In Search for a World beneath the Bridge between Theory and Practice

An Actor-Network Perpective

Piihl, Jesper

Jesper Piihl, PhD student
University of Southern Denmark

IN SEARCH FOR A WORLD BENEATH THE BRIDGE BETWEEN THEORY AND PRACTICE

- AN ACTOR-NETWORK PERSPECTIVE

THIS PAPER GETS ITS IMPETUS FROM THE IDEA OF TWO SEPARATED WORLDS: A WORLD OF THEORY AND A WORLD OF PRACTICE. BETWEEN THESE TWO WORLDS MANY ATTEMPTS ARE MADE TO BUILD A STRONG BRIDGE THAT WOULD MAKE IT EASIER TO GO FROM ONE OF THE WORLDS TO THE OTHER. BUT FOR SOME TIMES I HAVE WONDERED: WHAT DOES THIS BRIDGE LOOK LIKE. AND MORE IMPORTANT: WHAT IS BENEATH THIS BRIDGE?

Authored by: Jesper Piihl, PhD Student
jpi@sam.sdu.dk
Department of Organization and Management, University of Southern Denmark

1 INTRODUCTION: THE PROBLEM OF THEORY AND PRACTICE

Latour attacks the grand divides within our conceptualisation of the world. He attacks the divide between nature and society (Latour, 1987) and the divide between pre-scientific and scientific cultures (Latour, 1988a). This paper concerns another grand divide, this time within the field of management and organisations (and probably every other field): The divide between theory and practice. Schön (1983) gives an account of the origins of this divide. Somehow it is an implicit underlying assumption in modern or positivist sciences that theories should be able to help create a better practice – and ultimately a better world. But this linear relationship is often questioned, and the critiques appear in a variety of disguises.

First, it is common that "lay" people question the relevance of theory as exemplified in the saying: "Theory is one thing, but practice is something completely different". Another version of the same theme comes from a manager of an SME who once stated: "To me, theories are something that doesn't work in practice."

Second, doing research in close relationship with practitioners also turns the question of the relationship between theory and practice into a central issue. I currently work as a part of a project, which aims at creating management concepts and consulting methods specially suited to the reality of small and medium sized enterprises. The project has three types of participants: Theorists, Consultants and 27 SME's. Within this context the question is crucial, because the participants somehow represent every aspect of the question.

This paper discusses reasons for why it is difficult to bridge between the two worlds and looks for a world beneath this bridge through reformulating the relationship between theory and practice. The paper is structured into three main sections.

Section 2 "Theory and Practice in a Parallel-world Perspective" discusses two possible reasons for the problems moving between theory and practice – one reason based on complexity and chaos theory, and another based on a

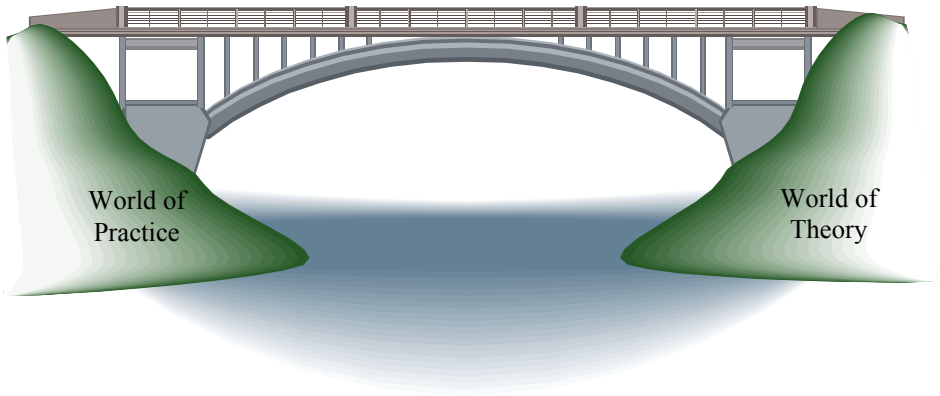
postmodern epistemology. Second, the section briefly reviews some bridges between the worlds of theory and practice.

Section 3 "Looking for a World Beneath the Bridge" discusses the world beneath on a background coloured by actor-network theory (ANT). First, it asks for what is called paradigmatic symmetry between theorising and practicing as a first step in building a world beneath the bridge between theory and practice. Paradigmatic symmetry says that it should be possible to found theorising and practicing and the same set of fundamental beliefs. In addition, the section starts building this "world beneath" through looking for similarities between the act of theorising and the act of entrepreneuring in an attempt to see these different processes on a common background of actor-network theory.

A central theme in the concluding section is to suggest a distinction between re-search and re-think. It is argued that while modernist theorising emphasises re-search and postmodern theorising emphasises re-think, the perspective of this paper can make sense to both re-search and re-think. Furthermore, "multiple applicability" is suggested as a criterion to evaluate the quality of re-thinking.

2 THEORY AND PRACTICE IN A PARALLEL-WORLD PERSPECTIVE

Latour (e.g. 1993; 1999) argues that *both* modernism *and* postmodernism are based on an idea of two separated worlds. He focuses on the separation between nature and society. But the separations take on different clothing in different fields, e.g. technology-culture, environment-organisation, object-subject. This section briefly looks into both modern and postmodern reasons for the problems of bridging between theories and practice. Figure 1 illustrates the



theme of this section: Two parallel worlds. A chasm and attempts to bridge:

Figure 1: Two parallel worlds, a chasm and a bridge

The modern reasons are based on theories of complexity and chaos, and the postmodern reasons are based on the crisis of representation. Moreover, both modern and postmodern attempts to cross the chasm between theory and practice are briefly discussed. Through discussing modern and postmodern reasons for the problems of bridging, I believe to have touched upon two primary undercurrents of mainstream organisational and management theorising.

2.1 MODERN AND POSTMODERN REASONS FOR THE PROBLEMS

2.1.1 Modern Reasons for Difficulties of Bridging: Chaos and Complexity

A first question to ask is: What does the world of organisations and management look like: "Try a little experiment" Mason & Mitroff (1998) challenge us and continue:

> Make a short list of the major problems or issues facing policymakers in the world today. Now take your list and arrange it as a matrix like the one in [The figure below]. For each element in the matrix ask yourself the following question: Is the solution to one problem (the row problem) in any way related to the solution of the other problem (the column problem)? If the answer is yes, place a check mark at the point where the row and column intersect; otherwise leave it blank. (Mason & Mitroff, 1998, p. 41)

	Peace	Energy	Starvation	Civil rights	Population	Balance of Payment
Peace						
Energy						
Starvation						
Civil rights						
Population						
Balance of Payment						

Figure 2: Problem interaction matrix

Source: (Mason & Mitroff, 1998, p. 41)

In this way Mason & Mitroff try to convince us that an enormous complexity arises from the fact that many real life problems cannot be isolated from each other. Ackoff (1979) makes a corresponding point as he asserts that:

> "Managers are not confronted with problems that are independent of each other, but with dynamic situations that consist of complex systems of changing problems that interact with each other. I call such situations messes. Problems are abstractions extracted from messes by analysis; they are to messes as atoms are to tables and chairs. .. Because messes are systems of problems, the sum of the optimal solution to each component problem taken separately is *not* an optimal solution to the mess" (Ackoff, 1979, p. 99-100)

In this way practical management problems are not clear-cut. They are often messy and intermingled, which makes it difficult to apply theoretical solutions developed to solve well-defined and isolated problems.

Chaos theory is another related line of theory that may help explain the gab between theory and practice. It has entered the field of management, organisation (se e.g. Parker & Stacey, 1994; Stacey, 1998; Thiétart & Forgues, 1995) and entrepreneurship, where Bygrave argues, that it provides a good metaphor for sharpening our philosophy and methodology (Bygrave, 1989). These theorists emphasise that organisational reality has chaotic properties. This line of thinking emphasises that organisations are an intricate mixture of order and disorder, regularity and irregularity (Parker & Stacey, 1994), where a small change in one variable has unpredictable large impact on the systems' evolution, which make predictions impossible (Thiétart & Forgues, 1995). This is often referred to as the so called "butterfly effect", i.e. the idea that a flab of a butterfly's wing can create a storm a few months later. Based on these ideas Thiétart & Forgues (1995, p. 27) argue that similar actions taken by organisations in a state of chaos will never lead to the same result. In addition, when in a chaotic state, two identical actions taken by the same organisation always lead to two different results and the same action taken by two organisations never lead to the same result.

In the fields where the above arguments are reasonable, at least as a metaphor, it is understandable, that it is possible to get the idea, that theory is something that doesn't work in practice. This is true; especially if theories are built on assumptions akin to ceteris paribus, which leads to the next question.

The second question to ask is: What are the consequences of approaching this messy reality as done by researchers/scientists in search for verifiable and reliable answers to their questions? Schön (1983; 1995) talks about a dilemma of "rigor or relevance":

> "In the varied topography of professional practice, there is a high, hard ground where practitioners can make effective use of research-based theory and technique, and there is a swampy lowland where situations are confusing "messes" incapable of technical solution. The difficulty is that the problems of the high ground, however great their technical interest, are often relatively unimportant to clients or to the larger society, while in the swamp are the problems of greatest human concern." (Schön, 1983, s. 42)

On the high hard ground, it is possible to emphasise rigorous research procedures. But if these preferences for rigour are maintained in the "swampy lowland", it can lead to results that are irrelevant for practitioners. Van de Ven describes the possible consequences of adhering to rigour as the ultimate criterion for research in the following way:

> If scientists cannot answer their initial questions, they can modify or simplify them until they show promise of being answerable. If this process repeats itself, as is customary, the research questions and answers become increasingly trivial contributions to science, and even more irrelevant to practice. (Van de Ven, 2000, p. 396-397)

If rigour has to be maintained as primary criterion for judging the quality of an "academic answer", the costs might be that the research questions have to be modified until they are answerable. Somehow it seems to be working the wrong way around, if a set of procedures for evaluating an answer should play any role in defining a question.

Formulated a little more provoking modernist research risk the faith of "Crossword Research": The problem and the boundaries are well-defined; a solution demands formal logic and extreme consistency. When a solution is found it is obvious to everyone, that this is *the* solution. It is obvious if some parts of the problem have not been solved. In this way it is easy for successors to see where they can make a contribution.

In sum, the solution is consistent and indisputable. But … and there is a but … when ones eyes are turned away from the crossword and towards life as it is lived, i.e. practice, the solution of the crossword has not any relevance at all… It is beautiful and consistent within its own boundaries, but seen in relation to live as it is lived, crosswords serve the role of amusement. And if crosswords make a contribution outside the defined boundaries, it is in an indirect way. Proponents of crosswords claim that they are exercises to the brain…

2.1.2 Postmodern Reasons: How Can Words ever Mirror Reality?

Postmodernism began the day when someone started to grabble with the relationship between object and representations of the object – e.g. the relationship between language (representation) and the world (object) that language is often presumed to describe. Within a modernist perspective, this

relationship is perceived as unproblematic in the way, that language – to use Rorty's expression – *mirrors* an underlying reality. Language is a tool for transferring meaning. Within this perspective theories – which usually are transferred via language – can be evaluated according to the degree of correspondence to this underlying reality. Or in other words, how well the theorist has polished his mirror (Gergen & Thatchenkery, 1996)!

Woolgar (1988, pp. 32-33) questions this idea of representation through a discussion of three methodological horrors.

The first horror is that it is impossible to establish a stable relationship between representation and the underlying reality, which is represented. The reality is never fixed and always in a state of movement – in a state of becoming (Chia, 1995; Steyaert, 1997). A description of a culture cannot have a stable relationship to the culture because the culture is always in process. Accounting numbers are often used as part of the basis for evaluating a company's future potential – but it cannot do it faithfully because the future potential is always continually changing due to upcoming circumstances.

The second horror is, that the task of representing a reality is in principle endless. It will always be possible to ask for further clarifications, it will always be possible to describe a phenomenon in closer details or from other perspectives. A description of a culture can never be so comprehensive that it describes every aspect of an underlying culture and how "it" will react in different situations. Accounting numbers – not even combined with the incredible amount of different types of accounting like knowledge accounting, ethical accounting, growth accounting, and ecological accounting can give a total picture of a company's future potential. It is always possible to ask for further clarifications.

The third horror is that the relationship between representation and object is dialectic – and not as traditionally assumed unidirectional from object to representation. The meaning an observer attributes to a representation changes if he gets other experiences with the represented. Conversely, the representation can influence the object. This could for example be a culture, which changes because it is described or because of a description of it.

Gergen points towards the problem of representation in a little more poetic way, when he asks: "In what way can words be matched against visual images, sounds and the like?" (Gergen, 1992, p. 210)

Maybe this can help explain why theory is something that doesn't work in practice: Not even good theories are accurate mirrors of reality, which can help practitioners create a better world. For at least to reasons. First, theories are not simplifying mirrors of reality but language constructions in the form of words, tables, graphs, drawings, etc. And second, relativism tells us, that there is such thing as *a* reality at all, and therefore, no universal better world to create.

Some social constructivists point towards studying how people understand and make sense of their subjective realities, and they point towards another way to acquire relevance:

> The goal of research into the production of meaning is to produce clear and accurate descriptions of the structures and forms of the various meaning systems. This type of outcome does not provide information for the prediction and control of behaviour; instead, it provides a kind of knowledge that individuals and groups can use to increase the power and control they have over their own actions. (Polkinghorne, 1988, p. 10)

In this quotation Polkinghorne argues that research into meaning systems gains the relevance from making the individuals or groups studied aware of the way the meaning systems influence their behaviour. Thereby, he argues, they will be put in a position to question their own meaning systems and thereby become better to control their own actions. A similar point is made by Damgaard et al. arguing that managerial implications from research guided by a humanistic inquiry method: "will be on a procedural level rather than on a level where specific instructions are given, though the researcher's role will be to guide a learning process as opposed to offering managerial solutions" (Damgaard *et al.*, 2000, p. 153). A little earlier they state that "The aim is, of course, action but action reached by the individuals themselves as a consequence of changed understandings" (Damgaard *et al.*, 2000, p. 153).

But – if I again may bring up a minor provocation – isn't this focus on acquiring a sense of relevance through focusing at the benefits of the subjects studied more a kind of pedagogy or therapy than it is research of broader interest? Isn't the risk that it is only by coincidence, if "knowledge" acquired in

this way is "usable" to other practitioners than those involved in the study, and it thereby becomes another version of crossword science as described above?

The modernist version of crossword science emphasised that the initial questions are modified and boundaries are set until the questions show promise of being answerable. Here a sense of relevance is acquired, not through modifying the initial question, but through limiting the scope of the research to the individuals or groups studied, while it is relatively silent when it comes to what it means to other individuals or groups outside the study.

2.2 Traditional Ways of Bridging

One way to go is to refuse the need for immediate relevance of a theory. It may not be immediately relevant to practitioners, but should be considered as a stepping-stone on a way to some future benefits, which we cannot imagine right know. Research should be a place for playing with ideas and illusions that someone someday may be able to link to something else in a creative way and turn it into something useful. I acknowledge such arguments, but here I focus on more immediate relations between theory and practice.

2.2.1 A Modern Bridge: Answers to the Challenge of Chaos and Complexity

From a modernist position it was argued, that the chaos and complexity of practice could be possible reasons why it is difficult to bridge theory and practice. Based on an idea of chaos, Stacey (1998, pp. 679-682) recommends practitioners to e.g. provoke multiple cultures, present ambiguous challenges instead of clear long-term objectives or visions or create resource slack. Everything with the idea, that in a complex and changing world you cannot rely on stable types of knowledge.

While Stacy points towards the practitioner and how he can make use of theories of chaos, Argyris (1996) points towards the types of theories produced. According to Argyris, traditional views of theory are that theory should *describe* and *explain*. This is often fulfilled through observations – without intervention – or controlled experiments. But he points out that for management, creation is important, and theories, which aim at describing and explaining, often fail to

inform practitioners how to create. To exemplify, he points to the generalisation, that mild levels of frustration lead to creativity, while high levels of frustration leads to regression. This generalisation can help explain. But it is difficult to use in the service of creation, because how do you measure and manage the level of frustration? And as Argyris – in a very "Argyrisian" way – points out: The manager has to cover what he is doing, and cover that something is covered!

Instead he asks for Actionable Knowledge, which is knowledge that not just produces generalisation with high external validity (relevance), but also inform the practitioner how to create or produce the conditions where the generalisations hold true. Non-actionable knowledge consists of generalisations like if A (e.g. mild levels of frustration) then B (creativity). But this knowledge is developed within settings that are controlled in ways that are not possible or at least unethical to create in managerial practice. Actionable knowledge, by contrast, focus on creating knowledge that says if you do A then B will happen.

2.2.2 A Postmodern Bridge: Answers to the Challenge of Representation

If we start questioning the possibility of representation, it can lead to what Weick, citing Varela, summarises in a "Cartesian Anxiety".

> "Cartesian anxiety is "best put as a dilemma: either we have a fixed and stable foundation for knowledge, a point where knowledge starts, is grounded, and rests, or we cannot escape some sort of darkness, chaos, and confusion. Either there is an absolute ground or foundation or everything falls apart" (Varela et al., 1991, p. 140)" (Weick, 1995, p. 37)

But Gergen summarises the problem in the following way, and at the same time he proposes a way to move on:

> , if we do not base theories on conceptions of rationality, motivation, emotion and the like, where do we turn? Of equal importance, how can we take the process of theory construction seriously? If we cannot offer truth, objective accounts removed from our own valuational biases, then on what grounds can any new formulations be justified? If there are no foundations for theoretical formulations, and these are only linguistic constructions, then why play the fool – whose serious words turn to mere posturing in the hands of the deconstructionist critic?
>
> ..
>
> Yet, we are moved to silence only if persuaded by the modernist presumption that objective truth is the only game in town. If the function of theories is *not* derived from their truth value, but from their pragmatic implications, then the theoretical voice is restored to significance. And the potential of theoretical work is far greater than that assigned to it under modernist conditions. (Gergen, 1992, s. 217)

To postmodern writers, theorists "are engaging in 'story-telling' more than in 'truth-telling'" (Chia, 1996, p. 51) The theories produced cannot mirror a reality out there independent of the different tools used to make the representations. Instead theorising plays an active part in construction of what is considered to be real within a community.

Therefore, Gergen turns towards pragmatic consequences of theories rather than their correspondence with a reality in distinguishing good from bad theorising. Good theories are theories that enable new types or directions of understanding or action. The BCG-matrix (Hedley, 1998) is an excellent example. This matrix recommends corporate managers to consider their corporation as a collection of strategic business units (SBU). These SBUs can then be evaluated in a matrix with relative market share at the first dimension and market attractiveness at the other. This leads to four possible positions for each SBU – positions with distinct recommended actions: Dog, Question Marks, Stars or Cash Cows.

But no corporate managers sincerely believe that some SBUs literally are cows while others are stars, dogs, or question marks. I don't know how this matrix was developed, but I do not think it was developed through carefully designed experiments aiming at falsifying hypothesis. However, I feel pretty sure that this matrix has had tremendous pragmatic implications. It has made managers see their businesses in a different light and has pointed toward alternative *lines* of action, which the managers themselves could translate into *concrete* actions in specific situations.

Some may argue that a recommendation to "maintain the position in the cash cows" (Hedley, 1998, p. 430) is rather abstract and vague. It does not point towards concrete actions. How do you "maintain the position" – what actions does it imply? To this challenge Astley & Zammuto (1992, p. 446) argue that linguistic ambiguity enhances the conceptual appeal of a theory and increases the range of practical situations to which they can shed new light and understanding.

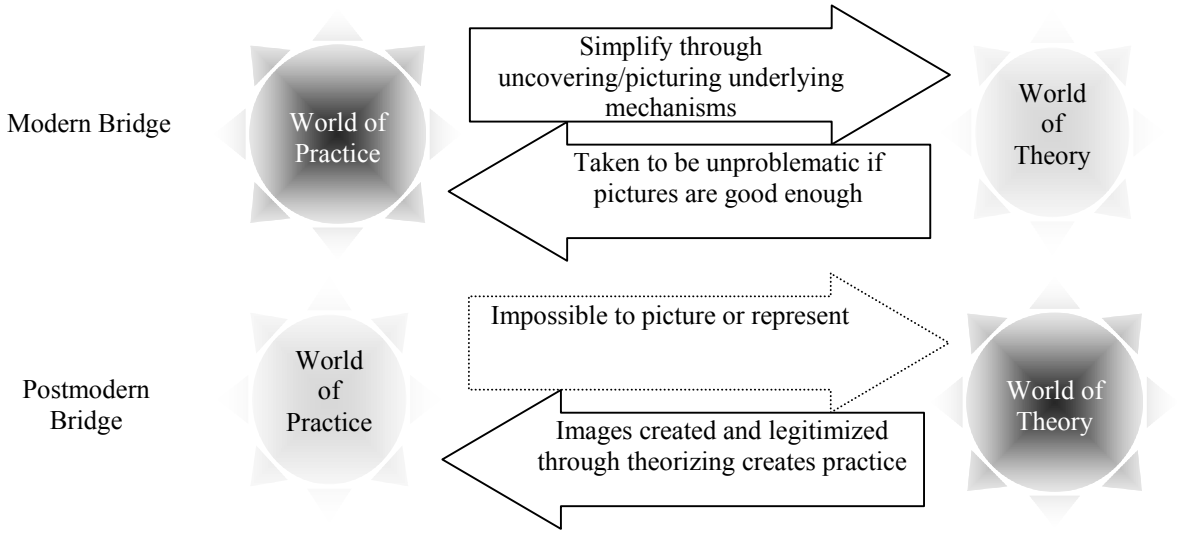
This point separate this way of bridging or acquiring practical relevance from the social constructivist version of crossword science as discussed in

section 2.1.2. Instead of focusing on the benefits accrued by the individuals or groups *participating* in the research, the argument here is that linguistic ambiguity increases the range of practical situations to which theories can be seen as relevant.

In short, some theorists who doubt the possibility of mirroring reality through theories turn towards pragmatic consequences of theories. They turn towards conceptualising theorising as an act of creation rather than discovering. Theories are good when they enable new types of actions. In this way some postmodernists take the challenge of the relationship between theories and practice very seriously.

2.3 SUMMARY

The perspectives presented above, can be summarised in the following figure, showing both a modern and a postmodern bridge, with two lanes seen



from above:

Figure 3: Modern and Postmodern bridges between theory and practice

The lane going from practice to theory on the modernist bridge tells that ideally theories are pictures of underlying mechanisms in practice. These pictures are helped into existence by rigorous scientific methods. The lane from theory to practice is assumed to be without hindrances provided that the pictures are sufficiently accurate. Under modernist assumptions the world of practice is

"strongest" while the world of theories passively try to assure correspondence. Looking at the postmodern bridge, it is impossible to cross the lane from practice to theory. On the other hand the world of theory influences the way practice is performed through delivering and legitimising ways to "see" and interpret and thereby points towards ways of acting.

But up to this point it is only discussed why it is difficult to bridge, and how attempts are made in order to do it. In the following I will walk to the middle of these unstable maybe even mirage-like bridges and lean over the edge to look beneath them. Based on actor-network theory, I will try to reformulate the relationship between theory and practice.

3 LOOKING FOR A WORLD BENEATH THE BRIDGE

A range of authors suggest that what can equally be termed the sociology of translation (e.g. Callon, 1986b; Latour, 1987) or actor-network theory (ANT) (e.g. Latour, 1996; Law, 1992, 1999) is a line of thinking, which can aid theorising moving beyond the modernism-postmodernism discussion (Brown, 1992; Calas & Smircich, 1999; Lee & Hassard, 1999)[1]. Therefore, this section discusses the relationship between theory and practice on a background coloured by ANT.

Latour (1989) argues that rationalists and social relativists are playing the same game, but in a mirror. In the fight against each other, both rationalists and relativists tend to purify their own arguments in ways that make them drift more and more apart from each other. But are the more and more purified paradigms they develop in this mirror-game suitable for informing practical living?

If it is because I am rooted in business studies, I do not know, but I feel that the paradigms or foundations guiding research should also be able to inform practical life. For business studies practical life is often considered to be management. Therefore, I am asking for symmetry between foundations for researching and foundations for living! In other words, I am asking for *paradigmatic symmetry* between theorising and practicing. The challenge is for theorists to reflect upon the question: (How) can a practitioner benefit from the procedures and assumptions guiding my research?

In the following, ANT is discussed as a line of thinking that can meet this challenge of *paradigmatic symmetry* between theorising and practicing. It is suggested that it can be done through two related ideas: First, the concept of *quasi-object* merges the two parallel worlds of practice and theory into one.

[1] Further, some authors (Chia, 1995; Gergen, 1992) suggest actor-network ideas as a way to engage in *postmodern* organizational analyses. But as Latour explicitly rejects postmodernism (Latour, 1993, 1999), they are not counted as pointing towards ANT as a way to move on *from* postmodernism. Rather, they see ANT as a way to contribute to postmodernism, and in this way they are still allies to the claim that ANT is a way to move on.

Second, a new conceptualisation of theory and practice is created based on an idea of *distance*. Moreover, it is "tested" if these ideas meet the challenge of paradigmatic symmetry through discussing both theorising and entrepreneuring – as an example of practicing – through the same lenses to see if it makes sense.

In re-conceptualising the relationship between theory and practice, some of the ideas presented under the modernist and postmodernist perspectives are maintained in asserting that: Organisational realities consist of unfolding events with (often) chaotic properties and representations of events play an active part in extraction and construction of problems and truths.

3.1 Merging Theory and Practice: Quasi-objects

ANT claims that realities are constructed within networks of relations. ANT pays large attention towards treating humans and non-humans equally at the outset of analysis, and treating relations among both humans and non-humans as parts of the networks. Instead of a world of two as described above, Latour (1993) argues, our world is and is populated by quasi-objects. Quasi-objects are constructed simultaneously by both sides of the dualities: Quasi-objects are simultaneously society and nature, theory and practice. Nothing is either or. Is a computer society or nature? Theory or practice? Is an organisation, with all its people, machines and other heterogeneous materials society or nature? Theory or practice? Is a person society or nature? Theory or practice? No, they are all quasi-objects. They are simultaneously society and nature, theory and practice.

Returning to the idea of theory as storytelling, it is possible to get the impression that they are just stories instead of representations of reality, and therefore harmless. But Woolgar (1988) emphasises, that an act of representing is an act of construction. Through representations realities are constructed rather than mirrored. This again can lead critics to argue, with irony in their voices, that a community socially can construct everything – or turned upside-down – that it is nonsense to postulate that the seas or the mountains are socially constructed through language. To answer this kind of critics Knorr-Cetina argues for epistemic relativism, which:

> ".. is not committed to the idea that there is no material world, or that all knowledge claims are equally good or bad, or to the idea that meter readings can be made to our liking. It is only committed to the idea that what we make of physical resistances and of meter signals is itself grounded in human assumptions and selections which appear to be specific to a particular historical place and time."(Knorr-Cetina, 1982, p. 320-321)

This position accepts the existence of a material world, which can "talk back" to the social, through resistance or object*ion*. So the racing cyclists in Tour de France cannot talk or simply imagine the mountains away. The mountains will resist when they meet them. But if this resistance is torture or an opportunity to attack is not determined solely by the mountains. It is determined in the relation between the individual cyclists, his position in the race, his level of fatigue, actions by others, slope of the mountain, etc.

In this way, the mountains in Tour de France are not just nature and not just culture. But they are quasi-objects – they are simultaneously nature and culture. If the culture side is removed they become irrelevant - if there was no society no one would bracket a piece of nature and call it a mountain. If the nature side is removed the mountains become an instance of "collective solipsism"[2]. Quasi-objects are simultaneous theory and practice, they are simultaneously event (practice) and concept (theory).

With reference to Derrida, Chia discusses a distinction between nothing and no-thing. There is not "nothing" outside language (representation) but there is "no-thing" (Chia, 1996). Meaning, content, boundaries, etc, do not exist within objects (no-things), but are determined in relations. No-things become things with meaning, boundaries etc, when they are performing within networks of relations. And they are only things in relation to this network. Thereby, this

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[2] The term coined here, "collective solipsism", seems like an oxymoron. Burrell and Morgan state: "Solipsism represents the most extreme form of subjective idealism, in that it denies that the world has any distinct independent reality. For the solipsist, the world is the creation of his mind. Ontologically, it has no existence beyond the sensations which he perceives in his mind and body." (Burrell & Morgan, 1979, p. 238-239). In this way the term solipsism is seen as an extreme consequence of lines of thinking emphasizing subjectivity. The term "collective solipsism" on the other hand is meant as an extreme consequence of lines of thinking emphasizing language and discourse as constituting reality and individuals as mere mediums of collective thought styles – or in Chia´s words: "The process of inquiry is often believed to be the product of a dualistic relationship between the knowing subject and the object to be known. This view, however, neglects the significance of existing *cognitive codes* and consequently the *style of thinking* within a particular community which serves to shape the very possibilities of individual knowing." (Chia, 1995, p. 582, original emphasis)

perspective differs from a Kantian idea of things-in-themselves as essences we cannot apprehend.

Outside our apprehension there are not things-in-themselves, but simply no-things! Things are quasi-objects – no-things performing in heterogeneous relations.

3.2 Re-conceptualising Theory: A Matter of Distance

Through the concept of quasi-objects two parallel worlds – a world of practice and a world of theory – have been merged into one world beneath the bridge: A world of quasi-objects which are simultaneously practice and theory. If this image is maintained there is no need for a bridge between theory and practice, since all life is lived beneath the bridge. But this merging of theory and practice is not enough to fight the common sense idea of theory as something different from practice. Latour's (1988b) ideas of distance between settings *and* wishes to act upon distant settings can be seen as a basis for re-conceptualising theory.

> A strong explanation [theory] becomes necessary when someone wishes to act at a distance (Latour, 1987). If you are in the setting x' you do not need to explain it – practice and weak accounts will be sufficient. If you are away from the setting and indifferent to it, you do not need to explain it either – practice in the new setting x will do. If you are away and simply remembering how it was when you were in setting x' you still do not need powerful explanations – story-telling will do the job much better. You start to need a stronger explanation when you are away and still wish to act on the setting x'. (Latour, 1988b, p. 159)

Therefore, instead of two parallel worlds, it is suggested to conceptualise theory as: What a given *centre* believes to be the true about and possible to accomplish in the *periphery* relative to this centre and its intentions. Theory is what a given centre *here and now* believes to be true about a not-present *there and (w/t)hen*.

This conceptualisation of theory takes in principle a heterogeneous actor as basis of theorising, and not an idea of some universal truths. It defines theory as the beliefs held by this actor about something not-present – about something distant. Let us look at some examples:

For a researcher (centre) theory is, what he believes to be true about his field of study (periphery). It is what he believes, about the world outside the walls of the university, while he is sitting at his relatively comfortable desk. The scientific methods for acquiring these believes are practice to him. It is something present here and now while he is theorising.

For a manager theory is what he today believes to be true about or possible to accomplish in the future. What he today believes to be true and possible about the production line – yesterday, today and tomorrow. His method for acquiring these believes, i.e. reading reports, meetings, dialogs, etc – is his practice. His practice is what he does, while his theory is what he believes.

For an architect his practice is constructing drawings while the drawings is a theory of a building, which is distant in time and place from the act of drawing. For the carpenter this drawing is a theory of a building, but reading it and translating it into existence is the carpenter's practice.

Within this perspective theory is not something ostensively different from practice. But what someone at some point in time and space believes to be true about or believe to be possible to accomplish in another time and space. Theory is what a centre believes to be true about or possible to accomplish in a periphery distant in time and place.

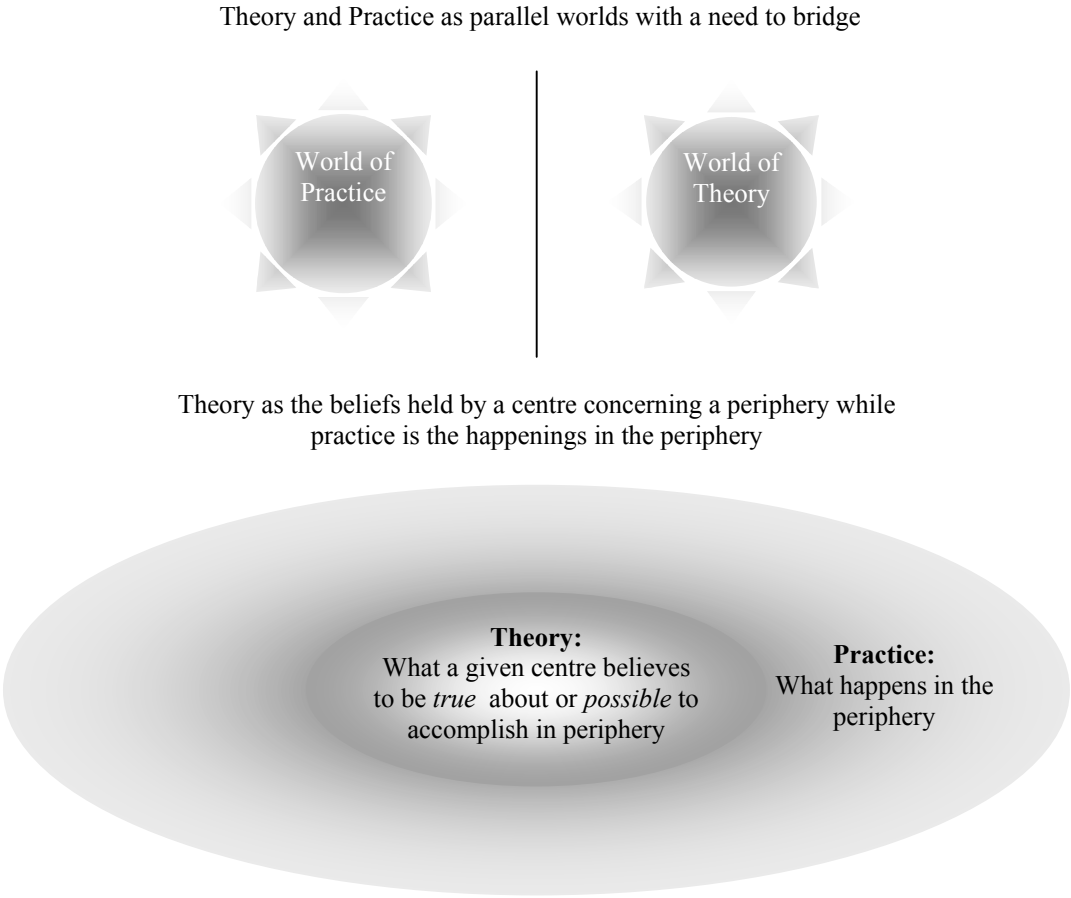

Figure 4: Two conceptualisations of theory and practice

Now an idea that there may be a world beneath the bridge between theory and practice is presented. Furthermore, actor-network theory is discussed as a line of thinking that can make sense to this world, i.e. both to theorising and practicing. In the following the altered relationship will discuss in a little more detail, through looking for *similarities* between theorists and practitioners. Why? Because they are both inhabiting the world beneath the bridge. Because they both are centres in their worlds and acquire knowledge from and influence what to them is periphery.

3.3 Similarities between Theorists and Practitioners

From a "parallel-worlds perspective" it seems to be common sense that there are *differences* between theorists and practitioners, and to look for similarities is not worth the effort. A traditional view is that theorists inhabit the world of theories and use rational models to sort out reality. If practitioners start

using such cumbersome methods they will be "paralysed by analysis" and never reach a point of decision and ultimately action, which are perceived to be practitioners' primary concern. Let the theorists sort out the world and let the practitioners base their actions on this knowledge! But such statements are based on a positivistic or modernistic conception of science.

Faithful towards the parallel-world perspective this conception was criticised through two separate lines of argument. On line of argument based on theories of complexity and chaos, and one line based on the crises of representation.

But one thing is common to all the traditional perspectives on the relationship between theory and practice: They all focus on the benefits to be accrued from the *products* of the theorists - i.e. the theories. Imagine if the Scandinavian Airlines System (SAS) decides to try to learn from Lego solely by focusing on how to use Lego bricks in their airplanes! No, instead SAS would look for similarities within business processes and try to learn from them.

Traditionally theorists use practice as one ingredient among others when they are producing their products (theories). And practitioners ask what there is to learn from these products. But the perspective suggested here, based on the ideas of quasi-objects and theory as what a given centre believes to be true about something distant, makes it interesting to start learning from each other's "business" processes? Will there be something for practitioners to learn from the way theorists construct "truths"? Will there be something for theorists to learn from the way practitioners create new worlds? A first step in order to look for similarities within "business processes" is to construct a vocabulary that can describe both theorising and practicing. It is to construct a vocabulary that can describe the two traditionally different worlds.

To organise the discussion focus is on those practitioners whose creations end up as new businesses – i.e. entrepreneurs. Therefore, the search is for similarities between the act of theorising and the act of entrepreneuring! The point of departure is to imagine both a theorist and an entrepreneur as centres that are dealing with a periphery (see Figure 4 page 20).

3.3.1 Theorising and Entrepreneuring are Acts of Creation..

Conceptualising both theorising and entrepreneuring as acts of creation is the first step in a vocabulary to look for similarities within "business processes". In section 2.2.2 page 11, it was argued that theorising can be conceptualised as an act of creation rather than discovering. Similarly, Steyaert (1997) and Steyart & Bouwen (1997) encourage theorists to view entrepreneuring as an act of creation in a reality of becoming rather than being. Czarniawska-Joerges & Wolff (1991) relate the term entrepreneurship to "the making of entire new worlds", while Johannisson (1999) proposes an "enactive approach" – he launches an entrepreneurial venture himself – in order to research into the emotional and volitional forces involved in trying out new realities. In this way both theorising and entrepreneuring is an act of creation. It is an act of creation, no matter whether the fact created is an innovative technical solution, a new model explaining the existence of organisations, a new hairdressing saloon or a new Microsoft.

3.3.2 .. through Heterogeneous Engineering to Overcome Resistance ..

But what does this act of creation involve? Both theorising and entrepreneuring can be conceptualised as fact making based on heterogeneous engineering. Heterogeneous engineering (Law, 1987) is a process "in which pieces from the social, the technical, the conceptual and the textual are fitted together, and so converted (or "translated") into a set of equally heterogeneous scientific products [or new businesses, in the case of entrepreneuring]" (Law, 1992). In short, both social and material allies have to be simultaneously aligned to create a fact, i.e. a scientific "discovery" or an organisation.

We are now touching upon the re-conceptualised relation between theory and practice. It is a relationship of resistance and overcoming resistance between centre and periphery. Theory becomes practice (and thereby a true theory!) through overcoming resistance in the distant places the theory says something about in a way that the practice is aligned with the theory. Traditional modernist mirroring research says that this is done when the theory accurately matches the reality and reality thereby automatically is aligned. Postmodernists, as Gergen

cited above, turn it upside down, good theorising enables new forms of action, and is therefore good if periphery is aligned to it! From a management perspective it becomes more a matter of overcoming the resistance in the periphery. But let's look at two examples.

In a classic ANT-article, Michel Callon (1986b) illustrates how scientific fact creation is an accomplishment of heterogeneous engineering. His case study focuses on how three theorists simultaneously had to overcome resistance from at least four groups in order to create facts concerning how scallops could be cultivated in St Brieuc Bay. Resistance from *scientific colleagues* had to be overcomed – they had to be convinced that this was an important study in order to reach the goals of the scientific community. Resistance from the *fishermen* in the bay had to be overcome – the fishermen were greedy for fast profit, but it was necessary that they did not harvest the scallops while the experimenting went on. Resistance from the *scallops* had to be overcome – they did not anchor themselves to the seabed on request from the theorists, which was important in order to cultivate them. And if any of these groups could not be aligned – no matter if it were a "social" or a "natural" group – then no new truth would be created.[3] The heterogeneous actors constructed and given certain meaning in the relation to the theorists are summarised in the following figure:

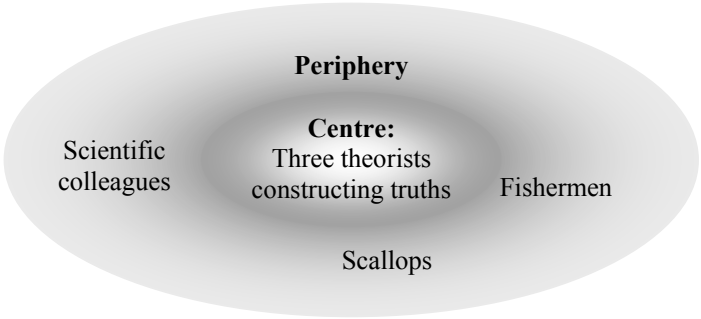

Figure 5: Periphery in relation to the theorists as center

Let's now consider a case of an entrepreneur: In a short – partly fictional – case description, Christensen (1999) tells the story of Sven Ingemann Pedersen

[3] I have a little problem with a detail in Callon's arguments. In his eager to treat humans and non-humans equally, he assigns goals to each of these groups – no matter if they are human or non-human. Instead of assigning goals to them I would prefer assigning "habits" – no matter if they are human or non-human. And then many humans have a habit of being goal directed. But this change does not influence on the main arguments and contributions of his article.

(SVIP) and his act of creation. This story is here slightly modified and retold through the same vocabulary as the case above in order to highlight similarities between theorists and entrepreneurs. SVIP was employed as a purchaser, but while he was on a trip to Sweden his employer went bankrupt. Sitting in his hotel in Sweden that evening and speculating of his situation, he suddenly realised that the lamp in his room was nice, but that it could be designed a lot simpler and thereby cheaper to manufacture. On a napkin he sketched a simpler design. But to transform this sketch into a business, he had to engage in heterogeneous engineering: SVIP had to overcome the resistance from the *material* – the lamps had a habit of falling apart. SVIP had to overcome resistance from customers – *customers* have a tendency to buy something else. SVIP had to overcome resistance from *suppliers* – unless carefully managed, suppliers can have a tendency to produce someone else's orders first. SVIP succeeded in overcoming these resistances, and a new organisation had been created. But as the organisation grew other groups started to produce resistance; resistance that can be bracketed through the term day-to-day management tasks. Resistance, which, SVIP acknowledged that he had neither the competences nor the desire to fight. Therefore he decided to sell the company. This case can be illustrated as follows:

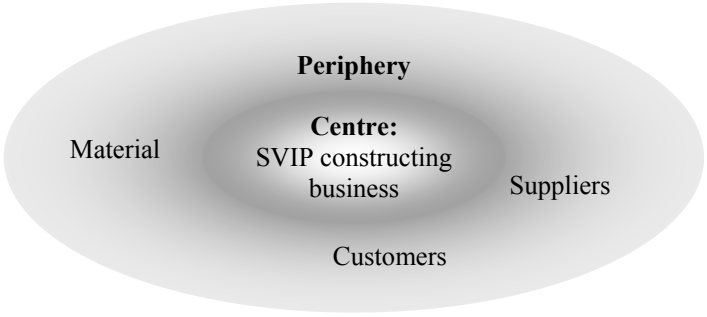

Figure 6: Periphery in relation to SVIP as centre

3.3.3 .. with the Use of Heterogeneous Devices or Technologies ..

Both theorists and entrepreneurs are dealing with something absent. They are both centres dealing with a periphery which takes its form and existence relative to this centre. Both theorists and entrepreneurs are dealing with phenomena that cannot be apprehended as they are, but only through devices of different kinds.

Through various devices our five senses, which can apprehend some aspects of the immediate, are "extended", so to speak.

3.3.4 .. to make the Not-Present Re-present ..

Through questionnaires, theorists can "speak" with thousands of people at the same time, and he can concentrate their voices at a single point in time and space. Through various kinds of statistics, theorists can "observe" many different places at one time and from one location. Through interviews the theorist can "see" what the interviewee sees, saw or think. Through language and theories, various observations brought in to one place from events scattered through time and space are interpreted and ascribed meaning and thereby used as an element in the construction of facts like the Gross National Product or the balance of payment. Or "truths" like the evolution of populations of organisations, management conditions in SMEs, etc (See Latour, 1988a for an extended discussion of science as "Drawing things together")

Equally, entrepreneurs (and other "practitioners") extend their five senses through various devices. Through accounting numbers, the entrepreneur can "see" what is going on in foreign subsidiaries just as he can "see" what is going on at the local site (Robson, 1992). Trough conversations with sales agents, he can "see" what they saw when they visited customers or foreign markets, or through conversations with employees, he can "see" what is going on in his company. And through diverse forecasting techniques and devices, he can "see" what is going to happen in the future. In this way neither entrepreneurs nor theorists are seeing with a naked eye, but rather with an eye clothed (Latour, 1988a) in various devices.

3.3.5 .. and to Act at a Distance.

Besides drawing things together, theorists and entrepreneurs use various devices to overcome resistance when they engage in heterogeneous engineering, when they try to act at a distance (For discussions of the idea of "acting at a distance", see Cooper, 1992; Law, 1986). They use devices to extend the abilities to influence beyond the abilities of the body. Law states:

> ..left to their own devices human actions and words do not spread very far at all. For me the conclusion is inescapable. Other materials, such as texts and technologies, surely form a crucial part of any ordering. (Law, 1994, p. 24, original emphasis)

Theorists supply their questionnaires with a written instruction in order to guide thousands of "conversations" at the same time. Theorists use articles and books to extend their voices to reach far beyond the auditorium.

Equally, entrepreneurs use devices for acting at a distance. The carpenter extends his arm with a hammer in order to overcome the resistance from the nail. Like a marketing manager extends his voice through advertising through mass media, an entrepreneur can extend his voice through writing down orders or formal procedures or by committing the resources of other people. And if people resist following written or formal procedures, the procedures can be "hardened" into the design of workstations and assembly lines.

3.4 Summary: Re-conseptualising the Bridges

Concluding the previous section – section 2 – Figure 3 page 13, summarised two perspectives on bridges between theory and practice within a "parallel-world-perspective". In this section an attempt was made to "imagine a world beneath this bridge". First, an idea of paradigmatic symmetry was coined, asking for symmetry between paradigms guiding research and paradigms guiding practice. The idea is, that theorists should not only reflect upon how practitioners could benefit from the results of research; but also if practitioners could benefit from the assumptions guiding the research.

Theory and practice were merged into an idea of quasi-objects. In addition, a difference was re-constructed through the idea of distance between centre and periphery, and a wish to act a distance. But then again there is a need to bridge. Not between two parallel worlds, but between centre and periphery. This can be done, it was argued, through heterogeneous devices for making the not-present re-present and to act at a distance.

Based on an actor-network approach, it was proposed to conceptualise *both* theorising *and* entrepreneuring as: (1) An act of creation, (2) based on heterogeneous engineering in order to overcome resistance posed by heterogeneous (social and non-social) "materials", (3) through using

heterogeneous devices to extend the five senses in order to be able to (4) make the not-present re-present and (5) to act at a distance.

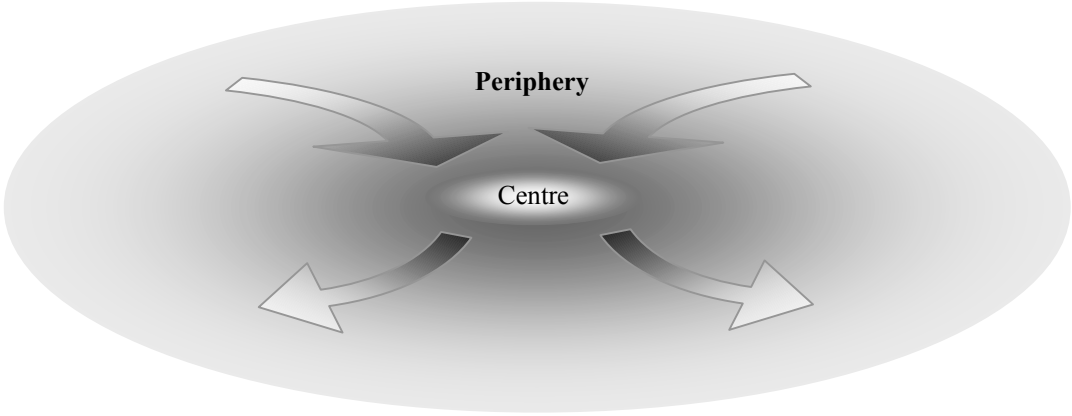

Figure 7: Re-conceptualisation of bridges

Figure 7 is intended as the "new" version of Figure 3 page 13. Instead of bridges between two parallel worlds, the arrows are bridges between a centre here and now, constructing and holding theory of practice there and then. The arrows illustrate the devices used by the centre in its attempts to overcome resistance in the periphery in order to make the not-present re-present and to act at a distance.

The arrows are darkest near the centre to illustrate a relational conception of distance. The level of distance between a centre and a point in the periphery is not determined by the extent of space or time between them. Instead the level of distance from the centre to a point in the periphery is determined by the possibilities of manipulating or acting upon it.

Concerning re-presentation, then the distance between centre and periphery is defined as a consequence of the difficulty of making the periphery re-present at the centre. Something that is impossible to re-present is at endless distance – no matter if it happens in the room next door or at the other side of the world! Concerning acting at a distance, distance is a consequence of how difficult it is to manipulate and therefore to overcome resistance from. Distance in relational terms means that things which are difficult to manipulate or act upon per definition are distant.

This line of relational thinking can also be used to draw the boundaries between centre and periphery. Earlier, it was argued that the idea of centre and

periphery take the heterogeneous actor as basis of theorising. The centre is a heterogeneous actor. The adjective "heterogeneous" is added to actor in order to extend a traditional conception of an actor as a human individual. A heterogeneous actor is a network of relations between humans and non-humans. And it is considered as one actor, when the network of relations between heterogeneous elements is so stable, that it acts as a single unit. In this way, the boundary between a given centre and its periphery is drawn, where problems of manipulation start. Where the heterogeneous bits and pieces no longer acts automatically as a single unit.

In this way, a centre can be more than one person. It can be an organisation. It can be a department. It can be a management team. It can be a worker and his machine, etc. But it is important to notice, that the centre is not something pre-given and stable. Rather, centres are ephemeral. A centre is assembled in specific relations and may suddenly dissolve, and parts of the centre suddenly turn into parts of the periphery, as it no more acts as a single unit.

In the next section the paper will be concluded through a brief discussion of the consequences of this line of thinking on conceptions of theorising.

4 CONCLUSION: RE-SEARCH OR RE-THINK? NO, RETHINK THEN RESEARCH

This paper took the old saying: "Theory is one thing, practice is something else", as a point of departure. Through two lines of arguments, one based on theories of chaos and complexity and the other based on the crisis of representation, it was discussed why this saying sounds reasonable. And instead of trying to fix the relationship, it was proposed to re-conceptualise the relation between theory and practice. Instead of two parallel worlds, it was suggested to conceptualise theory as what a given centre believes to be true and possible in the periphery.

As indicated in section 2, modernist and postmodernist assumptions suggest different answers to the question "what does it mean to theorise?"

To modernists, theorising means polishing the mirrors (Gergen & Thatchenkery, 1996). Theorising is about making ever more detailed and complete pictures of every aspect of a pre-given reality out-there. Theorising is re-*search*: Searching again but better, through more fine-grained devises. Searching for more pieces, through looking towards other places.

For postmodernists, theorising is – according to Gergen – more about dreaming new realities with pragmatic consequences. Theorising is re-*think*: Thinking again in order to imagine new possibilities and thereby new avenues for action. An example of this position is Gergen & Gergen, who suggest omitting experimentation and instead engage in what they call *hypothetical data rotation*:

> The theory is expanded and its hidden features explained only when a deviant pattern of results is confronted. However, the effect of a deviant pattern may be achieved conceptually by rotating hypothetical patterns of results through the research design, and at each iteration inquiring into the theoretical implications of the configuration. With each pattern the investigators are forced into reflective elaborations (theoretical explanation) that reveals the unspoken of the theoretical position. (Gergen & Gergen, 1991, p. 82)

To modernists, re-*think* is not relevant theorising, as the facts are waiting out-there to be discovered. To postmodernists, re-search is irrelevant, as it is impossible to gather objective facts that are not already laden with theory.

From a centre-periphery perspective theorising can mean both re-*search* and re-*think*. In section 3.2 page 18, it was argued that within this perspective theory is not something ostensive different from practice. Theory is what a centre believes to be true about or possible to accomplish in a periphery distant in time and place. These beliefs are partly formed by the centre's ability to imagine possibilities. This ability to see possibilities can be inspired through different perspectives. This ability to see possible new worlds can be enhanced through re-*thinking*.

The reason for the need for re-*thinking* is found in the lessons learned from postmodern thinking. Possibilities and opportunities are not inherent as essences in situations/nature/things/peripheries, etc, and therefore they cannot be found or *dis*-covered through searching. There are not a limited (but extremely high) number of possibilities. The number of possibilities is endless and only limited by imagination.

But when some issues are re-thought, it may be relevant to re-search in order to try to estimate the pragmatic consequences of these new ideas. And as no-things (see discussion of nothing vs. no-thing page 17) resist or object there will be consequences. Through re-thinking new quasi-objects are constructed in relation to the centre doing the thinking. Through re-search these new quasi-objects become more familiar. Their objections and resistance can be learned.

But if modernists can start searching for bits and pieces of reality, a centre-periphery perspective suggests that bits and pieces first have to be constructed through re-thinking before they can be found!

In this way the philosophical stance can be summarised to the statement: The possibilities are not limited and inherent in situations, hence, they cannot be *dis*-covered. But anything does *not* go, as heterogeneous materials may resist certain definitions.

A last issue to be discussed here is what characterise good re-*thinking*, if it has to be of more general relevance?

4.1 Multiple Applicability as Criteria of good Re-think

Throughout this paper I may have, more or less arbitrarily, switched between dualisms like society-nature, organisation-environments, culture-technology, subject-object or theory-practice. If I haven't been too arbitrary I maybe should have been in order to make the point of this section: These dualities do not belong to different ontological levels going from micro, meso to macro level, like it is commonly imagined within organisational theory (e.g. Astley & Van de Ven, 1983; Scott, 1998).

Callon & Latour (1981) dissolve the distinction between micro and macro actors as something with different essences inherent in nature. Instead they suggest that micro and macro actors are heterogeneous networks, and therefore should be approached in the same terms, making no priory distinctions. Based on this idea that the different levels actually are heterogeneous networks, an avenue is opened for re-thinking, that are not tied to a certain level of analysis. It opens for an avenue of re-thinking, that have multiple applicability as a criteria of quality. This criterion asks for relevance outside the actual setting of the study.

The idea of a distinction between theory and practice as related to a centre and its periphery is illustrated by using examples from theorising and entrepreneuring. But the same idea could be applied to what from a traditional perspective had been different levels. In the classic natural science sense, society is the centre and nature is the periphery (and there is the foundation for the parallel-world perspective). In organisation theory the organisation is sometimes considered as the centre while the environment is the periphery. In an inter-organisational arrangement, the persons involved directly can be considered as the centre and their respective organisations as periphery, etc… The point is that the same line of thinking can be applied shed alternative light into a range of different situations, no matter if these situations, from a traditional hierarchical perspective, are determined to belong to different levels.

In this way this papers idea of centre-periphery as an alternative to a parallel-world perspective illustrates the idea of multiple applicability. Another example from this paper is the BCG-matrix discussed in section 2.2.2. This

matrix can – due to its linguistic ambiguity (Astley & Zammuto, 1992) – be applied in a variety of different situations: An international cooperation discussing its portfolio of business units. An SME discussing its range of products or portfolio of customers. And even an individual evaluating his range of competences in relation to future short and long-term job opportunities. Etc…

4.2 EPILOGUE

And so what…? First, this line of thinking opens new avenuesper of action (i.e. theorising) within academia, with a focus on using perspectives or "knowledge" from the field social studies of science (e.g. actor-network theory) directly to understand entrepreneurship, and organisation and management in general. Why? Because, practitioners like theorists are engaged in construction of realities. Furthermore: Maybe theorists can get direct inspiration from the acts of entrepreneurs in their acts of theorising?

In the introduction, I mentioned that I am currently working within a project joining researchers, consultants, and SMEs. Within a "parallel world perspective" – no matter if it is modernist or postmodernist in its foundations - consultants can be viewed as having the role of the bridge between theorists and practitioners. Within a modernist perspective, the role is to ground their advises firmly in scientific truths, while it in a postmodernist perspective is to translate abstract concepts into alternative avenues for actions in local contexts.

In the perspective suggested in this paper, by contrast, researchers, consultants, and practitioners are centres in their own worlds and they live according to theories about their respective peripheries. In this way it opens for new ways to learn from and interact with each other. This is extra emphasised by the notion of paradigmatic symmetry. Paradigms ought to by formulated in ways that simultaneously inform theorists, consultants, managers and other practitioners.

Second, this perspective may shed an interesting light into management within the knowledge economy and entrepreneurial management. Within the perspective proposed here, knowledge is not about mirroring reality, but about – through heterogeneous engineering – to succeed in creating reality. Success is

not given to the ones who know, but won by the ones who succeed in creating new realities to others. This suggests that practitioners may be inspired from successful theorists, as they are described within e.g. the sociology of translation or actor-network theory. Callon (1986a; 1986b) Cooper (1992) or Law (1986) might be interesting in this case.

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