the company is a bit rudderless. What is important exactly? How do we present ourselves to the outside world? Rudderless in the sense that everyone has an image, but there is no coherent and complete image, that everyone follows. The question is also whether that is recommendable.

<div align="right">Citation 39. April 25, 2000: 82</div>

Further probing by Carl and Henri, showed that Bruce had no answer to what the role of the MT would become. He changed quickly to a presentation that he held before in Asperix. He explained that an ASP needs four parties: software vendors, network service providers, the customers who will use the applications, and value added resellers (VARs). He then described the business units as VARs, who will deliver standardized hosted applications, consultancy services (probably for adaptation of the software and integration in the organization), and a mixture of the two. Ivan pointed out that Bruce assumed that Documentum could be standardized to fit a group of customers. Ivan claimed that this assumption was faulty. Both Bruce and Ivan had a lot of experience with Documentum. After that a conversation started, which heavily relied on the characteristics of Documentum as a technology and the implications of that for organizations. In this conversation all were struggling to grasp these consequences.

The argument of Bruce was that Documentum contained tweaks and buttons, so that a customer could change Documentum to fit their organization. Thus, on the basis of one application organization X, could tweak Documentum so that it obtained for instance a workflow that would be completely different from organization Y[36]. The argument of Ivan is that although this flexibility in theory would allow for one standardized version for several customers, the flexibility would be too limited to make this true in reality. Ivan claimed that for the projects he was involved in, the required adaptations would not fit a standardized version. Since customers already face the high fee for a Documentum license they would not accept a document management system that met only half of their demands.

Bruce protests, after which Carl proposed that Bruce would try to sell his

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[36] Another more simple example is when we consider a text editor such as Word. One user can customize its version so that there are less buttons displayed and no ruler. Another user may add some extra buttons, yet it is one and the same program.

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approach to their main customer, and convince this customer that it should use document management on a hosting basis. He added pressure by saying that they weee currently negotiating on new projects, and that otherwise this whole discussion is not relevant for over a year. Bruce had to acknowledge that Asperix was not ready to deliver ASP solutions.

In a way this was shocking to me. Here was a company that had attracted millions of Euros investments on the basis of them being an ASP, and then months later an MT-members acknowledged that Asperix did not have the technology in place. No one voiced surprise however, it seemed already known to the EDM-members.

Carl's intervention made the conversation go into a search for a test case for hosting Documentum. Ivan made some proposals together with Bruce. These proposals became a list of 'business propositions', which would later function as a research agenda. They contained items such as 'content management' by applying clever search technology, 'web-based publishing' making documents accessible on the Internet, and 'business-to-business platform'.

Ivan went on to say that he and some other EDM-members were already developing two of these points for customers. He proposed to sell the same solution to a new customer that Bruce would contact. Carl concluded that ASP-activities in the EDM-group would then come down to selling an IT-solution from a consultancy project again, but then hosted.

There were several weaknesses in this plan. It relied on the involvement of EDM-members with *advanced* document management projects. If the project would not be advanced, the solution would have become commodity and thereby there ASP-service would be no longer sellable. Furthermore, tthere was the danger of giving up market share as a consequence of their focus on ASP. And finally there was the danger that there would simply be no market for a hosted Documentum, since Documentum is meant for organizations with ten thousands of employees.

However, Bruce was enthusiastic and was persuaded to propose in the MT to assign resources to the EDM-group for these developments, in effect: to restore the 30% development time for the EDM-group. After Bruce left Henri asked: "What did he want and did he get it?" Such a simple question, and there was no easy answer. The clearest answer came from Ivan when I asked a similar question after the meeting. His answer was that Bruce wanted the EDM-group to develop ASP-functionality based on Documentum. Ivan's proposals persuaded Bruce to assign resources for them to develop technology, which some members found interesting from a professional perspective.

4.12 The fifth Meeting: A Tale on Identity

As a consequence of the previous meeting, the EDM-group obtained a test case partly through Bruce's efforts: a new customer who would use a hosted Documentum. Carl's investigation in Asperix had made clear that Asperix was indeed not able in terms of technique, and organization to support a large hosted platform. The question was whether the technique would be finished in time. However, the project was only a pilot. A pilot is a tryout, usually not only for the customer but also for the supplier. A pilot in the context of new technology is also described as a "proof of concept". The effect is that the supplier has more slack for making errors, and the customer is not fully billed. Just as in this case, the pilot is usually meant to be the start of larger projects.

A new development in Asperix was that the consultancy bureau that was guiding Asperix in its transition to an IPO[37], had pointed out that for an IPO Asperix' value proposition to the market needed to be clear. The EDM-group was thus allowed to dedicate resources to develop their business propositions. In response to this point, a part of the meeting was to describe the main points of their value proposition. What became clear was that the discussions of the previous meetings contributed greatly to this description. Their research agenda of the previous meeting was shortly repeated. Then the EDM-members described their identity in terms of "technology-driven", "early technology adopters", "integral approach" and "market-experience". Technology-driven meant that the EDM-group the project start always started with a technical question from a customer. Subsequently, the EDM-consultants would try to advise not only on the technical aspects, but also on the organizational and strategic implications and directions, i.e. "the integral approach". A further statement entailed that they developed and maintained a vision on the technological developments related to document or content management, which allowed them to be "early technology adopters". Their market experience lied in particular sectors (governance, petrochemical) and would remain the focus of their sales and marketing efforts. It was quite surprising to see how easily they had a story about their identity, which they had not told in its completeness before.

The conversation then was aimed at checking the consistency of these terms, by means of reflections on their actual experiences. It turned out that their "integral approach" was not quite so integral or holistic. Moreover, when they had attempted to introduce strategic advice in the past, their customer had told them that the tactical and strategic level were contradictory and could not be done by the same group of persons. Apparently, the engagement in the tactical level would

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[37] Initial Public Offering: this allows a company to sell stocks at the stock exchange, and obtain financial funds. For the founders of Asperix this was the way to get their investments back.

discredit the strategic advice. Henri brought up that in order to enter a large company in the Netherlands at the top level, so that you might start an advice on strategic level, you would need someone who is part of the network where these directors participate in. There would be no one in Asperix who would be "clubbable" enough to do that.

Their acute problem was that some of their projects were falling apart through the internal politics at their main customer. Ivan would want to be able to send a "clubbable" person from Asperix to the board of directors to address that problem. Carl took this remark more broad:

We are talking about {addressing} the Fortune 500[38], but what it means is that we enter the company through a head of department. And while we say "integral approach" and "business solutions", actually we just remain stuck at doing a technical implementation. Thus if we want to fulfill our Fortune 500 ambition we need a more significant network

Citation 40. May 25, 2000: track 28

What was interesting was that at the moment that they constructed their own story about the EDM-group, a tension developed with the sales story they then had. This tension was resolved by deflating the pretenses in their sales story after which they created a more realistic story for themselves about their aims. The effect was that new options became visible. As Henri summarized:

The essential point is that if you want an integral approach you need a relatively high coverage {top management engagement}, for otherwise you will not be allowed to join such projects. Or you will have to give a modest meaning to the integral approach.

Citation 41. May 25, 2000: track 31

The first option implied that the EDM-group had to develop partnerships, to gain access to the top management of large companies, but it also implied that the EDM-group had to grow; attract more business consultants and technical consultants. Quite implicitly the modest approach to integral consultancy was chosen. Apparently, they all wanted to keep the more ambitious option open.

This meeting was a turning point. The EDM-group had written their story on their shared identity. It did not contain obvious false pretenses that created a large gap between the story and the capacities and perspectives of participants. In the perspectives of the participants the story was consistent, gave direction to their practices, and described membership in relation to their role in Asperix and customers, and thereby shaped their collective performance.

After this meeting, the content was increasingly directed towards organizing the

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[38] Fortune 500: the 500 largest companies in terms of revenues.

group and less about describing identity and direction.

4.13 Closing

In less then 50 pages, I have tried to make a plausible reading of 1000 pages of texts, and more than hundred hours of recordings. The history of Asperix was essential, for it provided the starting point of the EDM-group. Their practice was not easy to grasp, nor easy to present through the specialist terminology and concepts. Even as a previous software engineer, I found their specialization not very accessible.

Going through the meetings in a bird's flight we have seen the general development of the EDM-group. After that I discussed the process that in the end stopped the EDM-group. The disadvantage of such a global description, is that the reader may still have the feeling of what happened really? The process of emergence still remains opaque, while that was the goal of studying the EDM-group so closely.

As a start to open the black box of emergence, I have described some of the crucial changes in the first few meetings. Anticipating chapter 5, the idea of emergence is that many small changes become intertwined and create an abrupt change in the social system; a bifurcation. I do not intend to indicate all the small changes, and uncover how they become intertwined. I even doubt that such a minute focus could shed any light on the question of how to organize while using and respecting the differences in personal and social history and context. However, I have illustrated developments in the tendencies of the conversation in the EDM-group.

Especially in the early meetings I found that the development of tendencies was relatively clear, as the EDM-members focused on what they stood for and what they wanted to achieve together. The latter meetings are less informative in this respect; there is more of a focus on more practical organizational issues, which remain within the framework of agreements they have created in the previous meetings. Moreover, the latter meetings are less clear in their effects on the practices of the EDM-group, for a hidden and parallel process of dissolution takes place at the same time.

Despite the fact that the EDM-group was not able to counter the dissolving tendencies, they had their success as well. This small group of people who were not tremendously educated or experienced, succeeded in innovating their consultancy practices, despite the strategy of Asperix to bureaucratize. At the end of the year 2000, the group had doubled in size, renewed some of their practices, developed technologies, and created 60% of all Asperix revenues while they constituted only about 10% of Asperix.

In the next chapter I will describe some assumptions and approaches in

knowledge management and organizational learning to show the relevance of an investigation in polycentric order. After that, I will go into emergence and the qualities of participation on the basis of what I have presented here of the EDM-group.

5 Knowledge Management Vignettes

In organization studies, Polanyi's concept of knowledge has been extensively used in the literature around organizational learning and knowledge management. In this wide diversity of literature I have noticed several recurrent elements that I would like to go into, to illustrate the relevance of the perspective I have taken. The following is therefore by no means a complete description of the field of organizational learning and knowledge management. However, I have selected eight themes that are by no means irrelevant in this body of literature, in the form of statements on knowledge and learning in the context of organizing:

- Explicit knowledge exists apart from tacit knowledge
- Knowledge can be transferred
- Organizational learning takes place through knowledge conversions
- Knowledge assets can be purchased, produced, and dissipated
- The tacit dimension is resistant to organizational change
- Knowledge is individual, knowledge is collective
- Organizational learning should be facilitated
- Communities of Practice facilitate Organizational Learning

These themes play an important role in the literature on knowledge management and organizational learning and therefore this comment is relevant to show the implications of Polanyi's philosophy.

Each element is contrasted with my interpretation of Polanyi, based on the basis of descriptions from the previous chapters an illustrated by means of the EDM-case. In the last sections I will indicate an alternative direction, in which knowledge, organization, and identity co-emerge.

5.1 Explicit Knowledge Exists Apart from Tacit Knowledge

Let us review some of the more popular interpretations of tacit and explicit knowledge in knowledge management literature to compare it with the interpretation in this thesis:

> *"Tacit knowledge is personal, context-specific, and therefore hard to formalize and communicate. Explicit or 'codified' knowledge, on the other hand, refers to knowledge that is transmittable in formal, systematic language"*
>
> Citation 42. (Nonaka & Takeuchi, 1995 :59-60)

Many follow a similar definition where articulated or codified knowledge is

taken as the opposite of tacit knowledge, and where tacit knowledge is impossible or hard to transmit and explicit knowledge is unproblematic to transmit (Inkpen, 1996; Raelin, 1997; Weggeman, 1997b). Others take the alienation of knowledge from consciousness even further, speaking of knowledge assets that can be transferred (Boisot, 1995; Davenport & Prusak, 1998) or even measured (Brynjolfsson, 1994; Group, 1990; Wilkins *et al.*, 1997).

In chapter 2, I have given my reading of Polanyi, describing the relation between tacit and explicit knowledge. To repeat: although tacit knowledge is by definition not explicitly known, it is *implied* due to its contribution to the focus. Tacit is opposed to having focus, not opposed to being articulated, codifiable, measurable, or transferable. Meaning relies on tacit experiences, memories, and interpretative skills. All these subsidiary elements constitute the social and historical context to meaning. Thus separating tacit and explicit knowledge implies that meaning would be something that could exist apart from a social and historical context, which is completely contradictory to my reading of Polanyi[39]. Indeed, increasingly, it is recognized in knowledge management literature that tacit knowledge underlies explicit knowledge (Patriotta, 2004; Tsoukas, 2003). Still, this is too much of a static understanding of the relation between tacit and explicit knowledge. In terms of metaphors it is still the inertia of the iceberg versus the dynamics of a theatre play (see 2.2).

Perhaps this is best illustrated with the EDM-case. For instance, the analysis of the EDM-case alerted me to another relation between tacit and explicit knowledge, understanding the focus in terms of suggestion that triggers imagination and other tacit processes. The role of imagination in Polanyi's work, I have found intriguing from the start. However, I saw no obvious contribution for exploring the concept. In the first readings of the work of Polanyi, I understood imagination as a specific instance of the process of indwelling.

The EDM-case attended me to the importance of the imagination. The conversations entailed a continuous search for meaning. As I understood imagination as a vital part of indwelling the reinterpretation of indwelling gained as a sensitizing concept for understanding the meetings. Meaning was no longer an end product in the process of knowing. The focus could also be a vacuum of meaning at the same time that attracted tacit processes to attempt to fill the void. The focus was therefore also a demand for knowledge to be produced, actions to be performed, and further meanings to come.

Now let us return once again to the idea that it makes sense to consider explicit knowledge apart from tacit knowledge, and even to manage one without taking the other into account. To my reading, explicit knowledge is not merely the end

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[39] It would not be only contradictory to my reading but also in contrast to that of any author (Allen, 1990; Gelwick, 1977; Gill, 2000; Sanders, 1988) I have encountered who shows to have gone in an in-depth study of Michael Polanyi's work.

product of tacit processes. Instead it instigates further tacit processes as well. The relation between the tacit and the explicit is thus also a relation between suggestion and the suggested, where the suggestion could refer to both to the past and the future, the potential and the actualized.

This makes it all the more clearly that from this perspective separating tacit knowledge from explicit knowledge is meaningless. How can there be suggestion without something to refer to? The focus requests tacit processes to fulfill meaning and action, and thereby all the more emphasize the mutual interdependency between tacit and explicit knowledge.

The fundamental relation between tacit and explicit knowledge is that there is strong dynamic interchange between three components:

- the focus: a mixture of meaning and suggestion (explicit)
- tacit clues: impressions, remembrances, images, and the body (tacit)
- integrative and performative skills (tacit inference)

In the process of indwelling all three components are required and adapted. As an alternative image I constructed the stage metaphor to emphasize the dynamics and interdependence of explicit and tacit knowledge. Some of the tacit stage can become an object of focus and thereby be transformed into explicit knowledge. When the focus changes the explicit becomes tacit once again. The director's skills to create the focus indicate that the focus implies a performance. Obviously, my reading leads to a completely different methodological approach than the objectivistic standpoint would (which often underlies the rigid distinction between tacit and explicit knowledge). Essentially, the methodological standpoint I propose is to understand focus in terms of the assumed perspective, and suggestion.

The managerial implication of the characterization of tacit and explicit knowledge leads to attempts to define the skills of employees, in extensive databases, called knowledge management systems or knowledge maps (Buniyamin & Barber, 2004; Hellstrom & Husted, 2004; Kim *et al.*, 2003; Wexler, 2001). But in my perspective this is not a process of disclosing tacit knowledge for an organization. It becomes too easily an attempt to interpret particular texts in terms of a managerial perspective. With that it will only function to reproduce particular power constellations and repress relevant alternative perspectives.

A related attempt to map "who knows who" in an organization (Pipek *et al.*, 2003; Soliman & Spooner, 2000) is everything but unproblematic. Are these "Yellow Pages to expertise in the organization" emergent or do they reflect one particular perspective? The actual relevant tacit dimension would lie in the question: "how do people interpret these 'Yellow Pages'?", and: "what perspective did they assume when producing the texts for these 'Yellow Pages'?". This brings us to the issue of participation. This issue would demand from such an initiative, in how far the use and production of such a map would accommodate the participants.

5.2 Knowledge can be transferred

In a substantial part of the organizational learning and knowledge management literature there is the idea that knowledge can be transferred. Taking explicit knowledge or codified knowledge as a commodity, a traditional communication theory model[40] is applied. This model consists of the idea that communication can be described as a sender that sends a message to a receiver. This model is adapted making people send special messages, namely those that contain knowledge. We can see this in statements such as:

> *"Having a sender and a receiver, is meant to change the way the receiver perceives something, to have an impact on his judgment and behavior. Knowledge moves around in organizations, through hard and soft networks"*
>
> Citation 43. (Davenport & Prusak, 1998: 3)

> *'Any position occupied by an individual ... makes him/her a potential communication link in a scanning or diffusion chain, picking up knowledge from others, possibly processing it a bit, and then passing it on'*
>
> Citation 44. (Boisot, 1995: 114)

Explicit knowledge is understood as easily transferable within the organization. One reason is that it can be captured by means of information technology or in 'artefacts' in general.

> *"W3 {abstract knowledge} objects embedded in W1 {concrete or physical} artefacts can also be transmitted to other brains, thus becoming input to other E-spaces {individual frame of reference}.*
>
> Citation 45. (Boisot, 1995: 71)

> *'When one engineer asks another in an office down the hall if he has ever dealt with a particular problem, the second engineer, if willing and able, will transfer his knowledge'*
>
> Citation 46. (Davenport & Prusak, 1998: 88?)

Codified knowledge or explicit knowledge is conceptualized as knowledge that can be captured in documents, databases, or other artefacts. The advantage of such a definition is that it makes knowledge a commodity that can be managed by means of logistic principles.

What I see as the main problem comes from the fact that conceptual

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[40] As described for instance in (1995), p. 41-42

demarcations become blurred, while it demarcates other concepts that should have never been conceptualized as separated. Knowledge becomes alienated from consciousness or awareness, being packaged as a commodity. Knowledge thereby becomes mixed-up with the domain of language. Explicit knowledge becomes linked with the languages that we share with our environment, the languages that are taken for granted. In contrast, tacit knowledge becomes linked with the domain where people experience difficulties in expressing themselves.

What is then communication in relation to indwelling according to my reading of Polanyi? First of all there is no package of knowledge that can be transmitted. Communication presupposes a performance to create the (spoken) text and an interpretation to lend meaning to the text. However, text and meaning are not the same. The relation between text and meaning arises from the fact that both are interdependently produced from the intent to communicate or understand. Thus instead of focusing on the text, the methodological principle is to derive the perspective that would allow for the development of meaning and production of text. Instead of understanding social interaction as the production of words, utterances, or rather text in general, I suggest to understand social interactions in terms of *participation* and *mutual adjustments*. The question then becomes: in how far do people participate, in how far are they willing to adapt their perspectives? For instance a manager's attempt to manage the retention and distribution of knowledge in an organization, is an attempt to withdraw from participation. To me it would seem the opposite of taking the role of knowledge in an organization seriously.

5.3 Organizational Learning through Knowledge Conversions

Ikujiro Nonaka has played a tremendous role in popularizing the Polanyi's epistemology. The problem I have with his works starts with his definition of explicit knowledge as text and tacit knowledge as the unspeakable knowledge. In the previous sections I have already gone into that issue, but his "knowledge conversions" have been recognized by many and developed their own role in literature. Let me explain them, in the way Nonaka defines them.

to from	Tacit	Explicit
Tacit	Socialization	Externalization
Explicit	Internalization	Combination

Table 1: knowledge conversions (Nonaka, 1991)

Nonaka sees as a typical example of socialization 'on-the-job training'. Learning arises in this knowledge conversion through observation, imitation, and practice.

Externalization is a process in which tacit knowledge is to be made explicit. Nonaka understands tacit and explicit knowledge as complementary, and not as explicit knowledge relying on the tacit.

Combination involves the use of social processes to combine different bodies of explicit knowledge held by individuals. It is about the reconfiguring of existing information, through sorting, adding, etc. that can lead to new knowledge.

Internalization is the conversion from explicit knowledge to tacit knowledge. It involves learning from books, internalizing explicit instructions, etc.

From my reading of Polanyi, the difference between what we can describe and what we cannot is not as essential as the difference between focal and subsidiary awareness. The difference between indescribable and describable is only gradual and should be treated as thus. One counter-argument against for example Nonaka's knowledge conversions is that it is never the case that people win only descriptions when they communicate (such as in externalization or combination). During the interpretation there is on the tacit level a generation of possible meanings that could be used to create the focus and make sense of the situation. This is the reason why poetry can convey more than words. But actually this we could say of all communications.

As the example of the blind man with the probe showed (see chapter 2), and the stage metaphor emphasized: there is a much more dynamic difference between the tacit and the explicit than Nonaka describes. Indwelling produces the tacit together with the explicit. The differences that Nonaka emphasizes, with the distinction explicit / tacit are much more related to the depth of indwelling that is required in different sorts of interaction. The exchanges of texts that rely strongly on an existing shared perspective (i.e. Nonaka's combination) require less adaptations to the integrative framework of a person, than the collective development of particular skills (i.e. Nonaka's socialization).

My suggestion for the application of the tacit / explicit distinction to the social sciences is to start with a methodology that is based on studying the focus of the conversation or practice in combination with the perspective that is implied. In chapters 0 and 7 I have describe the details of such a methodology. In chapter 5, I will give an alternative to for instance Nonaka's knowledge cycle, based on a

categorization of the changes in focus. The result is that these transitions are much easier to recognize. Since they are closer to experience, the result is that it less prone to creating reified perceptions. Since it is not intended to fit a managerial perspective it has more potential for the emancipation of employees (see chapter 7).

5.4 Knowledge Assets can be Purchased, Produced, and Dissipated

At the moment knowledge management became popular (around 1995), the application of logistic management principles to knowledge was fairly dominant. Knowledge management was the management of the creation, valuation, diffusion, and dissipation of knowledge. There was a large emphasis on the so-called conversion from tacit knowledge to explicit knowledge. I think this was merely the reproduction of Taylorism, as the following quote from Taylor's principles of scientific management convincingly shows:

> *The first of the great principles of scientific management … is the deliberate gathering together of the great mass of traditional knowledge which, in the past, has been in the heads of the workmen, recording it, tabulating it, reducing it in most cases to rules, laws, and in many cases to mathematical formulae*

Citation 47. (Taylor, 1916 / 1992 in: Berends, 2003)

However, this logistic management also emphasized the distribution of tacit knowledge, It took the form of a five-phase model of the organizational knowledge-creation process (Nonaka, 1991; Nonaka *et al.*, 2001), a knowledge value chain (Weggeman, 1996), a cycle of knowledge creating activities around core capabilities (Leonard-Barton, 1995), etc.

By treating knowledge as an asset the question on what grounds does the manager justifies the interventions that are implied by these models, is circumvented. The manager is assumed to have an objective understanding of the state of the knowledge assets that should guide the manager in deciding to enter the next phase. By this position of control, the manager is supposed to be independent from subordinates, in order to exercise control.

The problem is that people interpret from different perspectives. In other words, people's tacit knowledge, which forms the basis and the means for their interpretation is no universal, or objective knowledge but always personal. Due to our dependence for knowing on tacit knowledge, there is no "God's eye point of view" that a scientist or manager can climb. There is no detached point of view, from where a manager can objectively decide how valuable knowledge is, what

valuable knowledge is, who possesses valuable knowledge let alone logistically manage the knowledge processes of creation, diffusion and dissemination.

In situations where a manager has an overview of the situation, by its experience and an easily observable organizing process, such a top-down control oriented standpoint may be defensible. However, this is not the area that knowledge management addresses in general. Innovation plays an important role in knowledge management literature and thus this literature should therefore address the management of professionals and the discovery of new knowledge.

In general we could say, that "logistic knowledge management" is subjected to the Zuboff critique. There is no way to legitimate the managerial overview that this approach assumes. It assumes a participation of the professional that it can only frustrate. For the logistic approach presupposes that the manager should decide.

5.5 The Tacit Dimension resists Organizational Change

When Nonaka's definition of the tacit (Nonaka, 1991) is followed, as the knowledge that is hard to communicate (Davenport & Prusak, 1998; Inkpen, 1996; Raelin, 1997) obviously the tacit becomes a barrier to spreading knowledge and thus for organizational learning. Leonard-Barton has given a creative twist to that problem (Leonard-Barton, 1995; Leonard & Sensiper, 1998). As tacit knowledge is hard to transmit, this gives opportunities for developing core competencies (Pralahad & Hamel, 1990) that could amount to sustainable competitive advantage (Porter, 1991). Core competencies are then rooted in tacit organizational knowledge.

Although I would agree that a combination of organizational routines, culture, mutual expectations and anticipations would be hard to copy, and could thus function as the basis for a core competency. However, the reason that they are hard to copy is not just that these are tacit elements. If we look at the EDM-case, we see that it is hard work to develop some coherent set of understandings, skills and expectations. What is hard to transmit is the whole or coherence. As I will show in chapter 5, the different stories, agreements and perspectives come together in a whole that is beyond any participant's comprehension.

Another

Tsoukas takes the tacit as underlying explicit knowledge. For him this implies that instead of converting tacit to explicit knowledge, organizational effort should concentrate on finding new ways of manifestation and display in performances (Tsoukas, 2003). In many ways this reminds of Flores and Winograd's application of Heidegger's *Dasein* (Winograd & Flores, 1987). They advocated the role of breakdowns in sensemaking in system development.

Similarly to how Argyris and Schön see the role of tacit knowledge as frustrating learning (Argyris & Schön, 1978), Flores and Winograd understand *Dasein* as problematic. Dasein implies that habits are too close to observe. For people to notice their habits, their hidden assumptions, and their defense mechanisms, they need a breakdown wherein the familiar becomes unusual. The solutions of Argyris, Schön, Flores, Winograd, and Tsoukas align. Breakdowns in sensemaking, performances in uncharted areas, followed by reflection could be helpful.

But it also indicates that organizing and learning are antithetical processes in some respects. The learning that is concerned with breakdowns focuses on disorganization and an increase of variety. In contrast, organizing could be understood as neglecting alternative perspectives and reducing variety.

From analyzing the texts of the EDM-group I found that there were several events in which assumptions became questioned. These events had caught my attention since they were characterized by an abrupt break in the flow of the conversation. For instance, a member referred to an existing story to make a point, when another member started to question this story. The focus of the conversation changed, and all of a sudden the focus of the conversation lied on the lack of common ground and the differences in understanding.

Frequently, the breakdown led to add contrast and nuance to the meanings that the EDM-members then developed.

I agree with the authors I discussed in this section that the tacit dimension implies that there are invisible assumptions that structure our practice, and our understanding. Indeed, the development of meaning entails the breakdown of existing assumptions to make room for new ideas. At the same time, we cannot do without assumptions and structures. Our sensemaking and practice depend on it and hence it is important that they become developed collectively.

This brings us back to the question of polycentric order. I will typify the development of polycentric order in terms of five different types of transitions (see chapter 5). One of those transitions will be typified, much in terms of the breakdown of which Flores and Winograd speak.

5.6 Knowledge is Individual, Knowledge is Collective

In several books and articles I found discussions on where to locate knowledge. I found three different positions.

- knowledge is located in the heads of individuals (Argyris & Schön, 1978; Simon, 1991)
- knowledge is located in a group mind, a community or culture (Boland &

Tenkasi, 1995; Cook & Yanow, 1996; Weick & Roberts, 1993)

- In many cases I found combination of the first and the second position as well (Davenport & Prusak, 1998; Kessels, 1996; George von Krogh, 1998; Nonaka & Takeuchi, 1995).

These latter authors had to establish then the relation between the individual, the community and the organization as well. However, this relationship remained problematic in their descriptions. For instance, If individual knowledge and collective knowledge both exist, but are fundamentally different, how then do they connect?

If communication is the bridge, how does the text relate to both individual knowledge and collective knowledge? If a participant leaves, what impact does that have on the collective knowledge? These are questions that I did not see addressed or very poorly.

The combination of the concepts *participation* and *perspectivity* transcend the difference between individual and collective knowledge, and solve many of the problems I just described. Instead of distinguishing individual knowledge from collective knowledge, I would suggest to forget all about this distinction.

In participation both the social order and the identity of the participant become produced. They are both constructions, it does not amount much to treat such constructions as essences to which we can attribute knowledge. Instead, *participation* leads to more relevant questions that pertain to shared sensemaking, such as: "In how far are the shared perspectives a result from mutual adjustments?" or: "Can all participants impact social order, or are particular perspectives excluded?" We can also compare the different perspectives a participant can assume. This leads to the question: "How does the assumed perspective relate to alternative perspectives, in terms of conflicting and overlapping norms, goals, and meanings?".

5.7 Organizational Learning should be facilitated

In the more current literature, knowledge management is mainly based on facilitation. There is a recurrent theme that tacit knowledge cannot be managed, controlled or planned. The implicit can only be managed implicitly. Management should not direct what people should learn. Instead management should facilitate by giving groups and individuals access to knowledge (Huysman & Wit, 2003). Furthermore management should increase opportunities for interaction and relationship building through organizing social events, or facilitating casual events (like the famous coffee machine) (Fitzpatrick, 2003; Nonaka et al., 2001). Facilitation entails engendering a culture for exchanging information (Davenport & Prusak, 1998; George von Krogh, 1998) and implementing technology so that individual expertises are traceable (Pipek et al., 2003).

Often these texts speak from an emergence of shared knowledge and organization (Boisot, 1995; Brown & Duguid, 1998; Fisher & Fisher, 1998). However, facilitation and emergence are too ambiguous. The use of these terms in that literature could easily be read as another subtle attempt to govern affairs centrally. The concepts of facilitation and emergence could be used to de-emphasize power differences, and present a harmonious image of collective learning in the organization. In that case, the organization is still structured by management and a managerial overview is still presumed. There is still the assumption of the manager as the person who decides on the facilitation structures. In other words the Zuboff critique returns: how can one legitimate the manager's ability to decide, when obviously other perspectives are relevant to decide such?

5.8 Communities of Practice facilitate Organizational Learning

The start of the CoP-concept can be located at the ethnographic study of Julian Orr (1990). He described the interactions of the Xerox-repairmen functioning as a *communal memory*. A year later, Lave and Wenger (1991) brought up the concept *Communities of Practice* (CoP) describing the interactions of the same Xerox-repairmen in terms of tacit processes of identity construction, participation, and membership. The subsequent writings of Brown & Duguid (1991, 1998) described the Xerox repairmen and other people as gathering around a particular problem and participate in finding a solution. Their plea was to conceive of collaborative learning as accidental, unplanned. The community of practice emerged around a practical situation and thus learning was situated in a particular context.

The concept of community of practice was enthusiastically received. The problem that vital knowledge in the organization, i.e. tacit knowledge, was hard to manage, could now be partly addressed. The strength that has been attributed to CoP's is that they are important means to dissipate tacit knowledge over its members and even to innovate tacit practices. While originally the CoP-concept was intended to defend the role of informal conversation in contrast to formalized "knowledge", now CoP had become also a means to manage tacit knowledge, however implicitly.

Wenger is perhaps the most cited author when it comes to the present discussion on CoP's in organizations. A community of practice (CoP) is a group of practitioners "informally bound together by shared expertise and passion for a joint enterprise" (Etzioni, 1995; Wenger, 1999).

We usually find the following three key characteristics in the descriptions of CoP's in the literature:
- shared practice

- identity formation
- self-organization

The first characteristic is that a community forms around shared activities and a shared need for knowledge (Star, 1992). Studies of the daily work practices of, among others, system analysts (Ciborra, 1994), maintenance engineers (J. Orr, 1996), midwives (Jordan, 1989), flight crews and ground staff (Weick & Roberts, 1993), indicate that within such communities collaborative forms of working and learning coincide with each other.

The second key characteristic is closely related. Central to the notion of a CoP is its role in facilitating learning and identity formation as part of the normal course of accomplishing work (Brown & Duguid 1991; Lave 1991; Wenger 1998). This distinguishes a CoP from an interest group or social group. Members' shared undertaking exposes them to similar problems, but through discussion and interaction they discover each other's past solutions. But members also learn and negotiate what it means to be a member. Closely linked to these processes of social inclusion / exclusion is the issue of boundaries, which brings us to the last characteristic of communities of practice.

The last key characteristic of CoP's is its self-organizing nature. Self-organization means that a social system is able to adapt and learn and as such evolve over time without constrains from an authority. However, in the CoP-literature this has generally come to mean the emergence of the informal organization. It is striking to note that with the focus on social learning the CoP's overlook the tension between the informal organization and the formal organization.

For instance, Wenger speaks recurrently of negotiation. But it only stands for collectively making sense of a task *within* the institutional context. Wenger proclaims that the community finds its own ways of dealing with some outside (such as a managerial) mandate (Wenger, 1999:80). However, from Wenger's further descriptions it appears that communities deal with it through adaptations in the informal organization. Moreover these adaptation must be invisible to management and there is no negotiation with management implied.

Interestingly, the original autonomous groups in Asperix seem to fit in the CoP-concept. The original groups consisted of members that shared a consultancy practice. These groups lacked hierarchical structures and relied on spontaneous development. However, these groups intended a more dramatic adaptation of practice than the Xerox-repairmen, the midwives or any of the other standard examples. All the groups, five in total, failed to rethink their practice and translate their idea into new routines and working structures. This failure could not be simply attributed to the lack of skills; while many of these groups had experienced IT-consultants.

The failure, according to my interviewees, had to do with the fact that these groups were conceived of, just as CoP's, as part of the informal organization. Just

as in the CoP-literature, Asperix' "network of professionals"-ideology overlooked any tension between the informal and formal organization and presented a harmonious image of collaboration, collective learning, and shared development to its employees.

I think all this is an indication that CoP's are limited in their ability to innovate. Maybe the original term was more correct; a group of people that will remain strictly to the informal organization cannot be more than a *communal memory*. If I contrast the CoP-concept with the EDM-case I come to three problematic issues in the CoP-concept that limit its ability to innovate.

The first issue is the role of formal organization. As we have seen in chapter 4, the EDM-group soon distanced itself from the ASP-strategy in Asperix. They concluded that an ASP-strategy had hardly any potential in the market of document management systems, and that the Internet technology of Asperix was not ready to deliver the required support and technology. Obviously, this amounted to a tension between the informal EDM-group and the formal strategy of Asperix. In the second meeting, this leads to an abrupt change, where Carl starts to negotiate with the MT for the resources dedicated to developments in their group.

Thus the first issue I have with the CoP-concept rests on my observation that the EDM-group needed resources to innovate their practice, and that thereby they required to impact also the formal organization. Since innovation often requires a dedication of resources for a longer period of time, there is a need for formal organization in such cases.

Another way to argue that communities of practice are very limited in their capacity to innovate is to point out the lack of refinement in the conceptualization of boundaries. Let us start by looking at Wenger's description of the boundaries of a CoP. The exchange between the CoP and the organization needs to come from the fact that members participate in the organization also in other roles. The only negotiation between the organization and the CoP is indirectly and is on meaning. Now this could be promising, but there is not a suggestion in the entire book to say that this could thus imply an impact of the community on organizational goals, structure, or even tactics.

In an overview article McDermott (1999) describes the boundaries of CoP's as permeable: the knowledge and meaning in the CoP is not fundamentally separated by a boundary from the rest of the organization. The boundaries of a community are thus only to keep members separated from outsiders. They are not to allow an alternative idiom or rationale. Nor are they to structure communication between representatives of the community and management.

The original groups could not handle the organizational turbulence to maintain an ongoing commitment for renewing their practice. However, the EDM-group developed an independent rationale of why to pursue particular developments and leave others. A constellation of meanings relative to the EDM-group gradually grew from the original Asperix ideology. Events at the customer's site and stories

from Asperix were told and reinterpreted to fit this constellation of meanings. This constellation became crucial in relating the ideas from the different perspectives in the group to specific guidelines for their research project, consultancy projects and sales activities. Moreover, it gave them a basis from which they could operate independently from Asperix' course.

As the members of the EDM-group created significant revenues, they were ably to negotiate some level of autonomy. The EDM-group and the MT defined an interface that formalized their communications. This allowed the EDM-group to invest in group developments and to pursue - up to some extent - their own strategy. In exchange, the members of the EDM-group committed themselves to deliver particular financial targets as a group.

Thus, besides the fact that the boundaries of the EDM-group created a distinction between Asperix-ideology and EDM-meaning, it also structured or formalized the communication between Asperix and the EDM-group. Thereby, the EDM-group could resist the changes in Asperix by referring to previous agreements. The second issue is thus that permeable boundaries limit a CoP to develop an independent and new way of thinking. Permeable boundaries do not allow for resisting organizational turbulence and claim a safe haven to develop new ways of thinking. Moreover, since it is only informal, it cannot claim a power position to affect resources and practice on a structural level, unless they are too localized for management to be bothered with.

Then my final issue with CoP's and their limitations in organizational learning relates to the problem of egalitarianism. In the CoP-literature there is no treatment of potential differences in formal power, as it is only part of the informal organization.

In "the network of professionals" in Asperix, equality had been key as well. On hindsight, many had perceived the egalitarian value as dysfunctional in the previous groups at Asperix. Equality meant that coordination was almost impossible the moment members were involved with projects at customers.

In contrast to the previous groups, the EDM-group thus had ways to insist on commitments that had been made previously. No longer would members be easily persuaded to prioritize customer projects over community activities. And thus, the deflation of the meaning of the communities in the previous groups was not experienced in the EDM-group.

The EDM-group worked with democracy as a model of governance. This gave the possibility of having representatives of the group, who act on behalf of the group. The consequence was that there were differences in formal power within the EDM-group, though not a strict hierarchy. During the group meetings there were no predefined hierarchical or power differences. Only in-between the meetings there were representatives of the group (just as in a democracy) that would supervise, coordinate, or negotiate, and thus have a different position than other members had. The group leader understood his role as guarding the basic conditions for the existence of the group and not governing it. For this he

introduced timelines with moments of evaluation mixed with projections of future situations. These projections were not authoritatively posed by the group leader but created through mutual adjustments between members.

In summary, the concept CoP severely limits organizational learning through its restriction to the informal organization. This restrains innovation through an inherently limited and accidental access to resources, inefficient coordination through an egalitarian form of governance, and a lack of independent position through the so-called permeable boundaries.

5.9 An Alternative Direction

The initial knowledge management literature, say the period between 1990 and 1997, conceived of knowledge as serving the organization, as something that could be organized. It was either defined in terms of economic value (Advinsson & Malone, 1997; Brynjolfsson, 1994; Wiig, 1994) in logistic terms of creation, dissipation and application (Group, 1990; Nonaka, 1991; Nonaka & Takeuchi, 1995; Weggeman, 1996; Zack, 1999), in strategic terms of core competencies and competitive advantage (Boisot, 1995; Leonard-Barton, 1995; Leonard & Sensiper, 1998; Wiig, 1994). This instrumental approach to knowledge is still very much present in the fields of knowledge management and organizational learning.

The idea that explicit knowledge is something that exists apart from the tacit dimension is an idea that is rapidly loosing credibility. Increasingly, knowledge is something that is understood as fundamentally embedded in social practices, organizational structures, and cultural values and beliefs. The implication of this embeddedness for organization theory is that knowledge cannot be managed as an asset. There is no transfer of knowledge, instead there are different people with different perspectives that negotiate on meaning and exercise power to make their perspective dominant. These perspectives come from particular identifications with communities and thus the power struggle is as much between individuals as between different communities.

Lately, the predominant approach seems to have the motto "*implicitly manage the implicit*" (Huysman and Wit 2003). This consensual approach is about the facilitation of knowledge exchanges via interventions on the organization culture (Davenport & Prusak, 1998; Fitzpatrick, 2003), by increasing opportunities for interaction and relationship building (Nonaka, Toyama et al. 2001; Fitzpatrick 2003), or the development of information technology so that individual expertises are traceable (Pipek, Hinrichs et al. 2003).

But in this consensual approach the organization has been understood as a given, and knowledge as serving the organization. Both the instrumental and the consensual approach would pose organization *before* knowing. A counter-argument against these approaches is that organizing *depends* on a shared ability

to distinguish one thing from another, which is knowledge. In a very fundamental way organization therefore depends on knowledge.

Very seldom, authors emphasize the fact that knowledge has an impact on the organizational structures through conflicts and power struggles (Contu & Willmott, 2003; LaPalombara, 2001). Too seldom knowledge has been conceptualized as in a real interdependence with organization.

The instrumental and consensual approaches in knowledge management and organizational learning literature typically neglect questions such as: "Why would professionals allow their knowledge to be organized, however implicitly?" and: "On what overview can a manager base his managerial interventions, even if they are only to facilitate?" Let alone that the problem of the legitimacy of managerial decision-making is addressed by implying questions on: "How should we rethink the managerial role?" or even: "What should replace the managerial role?". All these questions logically follow from turning the instrumental question "How can we organize knowledge?" into its opposite: "How and when should knowledge impact the organization?"

A recurrent theme in my critique came down to saying that if we really want to understand the relation between organization and knowledge, we should start with conceiving this relation in terms of participation. In chapter 7, I will elaborate on this theme, going into the qualities and depth of participation, and posing emergence based on deep participation against false emergence based on coerced participation.

Part of the communities of practice literature does start with participation. But the weak point is that a CoP is by definition only limited to the informal organization. Hence, there can be no structures that warrant resources for ongoing development. In fact the lack of solid boundaries offer no protection against conflicting and invading visions from for instance management. As I argued this severely limits their potential to innovate. The space of the CoP as safe haven is limited to what management does not notice.

There is a small stream in the fields of knowledge management and organizational learning that I find is closely related to my own quest. In this knowledge and organization are understood as in interdependence. The organization is not one thing, but is always understood from multiple perspectives (Hatch, 1997). The organization cannot define what organizational knowledge is, or what should be learned. Instead organization is something that is emergent, producing and produced by a multiplicity of perspectives.

Some of the involved authors have stressed that knowledge cannot be seen apart from power and described that as a neglect in organizational literature (LaPalombara, 2001). Learning is not a social event that takes place against a transparent organizational background. Besides the cognitive aspects of it, learning is the reproduction of wider institutional structures as an event in a contested history (Contu & Willmott, 2003).

Others have emphasized the emergence of knowledge and identity (Brown &

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Duguid, 1998). There are appeals for a defense of multiple perspectives against an overarching collective identity and rationality in an organization (Essers & Schreinemakers, 1996; Spender, 1998; Tsoukas, 1996), for the benefits of conflict resisting a simplistic collective (Rothman & Friedman, 2001), and for the need of organizational change (Chia, 1997; Chia & Tsoukas, 2002).

There is thus a stream in knowledge management and organizational learning that acknowledges that organization emerges from a multiplicity of perspectives. The reason is that conflict, the tension between these perspectives, and the separate developments in these perspectives, destabilize the existing organizational structures so that development may occur (Stacey, 2001, 2003). In this emergence shared identities develop together with new conflicts. Quite often the use of emergence in the current knowledge management and organizational learning literature leads to drawing analogies or reinterpretations of complexity theory. So much that David Snowden describes this stream as the *third age of knowledge management*.

This thesis as an investigation to the dynamics of small groups of professionals as a polycentric order would fit in this so called *third age*. This is all the more since Polanyi has started with projecting the concept of emergence onto the social domain, and is therefore highly relevant for this stream. The main difference is that I rely for the crucial concepts of identification, emergence, and knowledge only on Polanyi, whereby I do not have to solve the troubles the other authors have in repairing the inconsistencies from their eclecticism, and lack of meaningful statements from their undefined concepts.

As this third age in knowledge management is so largely dependent on complexity theory, the relation between Polanyi's polycentric order and concepts from complexity theory will be investigated in chapter 5. The authors of this third age point out an important theme in relation to knowledge and power: identity. This is an element that I think is a deficiency in Polanyi's description of polycentric order. All the more, since identity could be an extra link between indwelling and polycentric order, as indwelling seems to have so many implications for the relation between knowledge and identity, and understanding the social.

6 Emergence of Polycentric Order

Whereas the previous two chapters served to show the relevance of an investigation of Polanyi's philosophy, the concepts indwelling and polycentric order, this chapter is to describe what polycentric order could entail as an alternative conception of the relation between knowing and organizing. For this, I need to enrich Polanyi's framework with concepts from complexity theory, as I think a proper conceptualization of identity (see section 5.8) is lacking in his works, as well as the conceptual framework to characterize the emergence of polycentric order.

Emergence and *mutual adjustment* were vital concepts in the part of Polanyi's work that could be characterized as social philosophy. There, he has characterized the development and emergence of meaning in terms of interactions with an important role for tacit adaptations. Polanyi described emergence as a characteristic of interactions that produced a coherent whole. He has described these interactions in terms that are highly reminiscent of the systems approach within the social sciences. In that large area there is a stream of literature that seems especially related to Polanyi's ideas for their similar interest in emergence and cohering interactions: *Complexity Theory*. Moreover, the closely related approaches in knowledge management literature (see section 5.8) lent their conceptual frames from exactly this field.

It is hard to trace whether Polanyi's ideas have impacted these streams of literature directly. Polanyi's texts on *polycentric order* and *mutual adjustments* have been quoted in Austrian economics via some of the leading figures such as Friedrich Hayek (1960) and Vincent Oström (1991). The adoption of the concept of polycentric order by Hayek has influenced contemporary complexity theorists such as Brian Arthur (1994), DeVany (1996), and Robert Sugden (1989). Austrian economics have many similarities with the Santa Fe Movement of complexity theory, and they have influenced one another extensively.

In any case, both Polanyi's philosophy and complexity theory speak from a reluctance to reduce science to an interest in a search for simple causal relations with a single directional impact. These two approaches to social order rely on the same context of ideas that go back to a long history of systems thinking, even to Aristotle's statement "the whole is more than the sum of its parts". Another commonality of Polanyi's philosophy and complexity theory is that they both question the usual scientific paradigm based on Descartes and Galileo's method of analysis. These approaches aim to understand the dynamics of the whole, instead of pursuing the usual scientific analytical method. The analytical method of breaking up of the whole in smaller parts may actually be a hindrance to a proper

understanding of complex wholes[41]. Polanyi's reliance on Gestalt psychology has rooted his philosophy in this tradition.

Thus, although concepts from complexity theory are brought into Polanyi's conceptual framework, what results is not the usual complexity theory. Rather it is an enrichment of Polanyi's ideas on the relation between participation and the emergence of order and meaning. I reinterpret concepts from complexity theory rather than that I apply them. From an indwelling paradigm this is only consistent. Any pretense of meta-concepts cannot be defended, if the basic assumption is that knowledge needs always be contextualized. This is not to say that complexity theory has no value. It is more of a nuance to avoid the pretenses and imperialistic tendencies of grand narratives (Lyotard, 1979 / 1986), and to allow for creative use of these concepts. The nuance is that these concepts can never be applied, but only reinterpreted for a particular context.

Polanyi's emphasis on emergence as a way to find a use for different perspectives, and thereby plea for diversity is closely related to what we can describe as the postmodern, interpretative or phenomenological approaches in complexity theory (Ciborra, 1994; DeLanda, 1997; Hayles, 1999; Letiche, 2000). However, the dominant approach to complexity theory is a form of straightforward realism. There, complexity theory is understood as a meta-language for describing the non-linear relations and non-equilibrium states of systems of the social sciences, the life sciences, and the natural sciences (Uden, 2004).

A more crucial difference between Complexity Theory and my endeavor is that my emphasis is *not* on the emergent as the result. Nor does it lie on the characteristics of agents in which a particular behavior is rooted that may explain the emergent. My emphasis lies on participation; both the emergent order as well as the participant becomes produced from participation. The question then is, is whether this participation is coerced or given. Is the participating subject a product from the social, or is the social a product of a self that reaches out to a collective?

Whereas the terminology of complexity theory does not help me to reflect on the efforts and engagement of the EDM-members, now I already indicate where essential moral considerations lie. The moral problems that the EDM-members encounter and their struggle with fair governance structures are all beyond system theoretic terms. I will postpone going into the quality of participation until the next chapter. This chapter only offers a partial description of polycentric order. However, this description in systemic terms is able to indicate what organization would entail when allowing a diversity of perspectives.

What follows is a short outline of the main concepts from complexity theory that are used in this chapter. After that these concepts are reinterpreted within an indwelling paradigm. The main part of the chapter is dedicated to characterizing the emergence of polycentric order in the EDM-group.

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[41] Ludwig von Bertalanffy is quite elaborate on this claim of , see page 151 and further in von Bertalanffy (1975)

6.1 Catalysts and Meaning

The most important characteristic in complexity theory in comparison with traditional science is the shift in emphasis from object to interaction (L. von Bertalanffy, 1972; Lissack & Roos, 1999; Richardson *et al.*, 2001), from the analytical reduction of the whole into its constituting parts to the synthesis of dynamics of the whole, and from uni-directional causality to co-evolution and bifurcation (Juarrero, 1999).

To start with the first shift; the particles of the system are considered not as interesting as the changes in the system that produce these particles. An important starting point for complexity theory was the work of Ilya Prigogine and his Brussels school where they pointed out a blind spot in science by formulating that "nonequilibrium may be a source of order" (Juarrero, 1999).

The best way to explain this may be to follow Stuart Kaufman and distinguish two major forms in which order arises. The first form is generally designated as 'low-energy equilibrium systems'. The example Kaufman gives is "a ball in a bowl that rolls to the bottom, wobbles a bit and then stops. The ball stops at a position that minimizes its potential energy. Once the ball is at equilibrium, located at the bottom of the bowl, no further energy is needed to maintain that spatial order" (Kaufman, 1995:20). The second form goes under a variety of names, such as: *non-equilibrium system*, *dissipative system*, or *open system*.

The term dissipative structure that originates from Prigogine highlights the close connection between order and structure on the one side, and the dissipation of energy (or entropy) on the other. Or as Kaufman (1995) states: "In dissipative systems, the flux of matter and energy through the system is a driving force generating order" (p.20-21).

In Prigogine's dissipative systems, evolution is achieved as a result of inner and outer dynamics; both self-adaptation and interaction with the environment. These inner and outer dynamics consist of feedback loops, and as Prigogine realized they can be described by non-linear equations. Non-linearity entails that small changes, through feedback loops, may have significant effects. Non-linearity is thereby a fundamental change in view on causality. Instead of the standard causality that *A implies B*, causes and effects become entangled through feedback loops.

A standard example in complexity theory is a chemical reaction, called the Belousov-Zhabotinskii reaction. The reaction is characterized by the fact that a particular set of chemical reactions becomes entrained in an autocatalytic cycle. An autocatalytic cycle consists of a set of mutually reinforcing reactions. The reactions produce the raw material for other reactions of the same set, and produce *catalysts* for these reactions as well. A catalyst is a chemical compound that helps a particular chemical reaction to occur, without being used up in that reaction. The visual effect of the Belousov-Zhabotinskii reaction is an alternation of colors in the fluid, spreading in circles.

This so called autocatalytic cycle results from the fact that from all the possible chemical reactions, a particular set of chemical reactions becomes increasingly more probable by their mutual reinforcement. When small causes come together to produce a qualitative change in the system, we speak from a *bifurcation*. In this case the qualitative change implies that in the end, the same sequence of reactions spread as if in concert. This goes on until the molecules that are not reproduced are finished; the 'fuel', required to maintain the dissipative system, is exhausted. The bifurcation makes that the system as a whole can perform in a way that is highly unlikely for the separate constituting parts.

Kaufman reinterprets the process of evolution using the concepts of complexity theory[42]. He starts by outlining how an explosion of increasingly complex organic molecules could have occurred in the development of earth, in a similar autocatalytic cycle as the Belousov-Zhabotinskii reaction. The main difference is that the organic products of the reactions, in their turn either become the source or the catalyst for further reactions. But instead of producing the same set of molecules, now a wider variety of molecules become produced. As Kaufman illustrates, the wider the diversity of organic molecules becomes, the more complex molecules become produced, which again results in a wider diversity. The emergent property of the system is thus the continuous production of increasingly complex organic molecules.

Before proceeding with the discussion on open systems, I would like to point out some elements that will be relevant for conceptualizing the participation in polycentric order. There are three parallels that I would like to draw between catalysts and some particularities of the tacit dimension. Firstly, just as the chemical reactions in autocatalytic cycles rely on catalysts, the production of meaning relies on subsidiary or tacit elements.

Secondly, just as the catalysts that are part of an autocatalytic cycle become indirectly reinforced when the processes use them in this cycle, these tacit elements become more easily integrated by repeated use. One may imagine that the conversation entails particular reference points that become recurrently used and thereby reinforced. Also, themes that are applied in particular ways become so readily available that they can lead to interpretative tendencies (see also section 2.3). Moreover, inscriptions and formalizations need to be embodied in such a way that they also tend towards interpretative tendencies and performances.

Thirdly, just as an autocatalytic cycle can create an increasing diversity of molecules, likewise processes of sensemaking can create an increasing diversity of associations and meanings. For explicit knowledge can be tacit the next moment in its contribution to a new focus. Thereby it is able to contribute and even summon a whole series of new foci (see section 2.2). One may imagine a whole network of meanings that cluster around a particular theme.

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[42] He is not original in that. As far as I can trace it, the originality should be attributed to Ludwig von Bertalanffy (1975).

Thus, the preceding discussion on catalysts and autocatalytic processes, I will use to conceptualize the role of catalysts of meaning in polycentric order.

6.2 Complex Adaptive Systems and Social Order

A crucial characterization of Niklas Luhmann of the communications in a social system was to take them as selections (Luhmann, 1995). There is much more to say then we can, there are so many subjects available to the participants of a social system, that we must conclude that what is being said has usually gone through an extensive selection. It is this aspect that I would like to balance against the potential development of the increasing diversity of meanings. The point at which Polanyi's descriptions of systems, and polycentric order bear high similarities with the concepts in complexity theory is at the subject of a complex system, which is at the same time not chaotic.

In terms of complexity theory, an autocatalytic cycle is an open system, but usually it is still *chaotic*. Small changes lead to a completely different situation. For instance, adding a few molecules of a completely different sort may very well lead to a subsequent avalanche of new processes. There is no resistance, no adaptation that can disregard these molecules. Since a chaotic system is merely in the hands of circumstances, we cannot consider the identity of the chaotic system in terms of its operations.

In contrast, the processes in a cell do have resistance against the arrival of new molecules. The chances are quite slim that a new molecule leads to an ongoing production of new kinds of molecules, altering the production process of the cell. The invasion of a set of new molecules in the cell may impact the operations in the cell, but after a while the new molecules are depleted. After that the cell will return to its usual operations. But this need not always be the case. The new molecules may create an avalanche of new reactions in the cell interrupting its operations until the cell can no longer maintain its constituting parts and dies.

There is also a third option. The processes in the cell keep on maintaining the parts of the cell. The parts of the cell remain functional and give rise to these processes. The perturbation merely leads to an *adaptation* in its processes and parts, without disturbing this cycle of self-maintenance. It may add an extra node in the network of processes in the cell. This is called *complexification*. We may imagine also the opposite: a series of complexifications render particular nodes in the end useless, so that some processes become aborted, without disturbing the other processes. In contrast to a chaotic system, in response to a perturbation, a cell resists, adapts, or dies. This is what makes a cell a *complex adaptive system*.

This concept of complex adaptive system[43] relies not only on concepts from biology. The information sciences have developed simulation techniques to model complex interactions. While the program of the parts is usually very simple (they are called cellular automata), the simulation of their interactions can lead to results that are tremendously hard to calculate and predict. The reason for this comes from a combination of parallel processes, and feedback loops. The cellular automata do things in parallel. But the real complexity arises when the results from previous calculations re-enter the network of automata, so that there is circularity in the network. The effects of circularity can only be solved by means of non-linear equations. Parallel processes together with feedback loops have the effect that series of non-linear equations become nested. This makes it most of the time impossible to characterize the outcomes merely in terms of the inputs, and thereby effective descriptions of the system in terms of mathematical formula are impossible.

What is interesting is that the interactions of these automata result under particular conditions, in a collective order that we cannot comprehend. An example of this, is a neural network (which is a particular application of cellular automata). A neural network may learn to distinguish a series of heartbeats as the premonition of a heart attack, from a regular heart beat pattern with some irregular pulses. In such a case, we can only study the behavior of the neural network, for instance in terms of the correctness of its distinctions. Despite the fact that we may trace the entire network of relations we can in general not proof its correctness in terms of mathematics.

The tremendous difficulty of mathematically defining the behavior of networks of otherwise simple automata has led to a radically alternative characterization of complex adaptive systems. This characterization is based on the idea that an automate is in a particular *information state*. This also makes sense for complex adaptive systems in general. Complex adaptive systems depend on the fact that there is some memory of former interactions that enable the feedback loops to accumulate effect[44]. For instance, the information state of the particles in the example (the Belousov-Zhabotinskii reaction) can be the spatial position of the atoms, the type of molecule they are part of, etc.

Now, the state of the entire system can be described as the set of states of all automata or particles. If there are three particles, we may visualize this as a point in a three dimensional space. Each axis in this space represents all the possible

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[43] Concepts that are highly similar that are also used in complexity theory are self-organizing systems, self-reproducing systems, or self-maintaining systems. Like many authors I think that these are not fundamentally different (Stacey, 2003; Tsoukas & Hatch, 2001; Tsoukas & Vladimirou, 2001).

[44] Underlying the idea of feedback loops is that there is remembrance; a result that has changed the system (Stewart & Cohen, 1997), a trace (Cilliers, 1998) or a history (Juarrero, 1999; Stacey, 1995, 2001).

states of one of the particles. When the information states of the particles change, then there is a jump in this space to another point. The behavior of this collective of particles can thus be visualized as a path through this three-dimensional space.

In general, the state space can be envisioned as an N-dimensional space where N is the number of particles, cells, or automata, and each axis represents the possible states of each particle. Although this may seem only to complicate matters, in this way we can characterize a system, for not the entire state space shall be frequently in use. Through the feedback loops in a complex adaptive system, some combination of particle states become more likely over time and others become virtually impossible, as in the case of autocatalytic cycles.

In sum, the behavior of a complex adaptive system is not to be characterized in terms of causes and effects, or in terms of correlations between inputs and outputs. The revolutionary step lies in the idea that a complex adaptive system can be characterized in terms of state spaces. A system can be characterized in terms of the tendencies to enter into particular state spaces.

For all scientific endeavor concerning complex systems this step has had a tremendous impact. The detection of the first cause in complex systems was virtually impossible anyway for two reasons. Firstly, through feedback loops causes and effects become intertwined in a complex system so that cause and effect become indistinguishable. Secondly, the first causes to a change become through feedback loops too small to detect. The feedback loops may even imply that the act of observation itself intervenes in the states of the particles. Thus the study of complex systems imply that this science has to deal with causes that are too small and too intertwined to tract. Even when the causes and effects can be traced, the full description of a complex system does usually not lead to an understanding of its behavior. However, we can study the effects in a complex system, and characterize a complex system in terms of tendencies (also called *attractor*).

In complex adaptive systems there are usually multiple attractors. This gives a remarkable duality. On the one hand, a complex adaptive system resists change. It reproduces the same patterns over and over. On the other hand, it has a number of patterns, or tendencies to its disposal, between which it may easily change. Thus, the state spaces of these attractors may overlap. In such an overlapping space can easily jump from one set of operations to another. A small change in the environment may be enough to trigger such a change. Thus while the system may be sensitive to small changes in its environment, its tendencies remain mostly stable is relatively stable.

A further element to add is that these attractors together reinforce each other's operations. A complex adaptive system is essentially based on this *coherence*. Cells are examples of this; they can enter in different modes such as cell-division, excretion, or storing supplies. But coherence comes from the fact that these different modes rely on each other. The use of the term *coherence* in complexity theory originates from the research in lasers where the coherent laser beam

"slaves" its component waves even though "there is nobody to give orders" (Haken, 1987:420) in: (Juarrero, 1999:144).

Although a complex adaptive system can be characterized by a limited number of tendencies or behaviors, this does not mean that attractors are fixed. The feedback loops have the potential to change the behavior of the system. A neural network can be trained and retrained, a biological cells can be triggered (for instance by a virus) to start producing new molecules, while still being able to reproduce. A complex adaptive system can thus *adapt* to its environment.

The last element that I need to introduce before a comparison to polycentric order is useful is the interaction between chaotic and complex adaptive systems. For Kaufman this interaction allows him to retell evolution. Kaufman argues that cells evolve most successfully at *the edge of chaos*. This is the condition where cells are perturbed continuously by the intrusion of new molecules from the environment, but are not yet perturbed to the extent that the population becomes extinct. At the edge of chaos there is an optimal variation of cells, after which the fittest survive (i.e. selection) and find their place in the developing ecosystem (i.e. retention).

Now, how does the edge of chaos relate to polycentric order? If we compare the two, then the shared theme is the balancing act between reproducing history and renewal. Polanyi relates mutual adjustment to the emergence of social order. In terms of complexity theory this is reminiscent to the process in which the state space of separate particles becomes limited (or rather particular states become increasingly more probable) through the interactions they have. The process of mutual adjustments could therefore perhaps be described in terms of tendencies in shared sensemaking or practices.

The edge of chaos for polycentric order is formed by the following duality. On the one hand, there is the inertia of polycentric order with its value for tradition, invented solutions of the past, and earned merits. On the other hand, the participants give a continuous supply of new meanings, and display of changing performance and interpretative tendencies through experience and imagination. These 'disturbances' may impact the social order through mutual adjustments.

For complex physical, chemical, or biological complex systems the researcher only has to deal only with his or her own description and sensemaking. The object of research will not interfere and propagate alternatives. However, in social systems the participants have their own ideas about the system they participate in. As a researcher we cannot neglect these perspectives. This led me to construct catalysts from the narratives[45] in the EDM-group. I therefore looked both at the explicit descriptions of how to participate, as well as at the rules of participation that were implied by the texts of the EDM-group. Whereas in the general stream of

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[45] A narrative is understood here as a natural form of organizational communication, the main device for people to make sense of social action (Czarniawska, 1997:22)

complexity theory, attractors were descriptions from observers that were *external* to the system, in social complex systems a more intricate game takes place. Participants not only convey information through their interactions, but they also structure their interactions explicitly or implicitly. The attractors can therefore not be described in etic[46] terms. Tendencies in a social complex system are there because of the assumptions participants have, stories they tell, and suggestions they make. The tendencies are therefore always implied in the communications, and thus can be guessed from the conversations.

In summary, until now we have reinterpreted concepts and approaches from complexity theory to give more depth to the idea of emergence in and of polycentric order. At the start of the previous section I characterized complexity theory by contrasting unidirectional causes with bifurcation and co-evolution. By now I hope to have made clear what the problem is with a simple cause and effect in relation to the study of complex systems. Instead of looking at any change in the system, we can look beyond reproduction and at the more fundamental changes in a complex system. The changes that are interesting are the adaptations in the tendencies of the system. This abrupt change of available parts and operations through time is called *bifurcation*. The concept of co-evolution is beyond our scope for the moment, but we will return on that near the end of this chapter.

The result of this comparison between Polanyi's social philosophy and complexity theory has led me to try and characterize polycentric order in terms of a complex adaptive system. This effort has led - after several attempts - to a description of the emergence of polycentric order in three supplementing manners:

Firstly, we can investigate the more fundamental changes of the focus in the conversation and notice the elements that become introduced (see section 6.3). If the elements return implicitly in succeeding conversations, they are catalysts of meaning that characterize sensemaking in a polycentric order.

Secondly, we can look at recurring combinations of catalysts of meaning bearing on the conversation. In that way we may characterize a polycentric order through the tendencies (or attractors) in practice (see section 6.4).

Thirdly, we can consider a polycentric order in terms of reinforcing and contradicting attractors and can thus qualify a polycentric order in terms of its coherence (see section 6.4).

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[46] Emic as opposed to etic, or insider's versus outsider's point of view, see for instance Boje (2001a) or Agar (1980). The opposition emic/etic comes from phonemic/phonetic. In this wider use it distinguishes the scientist that poses his or her own categories on its object of research (i.e. etic categories), vs. using the descriptions that are used by the members in the social group that is studied (emic).

6.3 Catalysts of Meaning

The previous section ended with three ways of characterizing the emergence of polycentric order. These characterizations are closely related to the methodological principles in chapter 3). In this chapter, we have seen that abrupt changes in the focus are a starting point to understand the dynamics of shared sensemaking and collective practice. Let us now move to an analysis of the EDM-case from this perspective.

The abrupt change of focus could be characterized as an explicit effort to escape a repetition of practice, the current flow of the conversation, or the usual assumptions. For these abrupt focus shifts I use the term *transitions of meaning*.

In the usual flow of the conversation the conversation can continue almost infinitely, it is an expanding story, an ongoing string of association, or a repeating tautology. In contrast, the transition is a paradox. It is text that relies for its meaning on texts and events that are not yet there. The transitions were often experienced by me and participants as either disconcerting or exciting. While the usual line of conversation was relying strongly for it's meaning on previous conversations, the conversation during the transitions relied on suggestion, or meaning to be.

However, transitions were widely differing in quality. They were different in length, in the use of rhetoric, and in their effects on the following conversation or practice. I have tried out at dozens of different categories, on the basis of all sorts of criteria. Still the data kept resisting. There were overlaps between the categories, and there were gray areas between the usual flow of conversation and transitions. For instance, a reference to a previous discussion did amount into a changing focus, but was it a transition?

The conceptual breakthrough came when I found that the pieces of texts that made clear transitions, introduced important new elements in the conversation. Thus the abrupt focus changes led me to notice that important elements in the conversation became either introduced or destabilized. The new elements in the conversation returned later in a subsidiary role to the conversation, drawing further discussion, and supporting shared meanings.

This led me to categorize those focus changes on the basis of the type of innovation that they brought to the conversations and practices of these IT-consultants. I did this by analyzing the conversation on the development of the networks of meaning[47], so that I could analyze how these innovations contributed to succeeding conversations. I also paid attention to how the EDM-members announced a focus change to find out their intention. I used this to describe the categories and to find out to what theoretical concepts they related. Additionally, I compared my categories to existing concepts, to find out the differences and to

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[47] As described in for instance Boje (2001).

enhance the conceptual boundaries between the categories.

Questioning my piles of texts that contained transitions on the elements they produced proved worthwhile. In the end there were clear categories of transitions that introduced a kind of catalyst of meaning. Moreover there was no longer a large gray area. For instance, references to previous narratives were no transitions. For, although they did change the focus, they introduced no new elements.

These elements allowed the participants to enhance their network of meanings, guide their communication and action, and develop new meanings. It is for this that I have found the term *catalysts of meaning* appropriate. Moreover, this connects with the concept of indwelling. These elements are created, destabilized, or repaired in the focus of the conversation. But the next moment they are catalysts for further sensemaking and *collective performances*[48], and function only on a subsidiary level.

There is another reason why these elements are so important for understanding the emergence of knowledge and organization. The catalysts were more persistent elements than other parts in the networks of meaning that developed. Individual consultants could forget discussions that had taken hours to discuss only a month before, and I found many instances of this forgetfulness. Once, a member told me that during a lunch she and some other members had been wondering what the "value propositions" of the EDM-group were, and whether there was some conclusion about them. I was shocked; the search for new "value propositions" had been a recurring discussion from the beginning. After four meetings a list of value propositions had been produced. They had even been jotted down on large sheets of paper. After that the EDM-members had collectively decided which to prioritize in a lively discussion. The shocking remark about the content of the value propositions came only two months later. Other indications of this tendency to forget were that EDM-members regularly started discussions, which were completely similar to those of months before, without referring to those or giving any explanation why the conclusions of those discussions were neglected.

In the eye of a pervasive organizational forgetfulness[49], the persistence of particular elements is all the more important to understand the emergence and reproduction of organization.

In the description of the four types of catalysts of meaning, I will first give my

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[48] Collective performance is a group staging a performance to uphold a particular image for their environment (Goffman, 1963). This performance is at the same time an enactment of the environment (Weick, 1969); it defines its environment at the same time as that it tries to control how it is defined by its environment. In relation to Luhmann's description of double contingency as the basis of any social structure (Luhmann, 1995), this is a specific instance of groups having mutual expectation of each other, and knowing this of each other.

[49] The issue of forgetting in organizations is a highly neglected issue in organizational studies (Holan & Phillips; Holan *et al.*).

description of the criteria to create that category and the texts that it contained. Secondly, I will give illustrate the category by means of a series of focus changes from the second EDM-meeting. Thirdly, I will relate the description to other authors that have combined narrative elements with the emergence and self-reproduction of social order.

Themes

During the EDM-meetings I noticed that it made sense to understand the conversation as creating constellations of meanings. In several cases, these constellations entailed a need that could not be addressed for a substantial period of time. Paradoxically these constellations were indicating a *lack of meaning*. These I defined as themes. For instance, a theme at the start of the EDM-meetings was: "We need to do something in order to make our working life more interesting, to take hold of our professional development for it needs renewing, the obvious thing seems to do try and do that together, but how?" Other themes were "how do we relate to the company strategy?", "how will we work together?", "how can we obtain the resources to pursue our shared ambitions?". I describe these themes now as explicit questions. Although the focus change that introduced a theme usually started with a question, themes are not merely questions. They are shallow peel around a threat to collective meaning or logical consistency. Now let us look at how the conversation starts at a new theme:

> Early in the second EDM-meeting, Carl describes his experience of the unwillingness of supporting facilities to offer their services to anything else but the ASP-part of the organization. Asperix is in a change from being an IT-consultancy to becoming an organization that rents standardized IT-services over the internet. Carl elaborates on how the bureaucracy in Asperix grows, while the services to consultancy decline. He states that consultancy is the money-maker for an ASP-startup. He worries that consultancy will be aborted as an activity, as soon as the ASP-activities in Asperix generate enough revenues. He describes that the management team starts to conceive consultancy groups as business units that will manage the ASP-services that are related to their consultancy expertise.

What is also typical for a theme is that it attracts narratives. This is the tacit role of a theme: it creates a focus that demands particular narratives. In this example; Carl's encounter with the denial of administrative support, leads him to associate a series of other events and texts, that all speak from Asperix management prioritizing ASP over consultancy, and changing tasks and responsibilities for the consultancy groups. The theme thus is: "What is happening in Asperix?" and the plot that is upcoming is something like: "We should be worried about Asperix new

strategy".

This finding relates closely to Boje's concept of antenarration. Boje adds *ante* to narrative to indicate what comes *before* the narrative, and he relates to Ricoeur's the first mimesis in Ricoeur's hermeneutical cycle (Ricoeur, 1984), which can be understood as the development of preunderstanding. Boje associates with this narratives that are without a plot. He also refers to the Latin word *antere*: to bluff or gamble. Each participant takes a gamble on the acceptance of his contribution by other participants in the conversation (Boje, 2001). Interestingly, in some of his later presentations[50] Boje brings forward the role of an inviting space, where each narrator is invited to partake in the antenarration. In sum, I read Boje's antenarrative as a narrative in search of a plot. Antenarration is a trying out of narratives around a theme, without an attempt to come up with a plot that solves the theme.

Niklas Luhmann also attributes an important role to themes. A social system has a repertoire of themes. It needs new themes through which it can broaden its borders. In fact the borders are defined as a distinction between themes that are included versus the themes that are excluded (Luhmann, 1995). In the EDM-case there was for instance a plot that said that project-related issues were no subject for an EDM-meeting, as long as it did not point to a recurring issue.

I think the attraction of narratives to a theme also relates to Alfred Schutz' description of decision-making (Schutz, 1967 / 1932) inspired on Henri Bergson's concept of *duration*. Decisions are not a choice between a pre-given option A and B, but meanings gradually develop that results in options and conclusions as ripened fruit that grows and finally falls of the tree. In terms of the same metaphor, a theme is like the branch from which the fruit grows and develops. A theme can thus be seen as a means for participants to explore the indeterminacy of issues, until a participant gambles that he can tell a story for all participants. At that moment there can be an abrupt change of focus; there is a new plot that sorts out issues in a particular way that is either accepted or denied. When it is denied, participants enter into the experience of paradox. Paradox, as I will argue, constitutes the ground for themes. It is actually the very reason why themes attract narratives.

Paradox

The focus change that introduces a paradox can be described as a *breakdown* in sensemaking. It is the moment where collectivity deters after a confrontation or a more gradual destabilization of shared meaning that leads to noticing inconsistencies. By using the concept of breakdown I relate to other authors who

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[50] Presentation held at March 15, at the University of Humanistics, Utrecht, the Netherlands.

have used this idea to denote a disruption in sensemaking which offers new ways of connecting to the world (Argyris & Schön, 1978; Bødker & Grønbæk, 1996; Patriotta, 2003; Winograd & Flores, 1987)[51].

Let us proceed with the illustration of the EDM-group:

> From Carl's narratives there is an increasing suggestion of a plot. The use of phrases such as "Consultancy is the money cow for ASP-services", increasingly suggests that Asperix' new strategy is harmful for the EDM-group. One of the members agrees with Carl's grim narrative on Asperix, but two others are hesitant. One of them, Menno, explains Asperix' strategy, saying that consultancy is to become 'implementation services'. He thereby expresses that he does not share Carl's concerns. The development of the plot becomes destabilized, as Menno the story will not be shared.

The focus in the conversation becomes the experience of the paradox that Carl and Menno embody. They defend their point of view and especially Carl tries to persuade Menno. Carl, paints increasingly stronger contrasts, between what the consultancy groups were and what they will become: sales and maintenance group. Occasionally other members jump in, supporting one of the two standpoints.

Breakdown is thus about the failing of shared indwelling. Typically, after the breakdown there is an experience of paradox, or inconsistency. The experience of these paradoxes seemed uncomfortable for EDM-member. Such moments reflected a stronger use of rhetoric styles to eliminate differences, attribute guilt, or neglect nuances. Thus the paradox functioned to add contrast.

In general, when shared meaning and mutual agreements became destabilized this had emotional impact on the individual members. Probably this is the reason why paradoxes where so easily remembered and why this catalyst could have such a lasting impact.

This aligns with Luhmann's reflections on paradox. Paradox, in its tacit function, seems a driving force for participants to deparidoxify (Czarniawska, 2005), to find ways to conceal the paradox (Seidl & Becker, 2006). When people try to organize it is experienced as an obstacle, something that paralyzes any action (Luhmann, 1995). But paradox is unavoidable; the moment we attempt to use logic they become inevitably produced as well. It would seem that it is virtually impossible not too create paradoxes, and that logical systems that are without paradoxes lack the power to describe anything useful (Hofstadter, 1980). In short, paradoxes are the logic's flies (Czarniawska, 2001).

Czarniawska describes *temporization* as a strategy to deal with paradox. The conflicting elements are detached in time and the conflict is solved in the future

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[51] These authors use a particular aspect of Heidegger's ontology *Dasein* which in relation to breakdown is highly similar to *indwelling*.

(Czarniawska, 2005). The role of *themes* as a type of *catalyst of meaning* that is strongly related to paradox is in line with this temporization strategy. A theme is then a means to deal with the paradox, and solve it the future.

From this perspective we may explain the often recurring focus shift that arose when EDM-members tried to describe what the paradox was. The experience of paradox was transformed by the shared description of what this paradox entailed into a new theme. As soon as there were words, phrases, experiences that could be related to this lack of shared meaning or experience of inconsistency there was a shared theme that could become pursued. Dialectic opposites could be created, and experiences could be exchanged to enhance the discussion. The experience of paradox can lead to a new theme by the attempt to define the tension. In terms of indwelling: the focus comes to lie on making sense of the meaning and implications of the paradox.

Let us go back to the illustration of the EDM-group to show this temporization:

As the elaboration on the conflict continues it slowly dawns on the EDM-members that perhaps there is actually not such a difference in views. Menno "retreats" from the conflict, presenting his previous words as merely the opinion of the management team. Lucy asks Menno for the difference between his standpoint and Carl's. At that moment there is a shift in focus; the focus of the conversation leaves the experience of paradox and introduces a new theme: do the EDM-members agree on the fact that the ASP-strategy is harmful for their consultancy practice? Carl no longer tries to persuade, and Menno no longer resists.

> In answer to Lucy, Menno describes Carl's point of view and hesitatingly hands in that consulting should be broader than the management and sales of ASP-services. He repeats that consulting however, *can be* a part of ASP. Carl then tries to find out, with a number of questions and comments whether Menno understands the upcoming degradation of consultancy in Asperix. Members then exchange on the limitations and dangers of the ASP-strategy, comparing ASP to commodity, the ASP-market to the market for document management, and the problems of combining a sales role with that of a consultant.

The way out of the paradox is to change the rules of the game. Lyotard perceives paradox as creating the occasion to renew language (Lyotard, 1979 / 1986). Since a paradox destabilizes the rules of the game, there is no clear way out. Luhmann's solution is to start acting towards an arbitrary goal, in the hope that during the way the paradox will get solved. This reminds me of Willemsen's description of Nietzsche's value for "wandeln", the philosopher that used paradoxes to rethink change and liberation. The term "wandeln" can be translated as "to walk without a predetermined direction" or "to stroll". But Nietzsche means something else with it as well: "nur wer sich wandelt, bleibt mit mir verwandt", which roughly

translates as: "only those who stroll, remain related to me". Willemsen explains the play with words, where both "wandeln" and "verwandt" are etymologically related to "wenden", i.e. "to turn" (Willemsen, 1997). The translation thus has to be something like: "only those who wander, remain related to Nietzsche's nature of turning and finding new perspectives"

With the term "wander" I would like to describe the transition from paradox to theme: a development of the conversation with a lack of predetermined goals, but to wander, wonder and make some turns. Considering the rhetoric violence that I saw especially during this transition, it seems like a good advice from Nietzsche, to do it patiently, in the atmosphere of strolling.

Plot

In the description of the theme, I related to Boje's antenarration, as the gathering of narratives around a theme. The moment that a narrative contains a plot that attempts to solve the theme an abrupt focus change in the conversation takes place. The narrative is no longer *before* a story with a plot, but the speaker takes a *gamble* on the possibility that this will be a plot for all. I found that the new plot was destabilized easily by a slight expression of doubt, as we have seen at the illustration of the transition to paradox. But when the text had passed uncontested it had also gained strength. The first time the statement was uttered, the meaning was the sole responsibility of the author. When it had passed uncontested, the participants had received a certain responsibility over it. For it described them, and they had let it describe them.

Not all EDM-members attempted to introduce new plots. It seemed that it was a game that some had mastered. Thus there was a subgroup of EDM-members who bluffed their story, as if it was already shared and established. This subgroup seemed to acknowledge this bluff of each other. Together with alertness, sometimes there was a sense of humor expressed; there was a stunt being pulled off, and the question was whether this description of the group could be allowed.

Let us proceed with the illustration of the EDM-group:

The EDM-group dwells for a long time on this activity: describing the EDM-group as a separate entity from Asperix. Then the facilitator tries to change course. What is interesting about this point in the conversation is that it is the first start of the first time where the EDM-group starts the transition to identify collectively embodying a narrative that would shape their shared identity as separate from an Asperix identity:

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…but we have to be careful, for the unit itself, it makes no difference what the holding does with the profits. Even if they {Asperix-management} want to flush it through the toilet every month, as a unit that is of no interest… {The question is} are you able to effectively operate as a business unit, in a way that you can support? {And the question} what will be done with the profit is, ultimately, not your problem.

Henri sets boundaries here about what the concerns of the group should be about and thereby reduces the complexity of the group's environment. Carl goes into the money maker issue again, complaining that the focus of Asperix is no longer on consulting. Henri responds:

"There is a negotiation between a … business unit … and a holding. The bottom-line is: 'Can the unit do her work within the norms that are being set?' … When you say no, then there is something wrong in the rules of the game, and then you need to discuss what needs to change."

With this Henri brings up that the EDM-group *can* negotiate. He constructs here the EDM-group as active in contrast to the previous narratives, where the EDM-group is understood as subject to the whims of Asperix management. The response is a discussion that can be summarized as describing the unfairness of the rules that Asperix has posed. Then the facilitator makes an explicit call for collectively identifying with the EDM-group in a particular way:

"If one wants to do something one has to do it as {the} EDM {group} and not as an individual. As a business unit one can negotiate strategy, but not as an individual"

 A long silence followed (12 seconds!), after which Henri continued:

"Thus you are only as strong as your shared vision. Insofar you are able to collectively stand behind a decision or standpoint you are able to be effective"

Stylistically, it is a very minimal story that Henri presents. From the silences we can read that it is not easy for the EDM-members to adopt the plot "the EDM-group can be different from Asperix, with its own goals and direction". Even as Henri spells it out for the rest and persuades them, they feel they are at uncharted area. Gradually all members realize that despite the fact that they had not realized

these consequences it is only continuous with the plot. They then express their support to Henri's idea.

When the plot finally was accepted, it continued to function to structure succeeding narratives as well and created variations to the plot, such as "the EDM's economic rationality" versus the "Asperix-ideology", "the EDM-group's economic viability" versus "Asperix' waste of money" etc. This is the main difference to a theme. A theme *demands* further narratives, while a plot *structures* future narratives.

The abrupt focus change that introduces a plot, thus has everything to do with a gamble that works out well. A narrative is proposed and accepted, however tacitly, as a solution for a theme. The focus change stops the antenarration around a particular theme and starts a new process that could well be understood as emplotment. Boje sees *emplotment* as succeeding antenarration (Boje, 2001). With this term he refers to the second *mimesis* of Ricoeur's description of the hermeneutic process (Ricoeur, 1984). The focus lies on the structuring of narratives by means of a plot. But more importantly, some of the indeterminacy and ambiguity seems solved by the plot.

Now it can be that one person has thought out a particular theme, and constructed a well ordered story with a clear plot. But the moment s/he tells this to another person the story and the plot are not immediately shared. Rather it can become a trigger for a new process of sensemaking around another theme, though probably related. Thus I consider something a *plot*, when I see it bear on further conversations as a principle that structures narratives into a story[52].

These plots seemed to have two different functions. Firstly, these plots communicated a sense of belonging to EDM-group, and being different from others. There was a distinction between "we" and "they", the EDM-group vs. customers, Asperix, etc. The stories that were structured by these plots contained descriptions of what it meant to be a part of this group versus being on the outside. They were about the EDM-identity, what it is and what it should be. Some of these stories were adaptations of the old Asperix strategy - describing the EDM-group as a network of professionals and autonomous from Asperix.

The second function was to create points of reference for further conversations. Sometimes the EDM-group went into a process of elaborate storytelling to state what the EDM-group was, what it should be, how they related to their environments etc. When conversation broke down, the first thing that was usually done, was to find and retell an appropriate story around a well-established plot, after which the communication was resumed. However, the plot was usually narrated in a few words as a means to create some common ground before a new story was tried out, or violations of expectations were repaired. In those cases the

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[52] According to Czarniawska "Plot is the basic means by which specific events, otherwise represented as lists or chronicles, are brought into one meaningful whole" (Czarniawska, 1997:18)

plot was thus subsidiary to the focus of the conversation. As these story-lines were often partly repeated and referred to they were not easily forgotten and could thus structure the shared participation in the EDM-group.

Hajer uses the concept *story-lines* to indicate a similar issue, drawing from the work of Davies and Harré (1990): "The key function of story-lines is that they suggest unity in the bewildering variety of separate discursive components… The underlying assumption is that people do not draw on comprehensive discursive systems for their cognition, rather these are evoked through story-lines." (Hajer, 1995 :56).

The latter part is an assumption I fully support. My experience of the strong forgetfulness in the EDM-group only underlines that rich narratives offer no direct tacit support for organizational structures. Catalysts of meaning are either small narrative components that obtain their persistence from repetition and emotional attachment or they based on fear.

Formalization

In the EDM-group there was an ongoing effort to reify narratives into formalized communications and roles, or to inscribe their ideas into documented agreements and technology to standardize tasks. The term I associate with formalization is *reification*. Reification is the tendency to make concepts and experiences into a "thing" (Letiche & Boje, 2001; van Dongen, 1991). The reason why a concept can seem to have an existence apart from the people who constructed it, comes from the fact that the meaning of a concept can become so unproblematically shared over time, and remain unproblematic through tacit adjustments of newcomers, that the fact that another description is possible becomes almost inconceivable. What they were asking for, could be described as *formalization*, as that what is different from informal conversation. Formalization is usually defined as the definition of work activities by means of administrative rules, policies, procedures, roles (Adler, 1996; Aiken & Hage, 1966; Ford & Slocum, 1977; Mintzberg, 1979). Unfortunately the way this term is used in scientific literature assumes that formalizations are fixed structures. Formalizations are not simply "out there" and structure organizations. Formalizations are in organizations, because people want them there and exercise power over others to prevent them from neglecting the formalization. Thus formalizations, in themselves are not alienating, but the coercive power that is exercised can very well be.

The intention of formalizations seemed to me to be that they are *not* to be changed. Even, the whole potential of that it can be altered, is to be forgotten for its functioning, hence the association to reification. The intention behind "concretizing ideas" is to create a "thing" that should be indwelled and determine organizational meaning and action. Let us illustrate this by continuing our example, starting at the moment the previous group leader, and member of the

MT, Bruce enters the room:

Carl summarizes the meeting until then: opposing consulting as it had been, with how it is becoming:

"…The idea behind consulting in Asperix was the network of autonomous professionals, facilitated by …{an Intranet}, and supported by a home office function. And now actually – the question is whether this is still true, or whether we are a money maker for another part of the company, which is demanding of us … {to be} a business unit to play a part in the management and support of the other part of the company…"

Carl closes with bringing forth the implications *"… in this light we should perhaps put ourselves in a more independent position"*. At that moment Carl attempts to enact a new relation between the EDM-group and Asperix. Bruce has difficulty interpreting the confronting message. He gets that there is a confrontation in the text, but misses the point. Henri goes in:

"Put very simply: what is the core competence of this group, what is the economical justification for its existence in the market, and what is the relation between the core competency of this group … and the relation to the holding?"

The venom is in the tail of the sentence: questioning the relationship between the EDM-group and Asperix as a holding. Bruce cannot but show that he is stunned:

"I am still like ""is this what I really heard?"" It seems it is." After a long silence (11 seconds) he continues *"How should I respond*?" He searches for a response, describing the state Asperix is in. As Bruce is failing to address the relation between Asperix and EDM-group, Henri brings in a new theme: investment in the EDM-group. The theme is controversial in that the contemporary rhetoric in Asperix speaks only of investment in combination with ASP. Bruce acknowledges that Asperix has no vision on how consultancy should develop.

Carl was fast in enacting the new EDM-identity. He enacts Bruce not in his role of previous member, but as a representative of the MT. This event became the start of a series of negotiations between the MT and the EDM-group. As a result Carl negotiates with Bruce that the EDM-group will create 70 euro per working hour on average leaving them at least 30% of the working hours to dedicate to investment in the group. Furthermore, EDM-members will not be dedicated to ASP-developments unless they can bill Asperix fully.

I use the verb *enact* in the description above to refer to Weick's concept of *enactment*. Weick explicitly chose for the term *enactment* to suggest relations to the juridical use of the word. The idea of enactment entails a position that concept and action are intertwined. Indeed in the deed to enact a law there is no clear distinction between the concept and the action (Weick, 1969, 1995). The reason for the use of this concept is to suggest that when a group of people indwell a shared story and collectively take the consequences of the plot there is reason to expect that the development of such a shared perspective can thus lead to the structuration of the participants' actions into *collective performance* (Goffman, 1963).

The recurring negotiations with Asperix (and later with customer organizations, and a partnering organization) relied on a shared perspective and a collective performance. These negotiation led to formalized communications. For Luhmann the essence of organization is that these entail communications that distinguish explicitly between alternatives and relate to other explicit distinctions as well. These communicated distinctions he defines as formalized decisions (Luhmann, 1981). An organization distinguishes itself from other social systems as a self-reproducing system of decisions. I read Weick's concept of *enactment* thus as the idea that formalization relies on shared interpretative or performative tendency.

This established communication forms between the EDM-group and its environments as well as amongst EDM-members themselves. EDM-members used these formalizations outside the EDM-meetings as to determine responsibilities and protocol in their dealings with customers and Asperix. Whereas the themes, paradoxes, and plots were completely under control by the EDM-members, the formalizations often resulted from succeeding negotiations with customers and Asperix. For the establishment of their safe haven these formalized agreements were crucial since the projects at customers, and the interactions in Asperix distracted the EDM-members from their internal projects. Moreover, both the Asperix organization and customers tried to claim more time from the EDM-group at the cost of their internal projects. The formalized agreements were the most important means that the EDM-group had to defend itself from such intrusions.

Inscription

Recurrently, EDM-members made remarks such as: "what are the practical implications of this?", "let us make this concrete". "Mere talk", or "conversation" was not enough. There had to be an impact, something solid. In the EDM-group there was therefore an ongoing effort to *inscribe* ideas and events into documented agreements and technology. *Inscription* is the attempt to put our concepts into artefacts; documents, technology, identity tags, smart cards, etc. Hayles defines inscription as the opposite of *embodiment*. Embodiment is then the use of the artifacts to make sense and engage in practices without focally attending to the artifact itself. She claims that the use of technology should be understood as a continuous move between inscription and embodiment, and that one without the other does not make sense (Hayles, 1993, 1999).

DeLanda (1997) uses the term *formation* to suggest a process of sedimentation for the development of a fixation of language into grammar and dictionaries, trade into economic structures, etc. He uses the term to indicate that there it is the entirety of the formation on which processes such as speech and trade rely. The problem I have with the concept of formation is that sedimentation suggests an accumulation of structure, while I found that also documents became outdated, became forgotten and hence there would be no real accumulation of structural integrity over time.

But the inscriptions that were created in the EDM-group seemed to have been meant as an externalized memory. There were weekly reports, representing billable hours worked for a customer. There were project plans, allocation schedules and milestones to record projections of the future. Other examples were the Intranet technology that the EDM-group developed, and the use of e-mail. The process of inscription was mostly done outside the EDM-meetings. The documents that were used only by the EDM-group were informally written, conveying a sketch of wanted developments. What is interesting is that these descriptions led to scripts written extremely formalized language, or acts in the formalized environment of the document management system for configuring the software. According to this categorization these resulting acts fall in the same category "inscriptions". Unfortunately, the EDM-group was aborted before the Intranet system they had developed was in use.

I relate inscription as relying on formalization for the reason that I consider not every e-mail an inscription. The inscriptions that I saw bearing on the conversation or the practice had to do with its use as an externalized and objectified memory in most cases. The other cases had to do with the specification and scripting of the software for the document management system. But also in those cases there were formalized agreements that were translated.

6.4 Entrainment

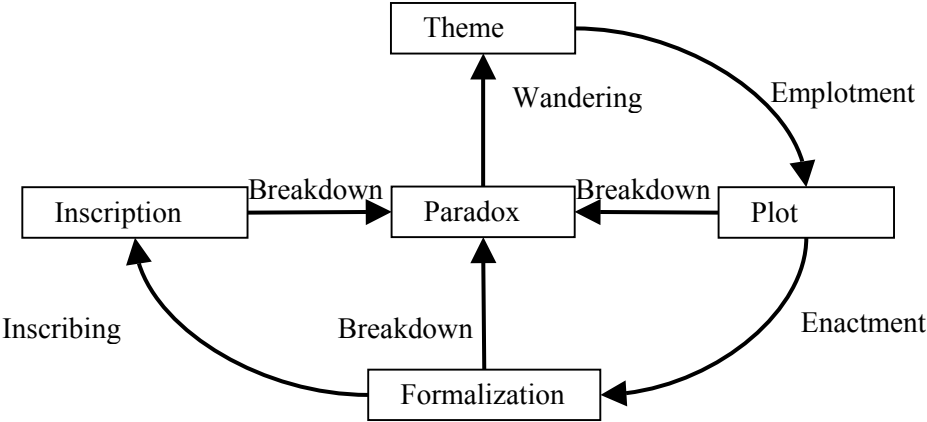We can summarize the transitions and catalysts of meaning in the following figure.

Figure 7: Catalysts and Transitions

This is *not* a process model. I have not been able to recognize a rigid line in the conversations of the EDM-group. Rather, the opposite: people jump between themes, repeat story lines to illustrate their current narrative, associate, delay the actual inscription of a formalization until a later time, etc. All this figure shows is the kind of transitions I have encountered during my observations of the EDM-group, and the catalysts they produce. The reason why I have put arrows is that a transition usually relied on a specific catalyst to produce another. In a process model I could have drawn circular arrows around themes indicating a process of antenarration, around a plot to indicate storytelling, around formalization as formal organizing, and around inscription as representation. But that would suggest that these processes are separate phases. However, from my analysis of the conversation I conclude that these processes, if they exist separately at all, are quickly alternated in participation.

Through their tacit use catalysts of meaning not only bear on the conversation, but they also become interdependent. Particular constellations evolve from the tacit adjustments to develop particular tendencies in the conversation and practice. Before describing this interdependence and how that relates to the emergence of organization I would like to illustrate this by reframing the first few EDM-meetings from the perspective of catalysts of meaning. What follows thus lacks the explanations of specific terms that are already explained in chapter 4. When they do so, we could speak of a *bifurcation* in the social order and the emergence of *attractors*.

The First Meeting

The first meeting was strongly governed by a paradox: people came together, pretending to be a group, while there was hardly any shared history, and thereby no preceding discussions on shared goals or personal motives. A few people had prepared a document that proposed the mission and the vision of the EDM-group-to-become. But it was not accepted. The people present could not relate the text to their consultancy practice.

But this paradox, was easily dealt with by a collective search what the "mission" and the "vision" of this group of people could be. This theme attracted narratives that originated from the Asperix before the ASP-strategy. And the conversation spoke of an increasingly shared adherence to some parts of this history. The repeated use of terms such as "network of professionals", and the shared narration on the importance of holistic consultancy, increasingly suggested the plot that would become introduced in the second EDM-meeting: "The EDM-group can be different from Asperix with their own identity, goals and directions".

However, the narration around the theme was repeatedly interrupted by the paradox. The paradox disrupted the theme in several ways. One consultant expressed that there were simply too many ideas to establish a shared mission. Although this uncertainty was shared, so were some basic ideas, such as "holistic consultancy". But these shared ideas were not enough to keep paradox away. For instance, holistic consultancy gave way to a variation of the paradox. Consultants acknowledged that they wanted to add strategic advice to their technical consultancy, while there was no one in Asperix that had the contacts to reach the top management of potential customer organizations. Other breakdowns in the narration around the theme came from the inability of this group of people to define the services or products that they could offer to potential customers, and the fact that there was already too much work for the coming year, to spend a substantial amount of time on the development of the group and the individual competencies. Thus even if they would know what to sell, and how to approach new customers, they would probably be too occupied with their usual work to have time for the drastic changes that even the mere outline of their ambitions required.

The breakdowns led to several variations on the theme. Instead of searching for a mission, they tried to define a synopsis for their sales story. Instead of a vision on holistic consultancy they explored the limitations and possibilities of their current access to customers. In terms of plot, they concluded that they had to grow, to make sure that there were enough people for the work and to develop the group.

The first meeting thus produced a variety of themes, from what could be seen as one paradox: the assumption of being a group, while lacking shared history.

The Second Meeting

The larger part of the second meeting I have described as an example for explaining the separate catalysts of meaning. In short, we could say that the meeting started with the paradox of Carl. He identified with Asperix, but he was disappointed with some of the people there. For him this added with some other events that for him indicated a larger problem.

As he explained this to the EDM-members, they were not directly copying his plot. Instead they were trying to make sense of what was happening in Asperix. The theme was not problematic, but the plot to which Carl was heading was. In effect, it would lead them to share the same paradox as Carl. Some of them were not experiencing that paradox yet, and therefore resisted. However, in the end the paradox was solved by concluding that the EDM-group could be different from Asperix, with its own identity, goals and direction. This latter was the plot that would bear strongly on the next meeting.

The Third Meeting

The third meeting started out with the theme "what has happened in Asperix?" Since, all of the consultants were most of the time on the site of their customers and were hardly in contact with Asperix management, this was a start that everyone appreciated. The theme would direct the initial part from the third meeting on.

Carl's narratives that described the developments in Asperix warned for a paradox that Asperix management would later introduce in the EDM-group. Carl talked about the requests of Asperix management to make the EDM-group into a business unit. But actually the request was to bureaucratize the EDM-group. This undermined the plot of the previous meeting as it contradicted one of its basic tenets: the identity of the EDM-group as a "network of professionals".

There was also another paradox. Asperix management had enforced a new member on the EDM-group. This intervention by the MT was part of a larger attempt to create business units in Asperix. Asperix management decided to integrate the sales team into the new business units. In that move, Roel became part of the EDM-group. Roel identified thus with the sales group. This group pursued the ASP-strategy and was highly loyal to the management team. But now that Roel followed the management directives he becomes part of a group, where membership entails a critical distance from the same strategy.

The paradox of an unwanted member, and an unwanted membership develops into a series of discussions around the theme "what will be the role of Roel?" Since, Roel connects his membership to ASP, this intertwined with a theme that had occurred before: "What do we think of ASP?". This latter theme attracted narratives that counterpoised the economic rationality of the EDM-group against

the ideology of Asperix . This develops via a series of narratives that described several reasons why document management in an ASP-format would return little returns, and why an ASP-strategy for such a small company as Asperix would be unwise.

The discussion seemed to be going towards the conclusion that Asperix management had not been economically rational, and the ASP-strategy for Asperix had been seriously flawed. But then Carl made an important nuance. On the basis of a previous discussion with Ivan, he stated that Documentum could be used as a business-to-business platform. This meant that there was a specific possibility to do document management in an ASP-format that could be economically interesting, and professionally challenging. This was a new theme to the conversation.

The story that then developed, mainly through Carl, relied strongly on the plot of the second meeting, but it introduced an alternative plot. The story entailed that ASP as a dogma, is in contradiction with the EDM-group as a business unit. Asperix course is changing from day to day, but the EDM-group needs to establish a stable environment, with clear agreements with the MT on revenues and growth. The new plot on the EDM-identity is that as a business unit it should be up to the EDM-group to decide what the most effective way is to create revenues depending on the customer demands and available technology.

The story suggested already several formalizations. Henri, for instance, described the dependence of Asperix on the revenues of the EDM-group, and Carl reinforced the idea of the power position of the EDM-group, stating that if the MT would not be able to make clear agreements then the EDM-group should think of becoming a separate organization. Many members expressed their support for this story, except for Roel.

But the nuance in the story would solve enough of Roel's paradox to go along. The conversation returned to the "Documentum as business-to-business" theme. Carl's reinterprets this theme as a business proposition and thereby links it to the goals of the EDM-group. Carl proposed that he and Roel would detail the "business-to-business proposition". In the process of participating in the development of a new story for the EDM-group, and a part of the succeeding formalization and inscription Roel became convinced with the new identity plot, and assumed his new role.

The Fourth Meeting and thereafter

The narratives that followed the "what happened in Asperix" theme, made quite clear that the MT steered for investments in ASP and not in consultancy. In a meeting with all the group leaders, presided by one of the MT-members, Carl was told that each consultant needed to be billable for 70%, excluding holidays, sick

leaves, education, overhead etc. For the EDM-group that implied that there could hardly be made any investments in the group.

The presentation of Bruce, the MT-member, describing the EDM-group as a value added reseller, all the more showed that there was a large tension between the professional aspirations of the EDM-members and Asperix' course. In a display of possible unity the EDM-group presented the start of the business propositions that had been developed between the two meetings mainly between Ivan and Carl. For Bruce they showed that the EDM-group would conform to the ASP-strategy. For some of the EDM-members, it was a mere display to be able to claim time and resources for the development of their professional interests. This was the start of a formalization that would imply two very different things to the EDM-group and to Asperix management.

In the fifth meeting many themes and plots come together in the telling of a comprehensive story on the EDM-identity. The business propositions of the previous meeting describe part of what the EDM-group will do. The "approach" a theme from the first meeting on was defined in relatively immodest terms: entering an organization on the basis of an invitation to solve a technical problem and then offering an increasingly integral solution that covers human performance and strategic aspects.

Still, there was a paradox looming underneath that was voiced by Carl already at the second meeting. Asperix management aimed at an ASP-strategy. The MT had no real interest in consultancy, and that limited the extent to which the EDM-group could negotiate and could keep the MT to the agreements they made.

There was one other occasion in September in which the EDM-group spoke about leaving Asperix as a group. But they did not pursue this, and the reason why was never really clear to me. All, I can say was that there was too little enthusiasm apparent at this meeting. On hindsight, this had been the way to defend the EDM-group against the MT. From then on, the MT undermined the formalizations with the EDM-group, and in their turn the EDM-members turned towards more individual opportunistic behavior, forging weekly reports etc. In effect, there was increasingly less coherence in the group, so that when it became very obvious that there were no sensible negotiations to be made with the MT, there was no group left that could start negotiations with other organizations or investors.

6.5 The Emergence of Organization

We have seen some of the elements and dynamics of that seem relevant to the emergence of polycentric order. There was the potential of the transitions to innovate the conversation and practice, and the ability of the catalysts of meaning to be subsidiary to the synthesis of meaning and endure. This was not an effort to create a complete process model, or to be exhaustive in describing all elements

that are relevant in the emergence of polycentric order. What I did try was to identify all intentional efforts to innovate conversation and practice, and reconstruct the potential effects these efforts had in terms of support to the conversation and meaning of their practice. The illustration of the EDM-group served to show what catalysts of meaning can mean as a way to conceptualize the implications of indwelling for organizing.

The catalysts of meaning are as an element in the conversation not as important as their tacit contribution to practice. For instance, as long as the focus in the conversation lies on a particular story, we are far off from emerging organization. Participants still have to make the effort to take the consequences of the story. They have to indwell the plot so that it becomes a structuring principle for narratives to come. The moment participants expect of each other that they embody these plots, and conform to the formalizations they made, we are close to social structures. For Luhmann these expected expectations are the basis for social structure. Expected expectations result from participants being aware of the indeterminacy of a social situation. This indeterminacy makes both partners more readily to find points of connection:

> "if everyone acts contingently, and thus also could act differently and knows this about oneself and others and takes it into account, then it is ... improbable that one's own actions will generally find points of connection (and with them a conferral of meaning) in the actions of others...If in addition to one's own behavioral uncertainty, another's behavioral selection also is uncertain and depends on one's own behavior, the possibility arises of orientating oneself to that and determining one's own behavior in regard to it. Thus it is the emergence of a social system, which is made possible by a doubling op improbability and which then facilitates the determination of it own behavior.
>
> Citation 48. (Luhmann, 1995: 116-7)

Building on this idea of double contingency Luhmann defines *expected expectations* as the basis of social structure. The critical difference between *expected expectations* and more basic expectations is that when someone violates the expectations of someone else, then the disappointment is the problem of the one who is disappointed. But in the case of a violation of expected expectations the disappointment is the responsibility of the violator (Blom, 1997; Luhmann, 1995). The effect is not a mere personal disappointment but it becomes a violation of the conventions in the social system.

From the tacit mutual adjustments we develop an anticipation of a sharing of themes, plots, formalizations, or inscription. Themes for instance create the shared expectation that it is relevant to tell particular narratives, and thus we expect a sense of what is in or out of order in the group. However, I have not encountered in Luhmann's works a description of how expected expectations result in emergence.

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Actually if we look at complexity theory, there would be an important step in-between missing. The idea from complexity theory is that catalysts can become mutually reinforcing and develop into attractors. A complex system can be defined in terms of tendencies of the system to respond in particular ways to its environments and internal processes (Kaufman, 1995).

For a long time I have considered shared integrative tendencies as resulting from a transition, as there was a strong change. But I could not pinpoint the moment when these tendencies became established, although I could sometimes see when someone consciously embodied an EDM-perspective. I was misled, considering the conscious embodiment of such a perspective as taking the consequences of the plot of a particular story. Unsatisfied, with the limited amount of instances of this conscious embodiment transition, I realized that many of the catalysts of meaning came together in this new shared perspective.

The EDM-meeting that I described as an illustration developed into a series of negotiations on meaning to define an interface that separated the EDM-group from Asperix. The interface consisted of a web of formalizations and inscriptions that on the one hand, aligned with the goals of Asperix but on the other hand, allowed the EDM-group autonomy through the resources to invest in their group. From then on, the account manager and the group leader of the EDM-group then coordinated the administration of billable hours and agreements on how much time was spent at the customer (i.e. formalization and inscription). But this interface also consisted of plots, prescribing members how to create a shared perform to Asperix. For instance, all negotiations and information, went via Carl to Asperix so that their was a consistent display and strategic control of information. Perhaps surprisingly, even themes and paradoxes were a part of the interface. They told members what to notice and bring forward in the EDM-meetings.

In this process, different catalysts of meaning came together to form an interface between the EDM-group and Asperix. Firstly, there were the paradoxes that arose from being an employee from Asperix while feeling frustrated in employing and developing one's profession. Secondly, there were several themes such as "how do we relate to the ASP-strategy in Asperix?", "how will we work together?", "how can we obtain the resources to pursue our shared ambitions?". Thirdly, there were the stories and plots in the EDM-group on what consultancy and professionalism is and should be, their shared ambitions, etc. Fourthly, there were the formalizations that make the EDM-members understand interventions from Asperix in terms of a customer or a stakeholder. But there is also the role of group leader as the EDM-representative to Asperix, the agreements with Asperix in terms of revenues, the reports for Asperix to show the amount of revenues every month (inscriptions), etc.

All these different elements entrained to create an interface between Asperix and the EDM-group. This entrainment is a way to conceive of a bifurcation in a polycentric order. It is hard, if not impossible, to pinpoint when it is there. But when it is there through mutual adjustments, it becomes a shared interpretative

tendency and the ground for a collective performance that enacts the difference between the environment and the identity of the polycentric order. This interface I consider as an attractor for the EDM-group. Every meeting, a substantial amount of time was devoted to exchanging on the state of affairs in Asperix, and how that related to the EDM-group. In their daily practice EDM-members created weekly reports, asked the group leader to intermediate between them and Asperix for matters of holiday, sick leave, administrative support, laptops, software licenses etc.

There were several other attractors that I found that constituted the EDM-group. A second attractor was the interfaces with customers, entailing formalizations on project management, but also plots that defined the relevancy of a project, paradoxes that arose from experiencing what it meant to serve the customer organization versus a sense of professional independence and ambition.

A third attractor was the EDM-identity. This entailed the stories about their shared ambitions, the tension between the need to be billable while at the same time needing to develop their professional skills. There were themes about professional identity and development meant. The formalization entailed the plans for the internal projects and the concrete technologies and consultancy methods that they developed.

A fourth attractor was the *EDM-market*. It entailed following market- and technology developments (i.e. themes), the telling of their sales stories on fairs and to customers, and the adaptation of the stories and the definition of internal projects (i.e. formalization) on the basis of the customer's ideas and feedback.

A last attractor, was the relationship with a partnering-organization in a joint technology development. In many respects this overlapped with the other attractors, but was additionally about balancing activities against those of the partner via project plans, and stories about the trustworthiness and value of the partner.

These attractors were mutually reinforcing by their exchange on catalysts. The feedback on the sales stories together with the experiences at customers led to well-informed definitions for their internal projects. The result from their projects helped the activities at the customer's site, and enhanced the sales story, by means of demos of their developed technology and making their consultancy approach more explicit.

However, catalysts of meaning not necessarily lead to coherence. For instance, plots could support coherence by being inclusive to its members (such as the shared goals of the EDM-group). But they could also have a tendency to dissolve. The stories that were shared could be opportunistic, individualistic (e.g. the exploitation story in chapter 4), or critical stories (e.g. the critical distancing from the ASP-strategy). Likewise, there were themes that invited members to participate in searching for a solution for the group as a whole, while other themes were highlighting the discomfort of members (e.g. long traveling times), suggesting refraining from participation.

Some formalizations functioned to establish coherence, in their ability to facilitate coordination (e.g. roles, schedules), or to record agreements (e.g. meeting minutes). Other formalizations were illegitimate (such as the false weekly reports), which undermined current structures.

In sum, coherence in the EDM-group emerged from the paradoxes, themes, plots, inscriptions and formalizations. In their combination they created interfaces to the different environments, and hence created different ways of implying an identity. The EDM-group was able to remain fairly resistant against disturbances in the environment. Its members could often decide on how to respond to those disturbances, adapt the agreements or perspectives in the EDM-group. However, the EDM-group in their reliance on shared themes, experienced paradoxes, common plots, and accepted formalizations was vulnerable to changes in the participation of members. This vulnerability, given the importance of participation in the concept of polycentric order seemed inevitable. Polycentric order should remain flexible to accommodate its participants. It cannot have the inertia that allows it to proceed virtually independent from its members. Polycentric order in its reliance on deep participation cannot be further from Giddens' Juggernaut[53].

6.6 Participation in Polycentric Order

Now that we have come to the point of speaking of interfaces, it is necessary to go back to complexity theory and go into more depth on how systems relate to their environment. One of the important contributions of complexity theory (and closely related areas such as cybernetics, general systems theory, etc.) is its re-conceptualization of the distinction between a system and its environment by understanding particular systems as self-organizing and self-reproducing[54]. This re-conceptualization allows us to avoid rigidities such as that of "part and whole" (Parsons, 1951), organizational hierarchies, or any other form of nested sub-parts. There is no need for a needless and arduous claim that a part-whole relation would entail. For one, then has to claim that the spatial and temporal reach of one system in its cultural, economic, and political dimension encompasses another. Instead,

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[53] The juggernaut reflects the image of a runaway engine of enormous power which, collectively as human beings, we can drive to some extent but which also threatens to rush out of our control and which could rend itself asunder. The juggernaut crushes those who resist it, and while it sometimes seems to have a steady path, there are times when it veers away erratically in directions we cannot foresee... (Giddens, 1990: 139)

[54] Important instigators of this distinction have been von Bertalanffy (1967, 1975), Maturana and Varela (1980) and Luhmann (1995).

complexity theory understands that one system has potentially all other systems as its environment.

The relation between systems is not understood in terms of these systems acting on each other. Both systems change as a result of this interaction; they co-evolve (Kaufman, 1995; Stewart & Cohen, 1997), they assist in the reproduction of each other through structural coupling (Maturana & Varela, 1980, 1988). The pitfall that is easily made when we translate these ideas to the social domain is that the question then becomes: "What does this structural coupling between one social system and the other consists of?" This is a pitfall, for the system becomes easily defined as an actor that is separate from human consciousness[55].

Instead, I propose to understand the relatedness between systems in terms of multiple participation[56]. People participate in different social systems. In fact, they can switch very quickly by indwelling a different perspective. This allows them to bring the experiences related to one social system into the other and reinterpret them in new terms. For this, themes, plots, inscriptions and formalizations are crucial. Themes are important for attracting relevant narratives on the neighboring systems. Plots are important to define what kind of communications and actions are required and which are not allowed, and formalizations and inscriptions freeze those plots into roles, decisions, technology and documents.

As described above, the EDM-meetings usually started with the theme "what happened?". This attracted narratives describing experiences from EDM-members when participating in Asperix meetings, at customer meetings, or projects. In this way the EDM-group sensitized itself to its environments. In contrast, some of the formalizations and inscriptions were meant to guard the borders with customers and Asperix management. A clear indication for the border between the MT and the EDM-group was when the MT came with adaptations in the company strategy, the story did not enter the EDM-group as a story. One time, it entered as an event that led to a theme "what do we think of this story of the EDM-group as a business unit?" The other time "EDM-group as a Value Added Reseller" it was ignored.

Conceived like this, participation lies at the core of social systems. Through participation, catalysts of meaning are produced and indwelled. From their shared interpretative tendencies and collective performances emerge. Moreover, the relation between social systems develops only through multiple participations. Narratives from one system can enter another only as an event resulting from participation.

In this way I hope to have avoided the trap that social systems seemed to be

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[55] This has been one of the more fundamental criticism on Luhmann's theory as for instance described in (Blom, 1997).

[56] This idea is related to the idea of multiple inclusion (Peverell, 2000; van Dongen, 1991; van Dongen *et al.*, 1996). The difference is that I conceive of participation as the *movement* from the self to the social, and that the self can make different movements.

devoid of consciousness (Lyman, 1997). Anthony Giddens explicitly addresses the problem of the duality between a social system and human actors (Giddens, 1979, 1984). However, he only aims to show how the two polarities relate.

The emphasis on participation breaks up the duality. Participation produces identity, both collective identity; i.e. the organization and personal identity in terms of membership. With this perspective I think ethics is no longer separate from social theory, as I think also Polanyi intended. The central question now becomes: "What is the quality of participation in this social system?" In the following chapter I will develop that issue.

6.7 Closing

In the introduction I have questioned the legitimacy of managerial authority in the context of knowledge intensive tasks, projects, or groups. The ability of managers to decide has become problematic, now that knowledge is often decentralized in the organization. I closed the previous chapter with the question: "How and when should knowledge impact organization?", as an alternative to an instrumental approach to knowledge.

The reason to conceptualize *catalysts of meaning* has been to add depth to the idea of emergence of organization from participation. We have seen how we can use the concept of indwelling to conceptualize catalysts of meaning. From analyzing the abrupt changes in focus (that could be compared to transitions in complex adaptive systems) and the development in networks of meaning, I derived small narrative components that obtain their persistence from repetition and emotional arousal. Themes, paradoxes, plots, formalization and inscription can entrain into shared interpretative tendencies and collective performances that constitute organization. I have tried to avoid a description of these catalysts of meaning as fixed building blocks for organization that are separate from human consciousness. They are created, destabilized or repaired in the focus of the practice. But the next moment they are subsidiary to further sensemaking and become adapted in their tacit use.

In many cases, EDM-members intended to introduce these catalysts, as we have seen in the description of the transitions in meaning. Despite the fact that these catalysts were often explicitly created, their main contribution lied in the tacit dimension. On a tacit level, these catalysts functioned to create shared points of reference (plots), sensitized members to events in their shared environments (themes), create decisions between the EDM-group and its environments (formalization), objectify decisions and practices in documents and technologies (inscription) and lend contrast to the themes and narratives (paradox).

By positioning these catalysts in an interplay between the tacit dimension and the focal awareness, I hope that these categories are more recognizable and not as

obviously flawed as the different knowledge cycles that have been described in knowledge management literature. The catalysts of meaning are recognizable at the moment of their introduction from the explicit effort and abrupt changes in the conversation. They are more in congruence with everyday experience than the usual rigid knowledge cycles, as the tacit effect of these catalysts on conversation, action and sensemaking is not limited to strict categories or process phases.

Probably, there are more distinctions possible, that can also work as catalysts of meaning. For instance Heidi van Muijen suggests that metaphors can be catalysts for sensemaking (Muijen, 2001). Perhaps they are a specific way to propose a plot (emplotment). There was once a metaphor comparing the EDM-group to a Saab-garage (see 7.4). It thereby destabilized one plot and proposed another plot at the same time.

I have tried many categories, and I think that this constellation fits quite well, and the categories are conceptually well-defined. It makes sense to distinguish these tacit elements in the conversation, that seem to have some specific capacity to counter oblivion, and develop further conversation. Also this idea of transitions or focus changes can draw the attention to specific moments. A focus change does point to important rhetorical moments and it also shows who has more impact on the conversation. The idea of bifurcation as the emergence of shared interpretative tendencies and collective performances that makes one side of the interface I think is important. At least it provides a possibility of conceiving of the relation between borders, shared perspectives and conversation.

Now, the question is whether we can find these catalysts of meaning in other social systems as well. In the sales activities of the EDM-group and in their collaboration with a partnering organization I could identify these types of catalysts of meaning. However, in the programming activities of the software engineers of the EDM-group I felt that inscription was a too broad category. Some inscriptions were treated as nonnegotiable (project plans), while technical consultants owned other inscriptions (scripts). In the latter case, there were also transitions directly from a shared plot to these kinds of inscriptions. Formalization was then avoided. There were also other differences in the experience of catalysts. Unintended effects that displayed through technology created breakdowns and paradox, but the experience seemed more individual. Perhaps, such a close interaction with technology creates a more individual system than a polycentric order. Perhaps a focus on the qualities of cyborg life in simulacra, and the experience of crossing the frontiers between for instance cyborg-life and the life in groups would be more fruitful.

In a classroom with 200 students, as a lecturer thinking in terms of emergence of shared meaning makes hardly any sense. There is too little meeting in establishing a shared story, pursuing a shared theme, etc. Also in that case, I would think that a perspective that would pursue an authentic meeting of people is highly problematic. However, it could show that the basic conditions for emergence are not met: students have no access to formalizations (it is always the lecturer that

grades students), inscriptions (the lecturer chooses the reading material), or to the plot of the particular lecture. For students there are some possibilities (without disrupting the entire class) to impact themes and to introduce paradox, by posing questions, or disrupting the lecturer's performance. Probably this limited shared access to catalysts of meaning holds true for any hierarchical and bureaucratic organization. Still, this perspective could make us wonder, where we could exercise effort to instigate change. The next chapter will develop this question.

The reason why catalysts of meaning can emerge into a polycentric order, is because the different catalysts can also have a combined effect. This combined effect, I have related to interpretative tendencies in conversation and collective performances. I have compared this with a complex adaptive system to display of a coherent behavior, which is called an attractor in complexity theory. In the EDM-case, we have seen that the different catalysts of meaning can reinforce the other to form interfaces with its different environments. In their turn the different interfaces may cohere in such a way that a complex adaptive system may emerge.

This coherence is inherently unstable. This is because the principle of non-linearity applies to both emergence as well as dissolution. This is due to the fact that the catalysts of meaning can create a tendency to dissolve just as well as to cohere. The dynamics of polycentric order in terms of a complex adaptive system can thus be understood as an autocatalytic process in which participation is structured by means of these four kinds of catalysts. At the same time these themes, plots, formalizations and paradoxes from this autocatalytic process. They produce each other[57].

To conceive of polycentric order in terms of a complex adaptive system showed it to be a highly temporal order; the attractors become continuously destabilized by events in the environment and differing insights of the participants. At the same time, as we have seen in the EDM-group, polycentric order, conceived of as a complex adaptive system, is able to resist changes in the environment. The EDM-group developed interfaces on the basis of catalysts of meaning with its customers, the mother organization, a partnering organization, and its markets. I think that this applies to any polycentric order that resides within an organization. The interfaces are necessary for a polycentric order to resist, develop initiative, and negotiate. Therefore I think that the identity of a polycentric order strongly depends on the entrainment of the different interfaces. But this is only part of the answer of what constitutes the identity of a polycentric order.

We have seen that both emergence and dissolution were non-linear processes, and are founded on participation. The quality of participation should be inherently very open and sensitive to its participants in a polycentric order, for its characteristic interdependence between knowing and organizing. In contrast to a bureaucracy, the organization of polycentric order has to change in accordance

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[57] This is a very similar idea to the concept of autopoiesis: the idea that the whole produces the elements it consists of (Maturana & Varela, 1988).

with a change in conceptions and shared insight. Dissolution is thereby an essential part of the development of polycentric order. Old themes, plots, perspectives, and inscriptions need to be dissolved to make room for new insights. However, this fundamental openness also gives room for an ongoing dissolution as we have seen in this chapter.

Members of the EDM-group have tried to find guidelines to balance the ongoing dissolution against tendencies to fixate. These guidelines in essence had little to do with the functionality of the dynamics in the EDM-group. These guidelines came from moral questions such as how the EDM-group should support its participants and what the qualities of participation should entail.

In this chapter I have characterized the emergence of polycentric order in terms of a complex adaptive system, thereby enriching Polanyi's use of the term *emergence*. In order to do this we have delayed going into the required qualities of participation in a polycentric order. At this point we have to leave the field of systems theory, as this issue goes beyond criteria such as functionality. For instance, it may be moral to undermine a social system, as in the case of Nazi-Germany (Bauman, 1989), but how can we defend such a claim in terms of criteria such as functionality, selection, retention, etc.?

At this point we need to address the essence of polycentric order: "How do participation and polycentric order relate?" In the following chapter, we will address this question by going into the ethical and political ramifications of polycentric order. There we will also return on what constitutes the identity of polycentric order.

7 Power and Commitment in Polycentric Order

The previous chapter was a description of what emergence would mean for polycentric order. But it was merely a systemic description. The quality of participation and the conditions participation requires were neglected. In this chapter we will go into those issues and thereby lend in discussions on power and morality. There are two reasons to do so.

Firstly, Polanyi's work is abundant with moral exempts. Apparently Polanyi did not want to separate his epistemology, and his social philosophy from ethics. The coherent whole, the web of meanings that he has been trying to create intertwined the three. I think that the motive, for Polanyi to abandon his scientific career and start an uncertain career in philosophy, came from a strong concern about the combination of nihilistic and repressive tendencies in society.

Secondly, the tacit dimension implies a rejection of a neutral point of view, let alone an objective truth. Meaning, action or truth is never determined by facts alone. There are no facts, only interpretations that rely on a personal, tacit dimension. Hence, any shared understanding comes from negotiation and manipulation. When we understand power as the ability to impact the meaning and actions of people[58], we see that knowledge and power are closely related[59].

The moment there is power there is morality. This morality is unavoidable; there are no amoral actors. For another implication of this lack of neutral ground, is that there cannot be a rationale, a universal guideline that can distinguish right from wrong, just from unjust. There is no rule that we can abide by so that we are relieved from the responsibility of our actions. There is no definition of organization or society that makes its effects on individual meaning and action morally irrelevant. Morality comes from the engagement with the other. Not engaging does not avoid the question of morality, for that is also a moral choice. Polanyi has realized this (see section 2.6) and thus the concepts participation, emergence, polycentric order were *intended* to have ethical ramifications.

To investigate moral / power implications we will reflect on three themes. The

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[58] I have not found a definition of power in Polanyi's works, but I think this is a definition that is in line with his use of the word.

[59] The relatedness of knowledge and power is a very well-known theme in discourse studies. For this point usually Foucault's works are referred to. Although there are similarities the most crucial difference between Polanyi and Foucault is that where Polanyi's starting point is indwelling and from there describes what participation in a social order entails. In contrast, Foucault's starting point is the social discourse and from there describes how this creates the subject. (Foucault, 1977)

first theme is *participation*: in the form of a contrast between shared identification vs. shallow systemic inclusion. We participate in different social groups in differing depths. The extent to which we identify with these collectives should coincide with the extent to which we are able to influence the collective. The second theme is *emergence*: in the form of a contrast between *true* and *false emergence*. Emergence is based on the idea that meaning and social order can develop from a multiplicity of perspectives. In the case of true emergence, the emergent social order or shared meaning is not reducible to one or several perspectives. In contrast, false emergence (Letiche & Boje, 2001) is when the resulting order or shared meaning is enforced. Order has arrived *despite* a diversity of perspectives, and is to subjugate other perspectives.

The third theme is *commitment* in the form of a contrast between a claim for the freedom to be different versus a commitment to the social order.

7.1 Depths in Participation

Let us contrast *participation* (see 2.4) with the utilitarian perspective that dominates economic literature. This contrast allows us to consider the fundamentally different relation between knowledge and organization I would like to propose in this chapter.

Agency theorists recognize two ways in which principals can relate to agents (Hendrikse, 2003). One relationship is characterized by the complete contract. There are two flavors in complete contracts, *monitoring* and *metering* (Williamson, 1985). The first flavor relies on the principal's ability to specify and monitor the agent's behavior and impose sanctions if the agent deviates from expected behavior. In the EDM-case the work of the professionals was simply too abstract to monitor. This aligns with for instance Zuboff's observations on work with IT (Zuboff, 1988). But it also aligns with a general understanding of professional work as the application of abstract knowledge to particular cases (Abbot, 1988).

The second flavor in complete contracting relies on the principal's ability to describe the end result and measure the outcome relative to his expectations. In the EDM-case this problem was mainly transferred to the customer organizations. The end-result was defined in terms of a percentage of the time "billable", i.e. the working time for which the customer could be charged. However, there was no definition of the quality of services that consultants had to deliver to customers.

Sharma argues from utilitarian economic perspective, that the information asymmetry between professional and principal makes these contracts inherently flawed. The outcome of complex tasks are dependent on many factors, many of which the professional has no control. This has the effect of transferring risk from principals to agents. The burden such a risk makes outcome-based contracts in

many cases unappealing to professionals (Sharma, 1997). In many relevant cases the risk is even larger for the professional than for the principal. For instance when a professional has to work with capital goods from the principal, their functioning becomes a risk for the professional and not to the principal. The principal could even use malfunctioning equipment as a means not to reward the professional.

In the EDM-case, the consultants did not control the market, the developments of the technology they used, and the supporting means of Asperix. When the IT-market collapsed, the management team pressured the consultants to increase revenues, with threats of "reorganization" and "cutting costs". The search technology in the document management system they based most of their services on was relatively weak, which decreased their market. The consultants encountered a lack of administrative support and the lack of an Intranet to coordinate and share consultancy matters. In contrast, the mother organization was unwilling to provide such means.

The second kind of principal-agent relation is characterized by the *incomplete contract*. The principal is not able to supervise or circumscribe the activities and results of the agent. In order to align the actions of the agent with those of the principal, the agent is given the incentives to invest in the relation. The property rights to the firm's assets are then distributed in such a way that the agent's self-interest becomes aligned with those of the principal.

For the IT-professionals in Asperix a relation based on a complete contract was not in order. Their management could not circumscribe the quality of their work. Although, Asperix had experimented with the distribution of property rights in the form of shares, this was not a strong incentive for employees. They were hardly occupied with the matter of their shares, at least in the period of 16 months I have overheard one or two members mention it only twice. There was a discussion during one of the EDM-meetings on whether the surplus of revenues was to be invested in group development or individual bonuses. However, the idea of being able to have interesting and challenging work together with colleagues was for all, except one member, more attractive than bonuses.

This indicates that for most of the EDM-members their incentive to pursue a level of quality in their work was thus hardly determined by the distribution of property rights. It was not the value of their shares, nor the height of bonus, that occupied the minds of the EDM-members. Instead the motivation lied in them being recognized, in their identity as professional. Their identity allowed them to have impact on the course of a project, to negotiate with management on salary and to switch job easily when negotiations failed. Furthermore some tasks were more rewarding from a professional and personal point of view than others. It was this motive that made the members participate in the EDM-group.

This finding is in line with those of others. For instance, Kunda (1993) finds that the IT-professionals in his study emphasize helping clients and fun over economic rewards. Kanter (1983) finds that the rewards for the professionals he studies, are not the wages but the sort of projects they are involved in. Already Parsons (1968)

observed that for medical personnel the normative standards of their profession prevailed over opportunistic, individual goals. Also companies seem to acknowledge that allowing professionals a great deal of leeway to pursue their own interests increases their attraction for employees (Alvesson, 1995).

All these studies indicate that for understanding the motivation of professionals utilitarian economic approaches lack explanatory power. Moreover, this approach when applied in practice seems to enact the very thing it should prevent: counter-productive surveillance and monitoring devices. Ghoshal and Moran (1996) have argued that the emphasis on self-interest and lack of trust, implicit in transaction cost economics, would encourage the proclivity to behave opportunistically. Opportunism becomes a self-fulfilling prophecy. The solution they propose, building on the work of Ouchi (1979), emphasizes social control as a means to manage opportunism.

William Ouchi describes clan control as an efficient control mechanism that especially applies when managerial supervision, or end result contracts fail. The idea is to make employees identify with the goals of the organization and adopt the rationales of the organizations. This identification is exactly what happened in Documix as well as in the EDM-group. The main difference between Documix and the EDM-case is that in Documix the software engineers were seduced to identify with the organization but were denied to impact Documix or claim any resources. This led to frustrated software engineers, leaving en masse. In contrast, in the EDM-case, the IT-professionals were able to negotiate with Asperix on resources and establish a *safe haven* for their professional development.

The problem that William Ouchi has failed to see is that when an employee identifies with the organization, s/he will want to impact the organization as well. The relation between the professional and the organization goes beyond an economic relation. The reason for this is that the effectiveness of a professional relies on his or her identification with a particular problem domain to address the problems that cannot be defined in advance, and solve them in a way that can also not be prescribed. The role of the professional requires indwelling an unspecified but potentially broad spectrum of particulars. It demands creativity and experience to intuit the meaning of those particulars. The moment we see this, the tension between the rigid management rationale and the fundamental indeterminacy of professional work is obvious.

The traditional notion of the manager as a decision-maker, someone who controls and coordinates cannot go together with dialogue and shared participation. The lack of dialogue frustrates the involvement of professionals, so those employees identify with their colleagues, rather than with management. Thereby managers are effectively separated from the information they need to coordinate, make decisions, and control. Imperative comtrol implies sooner or later that the professional refuses to appropriate unspecified problems or to act on unforeseen opportunities. Instead of applying professional standards, s/he merely confirms to badly informed managerial standards.

The point I would like to make, is that we should also consider the relation between a professional and its working context in terms of *participation*. The idea of *participation* starts from a different axiom than economic theories. It is not opportunism, surveillance or alignment of property rights that defines the relation between professional and organization. Instead, identity and goals of employee and organization become *interdependently* defined. For instance, in the case of the EDM-group, the motives of the members to participate and the EDM-strategy developed together over the course of several meetings. From a perspective of economic relations it may be hard to understand the trouble that arose in Documix between software engineers and management. But when we understand the software engineers as participating and committing themselves to the development of a product, their frustration with imperative control can easily be understood.

There is a paradox that is inherent in the concept of managing professionals. On the one hand, the professional is demanded to identify with the organization to solve issues and pursue opportunities. On the other hand, on the basis of a for the professional unknown, inaccessible management rationale his or her efforts and initiatives will be thwarted. The professional is not able to gain access to the process of managerial decision-making. Thereby s/he cannot anticipate the decisions, let alone participate to influence the decisions. This recurrent frustration that cannot be anticipated or influenced will eventually destroy the identification of the professional with its organization. The *management of professionals paradox* is thus that management requires the identification of professionals with the organization, which it subsequently destroys as a consequence from its imperative control.

If we take participation as crucial for the practice of professionals then the conclusion must be that s/he needs a non-managerial space for development. We should not forget that the participation of the professional relies on intellectual passion, and that participation in general relies on a conviviality of sharing in each other's lives (see 2.4). With all the pragmatic restrictions in projects, the internal politics in the organization, there needs to be a place where professionals can attempt to really solve recurrent customer problems, pursue opportunities from a professional point of view and deal with the conflicts between professional standards and interests versus economic and political issues. In general, we could say that the paradoxes that are encountered in organizational life need a space to be addressed. In order to do so that space can not be a-priori limited to specific organizational or economic rationales. There should not be a-priori assumptions that could introduce logically unsolvable paradoxes. Even economic rationales should be subservient to conviviality in a safe haven. Due to the fact that we have created the preconditions in terms of time, resources, and openness, there is the possibility to encounter the paradox in a way that Nietzsche would prescribe: through wandering and wondering (see 6.3). Conviviality could then entail different things. There could be a pursuit of intellectual beauty, to find a product or discovery that fits well with our previous experiences (see 3.1). There could be

a joy from a sense of fruitful new directions, an opening of new perspectives. And finally, there could be conviviality from sharing the quest, or more basically; sharing in each other's lives.

When the possibility to address paradoxes are denied, without establishing a dialogue that makes sense to the professional, the responsibility and participation of the professional can only become frustrated.

In the following sections I would like to discuss what the basis can be for such safe haven.

7.2 Negotiations for a Safe Haven

The central issue in this thesis has been "what is organizing in the face of different ways of knowing and being?" Via the concept of emergence we have now arrived at ethics. The basic ethical standpoint in Polanyi's philosophy was that the personal tacit dimension to knowing and being is something that is fundamental to our being. Polanyi's moral position could be summarized as a claim for freedom for humans to be in multiple ways that can be different from a social system (see section 2.6). A very similar standpoint we can find at René ten Bos' description of ethics. He argues that ethics cannot be rationalized by a Kantian attempt to "free" her from the emotional and the personal. Ethics, he claims, belongs to the sphere of personal consciousness. It cannot be established in the form of a collective ethics, as that would subdue the personal ethics. Ethics is emotional, unpredictable and often subversive. Moreover he claims that activities of business ethics consultants that attempt to subvert the individual ethics to a collective ethics are immoral themselves (ten Bos, 1998)).

René ten Bos understands the relation between the employee and the organization as tense. In a reflection on Machiavelli and Zygmunt Bauman he states the following:

> *"To work in an organization means that you will find your autonomy undermined. Always and ever from the top of the organization to the bottom. When that autonomy is sacred to you and you abhor the prevailing organization moral; get out. For one thing is sure: the individual employee allows the organization to take his autonomy away. That perhaps is a moral choice. You have the option to not allow that to happen, but do not expect to solve the problem of society or the organization."[60]*

Besides conforming to the organization moral, or getting out, I think there is a third option. Actually, René ten Bos seems to think so himself. At the end of his book he describes his ideal of business ethics consultancy as sensitizing people to

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[60] Freely translated from page 189, idem.

their own moral consciousness and autonomy. Business ethics could be an effort to guard moral diversity in organizations.

The third option is to enter into a negotiation relation with the organization. The problem is that as an individual employee there usually is too little bargaining power, for an ongoing relationship. The comparison of the EDM-case with the concept of polycentric order has shown me that polycentric order can be a way to negotiate with the organization. The concept *polycentric order* is a defense for diversity. It is a way to fight for the existence of differences, by developing an alternative but shared identity that functions to resist the organization's ideology[61], to develop initiatives, and engage in negotiations. Polycentric order is a way to enact a collective identity – that is more or less accommodating to its participants – and create interfaces with the relevant environments (such as an organization) to sustain its internal processes.

The EDM-group functioned by allowing differences within the group. The EDM-members established a shared identity as an alternative to an Asperix-identity. The members of the EDM-group had the skills, experiences, and customer relations that could not be found anywhere else in the organization. The fact that they could use this knowledge to obtain projects and simulate a group turnover created a strong power base from which to negotiate. In opposition to the ideology and strategy of Asperix that dictated that the consultants should change their practice in Asperix towards product development, they developed their own idiom, rationale, and goals. Members were thus able to impact the EDM-group and how the EDM-group related to Asperix.

As argued in the previous section, the professional needs the power to influence his organizational context. Not only does the professional needs this power, but in many cases I think the professional *is able* to exercise power through developing a polycentric order. Power can be exercised in three ways. Firstly, since management cannot have insight in the activities of the professional, but through the professional (remember the Zuboff critique) the professional has the power over what the organization *can* know. The interfaces in the EDM-group allowed the EDM-members to decide what was communicated to management. It is exactly this aspect that prevents the principal to monitor the professional (as described in the previous section). It is also the basis for Wenger's claim for a limited autonomy in Communities of Practice. Informally, members can decide on what their practices entail, as long as it out of the sight of managers (Wenger, 1999).

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[61] Ideology here entails the idea of the use of power to propagate a false consciousness. A false consciousness is a distortion of the (tacit) understandings of the self (Ricoeur & Thompson, 1981).

But the *safe haven*, as an instance of polycentric order, differs from a CoP in that it will also have a formal component. This bring us to the second exercise of power; the position to negotiate. The ability of the EDM-group to create revenues and address a particular market constituted their basis for negotiation. Ultimately, professionals could even threaten to quit. This was an item of discussion in the EDM-case. At the time, there was a recurring dissatisfaction with the management team of Asperix who did not keep their part of the bargain. This led to several discussions to investigate whether the EDM-group should become a separate organization, or should collectively join another organization.

A group of professionals needs to establish such a basis for a safe haven, as the resources that a safe haven requires is probably not given voluntarily by the organization. Even when it is given, such as in the first year of Asperix, top management can easily redraw the resources. Moreover, from a utilitarian economics perspective, it is not even in the interest of the firm to invest in the development of the professional level of its employees. It would allow employees to leave more easily to competing firms. A firm would only support the firm-specific knowledge investment in its employees (Rajan & Zingales, 2000).

There probably needs to be an ongoing negotiation on the boundaries between safe haven on the one side and customer and mother organization on the other. There is mutual control on the treaty, instead of imperative control. For this, the group needs to have negotiation power to guard the treaty.

As we have seen in the EDM-case this also implies that there needs to be a kind of internal control to make sure that the professionals fulfill their part of the bargain. Between the members of the group of professionals, there needs to be coordination and mutual control. There can even be, as in the EDM-group, a representative of the group that is responsible for coordination issues and monitoring whether the demands of the treaty are met by the professionals. But that is no imperative control. It is the idea of democracy with representatives for effective coordination.

From the perspective of participation, I propose that the management of professionals involves the creation of the boundaries between safe haven and organization, as a tradeoff between political issues, financial considerations, and

professional engagement. Management and professionals can negotiate on revenues and resources. In this way, the responsibility for development lies at the professional. Since management, from a purely opportunistic perspective, would not be willing to invest in knowledgeable professionals, this would seem to be a good idea for the professionals. In this way there is no longer the need to uphold a false pretense of managing professionals. There is a part of the professional practice that can be fit into projects, or even into bureaucracy, as long as there is an outlet for the paradoxes that come with it. However, the development of this practice lies largely outside hierarchical imperative control. In line with Polanyi's description of polycentric order (see 2.5), I would argue that there can and should be control, but it is mutual, between management and professionals. Thus at most there can be a negotiation on requisite organizational competencies. But the control is mutual.

Until now we have discussed how and why a group of professionals should enter into a negotiation relation with the organization. What we have not discussed is how and why a collective identity can be accommodating to its participants.

7.3 Emergence and Diversity

My reflections on the EDM-group indicate what deep participation could entail. The attempts of the professional to reach out for the collective to understand its needs, problems and notice possible directions speak of responsibility. But this responsibility is not for free. It means that professionals have the ability to access, to alter, and to introduce new paradoxes, themes, plots, inscriptions, and formalizations. The moment the dialogue is denied to the professional, any deep participation is frustrated. The relation between professional and organization can then only be an economic relationship, which implies that the employee will not feel the responsibility to appropriate unforeseen problems, to anticipate opportunities, and will feel only obliged to answer to badly informed managerial criteria.

Employees have power, even when there are hierarchies. The emancipatory potential of *emergence of meaning* stems from the social implication of non-linearity. Since small causes can have significant outcomes in cases where there are significant feedback loops, hierarchy cannot determine all power. Especially in organizations where knowledge cannot be centralized through the fact that organizational processes demand complex solutions, it is obvious that feedback loops are in place. The moment that an organization requires rich feedback loops, this immediately implies that at those places hierarchy is at odds with the actual situation. When management frustrates dialogue the effect will sooner or later be that feedback becomes unreliable, since there is no sharing in identity. For instance, managers, have no insight in the relevant factors of a complex task, or

understand the interdependencies between those factors. They are thus reliant on the professionals they "manage" for the information they need to manage them. Since it is not in the interest of the professional to give this information a manager can no longer determine the criteria for the end products in terms of quality and time.

Polanyi's use of the concept *emergence* was intended to organize despite the different perspectives that people have. The different perspectives do not come together automatically. The basis for polycentric order is that people participate in a joint activity or community and thereby reach out for a collective. The important element here is that there is no perspective that is inherently dominant. The effect is that the emerging meaning arises from different perspectives. For instance, in the case of the EDM-group, the network of meanings that emerged from their discussions was an understanding of ASP, the limited relevance for them, how they could make use of Asperix' ASP-strategy, and what the issues that they wanted therefore to negotiate with Asperix. This network of meanings was based on technical considerations and definitions, an understanding of their market, their customers, and an estimate of feasible tactical maneuvers in Asperix.

An alternative is to manage the different perspectives, and make the managerial perspective dominant. The effect is a *false emergence* (Letiche & Boje, 2001); there is no real emerging solution that comes from the different perspectives, and maintains these differences. The moment feedback of employees is blocked or suppressed any deep participation is frustrated and soon destroyed (see previous section). As there is no question of a process of mutual adjustment between employees and management, there can only be continuing manipulation to make the employee part of a system that is alien to him or her. False emergence comes

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Intermezzo

In a software company where I worked in 2002, the top management decided to create a strict hierarchy. Since the "start-up phase" was over, a strict command and control hierarchy was to be enforced. The problem that this created was that management still needed to consult the software developers concerning the feasibility and planning of projects. However, the so-called "hierarchical phase" in the organization implied that the software developers' feedback was often ignored. For instance the amount of parallel projects was impossible to handle cognitively for developers. This was "solved" by management through allocating each software developer for a particular percentage to at least two different projects. Software developers felt that they had indicated a real managerial issue, which was not addressed. The only effect was that now they had an additional job; they had to engage themselves with extensive time projections.

In short, dialogue was replaced with time lines. The effect was that the software developers seemed to exaggerate the complexity of problems, cared little about the deadlines, simply worked about eight hours a day (and frequently less), and started to look for other jobs.

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from enforcing one perspective, and reducing all others.

In contrast, emerging coherence based on participation is "an unstudied spontaneous accord on the basis of which common decisions, valid for all can be made on moral, social and political issues" (Gadamer, 1989 in: Jervolino, 1996). For instance, the EDM-members had an ongoing theme on the norms of participation. These norms involved a description of relating to each other in terms of authoritarian, egalitarian, and democratic forms of governance. Let me give a typical fragment by the facilitator, describing the first half of the fourth EDM-meeting:

> *"What I think was remarkable ... was that the strategic background was out in the open. In my view this usually does not happen. That I thought was extraordinary. This has to do with the nature of democracy in the group. And the nature of democracy in the group is not talking about everything endlessly. The nature of democracy in the group is not that everyone is equal that is just not true, for there are truly big differences in the group. The basis for democracy within a company is a real openness towards the strategic environment for your actions. Thus there is a true consensus of what is going on" (facilitator: Apr2000: 163)*

In the EDM-group there was openness considering strategic issues in their environment. Usually a combination of the words: *openness*, *honesty* and *democracy* were mentioned in one breath. The *openness and honesty* issue implied that not only members were allowed to know - but each member was also expected to comment on what were essential issues to them.

Another thing that speaks from this comment is the rejection of governance on the basis of equality. In fact, in the years before this form of governance had been used in Asperix. The interesting thing is that both the facilitator as well as the group leader had drawn the conclusion on what they had seen and heard from that period, that this form of governance was dysfunctional. An argument for this position was the limited time the EDM-members had to confer. Group representatives were needed to be head responsible for different initiatives in the EDM-group. They made decisions on the basis of their esteem of what was the standpoint of the EDM-group, while the other members were occupied with their different projects.

In sum, true emergence is about conviviality (see 7.1) and the *principle of access*, the possibility to impact in principle all aspects of polycentric order. In principle, for there are other considerations relevant. There are pragmatic considerations that come from a scarcity of resources. Given a lack of time to convene a meeting and decide collectively about all relevant issues, a group may choose to work with representatives. Given a scarcity of resources, resources may be distributed in the group on the basis of merit.

Apparently some important moral considerations in a polycentric order are about a balance between the principle of access and what I will define as *the commitment to polycentric order*. In the next section I will go into the latter issue. What could

this commitment to polycentric order entail?

7.4 Commitment to Polycentric Order

As we have seen, coordination based on participation should be distinguished from economic coordination based on systemic inclusion. The crucial difference from economic conceptualizations of coordination is that polycentric order is based on participation. In contrast to markets and hierarchies, participation in a polycentric order involves sharing identity through mutual adjustments and dialogue. The effect is that polycentric order is thereby inherently involved with political and moral questions. Can participants impact shared meaning and collective order through their access and ability to change the catalysts of meaning? Does the social order accommodate its participants? But also: what is the responsibility of participants? The first question has already been dealt with above. Now let us look at the latter two questions.

The starting point is the commitment to allow the Other to be in multiple ways that can be different than one's own. If a social order allows for these differences, is that social order not then valuable itself as well? Should it not be protected from the whims of separate participants? On the other hand, polycentric order should not become a goal in itself. If it does not allow its members to be participate in ways that they find valuable, then it should be abandoned. Let us reflect on one particular event in the EDM-group to make this issue more concrete:

> From October 2000 on, Ivan being one of the EDM-members and a senior software engineer, started to critique the EDM-strategy and the group leader. We should consider that this took place in a period where the management of Asperix was undermining the agreements with the EDM-group (see section 4.6). The main customer of the EDM-group was in the south of the Netherlands, so that EDM-members had long traveling times. Meanwhile the EDM-group was unable to find enough new customers to be less dependent on their main customer. Ivan intelligently pointed out in an early stage the problems that arose from Asperix undermining the agreements. But together with the lack of new customers he defined those consequences as failures of the group leader.

He stayed away from the EDM-meetings, where he was missed. In one-to-one meetings he spread a story that the group leader lacked empathy, was cold, never complimented anyone, and was incompetent. He thought that the EDM-group should have nothing to do with ASP. Document management as the EDM-group did it was for large companies who would not be interested in the ASP-model. Some members initially adopted these stories. The fact that he was a senior engineer, and was frequently leading in the discussions on the strategic use of IT, gave him credibility.

What I found striking in the exit interview I held with Ivan in December 2000, was that he expressed no care for the other members. Surely if the strategy was so fundamentally flawed, this would take the others down as well? Instead, he was only arguing his point. Moreover, Ivan had initially come up with the idea to make use of the ASP-strategy in Asperix; under the pretext of "ASP" the EDM-group could work on the plans they found important. In his critique he did not explain this contradiction.

From several EDM-members I understood that Ivan had recurrently not met agreements with customers, and had been careless in maintaining a consistent interface to their customers. The group leader had critiqued Ivan on that. He may have taken this critique badly.

In December several members expressed that Ivan had been unethical in denouncing the group leader and their goals. They especially blamed him for not creating an open discussion during the EDM-meetings, but had operated only behind the scenes.

In terms of catalysts of meaning, Ivan introduced new themes and plots (the group leader was incapable, the EDM-strategy was flawed) that could only undermine coherence, since they were kept hidden. We cannot be sure of the motives of Ivan, but let us for the sake of making a clear example, conceive of them in terms of taking revenge on the group leader. Furthermore, let us interpret for the moment that Ivan used the one-on-one conversations to have his identity confirmed and restored, and that he kept the criticism hidden to avoid confrontation. In that case, we could see this as a case in which we should justify a defense of polycentric order. By destabilizing the coherence in the EDM-group Ivan attempted to take away the possibility of EDM-members to participate in a coherent EDM-group. He brought discord, but attempted to keep it hidden, so that it could not be translated into new themes. Was this immoral as the EDM-members claimed?

It is not so that it is inherently immoral to assault coherence by breaking down some catalysts of meaning. Let us look at an example of such an assault that was actually helpful in the long term.

In Asperix there was the idea that each business proposition group had to define its identity in terms of the *unique selling points* that they could offer to their customers. Some EDM-members had been busy defining them. A part of the EDM-meeting in June 2000 was dedicated to collectively describe them. At some point then the facilitator says:

"But … do you want to be unique? The moment I want my car fixed, I do not want a unique Saab garage {laughter}. I want a garage that simply fixes the problem and please stop with being unique!"

Until then the theme *unique selling points* had given direction to their efforts to create a story about the identity and goals of the EDM-group. Now this theme was torpedoed by the facilitator.

During the conversation there was a gradual understanding that the pretenses that were involved in an aggressive growth strategy could simply not be founded. There was no participation in the *clubbable* networks of the top managers of the large companies in the Netherlands. Asperix did not have enough of a name, etc.

Another reason for this down-tuning of goals, although this was not explicit in the meetings, was that most members were hardly of what was called a *senior level*. They had not exceptional expertise, and a network of customer relation.

In effect, the result was a constellation of meanings that had fewer pretenses and was more in accordance with the situation as they perceived it. It was more accommodating to the EDM-members, as it reduced the gap between their capabilities and the way they presented themselves to their environments.

Can we distinguish a moral guideline that separates the second example from the first? The problem that we encounter in thinking of the combination *emergence* and *ethics* is that there cannot be universal moral rule. Emergence fundamentally undermines the possibility of subscribing responsibility to an action. For emergence entails the idea of feedback loops. Feedback loops imply that causes can be too small to notice, and the complexity that follows implies that causes and effects become intertwined (see 6.2). On top of this, the complexity of

organizations create a large distance between action and outcome, both in space and time (de Graaf, 2003: 27). Even if a group of participants abide by any set of rules scrupulously, we are far from certain that disastrous consequences will be avoided (Bauman, 1993: 18). On the basis of this complexity, both Bauman and Cilliers concur that there can no longer be the comfort of a universal set of rules. To conceive of social order in terms of a complex of interactions and meanings implies that we are thrown in a web of causes and effects, in which responsibility is hard to trace.

Paul Cilliers addresses the problem of an attribution of responsibility head on. We *should* still take responsibility for the future effects of our decisions. It is good to define and use principles and follow them *as if* they were universal rules. Universal rules are impossible, since any understanding relies on historic and social context, and the web of causes and effects is too entangled with anything and anyone. However, the impossibility of universal rules does not imply an absolute relativism. One set of rules is not just as valid as another set. But at the same time we have the responsibility to re-motivate the legitimacy of the rules every time we use them.

This is reminiscent of how Polanyi addresses the unavoidable subjectiveness of knowledge. The fact that we always have to assume a particular perspective does not imply that one statement is just as valid as another is. There is discovery through dwelling in the phenomena, but we have to rely on our tacit skills and assumptions *as if* they were true. We may be able to look up to some extent at these assumptions, but then we have to rely on other tacit skills (PK: 308).

In addition, we could think that the intertwining of cause and effect also entails that we should rather think in terms of periods of involvement as a more or less ongoing process rather than actions. It makes more sense to attribute responsibility to a period of involvement than to a particular action, as if that action was fundamentally separate from other events, meanings, and actions.

The ethics that Cilliers proposes is thus that we use and evaluate a set of guiding principles. But are there then any guidelines of how to select and apply guiding ethical principles? Surely, we can expect in advance that one set of principles works better than another does?

The concept *Intentional Emergent Coherence* from Hugo Letiche is in that regard an important refinement on Cilliers' general statement (Letiche, 2000). The *intentional* I think we should understand in Polanyi's terms as the intent that reaches out beyond the self towards the social (see 2.4). The terms *intentional* and *emergent* are a strange combination. One cannot cause a particular emergence of meanings, as one has no control or even comprehension of the whole. The effect cannot even be intended, as the result is more complex than the imagination. Thus the responsibility for the outcomes of the intent is limited, but the direction of the intent is crucial. What is intended is coherence, a meaningful order. Coherence here indicates a set of shared meanings, or processes of meaning that reinforce each other and create a *Gestalt*, a whole (see section 6.2). The combination of

intention and *emergent coherence* can also be found in Polanyi's works. In *Personal Knowledge* Polanyi describes scientists as having presentiments for a coherence that would answer their investigation, their research question (PK: 143-149). Although the coherence has not emerged, there is already an anticipation of it. Likewise, I think that the coherence when it emerges is usually not a complete surprise to the ones who intended it. I read this principle as directly in line with participation. Participation can very well be the commitment to contribute to a whole that accommodates all.

Intentional Emergent Coherence therefore addresses a part of the ethical problem that is closely related to emergence. Although the distance between action and consequences may be too large to attribute full responsibility, we are not free from responsibility. As Cilliers indicated it is part of our responsibility to develop proper expectations of the consequences of our actions (Cilliers, 1998), or rather involvement.

Let us return to the question: "Can there be a moral guideline that separates the two examples?" In a formal sense the answer is no. The principle of intentional emergent coherence could only be applied by reconstructing Ivan's motivation, in ways that he would probably not agree with. In that way I violated Ivan's rights to have access to the process that involves judging him.

In a less strict sense, *intentional emergent coherence* does help. It would give EDM-members a guiding principle to structure an argumentation for excluding Ivan. Obviously, they might never be sure of the grounds for such a judgment, but the indeterminacy of facts is also no excuse for not acting. There is simply no golden rule that frees us from the responsibility of our choices (as argued above).

Intentional emergent coherence would structure the argumentation as follows. Ivan's involvement entailed the breakdown of important themes and plots for the EDM-group (discrediting the group leader, and taking down the EDM-strategy) thereby undermining coherence. However, he offered no alternative. He only attempted to remove a way of being - the participation in the EDM-group – that was valuable to at least some of the EDM-members. He was doing harm to EDM-members through intentionally dissolving the EDM-group.

By means of *intentional emergent coherence* we could argue that in the second example, the facilitator also created a breakdown. He destabilized a story on what it entailed to define a collective identity. However, he did propose a new theme that amounted - partly through his continuing involvement – to the creation of an alternative way of defining a collective identity that was more accommodating to the EDM-members.

Intentional emergent coherence could function as a principle that could structure important moral arguments and decisions that can counter strong dissolving tendencies invoked by participants. With this we have addressed, at least partly, an issue that has been haunting us since the previous chapter: the vulnerability of a polycentric order. *Intentional emergent coherence* is a guideline to structure the arguments of participants to decide on what grounds they should exclude other

participants to defend the polycentric order that is also theirs. This is a crucial issue for polycentric order: the commitment to the whole, for which all participants need to rely on each other.

However, *intentional emergent coherence* is not a moral principle to demand deep and careful participation from someone on the threat of exclusion without reflection. The precondition is conviviality. The call to take responsibility for polycentric order needs to be balanced against the principle of allowing the other participant to be in different ways and have different preferences and prioritization. Obviously, assuming Polanyi's ethical standpoint implies that we cannot have a moral principle that makes a social order subsume the self, and enforce participation.

Perhaps, the most crucial implication of this balance is that we need to be very careful and minimal at the same time with the common ground that we create. The contrasts, themes, plots, formalizations and inscriptions that the participants share and develop in a polycentric order should be focused on unavoidable issues of coordination. The experience of conviviality should not be prescribed.

This can be illustrated with the EDM-case. There was an extensive search for how to relate to Asperix, customers, and define shared goals. This led to agreements on process for structuring communications with customers and Asperix. All this was to create and enact structures so to, as Carl said: "free members to do fun things". *Fun things* were related to a combination of professional and personal development. "Free" indicated having a time-span to work out matters that were encountered in projects, and developments in professional interest. There was thus never a serious attempt to define "fun things", although there were plenty of suggestions. I think that is crucial for a polycentric order to leave conviviality implicit. The motives to participate, the focus of our intellectual passions, the excitement of discovery, the joy of sharing a quest, are not to be prescribed. Moreover, the common ground should not to be overly comprehensive. There needs to be space for change and differences, and most of all: paradox.

7.5 Resilience

The EDM-group did not survive. Does this fact undermine the comparison with polycentric order? Does it even invalidate the concept of polycentric order? The quality of participation in the EDM-group was obviously not enough to deal with an unwilling management team or a decrease of the IT-market to survive. The critique could be that the concept polycentric order is apparently to one-sidedly focused on participation at the cost of other important factors such as structure.

One answer is that just as a complex adaptive system cannot handle large disturbances, so the EDM-group as a polycentric order could not resist the bare

cancellation of Asperix management, or escape the effects of Dutch recession. I could argue that this cancellation had been inconceivable in their rationale, and that they therefore had not make an earnest attempt to leave Asperix as a group. The EDM-members were quite average IT-consultants, their customer network was limited and that therefore creating a new company would not be a good idea. All this also made the EDM-group also vulnerable to the effects of recession.

Although they were limited in their resilience, the EDM-group had been able to resist some disturbances. It had resisted the change in Asperix' strategy for over a year. The EDM-members had been able to keep many of the disturbances from the changing course of the MT outside. The question should thus be what limited the resilience of the EDM-group?

It could very well have been true that there was too much of an emphasis in the EDM-meetings on the fluid aspects, on the development of themes. Perhaps there should have been much more emphasis on the iteration of shared meaning, the definition of plots, and formalizations. I have greatly underestimated the collective forgetfulness in the EDM-group, and the pull on the attention of members by their customer projects, and so did the facilitator I think. Perhaps there should have been explicit statements on the direction of the EDM-group was, what it stood for, what membership entailed, what governance structures there had to be, and what they meant. I feel very hesitant towards such a conclusion, although I think there is a point in it. The problem is that themes are much more flexible and rich than collective and repeated plots. A much stronger emphasis on plots, inscriptions and formalizations may have made the facilitator into a preacher of EDM-ideology that would have flattened out too many alternatives. In contrast, themes allow for diversity. They gather different meanings and alternative interpretations. However, I think this answer is too simplistic as well, but the problem of choosing between an emphasis on themes versus plots, inscriptions, and formalizations leads to a more fruitful question: what could have increased the potential for coherence and resilience in the EDM-group?

Although in the EDM-case true emergence was there, it was also limited for a number of reasons. Firstly, despite the fact that most members were professionals there was a wide difference in rhetoric skills and the ability to use an organizational discourse. During the EDM-meetings some members were more able to intervene in the discussion, and have more impact on the construction of catalysts of meaning. Also, there was a difference in the ability to deal with lingering themes over shared plots and formalizations. All this limits the effects of diversity on the emergence of polycentric order. A part of the problem was that the most dominant discourse was an organizational / managerial discourse, as the most recurring issues were: "how are we going to organize ourselves?", "what is our strategy?", and: "how are we to relate to our customers, and Asperix?" The technical consultants, except for one, were not used to strategic thinking and organizational analysis. The business analysts were fairly new at their tasks, and had too little experience yet to come up with considerable strategic remarks,

recurrently introduce new themes, ante-narrate a collective identity etc.

Secondly, although during the EDM-meetings there was openness towards other opinions, allowing members to be heard and informed, in the daily working environment the group seemed not to escape the usual hierarchical power relations. The group leader made a distinction between two levels of interacting. One was the level of democracy, the other was authoritative. The latter level, Carl thought, applied when EDM-members endangered the basic conditions for the EDM-group, in the form of violating agreements with customers, Asperix, or amongst themselves. Carl thus confessed that there were times that he felt he had to be authoritative.

It makes good sense to make this distinction. It would seem appropriate for one member to relate to other members as much as possible on an equal scale. Authoritarian intervention is not in contradiction with the concept of democracy, or polycentric order. Democracies are governed through representatives. But from my own observations I noticed that the group leader and the other EDM-members had difficulties *not* enacting a hierarchical difference between them. This had to do with the EDM-members having a too strict dichotomy. Either everyone was equal, or there was hierarchy. An alternation between the two, as one can have in a democracy, most members conceived as inconsistent in their work life. For instance, quite some EDM-members expected the group leader to compliment them on their achievements. But this would instigate a hierarchical difference when this was not necessary. For then, an EDM-member would attribute authority to Carl.

But also the style of the group leader stimulated this difference at least. His personal style was generally to take a critical stance. He easily pointed out inconsistencies in the actions of EDM-members, after which many felt corrected. The latter is not a logical consequence, still it added to the enactment of a hierarchical difference. The same applied when members confronted Carl, as he sometimes questioned their right to criticize a particular point. He did this for instance on the basis of the member creating similar problems. Carrie described such an interaction as a "mud fight".

The third limit to emergence in the EDM-group came from a structural misbalance in the opportunity to evaluate. It seems defendable to judge the criticism of a member against the background of its contributions to the group. It would also seem defendable to give one member more opportunities to engage in "fun" projects on the basis of the results of previous projects. But the problem is: who judges the achievements and involvement? Who assigns merit? In the case of the EDM-group, it was Carl who assigned "fun" time to EDM-members who mostly intervened when there were problems in projects. Carl did all the job evaluations. However, Carl was evaluated by a member of senior management in Asperix and not by EDM-members.

An alternative way of evaluation is not obvious for the EDM-case. I cannot imagine a way that would allow an evaluation of each member by the entire EDM-

group that would be fair, based on proper insights, and not be dominated by liking. I think that collective evaluations would have led to fractions in the EDM-group. I thus think that evaluation would be a matter of representatives again, who would have the knowledge of their working history. But in that case, who is to evaluate the evaluators? Or rather how can the other members give feedback on the evaluator? In the EDM-case, I think it would have been a good idea to have the feedback on Carl done via the facilitator. Now the possibility for EDM-members to evaluate Carl was missing. In fact, I think important feedback for Carl was lacking.

As a salesman he seemed not very successful. From my observations I thought he was giving a coherent and intelligent conversation, but he lacked the charms and looks I had seen with IT-salespeople who had been at least fairly successful. Some EDM-members were truly appreciative for the clarity Carl gave and for taking the burden away of dealing with the different and changing hierarchies and administration in Asperix. It would have been stimulating to Carl to have this competency acknowledged.

Furthermore, I think that Carl tried to keep the EDM-group too long together, even when management was undermining agreements. For this he was not appreciated and in fact the negative effects of the economic cuts and demand for increasing revenues at the cost of time for internal projects some members projected on Carl.

The feedback to Carl concerning the perceived misbalance between criticism and lack of appreciation could also have led to a discussion on what democratic governance entails. This could have been very useful, for the members' criticism on Carl spoke of falling into either the extreme of relating to Carl in terms of authoritarian hierarchy or of egalitarianism.

My interpretation of the development and dissolution of the EDM-group in terms of polycentric order is the following.

This small group of people, who were not tremendously educated or experienced, succeeded in innovating their consultancy practices, despite the strategy of Asperix to bureaucratize. At the end of the year 2000, the group had doubled in size, renewed some of their practices, developed technologies, and created 60% of all Asperix revenues while they constituted only about 10% of Asperix. However, the EDM-group did have its limits to counter dissolution and in the end their cancellation. This had to do with the problems they had in creating consistent and constructive feedback, with their limitations in cutting themselves loose from Asperix and prevent the deterioration of Documentum as a partner.

7.6 Closing

In the previous chapter, the emergence of polycentric order was characterized in

systemic terms; catalysts, attractors, coherence. On the basis of this characterization we have reflected in this chapter on the quality of participation in polycentric order. One line of argument was political, the other line ethical.

To start with the first one: I have argued that participation and strict managerial hierarchies cannot go together, and that in the case of specialists and professionals this amounts to a serious problem. The Zuboff critique that I recurrently iterated throughout this thesis entailed that the Information Age questions the manager's ability to decide. This critique was based on two arguments. The first argument stated that the increased abstract level of tasks renders the managerial supervision of tasks impossible – a manager cannot look into the heads of its subordinates. The second argument stated that an increasing decentralization of knowledge undermines hierarchical relations; the managerial elite no longer owns most of the relevant knowledge, so that it cannot decide on criteria to judge the results, or who knows what.

I added to these arguments the idea that when an organization relies extensively on the experience, creativity, and problem-solving skills of professionals, imperative control is not an option. The traditional notion of the manager as a decision-maker, someone who controls and coordinates cannot go together with dialogue and shared participation. The lack of dialogue frustrates the involvement of professionals, so those employees identify with their colleagues, rather than with management. Thereby, managers are effectively separated from the information they need to coordinate, make decisions, and control. Strict hierarchies imply sooner or later that the professional refuses to appropriate unspecified problems or to act on unforeseen opportunities. Instead of applying his or her professional standards, s/he merely confirms to badly informed managerial standards.

The reason why polycentric order addresses the Zuboff critique is that in a polycentric order all members participate, share in identity, engage in dialogue, and apply both managerial and professional standards. Polycentric order is about the idea that a group needs to establish meaning and direction on the basis of an open dialogue. After that there can be representatives (that can be called managers), who supervise agreements made, who enact the ideas of the group, etc. The reason why these representatives are not locked out of vital information is that members identify with the polycentric order, they subscribe to the shared ambitions, because they are theirs.

The second line of argument consisted of an attempt to come to an ethical position. Via the question: "How can we organize while we have different ways of knowing and being?" we came to a claim for freedom to have multiple and alternate ways of being. A polycentric order should be accommodating its participants. Therefore a polycentric order should be fundamentally open to change. Participants should be able to define and redefine a common ground on which decisions - valid for all - can be made on economic, political, social, and moral issues. Let us refer to this as the *principle of access*.

The second issue concerns *conviviality*. Participation is based on sharing in each others lives. Discovery relies on intellectual passion and space to address paradox. There should be space to allow participants to assume an alternative perspective, one that is not a priori shared. Thus we need to avoid totalizing descriptions of what participation entails and what members should be. Rather the common ground that we need to create should be as minimal as possible.

However, the amount of work that it takes to establish a common ground is tremendous, and should not be left at risk to the whims of one participant. This brings us to the third issue. One participant may sabotage the participation in a polycentric order for many others, as it is fundamentally open to change. Based on Letiche's principle of *intentional emergent coherence* I have proposed a way to structure moral issues for the defense of polycentric order. In short, it is a principle of *commitment to the collective* that accommodates all. This principle of commitment to the whole should be balanced against the principle of access and the value of conviviality.

Finally, we can come to a description of the identity of polycentric order. This identity has a systemic component: a coherence that has emerged from shared interpretative tendencies and collective performances that in their turn rely on shared contrasts, themes, plots, formalizations and inscriptions. But it also has a moral component based on participation. Participation can only work under conditions of dialogue and openness for the different and the Other.

8 Discussion

In this final chapter I will first bring the points of the separate chapters together to describe the importance, dynamics and qualities of *participation in polycentric order*. Secondly, I will sum up what a methodology for the tacit dimension could entail. Thirdly, I will give some tentative guidelines for professionals to develop a safe haven. I will close this chapter by reflecting on the limitations of this thesis.

8.1 Recap

In organization theory there has been a tremendous interest for the concept of the tacit dimension. Even in popular management magazines the term "tacit knowledge" has frequently been used. Apparently, many theorists, consultants and managers have recognized that the tacit dimension to knowledge is crucial for coordination, collaboration, and collective learning. This thesis has been an attempt to investigate the implications of the tacit dimension, which originates from Michael Polanyi. For the investigation of the relation between knowledge and organizing a number of concepts, from Polanyi's philosophy, are used: *perspective*, *participation*, *emergence*, and *polycentric order*. Polanyi's paradigm of tacit knowing has important consequences for conceiving the relation between knowing and organizing. The inescapable tacit dimension implies that knowledge is something that is inseparable from personal history and social context. Knowledge is not an object that can be managed. There is no way to simply transfer knowledge, for communication relies on shared tacit assumptions and interpretations.

Communities, organizations, or societies are not built on the exchange of words and texts. Instead, it is the involvement of participants that is crucial. Participation or involvement is the process in which the self reaches out to a social collective. Involvement entails mutual adjustment of perspectives on the basis of a shared history, implicit clues and utterances.

This immediately relates to Polanyi's ethical standpoint concerning the relation between organization and governance on the one hand, and knowing and being on the other. His concern is whether this adjustment is really mutual, or whether it is enforced, however subtly. Or in other terms: is organization a result from suppressing a diversity of perspectives or is organization emergent and reproducing diversity?

This concern is relevant for understanding the tension between management and knowledge. The manager is usually conceptualized as a decision-maker. His or her task is to monitor and decide on the action and direction of employees. The

problem is that in this age where information has become so rich and knowledge so diverse that insight and overview can no longer be centralized in a managerial hierarchy. In many organizations this problem cannot be avoided: they have complex problems that require a combination of multiple perspectives for a solution. This implies that the managerial ability to decide is in question. In cases where there are professionals and specialists in an organization for solving complex problems, there are simply too many different perspectives relevant to justify a domination of the managerial perspective over the others.

Even subtle approaches in knowledge management that think in terms of *implicitly manage the implicit* do not bring a solution, for they still assume a manager that knows what is best for its people. There is no justification for such a paternalistic authority that "merely" sets out the boundaries for knowledge development. There is still a neglect of the complexity of personal histories and social contexts; a manager that orders the placement of a coffee machine in the hallway to facilitate informal knowledge exchange, is still missing the point if everyone already has their own espresso machine.

Ideas such as *communities of practice* are not helping either. The development of new knowledge and insight cannot be banned to the informal organization. New insights and knowledge should have a potential impact on organizational structures. The other problem with the concept of *communities of practice* is that egalitarianism is not a realistic alternative to authoritative managerial hierarchies. People are not equal, they have different experiences, and many want to be treated different on the basis of their merits.

Although the concept *tacit knowledge* has often been used in organization theory in relation to organizational properties, what is rarely recognized is that Polanyi has already given several implications of the tacit dimension for organizing and governance. In fact the concept *polycentric order*, which entails many of these implications, is much less problematic than managing knowledge, implicit management, or communities of practice. Coordination in polycentric order is radically different from economic conceptualizations of coordination, since it is based on an intricate relation between knowing and organizing. It is different from a market, since it values tradition. It is based on recurrent interactions that result in social, legal and economic structures. It is different from a hierarchy since there are different and potentially competing centers of power, both on an informal *and* formal level.

Polycentric order emerges from *participation*. Anticipations, interpretative tendencies and performances become entrained through participation into a process of shared sensemaking and *collective performance*. Polycentric order does not imply that formal power is invalid. But a manager in the traditional sense as decision-maker, is an abundant role. Polycentric order is about the idea that a group needs to establish meaning and direction (and thus also make decisions) on the basis of an open dialogue. After that there can be representatives of that group, who supervise agreements made, who enact the ideas of the group, etc.

In this thesis I have used my ethnographic study of a group of IT-professionals (the EDM-group) to reflect on the qualities of polycentric order. These professionals attempted to create a collective identity, while acknowledging their professional differences. In many respects I think that the events and conversations in the EDM-group helped to reflect on the qualities of polycentric order. There was an acknowledgement of differences, an attempt to employ these different professional perspectives, an enactment of the environment as a polycentric order. Furthermore, the meetings that the EDM-group convened had an unusually open and democratic character.

The contrast between the EDM-case and Polanyi's philosophy has helped to structure and enrich the concept of polycentric order. This has led to three different contributions. Firstly, polycentric order has been explicitly founded on *participation*, something that is not evident from Polanyi's work. This has allowed me to circumvent the problems that usually come up with handling different levels of analysis. I did not have to deal with the problems of how individual knowledge or responsibility related to the social. For, in participation, individual identity, the collective, and the environment become interdependently constructed.

Moreover, I could avoid the reification of social systems as actors that can act and communicate with other systems. People can participate in one system and at the same time represent another. Thereby, tacit elements can be exchanged and negotiated between different social systems that structure conversation and practice. In this way, two systems are in each other's environment when people participate in both.

Most importantly, it provided the basis for polycentric order as a way to coordinate due to - and in spite of - the different professional perspectives and experiences. Managerial hierarchy frustrates professional's involvement, whereas polycentric order requires deep participation. Instead of a dichotomy between workers and managers that exclude each other from information, the distinction becomes inside versus outside the group.

Secondly, seeing that Polanyi had used systems theory, I have added concepts from more recent developments in complexity theory to develop the concept of emergence. The *emergence of polycentric order* has been conceptualized in terms of the development of catalysts of meaning, tendencies in sensemaking and coherent interfaces to guide members in their multiple participations and identifications. Coherence develops through *paradoxes, themes*, *plots*, *inscriptions*, and *formalization*. These catalysts of meaning are important for their enduring tacit contribution to the development and reproduction of practices and conversation.

The catalysts of meaning are not merely abstract notions. I have characterized them in their focal and tacit appearances. They are recognizable at the moment of their introduction from the explicit effort and abrupt changes in the conversation. On a tacit level these catalysts functioned to create shared points of reference

(plots), sensitized members to events in their shared environments (themes), created mutual expectations (formalization), fix agreements between the collective identity and its environments (inscription), and lend contrast to the shared sensemaking (paradoxes). These catalysts are a bit more resistant to oblivion than the usual narrative elements in conversation for their own separate reasons. Paradoxes invoke strong feelings of uncertainty, while themes intrigue. Plots are often quite explicitly repeated, through different stories or story-lines that bear on new narratives. In contrast, formalizations are tacitly repeated, until through breakdown the underlying story is retold. Inscriptions are the least fluid, but obviously we can still forget the place where they are stored or their intended meaning.

Some catalysts of meaning reinforce each other to develop shared interpretative tendencies and collective performances. These tendencies and performances create one side of the interface. Mutual adjustments between groups then means that particular catalysts of meaning become destabilized and need to be tacitly repaired or collectively renegotiated. Coherence in such a polycentric order develops on the basis of the interconnections between the different interfaces through catalysts of meaning.

The third and last contribution entails that the *ethical standpoint* inherent in the concept of polycentric order has been conceptualized in terms of three issues. The first issue is obvious from the previous, and can be found in Polanyi's work. It is the *principle of access*. For people to become involved and participate it is vital that they are able to understanding and impact the organization, through learning, adapting and renewing catalysts of meaning. A polycentric order should be fundamentally open to change for accommodating its participants.

The second moral issue concerns *a claim for the potential of alternative views*. We need to be very careful and minimal at the same time with the common ground that we create. There should be space allowing participants to have alternative perspectives. It makes sense to collectively define the boundary conditions in order to collaborate. But the individual reasons and passions to participate must not be prescribed.

The third issue is the *responsibility for the collective*, the emerging polycentric order. Despite the fact that one's involvement leads to an unforeseeable future there is a responsibility to contribute and defend it, also against other participants.

These three moral issues may very well be conflicting. The negative implications of a participant's involvement could threaten polycentric order. Morality in a polycentric order involves a balance between the value for the whole, an estimate of the consequences of the involvement of participants (including one's own), and the right of participants to manifest in alternative and unknown ways. There are no pre-given rules, but the balancing between the three is important.

8.2 Methodological Implications

In chapter 3, I outlined some of the methodological implications of Polanyi's philosophy. For my analysis and approach to the EDM-case I used Polanyi's epistemology as a starting point. For this I have emphasized the concept of indwelling. Indwelling is the idea that any meaning has a tacit background. The way we construct this foreground / background is related to a particular perspective. A perspective develops through social interaction. Through sharing in practice and conversation we learn and adapt to each other's perspective.

In chapter 5, I have enriched Polanyi's characterization of polycentric order with concepts from complexity theory, understanding the dynamics of a polycentric order as those of a complex adaptive system. This gave me additional means to characterize polycentric order. I thereby came to reinterpret concepts such as bifurcation, catalyst, attractor, coherence, and emergence.

The abrupt changes in the focus of the conversation were equated with the small changes that could amount to a qualitative change in the system; a bifurcation. Attractors became *shared interpretative tendencies and collective performances*. They were based on *catalysts of meaning*, tacit enduring elements that structured conversation and action. Different tendencies in sensemaking allow the members of a polycentric order to relate in different ways to different environments. Coherence concerns then the interrelatedness and internal consistency of these different tendencies into a meaningful order.

In chapter 7, I investigated the ethical implications of such a characterization while emphasizing *participation*. This emphasis, I felt, was needed to avoid a merely rational construction of polycentric order. The concept of *participation* adds a critical emancipatory perspective.

These three steps have contributed to a methodological approach on the basis of Polanyi's philosophy, enriched by more current understandings and considerations from complexity theory and postmodern ethics. The methodology I developed on the basis of indwelling and trying it out on the EDM-case entails the following principles:

- *Understanding through indwelling the particulars of the social situation*. In an attempt to participate one can follow the shared focus in the conversation. There is the potential for a shared focus in the conversation as a shared perspective emerges due to participation and mutual adjustments. Sharing the perspective and following the focus allows the researcher to reflect on the perspectives that participants assume. This first principle is closely related to Dilthey's original conception of *verstehen* (Korthals, 1989: 91ff.)

- *Investigating what underlies the focus*. The content of the focus suggests shared tacit assumptions, while the movement of the focus suggests relations between different foci. Tacit knowledge implies that meaning

depends on tacit events, previous actions or communications. We can thus conceive of a focus as the midpoint of a web of indwelled meanings. This web is build from meanings that are shared, but also private meanings that can be deviating. The second principle brings in hermeneutics, by reading and interpreting tensions and interdependencies between different perspectives.

- *Investigating the suggestive potential of the focus*. The focus not only relies on previous experiences and foci, but it also suggest new foci. The focus is not merely the top of an iceberg supported by tacit knowledge. It is also a void, attracting further actions, and new meanings. The focus should therefore not only be considered in terms of how it integrates previous meanings into a new coherent whole, but also as a potential catalyst for new foci. The third principle has connotations with Derrida's notion of a text being *pregnant* with future texts (Derrida, 1979 (1970 or.)). A combination of the second and third principle can also be found in for instance Boje's description of intertextuality (Boje, 2001b). It is the idea that texts rely on other texts for their meaning, but also refer to texts to come.

- *Investigating abrupt changes in the focus*. An abrupt change in focus may show what tendencies in the conversation were rejected and what new catalysts of meaning had been introduced. The emphasis on the change in focus during the conversation or practice as informative of the tacit dimension is where this methodology becomes different from the usual hermeneutics.

- *Characterizing a social order in terms of catalysts of meaning and tendencies in sensemaking*. The implicit role of these catalysts in further conversations and practices show which catalysts of meaning are mutually reinforcing. In this way we can construct groups of catalysts in terms of *tendencies* in sensemaking and practice and characterize a social system in terms of these tendencies.

- *Reading the coherence of the social order*. When we ask: "What are contradictions and synergies between the tendencies in the system?" and: "How do these tendencies relate to the other participations of members?" we may interpret coherence in terms of internal consistency and meaningfulness to participants.

- *Discussing the openness of the social order*. An important concern of Polanyi was the totalitarian character of social systems. Indications of such are found when we ask: "What are the possibilities of participants to change those tendencies?", "What distinguishes the power of one participant from another?", "How encompassing are all those tendencies together?", and "Is there the possibility for other ways of indwelling?". Openness is related to the impact participants have on the social order, and the extent to which a social order defines the different aspect of the life of its participants.

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- *Discussing the resilience of the social order*. Resilience of the social order has to do with an enduring attraction for members to continue to participate. On the one hand, the social order becomes a means to establish power, gain resources, etc. On the other hand, participants should be able to protect a polycentric order from arbitrary or malignant interventions from others. The latter two are in a tensional relation. Openness and resilience restrict each other in the short term.

This methodology provides several takes to investigate the role of the tacit dimension in organizations. The investigation of the tacit dimension is by definition not straightforward. I have seen no attempts that have been able to use the interplay between focus and background[62], and that were able to relate the tacit to organizational structure. For the latter the catalysts of meaning were crucial. Furthermore, I have avoided proposing a methodology that will likely result in a description of a social order in merely rational terms, by making participation the central concept.

8.3 Simple Guiding Principles for a Safe Haven

At this point I would like to emphasize some of the practical implications of this thesis in a simplified form. These *Simple Guiding Principles*[63] are based on my experiences with the EDM-group. These oversimplified principles are not applicable to other domains without adaptations, and additional concerns. I have no pretense that these principles are prescriptive, and they offer no excuse for someone to forget about personal histories, and social, economic, and legal contexts[64]. However, from my studies of the EDM-group, and other

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[62] Attempts are taken by for instance Boisot (Boisot, 1995; Tsoukas, 2003), and Patriotta (2003)

[63] Simple guiding principles probably originate from Craig Reynolds (Lissack & Roos, 1999). In 1986 he built a program that simulated flocks of birds. This program was based on a few simple interacting rules. His statement was that birds may travel in large groups, perform complicated routes, do not collide, and seem to act as a unit on the basis of a few simple rules.

[64] What attracts me to the idea of simple guiding principles, is that I can be quite explicit about the fact that this is an oversimplification of some very complex interactions. There is no principle out there, there is just text that I argue may have some value in guiding interventions in other contexts.

involvements[65] I have strong indications that the following issues are important to consider when attempting to develop a polycentric order.

Start at complex and recurrent Issues

From an opportunistic perspective we could say that it is not in the immediate interest of an organization to invest in the professional development of employees. If the new competencies of an employee turn out to be highly valuable in a market, then that employee can demand a higher payment. Thus it would seem to be unrealistic to assume that an organization would take care of the professional development of its employees. Moreover, an organization, by means of its managerial hierarchy, seems to be fundamentally lacking the insight and knowledge to decide on investments in knowledge development, or to control professionals (see sections, 7.1 and 7.2).

The alternative is to say that investments in professional development could be the responsibility of the professionals themselves. An individual employee seldom has the position to enter into an ongoing negotiation process with an organization. One way to establish such a negotiation position is to develop a *safe haven* for professional development. A good starting point for such a safe haven is a group of professionals who have gathered around recurrently complex tasks and assignments. The idea is that the complexity of the task requires the perspectives of different specialists and professionals. This implies that regular meetings are conducted to define what problems are recurrent and require structural solutions, and what developments take place and give opportunities.

If there are no such groups in an organization that nonetheless consists of a significant proportion of professionals, then probably that organization is organized in functional departments. The drawback of functional organizations is that they are usually weak in creating comprehensive solutions through the extensive coordination between departments. Thus the identification of recurrent problems that require comprehensive solutions could be another starting point.

The ability to develop a comprehensive solution can be important to the organization or its customers. It may very well become an organizational competency and lead to competitive advantage. This forms the basis for a group to claim resources to develop such solutions. In this way a professional has two ways to negotiate. One is internally on the content of (potential) structural solutions, the other is as the group towards the management of the organization for claiming resources.

In sum, this principle states that a negotiation position with the organization can be based on professional knowledge. A good starting point to do this is through

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[65] i.e. discussions with people on their attempts to impact the organization in a non-hierarchical way, other organizations I have been part of.

gathering members around complex and recurrent issues.

Develop a Collective Identity.

As we have seen, it is crucial for the development of a negotiation position to define structural problems and opportunities. I propose to take this issue a bit wider under the term collective identity. Very basically; there needs to be a reason, a shared goal to meet recurrently. A good reason could be an investment in the development of a collective practice. Professionals need to engage in an ongoing development of a practice, or their knowledge will become obsolete. These developments can not be fully financed from activities for customers, nor will they fall under the usual bureaucratic routine. There needs to be an ongoing development of a basis that guides daily practices. In many cases this basis is not individual, but collective. Especially, if a group of professionals attempt to address complex issues that require different bodies of knowledge.

A safe haven has no common pre-established common ground, or it would not be able to accommodate different professionals with different backgrounds. Participants thus need to develop the conditions from which a common ground can emerge on which decisions - valid for all - can be made on economic, political, social, and moral issues. Thus collective identity is not only explicit agreements, but it also involves tacit coordination. Actions become coordinated without explicitly convening. In concrete, I propose that members address questions such as: "What are the shared ambitions?", "How to obtain the resources to pursue those ambitions?", "How do we engage with each other?", "What are important issues and what do they mean and imply for us?".

Closely related to this, is the collective performance of members to their environments. In this way the polycentric order appears as a coherent identity. For the organization, it is valuable when one group stands for an organizational competency. In terms of organizational coordination this is much more efficient than a group of individuals. On this I will return after the following point.

Define Environments and Sensitize to Events.

The different stakeholders from the different environments may very well conceive matters in a very different light than the participants in the polycentric order. It is important to define the issues that the members are interested in, also in terms of stakeholders. This forms the basis of a negotiation position.

It is vital to develop a coherent understanding of the different environments. By the fact that the members participate in other social systems as well, they develop an understanding and stories on a large variety of social systems. At least as important as developing shared and coherent stories on the environment, is the

development of themes. Themes alert members on what to notice in their other participations and to decide on the relevance for the group.

On the basis of these stories and themes participants develop an understanding of their environments and may decide what stakeholders are relevant and which ones are not.

Enact Inside / Outside Boundaries.

This principle is about the exercise of power to establish a safe haven. It is to establish the conditions for participation and emergence. Where the first three principles relied on deep participation, this principle may be the opposite. Polycentric order is meant to counter totalitarian moves and should thus be able to exercise power to keep and maintain a space for participation, where meaning and identity can develop. Another way of saying this, is to collectively make a distinction between people that are allowed to impact directly crucial processes of shared sensemaking, and those that are not.

There is no independence from the environment, but the crucial processes of sensemaking can only be impacted from the outside indirectly. For this, there must be formalizations that create the borders. This is where polycentric order has possibly the least to do with deep participation. Establishing clear boundaries is very much a negotiation on resources, for which the participants need to exercise power. Power is established and exercised through three interdependent initiatives.

The first initiative is manipulating what the different actors in the environments know and learn from whom. For this, I would suggest group representatives, who present a uniform face to the environment. This is important to prevent that different members become played off against each other on the basis of differences in information that they give.

The second initiative involves the presentation of the collective identity. This presentation differs per group of stakeholders. The presentation is in terms of organizational competencies and revenues to the mother organization and potential partners. It is in terms of products and services to customers, or in terms of requirements to suppliers.

The third initiative is enacting the different environments. This is potentially the most radical initiative. The members of a polycentric order can decide to reconsider the value and meaning of a system in the environment and focus on other systems. This may entail a separation of the mother organization. In the case of the EDM-group their way of organizing and decision-making influenced other groups to mimic the EDM-group.

In sum, the power of a polycentric order comes from controlling information, responding to events with collective performances, and enacting its environments through negotiations.

Establish Governance and Evaluation Structures

Closely related to the previous principle, is this attempt to formalize agreements. The moment the negotiations have led to agreements, controlling structures become important. The fulfillment of agreements will have a large impact on the bargaining position in the future. Despite the fact that polycentric order is an alternative for strict hierarchies, it does not deny the potential value of power differences.

A scarcity of time and resources must be answered with pragmatic solutions that can only approximate polycentric order as best as possible. Coordination and surveillance through group representatives is much more efficient than an egalitarian form where all decisions are collectively decided on, and where progress and results are collectively evaluated. In the case of a scarcity of resources (such as time and money) groups may decide to assign these on the basis of the relevance of specific merits of members.

However, we should keep in mind that evaluations in terms of merit can be mistaken and always reflect a particular perspective. In many cases I do not think it is so hard to come to a shared description of merit in a small group. But what is difficult is to apply the resulting definitions. A group may decide to evaluate via group representatives to evaluate members. But then comes the question how are the evaluators evaluated?

This brings us to the following issue. A specific representative can be the facilitator, responsible for the process. This is a complex task. It requires the ability to assume an alternative position in a conflict and not be drawn into it. It requires the rhetoric skills to alternate between process and content level, the ability to recognize abuse of rhetoric power, and the ability to signal the subjugation of relevant perspectives. Furthermore, the facilitator probably needs to be able to translate group strategy into issues for group organization. It is also the role of the facilitator to make sure that there are no structural asymmetries in evaluation. In the case of group representatives he needs to gather feedback and direct this feedback to the group representatives. For this it is probably preferable to bring in the facilitator from outside the group and organization, unless the bargaining position is too weak to claim the resources to hire a facilitator.

There are no simple answers concerning evaluation, distribution of formal power and resources. There is simply no way to escape uncertainty; any evaluation, any decision to assign formal power or distribute resources has moral consequences, just as the neglect of evaluation and delay in decision-making has.

Invoke Conviviality

The whole intent behind a safe haven is to gain resources to pursue individual passions that are contributing to the shared ambitions and goals of the group. This

could lead to initiatives such as following education, doing research, and product or service development. But these are rational descriptions of what a safe haven is for. It is actually to create a space for pursuing intellectual passion. It is a space where we can encounter the inevitable paradoxes of our lives in organizations instead of hiding from them, or covering them up. There are no a-priori assumptions that could introduce logically unsolvable paradoxes; even economic rationales would be subservient to conviviality. Due to the fact that we have created the preconditions in terms of time, resources, and openness, there is the possibility to encounter the paradox in a way that Nietzsche would prescribe: through wandering and wondering (see 6.3).

Conviviality could entail then different things. There could be a pursue of intellectual beauty, to find a product or discovery that fits well with our previous experiences. There could be a joy from a sense of fruitful new directions, an opening of new perspectives. And finally, there could be conviviality from sharing the quest, or more basically; sharing in each other's lives.

Enhance Resilience

For warranting the preconditions of a safe haven, there should also be a care for the enhancement of the negotiation position. A safe haven is a means for professional development that relies on conviviality and intellectual passion. However, a combination of individual passion and enhancement of the group's position is preferable so that the two become mutually reinforcing.

The obvious way to enhance the group's position is to make sure that the group remains relevant for their organizational context by renewing the organizational competency they embody, or by moving into a more favorable organizational setting.

We could also think of initiatives to enhance the potential for coherence. We have seen that people have varying skills in renewing and structuring conversation and practice. With this I mean adding contrast through confrontations, transforming paradoxes into themes, attempting to create (and bluff) shared stories, enacting agreements into formalizations, and crystallizing ideas into written texts and technology. This is for two reasons. Firstly, it is important that the group develops its own expressions, meaning, stories, rationale apart from those of the organization to warrant its independence. Secondly, this potential for coherence allows the group to address important paradoxes, remain sensitive to their environment, and develop new shared interpretative tendencies and collective performances.

Thus apart from developing the capacity to engage in professional development, there should also be consideration for the development of the group's position in the organization, and the commitment to the group as increasingly developing its polycentric capacity.

8.4 Reflections

This was an explorative study to understand the qualities of polycentric order. The goal of this study has not been to describe and typify a set of objects that is "out there". Therefore there is no need to make claims of a general applicability of a theory on polycentric order. The goal was to emancipate (Alvesson & Wilmott, 1992); to offer an alternative to existent power relations that is, from a particular perspective, more ethical, more just, better.

The standpoint that polycentric order is ethically more just than a totalitarian order is inherently grounded in tacit assumptions. For instance, in the concept of polycentric order is the assumption that people can be motivated to participate, are able to commit them to a larger whole, and are not just simply opportunistic creatures. Polycentric order is therefore not an explanation of "truth". It is a way of thinking that we may choose to adopt, alter, or reject. But I do think that this choice is worthwhile consideration, as it addresses a crucial issue in an intelligent manner: "How can we organize, when there are so many perspectives that are valuable?"

My attempt to indwell Polanyi's ideas also gave clues as to how to engage in social sciences. Polanyi's rejection of reductionism and value for coherence implies that I could not limit myself to one aspect just for the sake of limiting myself. While at first I focused on the relation between knowledge and organization, moral and power became increasingly important issues.

Perhaps for this I can be critiqued for creating a grand narrative (J.-F. Lyotard, 1984 / 1979) on the basis of a philosophy that is to defend a diversity of perspectives. Maybe this thesis has been too encompassing through my attempt to create a coherent whole. Maybe there is too much of a totalizing story that is posing the conditions under which diversity is allowed. I have outlined important ethical issues for a polycentric order. I have posed that the access to catalysts of meaning is important. I have made distinctions that divide the world up in ways that have moral consequences.

My counter argument is that I think a consequence of *participation* is that one attempts to create coherence by contributing to a dialogue. I do think that I create more merit than harm by stating these distinctions. The postmodern critique on grand narratives should not be taken too strictly, for otherwise it becomes a totalizing story itself. The concern for a grand narrative is valuable I think, but it should not be a prescription so that science can no longer make a coherent set of distinctions.

Another critique on this thesis could be that I have been too free in interpreting Polanyi's ideas. I have emphasized particular ideas and relations over others. For instance, I have emphasized the concept of participation as *the* implication of indwelling for the social. I have emphasized indwelling as *the* relation between the tacit dimension and meaning.

Obviously, there is not just one interpretation. But I have been careful in founding my interpretation on texts in Polanyi's work. I have brought fragments of texts together that Polanyi himself may not have understood in their interrelatedness. But then this contributed to a coherence that cannot be reduced to merely my own projections. It is possible that I have read more in the works of Polanyi than he had intended, but the resulting understanding was much more interesting than the ideas I started out with.

I wish I could have built more of an understanding of the members of the EDM-group, of their occupations, and their working environments. It is hard to do that, but I hope a future project will allow me to go into some more depth. I feel that the concept of participation can be made much deeper and more interesting. I would have liked to write the case alternating between the different participations of the EDM-members. Although I had quite a lot of data I still felt I lacked the data to show participation in this depth.

I have touched on several themes that I had no time for to pursue. The issue of the quality and level of democracy in an organization is such a relevant and closely related theme to polycentric order, and it would have probably given a very interesting comparison.

Another point of further research is the nature of polycentricity. What is poly here: a dialogue, a place where differences between people remain? I have touched on this issue but there could have been comparisons with Bakhtin's dialogue, or Lyotard's differend, etc.

Then there was my struggle with the theory of Niklas Luhmann, whom I blame for taking hostage the concept of autopoiesis. Autopoiesis is a very attractive idea, for it solves, or at least postpones, the paradox of 'identity'. If ego, community, or organization is a construction, and we cannot find any essence since they have a different quality than the sum of their parts, then what is their identity? Autopoiesis says that identity comes from the entrainment of separate operations that refer to each other. Thereby they make a distinction between an outside and an inside, and hence identity is a result of a chain of operations that reproduce a self / environment distinction. The moment we want to play with the autopoiesis concept in the social domain, we find the framework of Luhmann, that in its overly abstracted frame explains everything and nothing, contains wonderful eye-openers and terrifying, alienating ideas. Luhmann's theory is too well-known, too intelligent to ignore. But at the same time it is so hard to find and describe one's position towards such a complex and comprehensive theoretical frame and body of literature. In the end, I simply stopped my attempt to position myself towards Luhmann since it would always entail a reduction of his ideas. Luhmann and Polanyi seem incommensurable. Polanyi pleas for and emphasizes the personal dimension in social order. In contrast, Luhmann abstracts any personal intention away from social systems. The basis operation in Luhmann's social system is a communication of meaning. Meaning is a synthesis of understanding, utterance, and information. This means that Luhmann emphasizes the meaning that is

understood, over that of the meaning that is intended. In Polanyi's terms that is the same as saying that for social systems the process of mutual adjustments is crucial and not the original thought. However, the rigid distinction between a psychic system and a social system that Luhmann makes, seems so artificial and in contrast with a paradigm of indwelling. Thus there are essential differences, but at the same time there are some interesting comparisons. I have given an outline of a theory where a social system is an autopoiesis based on participation, instead of communication. But in order to really deal with Luhmann's social theory, and make the idea of an autopoiesis from participation convincing would take quite some more work.

Another issue is the relation to the "management of professionals" literature. I have described some of the knowledge management and organizational learning literature. I have explained that a lot of the original literature ""management of professional" literature was not so relevant, since I was after the "knowledge workers" that did not so much rely on a standardized and formal body of knowledge. Polycentric order as an explanatory concept is not so applicable for these formalized situations, where professionals are very limited in defining what knowledge is. Still, there is more of a comparison possible. The concept of tacit knowledge could be used as a means to critique the existence of a central authority of knowledge, and polycentric order as an emancipatory concept to conceptualize an alternative.

An obvious issue is that the conceptualization of polycentric order in this thesis is explicitly based on only one case. Although I have tested my conceptualization to other domains, this test has remained fairly informal. I expect that in following cases I will encounter similar dynamics, yet that there will also be differences that will lead to additional understanding and ideas on the potential of polycentric order.

The last issue I would like to mention is that this text has been mainly about to what polycentric order would be an alternative, what the dynamics of participation in polycentric order could entail, and why it would be a good alternative. However, I have hardly described what makes polycentric order so valuable. How do people experience intellectual beauty or pursue their intellectual passion and what does that mean for them? This can hardly be described, yet I would have liked to give some more suggestions in that direction.

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Index

Samenvatting (Summary in Dutch)

De afgelopen tien jaar is er in bedrijfskunde een grote interesse ontstaan voor het belang van kennis voor organisaties. Er is het idee dat het industriële tijdperk zijn einde nadert. Traditionele organisatiedoelen zoals efficiëntie, automatiseren, kostenbesparingen, effectieve controle, maken plaats voor alternatieven als langdurig concurrentievoordeel, informatiseren, kennisdeling, organisatieflexibiliteit, en organisatienetwerken. Onder het vaandel van bijvoorbeeld "kennismanagement" of "organisatieleren", werd en wordt er nagedacht over het managen van professionals en innovatie, leren in en door organisaties, en het ontwikkelen van een effectief organisatiegeheugen.

Deze benadering was vaak nogal eenzijdig. Er werd gevraagd naar hoe organisaties kennis konden ontwikkelen, maar er werd niet de omgekeerde vraag gesteld: "Hoe kan kennis de organisatie ontwikkelen?" Als we begrijpen dat het toegenomen belang van kennis ingrijpende gevolgen heeft voor organiseren, is het dan niet consistent om ook de aard van kennis intensieve organisaties opnieuw te bekijken? De vraag: "Hoe moet kennis worden georganiseerd?" is paradoxaal. Kennis is dusdanig fundamenteel voor wie en hoe we zijn, voor onze sociale structuren en dus ook voor organisaties, dat kennis eerder vóór het organiseren komt dan er na. Organiseren heeft immers alles te maken met onderscheid: een onderscheid tussen wat wel en niet mag worden, wie waarbij hoort en wie er buiten valt. Dit onderscheid is kennis. Dus op het meest fundamentele niveau van organiseren speelt kennis mee. Op het moment dat de diversiteit aan kennis toeneemt, door professionalisering en specialisatie, wordt dat fundamentele niveau belangrijk. Er komen immers diverse manieren van onderscheid maken, elk met een eigen logica en ervaringsachtergrond. Vanuit dit standpunt komt de essentiële vraag: "hoe gaat men om met deze diversiteit aan inzichten, op het moment dat er geen duidelijk gedeeld kader voorhanden is om deze verschillen te beoordelen, te onderscheiden, ofwel te organiseren?"

De belangrijkste taken van managers zijn om beslissingen en daarmee verantwoordelijkheid te nemen met betrekking tot de verdeling van taken en middelen, evenals de uitoefening van controle. Deze taken zijn gedefinieerd in relatie tot een hiërarchie. Een hiërarchie is van oudsher hét coördinatiemechanisme als alternatief voor marktrelaties. Een hiërarchie heeft als basisaanname dat alle belangrijke kennis is gecentraliseerd in de managementhiërarchie. Maar door de diversiteit aan specialisaties heeft de manager geen inzicht meer in de aard van de taken, mist een rationele grond om (productie-)middelen toe te wijzen, en mist de mogelijkheid om afdoende controle uit te oefenen. Op dat moment staat de legitimiteit van de manager en de rationaliteit van de organisatie op het spel. Het gebrek aan het gedeelde kader maakt de beslissingen van de manager willekeurig voor zijn zogenaamde ondergeschikten, en tast de fundamenten van de organisatie

aan.

Dit proefschrift probeert door de wederzijdse afhankelijkheid tussen kennis en organisatie voorop te stellen, een alternatief te conceptualiseren voortbouwend op de filosofie van Michael Polanyi. Polanyi is bekend binnen bedrijfskunde voor zijn onderscheid tussen impliciete en expliciete kennis. Vele auteurs erkennen dat de impliciete dimensie cruciaal is voor coördinatie, samenwerking, kennisdeling, en leren in organisaties. Helaas wordt de wederzijdse afhankelijkheid tussen kennis en organisatie die Polanyi aangeeft met behulp van het concept *polycentrische orde*, zelden onderkent.

Coördinatie in een polycentrische orde is radicaal verschillend van een marktmechanisme of hiërarchie, omdat het gebaseerd is op een verweven zijn van kennis en organisatie. Het verschilt van een markt in dat het sociale conventies en normen creëert en nodig heeft. Het verschilt van een hiërarchie omdat er meerdere (en mogelijk strijdige) machtscentra zijn, formeel en informeel. Maar, het belangrijkste is dat het concept polycentrische orde wél gaat over het organiseren in een context waarin meerdere perspectieven relevant zijn, en een omvattend kader niet gegeven is.

Dit proefschrift diept het concept polycentrische orde uit door Polanyi's filosofie in "dialoog" te brengen met dat van etnografisch onderzoek onder een groep van IT-professionals. Aan de ene kant wordt vanuit een Polanyi perspectief de ontwikkelingen binnen deze groep beschreven. Aan de andere kant wordt Polanyi's filosofie aan een onderzoek onderworpen door te reflecteren op de ervaringen, conversaties, en praktijken van deze professionals. Hiermee wordt een beschrijving gegeven over het belang, de dynamiek, en de kwaliteiten van polycentrische orde op het niveau van kleine groepen professionals binnen organisaties.

Deze beschrijving heeft drie verschillende aspecten. Het eerste aspect is de rol van participatie in polycentrische orde. Deze relatie was slechts beperkt uitgewerkt in Polanyi's werk. Dus in plaats van economische relaties tussen actoren is polycentrische orde gebaseerd op *participatie*. Participatie houdt in dat we ons perspectief *impliciet* aanpassen en ontwikkelen in onze interacties. Dat houdt dus een zekere openheid en vertrouwen in naar de ander. Het betekent ook dat er minder noodzaak is voor een a-priori, overkoepelend kader, omdat het kader wordt ontwikkeld door middel van samenwerking en in conversatie. Vanuit dit kader kunnen deelnemers besluiten om de verantwoordelijkheid van coördinatie te leggen bij een van hen. Er kunnen dus wel machtsverschillen zijn, maar die zijn niet a-priori gegeven door een hiërarchie. Net als in een democratie, kan een deelnemer een afgevaardigde zijn van de groep voor dit doel: een meer efficiënte coördinatie. Daarmee biedt polycentrische orde een alternatief voor het paradoxale idee van het managen van professionals. Professionals hebben er geen baat bij om hun kennis te delen met de manager, als zij daar vervolgens mee worden bepaald vanuit een ander en ontoegankelijk (en daarmee willekeurige) bestuursperspectief. De paradox die aldus ontstaat is dat degene die de minste relevante kennis heeft

aan het roer staat.

Het tweede aspect van de beschrijving is de spontane ontwikkeling van polycentrische orde. Polycentrische orde is gebaseerd op gedeelde tendensen in het begrijpen van gebeurtenissen, en een gemeenschappelijke opvoering van activiteiten. Deze tendensen dan kunnen ook worden begrepen als een interface tussen een polycentrische orde en de verschillende omgevingen. Deze interfaces ontstaan vanuit betekeniskatalysatoren. In dit proefschrift worden er vijf typen onderscheiden: thema's, verhaallijnen, paradoxen, formalisaties en inkervingen. Thema's geven richting aan een conversatie en stimuleren gerelateerde vertellingen. Verhaallijnen ordenen de vertellingen en interpretaties. Paradoxen vernieuwen de conversatie en geven contrast aan de verschillende betekenissen. Formalisaties geven een gezamenlijk afgesproken onderscheid, over wat wel en niet gezegd en gedaan mag worden. Inscripties of inkervingen zijn geobjectiveerde betekenissen, in de vorm van documenten, technologieën, etc. Deze katalysatoren zijn belangrijk voor het mogelijk maken van onderlinge conversaties en de gedeelde organisatiepraktijken. Elke type katalysator heeft een eigen manier om de menselijke tendens tot vergeten te overleven. Maar het belangrijkste van de betekeniskatalysatoren is het vermogen om elkaar te versterken en bij elkaar te komen in gedeelde tendensen tot interpretatie of opvoering. De samenhang in een polycentrische orde ontstaat op het moment dat de verschillende tendensen en interfaces elkaar wederzijds versterken. Pas op dat moment kunnen we echt spreken van een spontane ontwikkeling of emergentie van polycentrische orde.

Het derde aspect van de beschrijving van polycentrische orde bestaat uit drie verschillende morele kwaliteiten van of voorwaarden voor een polycentrische orde. De eerste morele voordwaarde hebben we eigenlijk al gezien. Het is het principe van toegang. Om voor mensen betrokken te raken en deel te nemen is het cruciaal dat ze in staat zijn om hun context te begrijpen en te kunnen beïnvloeden. Beïnvloeding en begrip gaan via deze betekeniskatalysatoren. Ingrijpende veranderingen beginnen vaak bij paradoxen, veranderingen in de omgeving worden verteld aan de hand van gedeelde thema's, acties worden begrepen door toepassing van gevestigde verhaallijnen, handelingen worden voorgeschreven door middel van formalisaties, en inzicht geobjectiveerd in inkervingen.

De tweede morele kwaliteit of voorwaarde is het respect voor de ander en het andere. Bij het creëren van een kader voor gezamenlijk begrip en actie, moeten we ongedefinieerde ruimten overlaten, om deelnemers te laten zijn op hun eigen manier. Dit is waar polycentrische orde om begonnen is: een ruimte voor diversiteit. Het is belangrijk om de condities te creëren om samen te kunnen werken, maar tegelijk mogen de individuele passies en redenen om deel te nemen niet worden bepaald.

De derde voorwaarde is de verantwoordelijkheid voor het geheel. Juist omdat een polycentrische orde zo fundamenteel open is voor de deelnemers, is het ook kwetsbaar. Ondanks dat de keten van oorzaak en gevolg niet inzichtelijk is, is er toch verantwoordelijkheid om de polycentrische orde te beschermen, ook tegen

andere deelnemers. Deze drie voorwaarden kunnen heel goed strijdig zijn op verschillende momenten. Maar het zijn in ieder geval relevante afwegingen die moeten worden gemaakt: het belang van een principiële toegang tot betekeniskatalysatoren, afgewogen tegen de waarde en kwetsbaarheid van het geheel, en ruimte voor onbepaaldheid – het recht van deelnemers om te manifesteren op alternatieve en onbekende wijzen.

About the Author

René Brohm was born in 1971 in Amsterdam. After completing secondary school in 1989 he studied computer science at the University of Amsterdam. From his first year on, he pursued a wide variety of classes in philosophy, comparitive religion, psychology, linguistics, maths, and of course computer science. He specialized in the application of mathematical concepts for modeling techniques. His Masters thesis was on the modeling of a translation system using category theory, which he completed in 1995. He graduated cum laude.

René went to India to work in a refugee camp for the Tibetans that had fled the border between India and Tibet. There he taught English to a group of Tibetans that ranged in age from 17 to 28 years old. In 1995, René took a job as a software designer, applying his mathematical design techniques. The problems he encountered in this projects, and the problems that he saw at other projects taught him that modeling techniques and software methodologies were not enough to develop information technology. The crucial factor seemed to lie in how people collaborated and and the fact that hierarchical relations frustrated collaboration.

At the end of the year 1997, René started a Ph.D. in knowledge management, assuming that such a study could clarify the problems he had encountered in his job as software designer. His original approach was that of a typical engineer, but soon he found that phenomenological and hermeneutical approaches more promising. Unaware of any lurking postmodern crises and the complexity of the involved literature he dived in.

In 2000, he stopped his Ph.D. to work as a software manager in an IT-startup. In 2001, René obtained a position at the Vrije Universiteit in Amsterdam as a lecturer teaching on methodology and on the relation between information technology and organizations.

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Polycentric Order in Organizations

During the last decade there has been a tremendous interest in organization studies and management practice in the role of knowledge in organizations. Using terms such as 'post-industrial age', 'knowledge management', 'organizational learning', 'knowledge intensive firms', and 'communities of practice' both academics and practitioners have tried to find ways to manage professionals, to facilitate learning in organizations, and to develop an effective organizational memory. The predominant approach has been fairly one-sided. The question generally posed has been "How can organizations develop knowledge?" while the opposite question: "How can knowledge develop organizations?" has not received the same attention. When we realize that the increased importance of knowledge has in some cases altered the fundaments of the firm, it is time to reconsider the nature of knowledge intensive organizations. Through increasing specialization and a reliance on professionals the knowledge can no longer be centralized in a managerial hierarchy. Thereby the legitimacy of the manager's ability to make decisions is in question.

The aim of this thesis is to envision an alternative approach to organizing that goes under the name polycentric order, a concept forwarded by the Hungarian philosopher Michael Polanyi, well-known for his concept tacit knowledge. Is it possible that decisions develop from open conversations, and organization emerges from participation? This may seem a Utopia. Managers may be unwilling to yield power and face instead the uncontrollable outcomes of open conversation. Directors may fear organizational paralysis from an abundance of incommensurable perspectives. On the other hand, the management of professionals is a paradoxical task. Since there is hardly a sharing of knowledge across hierarchical levels, managers will not have the knowledge to set up agreements with professionals, to guard them, or to assess the end results.

This all suggests important issues in terms of the relations between organizations, managers and professionals. This thesis describes how professionals can create a safe haven (Dutch: 'vrijplaats') for their professional development in an organization. In contrast to a community of practice, a safe haven is a means for professionals to negotiate on dedicated resources for a longer period of time. In this way professionals have responsibility for their own development, and do not yield this responsibility to their organizations.

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