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Abstract: As travellers, we are usually aware that a map is not the territory it represents. However, as researchers, inquiring into practice, are we always aware of the domain within which that practice is situated? Descriptions of practice sometimes suggest that this is not the case. For example, do engineers actually believe that the models they develop and use are reflections of some reality? It is likely that an engineer never actually follows his models when developing an artefact or process. Similarly, we can ask ourselves whether we believe that a chef actually cooks by following a recipe. Possibly, only someone who does not know how to cook would think so. These idealised models are simply the basis for discussion/reflection and experimentation. It is sometimes the case, however, that descriptions of practice are produced based in a kind of rationality that suggests these misapprehensions are appropriate. In the context of research, can we say that postmodernism has any relevance? If, in the field of practice, only the uninitiated ever had illusions that the 'grand theories' of 'modernism' could be directly applicable, then informed research must recognize this also. To those with no illusions, such 'grand theories' were a basis for reflection and critique. Thus, to this extent we have always been 'modern' and still are. Rather than espousing a Postmodernist perspective, we might point to 'Hypermodernism' – a recognition that the 'grand theories' can only be used as metaphors, i.e. a basis for practical philosophy. By adopting such a stance, it is possible to avoid a false step of fighting 'straw men' and dismissing as worthless research that which could be useful material for reflection and learning when juxtaposed with other perspectives on practice. Models and explanatory frameworks within which research has been conducted need not be rejected as 'modernist' if there is recognition of their useful role as metaphor. At the same time, we suggest a need for a critically-informed approach to research which sheds light upon taken-for-granted assumptions and naïve rationalities, illuminating metaphor and stimulating reflection.

Keywords: metaphor; reflective practice; postmodernism; critical systemic thinking; contextual inquiry

1. Background

We are aware that a map is not the territory it represents. See, for example, Foucault's (1973) reflections on Magritte's work 'Ceci n'est pas une pipe.' (This is not a pipe). However, in some fields of life, an illusion can arise that models do in fact constitute reality. Some people may, for instance, believe that a chef cooks by following a recipe setting out ingredients and method of preparation and cooking. However, someone who knows how to cook would immediately point out that it is their experience and 'feel' for the process and context of cooking which is in play – the recipe is a guide only. In a similar way, we could ask ourselves whether engineers actually believe that the models they develop and use are reflections of some reality or are they simply the basis for discussion, reflection and experimentation? In our experience, an engineer does not necessarily approach her work as an exercise in applying models when developing an artefact or process. Such a view could be regarded by practising engineers as naïve and reductionist. Models are often developed under ideal conditions (e.g. in a laboratory) where the context of their application can be constrained. However, in the world of everyday practice, an engineer's work is situated and contextual. Ideal models are useful, just as a map is useful to a traveller, but alone they are insufficient. Claudio Ciborra reflects upon this when he says:

> *'A good example is the adventurous (and long) life of the Russian MIR space station. Up there, revolving in space, one could find, hand in hand, advanced, robust engineering solutions, rustic design, and widespread virtuoso tinkering … to keep the equipment and the system going as a whole.'*

Figure 1: "The world"

Imagine you are looking at planet Earth from a satellite in outer space (see Figure 1). What do you see – "The World"? In this particular view, the North American continent is most prominent and the United States seems to be the focus of attention. The satellite in question may, for instance, be in use to enable Americans to talk to each other by telephone. The viewer could interpret "The World" as a having a particular meaning, reflecting this viewpoint. The British Prime Minister was recently reported to have said "The World is becoming more global". What could this mean? More global than what? In what context can this statement become meaningful? Some people reading this might think of the Earth as an oblate spheroid (that is what we were taught at school). However, unless the Prime Minister was addressing members of the Flat Earth Society when he made his statement, it seems unlikely that he referred to the shape of our planet. An atlas will frequently include maps depicting a number of different views of "The World". These could show political boundaries, geological terrain, climatic regions, zones of common religion or language, etc. When talking about "The World", an individual does not only denote its physical characteristics but their personal perceptions of other qualities – "Their World" as they experience it. Rather than "The World", it is a description of "A World" – from a particular observer's point of view. As human beings, we have Weltanshauungen (images of the world) that frame what we see and experience (Checkland, 1981) and are not necessarily concerned with the planet we inhabit.

The focus of Postmodern discourse has been to criticise many theoretical perspectives from the modern world as naïve and unrelated to human experience of practice. This discourse appears to be grounded in an assumption that methods (as expounded in Grand Theories) were intended to be applied directly. However, we are unconvinced that the exponents of these methods deserved such a label of naivety. The relationship between methods as a concept and application of method in context is a delicate one, easily misrepresented in formal discourse. Postmodernism places emphasis on a discontinuity between the past, characterised by application of theory, and a present characterised by virtuality and 'the death of reason' (Power, 1990). It has been argued (see Burrell, cited in Grant et al 1998) that linearity is a key feature of Modernist discourse. This can be demonstrated in importance attributed to adherence to *'coherence, order, regularity, prediction, and linguistic certainty'* (Grant, et al 1998, p.10). These are adjectives closely associated with the concept of method. Burrell points to efforts by Postmodernist researchers to move organizational discourse away from such linearity, e.g. Deleuze and Guattari's ideas of nomadism, in which a historic linearity is replaced by a geographic metaphor in organizational analysis (Burrell, 1998). A response to this rejection of method has resulted in some quarters in recourse to the narrative as a more fluid and less restrictive form in which discourse may be continued, liberating individual experience and the use of metaphor. However, this most Postmodernist of techniques has also been subject to criticism. Gabriel (2004) points to the seductive qualities of narrative. Theoretical frameworks, particularly those formulated in a spirit of Logical Empiricism, have tended to constrain the types of evidence legitimised in organizational discourse. However, freed from such restrictions, the power of imagery and the emotive qualities of described experience can be harnessed very persuasively. Writing of his reflections on poetic licence in storytelling, he states *"I have long found this view that the truth of a story lies in its meaning rather than in its accuracy compelling. I have now developed serious doubts and have come to regard it as a comforting but inadequate rhetorical gesture where proper argument is called for. Could it be that a story deceives us precisely because its meaning rings true? Could it be that the more authentic a story seems, the more reason we have to approach it with caution?"* (p.20). The balance between meaningfulness and verisimilitude in storytelling is highlighted here as problematic. It is interesting to compare this view to Claudio Ciborra's (2002) comments on the willingness of managers to

seize upon models, methods and other 'apparitions' in an attempt to deflect their discomfort with the uncertainties of organizational life.

Hans-Erik Nissen (2002), in discussing perceptions of software development failures, makes the point that investigators of such failure seldom point to technological shortcomings. Instead, it is social phenomena which are at the heart of the problem: issues of power, communication, individual and organizational learning processes and the *'need to make embedded decision rules and their limitations visible.'* He goes on to point to an imbalance in impact of values in the process of creating software. Values of the producers are concerned with functionality and profitability, and to the extent to which use is considered it is by reference to notional 'users'. Nissen makes the point that these 'users' are people who are unlikely to define themselves through their software use, but probably think of themselves as doctors, lawyers, carpenters, store managers, on one hand, and wives, fathers, friends or colleagues on the other. Their position in the relationship is further qualified by use of metaphors by developers which may have a side effect of degrading the self image of the so-called users, e.g. 'software as an intelligent agent' (in comparison to whom?); 'computers as a mind' (do people act upon formal logic?); 'data systems as a conduit for information' (hiding the enormous amount of mutual learning underpinning interpersonal communications which cannot possibly be replicated in human-computer interactions). Nissen's conclusion is that individual software development practitioners would benefit from reflection upon this imbalance, and giving consideration to hidden conflicts that cannot be solved by elegant artefact design alone. This might improve chances of avoiding failure by recognition of 'impossible tasks'. In his discourse, Nissen does not criticise formal methods of software engineering; indeed, he scarcely mentions them. His discussion is about those other aspects of practice which are critically impacting upon the way in which these methods can become feasible to create software that *real* human beings could perceive as 'useful' in the midst of life as it is lived.

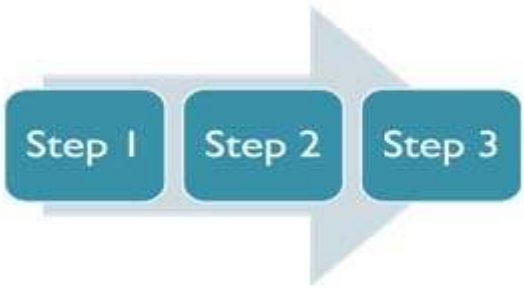

Figure 2: "The business process"

In a similar way, it is possible to consider reasoning about business processes. It is possible to conceive of a business process as a transformation of inputs into outputs through a stepwise series of actions. Figure 2 shows a schematic representation of such thinking. This description is a model of a generic process. However, any particular individual engaged in work relating to the process will be interpreting the activity involved in her/his own way. It is most unlikely that any particular interpretation will coincide exactly with the formal representation contained in the model shown. "The" model should not be confused with a true representation of "a business process" as practiced.

In their description about their method for Object Oriented Analysis and Design, Mathiassen et al (2000, p. vii) explicitly state that: '*this is not a book of recipes to be slavishly followed'.* Instead, they suggest that they provide '*a pedagogical presentation of the object-oriented approach*'. They go on to suggest that they '*provide a comprehensive presentation of central principles*'… including '*essential aspects of analysis and design through a systematic presentation of the system's problem domain, application domain, architecture, and components*'. Their argument is that their '*presentation style is methodological'*, that their '*main emphasis is on principles, concepts, and ways of thinking'.*

This book is the result of reflection on many years of development and practice to which Object Oriented methods have contributed. Similar points are made by Peter Checkland in relation to the Soft Systems Methology. In his original (1981) work, he suggests that rich pictures may be a useful tool for depiction of a problem situation unstructured. However, he issues a warning that such tools are not to be regarded as representations of reality but as working aids to reflection. In his later work (Checkland and Scholes, 1990), he puts forward a revised version of his original methodology. In doing so, he issues the warning that the earlier version, which had been described as comprising seven stages, has often been treated as a stepwise recipe for analytical work. This he condemned as misguided and unworkable. Further support for this position can be found in the field of management practice. For example, Morgan's work (1986) sets out a range of metaphors which are in use as imagery for organizational life and work. He highlights a problem

that adherence to one metaphor can lead to the illusion that this is a representation of some reality. He suggests therefore that use of multiple metaphors can be helpful in setting an agenda for reflection, without being seduced into such an illusion.

Further warnings on a similar point come from Claudio Ciborra. He points to a phenomenon where organizational life becomes 'disambiguated' by adherence to 'apparitions' such as formalised models and methodologies, until '*work is business process, and people are emotionless decision-makers who have to align their preferences and adjust to the changes rationally planned for them … The intricacies and uncertainties of ambiguity, hospitality, and hostility are ruled out from such a world of abstract organizations, but equally ruled out is the 'organizingness' of everyday business life'* (2000, p.31).

In the information systems field we can identify many problem areas of interest, including efforts to analyse both organizational and technical issues. For example, see descriptions of approaches in Avison and Fitzgerald (2002). However, focusing on sociological, economic or technical analyses may not by default lead to understanding or insight into what the concept 'information system' is or means. These aspects are used by Ciborra to explain why beliefs related to adoption of 'neo-positivistic' methodologies fail in information systems development praxis (Ciborra, 2002). Ciborra chooses to adopt a phenomenologically informed critical perspective. He relates information systems to the challenge of infrastructure incorporating the concept of 'being in the world' from the point of view of the individual person. In the flow of life as it is lived, human beings are forced to engage with their context and to develop and apply skills for living. This involves more than application of method, but requires understanding of situatedness of problems and contextualisation of skill and practice. This is the basis for Ciborra's exploration of bricolage, tinkering and hacking as aspects of any design process (2000; 2002; 2004). Such reflections are not confined to the world of information systems or management alone. Similar thoughts have found expression in, for example, anthropology in the work of Margaret Mead. She suggests that improvisation, collaboration and creativity are to be found in everyday life (not only in the world of artists). This phenomenon can be observed in the contingencies of everyday improvisational interaction, in mundane conversation as well as in formal organisations (Mead, 1928).

Figure 3: "The organization"

Organizations can often be seen represented in a format similar to Figure 3, where distinct functions and lines of authority/responsibility are delineated. However, when contemplating this, we immediately reflect that on the existence of both formal *and* informal organizational structures. It at once becomes clear that such a standardized model of "The Organization" does not reflect our individual and contextual experiences of organizational practice. It is a metaphor only for an organization as it is experienced.

In organizational theory, it is suggested that individual human beings are capable to organise themselves and to accomplish collectively work of which they would not be capable do individually. When purposeful, complex and collaborative efforts are made to achieve a 'design', the nature of those efforts (i.e. method) tend to become visible and emergent only after the fact of production (Weick, 2001, p 58). Furthermore, on occasions, the nature of the efforts which have become successful never emerge to the point where they can be made explicit. See, for example, the account of efforts by Xerox engineers to solve complex faults which were not illuminated by instructions in the official manual. Experienced engineers collaborated in a 'storytelling' exercise and together brainstormed solutions which they were never able to fully articulate (Seely Brown and Duguid, 2000).

Lindblom and Cohen (1979) highlight the important role of interaction as a means to achieve problem resolutions. "… in many cases a solution to a problem can be found either analytically or interactively. Settling on one or the other … can also be done either through analysis or interaction, and so on. Settling on

one or the other is often accomplished through habit, tradition, customs, or routines, rather than explicit analysis of the problem of choice. How much thought is required to establish interactive problem solving varies from situation to situation" (Lindblom and Cohen, 1979, p.28). Sandberg and Targama (2007) point to a paradigm shift in management of organizations away from directing and controlling, towards sharing of values, culture and vision. However, they point out that this is often more in rhetoric than practice. Rodgers (2007) points to a paradox in that managers have formal authority to control business decisions but lack any control over the informal interpretations, expectations and competence of their staff. Successful management, they argue, lies in embracing this paradox rather than attempting to resolve it.

This sense of continuous efforts in bridging the gap between human preoccupation with theoretical explanation of experience and experience itself is recognisable in many fields of human endeavour. Malinowski (1922), for instance, describes how ethnography can be used to realise that accuracy is alien to human life, which never complies strictly with any rule. Regularities found by the ethnographer must be integrated with the exceptions that almost always are to be found in social phenomena. He calls this realisation 'the imponderables of real life'. This can be described as a whole series of phenomena of great importance which consist of practice (actions, behaviours), which people apply in their relationship with their world and each other. We can characterise this as the gap between science and engineering; between music and musical performance; between the rules of a game and playing; between theorising and practice of theory.

Garfinkel (1967), in his discussions related to ethnomethodology, reflected over a constantly changing experience of contextual dependencies using the concept of 'accountability'. He describes the principle of order on which the social world is based as the product of specific practices that people use to carry out their everyday lives and activities. He suggested that the continuous 'living in the world' is done by people effortlessly, and that peoples' behaviour is always situated (not general). Life happens in a hermeneutic sense in the midst of experiences of contingencies that each situation requires, and to which people continuously and immediately respond. Living is situated and contextually dependent and people are capable of doing this effortlessly, without conscious difficulty. However, contextual analysis requires that efforts are made to surface sense-making processes (e.g. Sandstrom, 1985) The resulting social behaviour consists in many instances of very complex routines, which may become repeated and standardised. Ethnomethodology is then about making sense of, and reflecting about, how individuals in specific contexts and situations behave. It also addresses how people are able to act, and how this can produce practices which others can recognize and consider as appropriate. It is not about seeking abstract and generic principles. Garfinkel proposes intense participation and engagement, not observational distance. The driving insight is acceptance of 'the unique adequacy of methods'. This calls for recognition of participation in the always- present (and changing) unique situation, context and participants.

All of these actors in diverse spheres of life and activity give us examples suggesting that a Modernist agenda was never as prescriptive as some people have suggested. Modernist methods need not be confused with Modernist practice. Even 'Grand Theories' can only be realised contextually. Confusion may arise in part due to an assumption of a Cartesian split inherent in some work based in Logical Empiricism (see discussion in Radnitzky, 1970). It is important to reflect that any observation can only be made by a particular observer; it is also relevant to emphasise the indivisibility of theory and practice in life as it is lived (Bednar and Welch, 2005).

1.1 Hypermodernism and Design Focus

Can we therefore say that Postmodernism has any relevance? If only the uninitiated ever had illusions that the 'Grand Theories' of Modernism were intended to be seen as directly applicable to any context, then to those with no illusions, they were a basis for reflection and critique (Table 1). If this is the case, a Postmodernist critique may be perceived as directed at straw men. Insofar as naïve adherence to Modernist theories of method can be seen, we might point to 'Hypermodernism' – our recognition that the 'Grand Theories' are only intended to be used as a basis for practical philosophy. Also in the 'modern' world people such as Gregory Bateson did argue for philosophy as practice when discussing approaches to problem inquiry, critical reflection and systemic thinking (e.g. Bateson, 1972).

Table 1: Relation to "Grand Theories"

Relevance of Modernism?	Relevance of Post-modernism?
To those with no illusions, 'grand theories' were never more than a basis for reflection and critique.	*If, in the field of practice, only the uninitiated ever had illusions that the 'grand theories' of 'modernism' could be directly applicable, then informed research must recognize this also.*

In design of information systems (see Table 2), focus is sometimes on artefact design (with aspirations which might be compared to those of the art deco movement). Design of hardware-intensive data systems would be an example where the focus of design is on the features incorporated into artefacts – what they can do, how they look, etc. Sometimes, focus is on the subtlety of these features, however. Aspirations here might be more comparable to those in the art nouveau movement. The usability of artefacts is the focus, e.g. design of a software interface which supports human interaction with the hardware – not just what can it do and how does it look, but how easy it is to use. Alternatively, a focus might be on the design of total work systems within which the features of the artefact could be relevant. Aspirations could be likened to an avant garde persuasion. Usefulness of artefacts in achieving goals within the life world of the people interacting with them is given attention.

Table 2: Metaphors in design

Designers of hardware-intensive systems	Focus on use and artefact design	Aspirations comparable to art deco
Designers of software-intensive systems	Focus on usability and subtlety of features	Aspirations comparable to art nouveau
Designers of human-intensive systems	Focus on usefulness and design for use in context	Aspirations comparable to the avant garde
Hermeneutic design (Improvisation)	Recognition that relationship to use can never be known by the designer. The relationship is that of a foreigner	Aspirations comparable to expressionism

However, in the latter case, ownership of the design process by the actors themselves becomes crucial to its successful outcome (e.g. Friis, 1991). A focus on design by a professional designer for notional, representative, or 'expert' users could not by default result in useful designs. In other words, any design practice is situational and contextually dependent. These metaphors (Table 2) are helpful in avoiding fights with straw men – other people whose focus is different may not be totally misguided.

2. Conclusion

When an experienced engineer is faced with a proposition that the success of a project can be assured by choosing and applying a method correctly, she might exclaim "Surely, no-one in their right mind really believes that people would actually do it like that!" This is a response appropriate to any prescribed recipe or methodology (e.g. Table 3). It is a familiar form of industrial action to have a 'work to rule'; slavish adherence to the way things are officially supposed to be done are recognized as fundamentally disruptive to normal practice. Description of practice is thus only a caricature of 'real' professional practice, i.e. work carried out in context. Practice comes from a combination of structured and unstructured knowledge, applied by living human beings and therefore going beyond cognition. Ciborra refers to the term 'Befindlichkeit' here, to refer to a person's feeling or being in the world. It is the relationships between different types of knowledge – explicit, tacit and affective - that are important. We have five senses, each of which has been trained and has a relationship to emotion and to memory. Control of some aspects of our behaviour may be unconscious (in the brain but not necessarily in the mind). Other behaviour is controlled through deliberate reflection on possible actions. The spread of different kinds of knowledge, emotion and use of the five senses, and the relationships between them, therefore permeate our experience of living. There is a constant play between senses, emotions and learned responses. We can, at times, choose to apply or not apply some aspects of our 'knowing' or feeling. We may choose to make efforts to curb 'natural' responses, sometimes successfully. It is also relevant to reflect that, as Maturana says, non-response is also a response (Maturana and Varela, 1980).

If we examine a process of design from conception through to creation, the means by which individuals make things happen become interesting. People may set in motion events or acts which have unintended, as well as intended consequences. These outcomes are a result of combining knowledge, skills, personality traits and attitudes of unique individuals through formal or informal processes or methods carried out systematically to bring about a desired outcome. This combination can be seen as a shadow falling between ideas and plans and their execution. The way in which plans evolve depends upon sense-making processes involving both cognitive and acted-out behaviour (Dervin, 1989). However, plans are carried out through

situated action and are subject to contextual dependencies which mean that individual destinies, though shaped by their sense-making processes and practices, may not be controlled by them. The emergent property from the play between these different aspects is 'living' (as opposed to 'life').

Table 3: Hyper-modernism

▪ A recognition that the 'grand theories' can only be used as metaphors, i.e. a basis for practical philosophy ▪ We suggest a need for a critically-informed approach to research which sheds light upon taken-for-granted assumptions and naïve rationalities, illuminating metaphor and stimulating reflection.

It is possible to see Postmodernist discourse as endlessly arguing that a map is not the territory it represents, when this appears to us to have been clear to many leading authorities in the 'modern' world already. There are many instances in which models and explanatory frameworks within which research has been positioned are performing a useful role as metaphor, and have not been adopted naively or prescriptively. However, we believe that there is a need for a critically-informed approach to research, i.e. one which specifically attempts to shed light upon taken-for-granted assumptions and naïve rationalities, illuminating metaphor and stimulating reflection. This 'Hypermodernism' includes a recognition that 'Grand Theories' may be useful as metaphors, i.e. a basis for practical philosophy.

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