A processual account of social reality and its application to a corporate change case study

Volume 1 of 2

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Volume 1 of 2

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I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

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Abstract

This research project started as an inquiry into the relationship between organisations and the ideas they assimilate. How do ideas get noticed, developed and implemented? Why do certain ideas appear and then disappear without lasting impact? The project was based on a conception of organisations and ideas that was ecological: organisations provide an environment in which ideas can grow, compete, achieve dominance, find a niche or simply fade away. This ecological metaphor began to surface critical problems that questioned its viability. After reviewing the notion of ideas, from Plato through Descartes, Locke, Lovejoy and Whitehead to Rogers, Czarniawska and Latour, the concept of ideas-as-things is seen as problematic, and a better way is proposed, conceiving of ideas as processes: as human-material interactions.

This hypothesis repositions the inquiry towards conceiving of organisations as idea- and therefore process-complexes. If ideas are processes and organisations are processes then the distinction between the two becomes difficult to make. If the concept of ideas retains meaning it is as a perspective for interpreting process-complexes that focuses on the way processes develop from the imaginary towards the material.

This leads to exploring the nature of the world-as-process. Our conception of reality appears to be framed within a substantive, as opposed to processual, world-view whereby the processes of perception, recognition and verbalisation constitute the means by which the underlying continuum of experience is translated into the discrete components of the world-of-things. It seems that we cannot intellectualise process without simultaneously alienating ourselves from it. How can we conceive of the world-as-process without obscuring it behind the world-of-things?

Contemporary process theories can be divided into two broad groups: those that deal with process as specific phenomena within a substantive organisation (exogenous); and those that treat organisation-as-process (endogenous). Those theories in the former group avoid the problems of process altogether while those in the latter largely focus on discursive and intellectual processes, leaving the world of materiality as a secondary phenomenon. There is one field of study, however, where materiality is treated as a primary part of social processes: in Actor Network Theory. Here, however, materiality is granted equal status to human actors, de-centring the importance of human-material interactions.

This thesis attempts to develop a novel position on process that centres on human-material interactions. It starts with a simple scheme that envisages social processes to be autonomous from but dependent upon biological processes, that are themselves autonomous from but

dependent on underlying physical processes. By considering how each of these processes emerged from its predecessor it proposes a model of process genesis. This model is used to develop a speculative account of how social processes emerged from the biological, identifying the critical role of technology as autocatalytic and durable, and of language in providing variety to enable the social processes to develop autonomously from the biological. The resulting model is of a complex-conjugate process that integrates materiality with intellection. This model incorporates elements of existing process theories: processes of sensemaking and communication entwined around material processes involving technologies. Both technology and intellection provide potentiality that is actualised through the human body, creating further potentiality. Technology stores and mobilising potentiality while intellection provides creativity.

Methodology remains problematic for processual research. It is intellectually-intensive and therefore constrained by the substantive nature of all description. A processual approach can limit the "thickness" of this descriptive layer and stay as close to the processual as possible. The author proposes a tool box of process-sympathetic methods, drawing on the discipline of archaeology for inspiration. Archaeologists place a primacy in materiality, being the only remaining component of the social processes they study. The processual archaeologist pieces together extinct processes from this materiality. This improvised methodology is explored through the medium of a case study concerning the fate and fortune of one particular idea within one particular organisations. The idea was Value Based Management and the organisation; a large international company in the late 1990's.

This research project provides a tentative proposal for a processual model that could be useful in studying organisation. It suggests that whilst most "process studies" are carried out from a largely substantive world-view, and others are largely concerned with intellectual or discursive processes, there may be an approach that integrates the importance of the technological with the intellectual while remaining focused on central role of the human body. It is very much an unfinished project that requires development in many directions before its own potentiality can be properly tested.

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Chapter 1
Introduction

1.1 What is this research all about?

A Process world-view with Ontological foundations

This research project is about the exploration of organisations as processes. The notion of process can be understood in opposition to that of substance: as a world-view in which substance is replaced by process. The reason for adopting this approach is based on the assumption that substance is itself a conceptualisation, albeit incredibly valuable, that lies above a processual reality and at the same time obscures it. Thinking about the world as a set of defined and stable Things and classes of Things may be argued to have its limitations. For example: it separates and fragments a continuous reality into distinct entities that each give the impression of a defined or closed order, deleting the openness that is inherent in the continuous. The motivation behind process research is, therefore, an attempt to transcend these limitations, and catch hold of this openness.

More specifically, the path that led to this particular investigation into organisation-as-process started with a conception of organisations as environments populated by ideas. By understanding the ecology of ideas it may be possible to better understand the organisations that are constituted by these ideas. This premise presents significant issues when ideas are taken to exist in a wider context than the individual mind. Chapters four and five explore the concept of ideas and the problems of grounding ideas in a ontology that supports this ecological model. This leads to the proposal that ideas could be understood to be processes rather than things. However, in a processual analysis of organisations, the distinction between ideas and other processes disappears. The leads to the thrust of this research, which is an ambition to understand the concept of organisation-as-processes and consider its merit as a way of exploring organisations.

This ambition to view the world as process sets out a clear challenge: process ought to be ontologically grounded. It carries with it an assumption that there is a processual reality that lies beneath or behind a reified substantivity. The hazard of ignoring this ontological premise is reducing process to the purely methodological or metaphorical: it becomes just “another way of looking at things”, essentially tipping the researcher back into the substantive world-view. Chapters six and seven explore the concept of process and its ontological grounding. Much of current process theorising can be attributed to the works of Whitehead and Bergson, but neither

of these offer a solid ontological foundation that is not itself dependent upon some form of theological or other spiritual settlement.

Contemporary process theories in organisation studies can be categorised as exogenous or endogenous. Exogenous theories focus on process as specific phenomena within an otherwise substantive world-view. Organisations are accepted to be composed of things within which can be discerned specific processes. Endogenous theories start with the assumption that process is all around: of organisation-as-process. But they largely focus on organising as a discursive and/ or intellectual process, taking little account of materiality that is more or less enrolled in these processes.

The main contribution of this thesis, described in chapter eight, is in developing this endogenous view of process by enhancing the role of materiality. This focus originates in the concept of ideas-as-process and the insight that ideas can be seen equally in the way we interact with materiality as in the way we think about them. Its a role that is already developed by Bruno Latour and Actor Network Theory but this field of study is not explicitly processual and it positions technology on an equal footing to human "actants".

The model is developed through a number of stages. First is the acceptance of a simple universal schema: that social processes are autonomous from yet contained within biological processes, that in turn are autonomous from but contained within physical processes. The second stage is to develop a model of process genesis: how a process emerges from another to become autonomous. The next stage is the speculative application of this process to the emergence of the social from the biological. Finally, this process of emergence is used to construct a more general model of social processes. These are seen to be a complex-conjugate of the technological and the intellectual. The former provides a means of replication and durability whilst the latter injects the creativity needed for a truly autonomous process to emerge.

Having established this simple yet speculative model, chapter eight concludes by crafting a framework of concepts that could be used to explore and articulate the dynamics of this model. The central roles of durability, replicability and creativity have already been established. This framework looks at how the potentiality invested in intellection and technology has shifted through time so that processes of consumption have become technologised to incorporate greater potentiality in highly replicable and mobile technological components. Meanwhile the corresponding processes of production have become increasingly less mobile, harder to replicate and hugely extended. Finally, the framework floats the idea of the infrastructural:

processes that incorporate immobile, high cost potentiality so as to enable otherwise fragile processes of consumption to be more easily replicated.

This framework seems to intuitively relate to processes in which the technological is clearly apparent: for example, in the processes relating to the mobile phone "industry". How it might be used for more intellectually intensive process is less apparent. This question is returned to in chapter thirteen, where the case study developed in the preceding three chapters is analysed and interpreted.

Methodological Challenges

The second challenge facing the would-be process researcher is methodological. If research is intellectually intensive, and intellection is fundamentally substantive then all attempts by researchers to engage a subject are going to result in more-or-less substantive accounts of that subject. When we describe a situation we use language to fragment and fix the processes we are studying into things. We pivot out of the process of interest into an orthogonal process of description, obscuring process with substance.

This problem cannot be overcome because it is inherent in the way the social process works. Intellection diverges from experience into an imaginative process that yields the inherent flexibility and therefore creativity upon which the whole depends. This divergence can be sustained for more or less time before we begin to attempt to actualise this imaginary potentiality, at which point the two strands converge and intersect one more. Therefore, the process researcher should always be mindful of the need to consider the overall process – the eventual actuality that research hopes to influence.

Once this problem is accepted then it follows that there are no specific process methodologies, although all methodologies will tend to be more or less sympathetic to process, obscuring it to a greater or lesser degree. Chapter nine sets about evaluating a number of methodologies in order to identify those that are best suited to process analysis. It draws on the parallel problems facing the field of Process Archaeology to structure a framework for process research. Process Archaeology is only able to consider the material technology left behind by extinct social processes and therefore employs methods aimed at re-discovering these processes based on this materiality. This focus on materiality suggests an approach to organisational studies that seeks to counter-balance discursive processes (people talking about what they are doing) with technological processes (examining what they could have been doing using the materiality available).

The case study in chapters ten through twelve sets out to experiment with the concepts developed in chapter eight and the tools identified in chapter nine. It is, however, a compromise,

using material that was gathered in advance of this theoretical position being developed. The emphasis on connectedness and specifically the ways in which processes are materially connected to each other is not well supported by the case. Nonetheless, the case study indicates how some of the methods could be used and enables certain processual conclusions to be drawn.

Loose ends and unanswered questions

This research project has, rather circuitously, arrived at its central focus belatedly; being a speculative model of social processes as a complex-conjugate comprised of two otherwise inseparable strands. On the one hand there is the technological, giving process a means to create and recreate a durable potentiality. On the other there is the intellectual, providing the whole with the creativity needed to drive a process of evolution or progress and thereby achieve autonomy from its containing biological processes. This speculative model is tentatively laid out and imperfectly explored through the case study. But there are many questions raised and unanswered because a) the model itself is still developing, and b) there is not the space or scope to give these questions proper consideration.

One of these questions is epistemological: that within a processual world-view, knowledge cannot be a Thing distinct from action but must be an inseparable component of process. It is a flow that largely involves language and thinking yet it can equally be seen to be encoded or even institutionalised within action. It exists not just as thinking about concepts, but also as its expression in action. The carpenter's square conveys knowledge about angles without needing to engage the intellect. Indeed all technological processes could be said to contain knowledge that is can be brought to bear on a problem without being explicitly thought about. Perhaps, and this is only a tentative suggestion, knowledge can be reduced in some way to potentiality. As we confer greater degrees of potentiality into the hard technology of our daily lives are we not transferring knowledge too?

1.2 Research Objective

The objective for this research project has shifted during its development. It started with an ecological model of ideas within organisations and shifted to focus on understanding the processual nature of organisations. In the end it has became clear that the contribution of this project lies in the development of a model of social processes that seeks to combine and balance a technological component with an intellectual component.

The objective of the research is therefore to develop this model, albeit only as an indicative and speculative outline of what might be possible, and then to experiment with the model through the medium of a case study. In particular, it is necessary for the research to demonstrate how

this focus on materiality helps to gain a better understanding of social processes. The degree to which this has been more or less achieved is reviewed in Chapter 14.

1.3 Structure of the Thesis

The thesis can be divided into the following groups:

Preface

Chapters 1 through 3 provide prefatory material, background to the research project and some initial concepts about process aimed at assisting the reader in exploring the rest of the document.

Historical Cross-Sections

Chapters 4 through 7 explore the concepts of Ideas and then Processes as they have developed over the *longue duree*. The initial purpose of this review is to attempt to understand the nature of ideas and specifically to determine how ideas can be conceived of as being both intra and extra-mental. For an ecological model of ideas to exist then there has to be some way in which they can be seen to inter-penetrate the world within and outside.

The resulting analysis is inconclusive, finding ideas fulfil different roles and, as focus has shifted from ideas within the mind to ideas outside the mind, the concept has become increasingly metaphorical. This is perhaps exemplified by the metaphor of diffusion that become popular in the mid 20th century. Here ideas are seen as diffusing through a social context, yet their particulate nature that enables this diffusion makes them curiously disconnected.

In chapter 6, the review moves from ideas to process as the notion of ideas-as-process is introduced to resolve the inconclusive ontology of ideas. The concept of process is explored from its initial roots in the late 19th century through to modern organisational studies (chapter 7). It appears that a proper processual world-view is difficult to achieve, with many process-studies being conducted from the safe-harbour of a substantive world-view. There are, however, several bodies of work that do engage with the concept of process at an ontological level. Unfortunately, most of these do not fit comfortably with the initial concept of ideas-as-process, which incorporated a sense in which process was always grounded through interactions with materiality. Tableness, for example, exists as much in the ways we interact with physical tables as the ways we intellectualise them.

A Model of Social Processes

This discomfort leads to Chapter 8 where the main model of social processes is developed in more detail. This is not, however, an attempt to expound a theory, hence the use of the term model rather than proposition, hypothesis or theory proper. It is, in the Whiteheadian sense, a spontaneous eruption of a concept that may or may not emerge through the efforts of many people into something that is itself durable and replicable. Further details on the development of this model, and particularly the derivation of the genesis of social processes can be found in Annex E.

Methodology and Case Studies

Chapter 9 describes the specific methodological challenges facing the process researcher. It highlights the problem that there can be no methods that are properly processual because research being an intellectually intensive process is necessarily discursive and therefore fixed by the substantivity of language. The chapter therefore seeks inspiration from archaeological methodologies because they demonstrate how a wide variety of methods have to be used to build up a picture of a situation that is always far more extended in time and space than can be engaged with directly, and because archaeology has a very strong emphasis on materiality.

Chapters 10 through 13 are all concerned with the case study into Value Based Management. Chapter 10 provides an introduction to the case study and the methodology. Chapter 11 is concerned with understanding the processes that led up to the decision of the subject's board to implement Value Based Management. Chapter 12 provides a description of a variety of processes across the subject companies that followed from that decision up until the end of the implementation. Chapter 13 provides an analysis of the case study and uses the case study to experiment with some of the ideas developed in chapter 8 and the methodological approach in chapter 9.

Conclusions

The final chapter 14 provides a general assessment of the overall research project and attempts to summarise the contribution, or potentiality that it may offer to future work.

Supporting Material

There are a number of annexes that contain supporting material. Some of this relates to the case study and some are separate publications that the author was involved with. There are also two essays offered in support of the main text and providing more details behind the concept of process itself. In particular, Annex E has already been identified as providing a more detailed account of the material in Chapter 8.

Chapter 2
The Bootstrap

2.1 Some Preliminary Ideas

In writing this thesis I have had to experiment with some of the methods that I think would be suitable for use in a Process-based research programme long before I have been able to properly define them. My attempt to redress this is to roughly define the most basic terms and concepts here, to assist the reader in these early sections. Think of it as a way of bootstrapping the process[1].

Ideas

The concept of ideas is central to this thesis, being the original subject of my studies. In the course of attempting to better understand exactly what ideas are I came to the conclusion that they were best conceived of as processes rather than things. That is to say, ideas are not things within the mind as convention might suggest but rather exist as the interactions between human activity and the material world itself – including mental interactions achieved through the materiality of the brain. When I think about a table, for example, I am engaged in a neural process. What I am able to think about is defined by (or enabled) by prior activities that have interacted both with the materiality of the brain, and outside materiality – spoken and written words, pictures and tables themselves. I have seen, touched and used tables, all of which experiences have contributed to the potential I now have to conceive of tables again. It is this potential that enables me to express the idea of table in so many different ways.

It is essential to this concept of Idea that no attempt is made to separate the two halves of this equation: activity and materiality. The essence of an idea lies in the process of interaction. To attempt to study materiality by itself is to become involved in a pivoting movement whereby the researcher moves out of the axis of the original process into an orthogonal, intersecting process of description. Similarly, to think of an idea as being something that is simply in the mind is to miss the connectivity between the mental processes and those involving the non-mental world: both leading up to a particular "mental" moment and leading away from it. My potential to express the idea of table is always a function of the numerous interactions I have had through the idea in the past.

[1]Bootstrapping involves a piece of software that is run when a computer is switched on. Its purpose is to load some more sophisticated piece of software to take over the loading process, and then erase itself.

There are various implications arising from this concept of ideas that are more fully explored in Chapter 8. One particular implication that cannot be deferred until then, however, is the notion of abstraction or generality. It follows that to articulate the idea of Tables as a generality imposed across the set of possible tables, is inevitably an act of separation from particular processes involving particular materiality. It is a pivoting out from a particular processes of table into a quite separate descriptive process of Tables, replacing the reality of particular tables with the reality of particular descriptions. In short, this definition of Ideas does not admit any abstractions, classes or generalisations: there are only ever particulars. The link between particular descriptions and particular tables is always itself made through particular processes. If we are to accept this point then there has to be a convincing explanation of what otherwise appear to be generalisations.

Patterns and Fractals

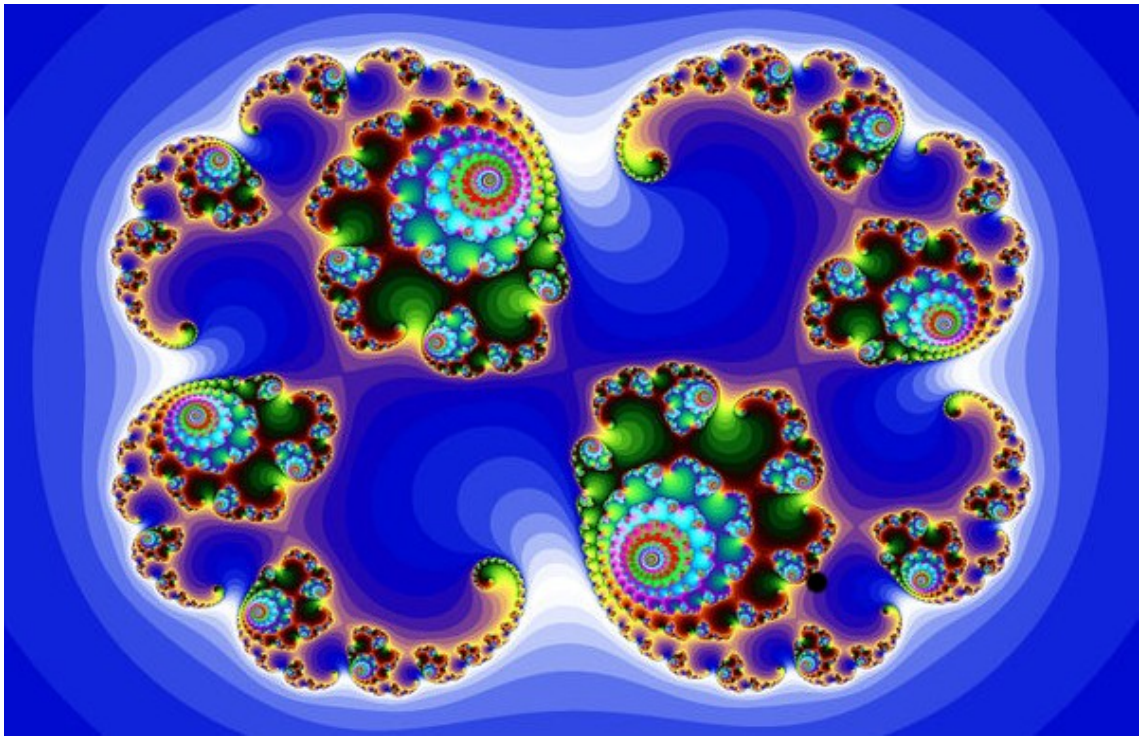

Figure 1. Fractal image from complex quadratic equation[2]

I believe that this explanation is provided by the concept of Patterns, or more specifically Fractals. We conceive of classes of objects because we repeatedly see instances of objects that are alike, to a greater or lesser degree. This conviction is cemented through the use of language: the assignment of particular words to groups of similar objects (an incredibly useful device).

[2]The equation used to generate this image is $f_c(z)=z^2+c$ with c= 0.285+0.013i

But then it is just one step further to believing that these groups have themselves an ontological status that encompasses all of these particulars. What this misses, however, is that the connections between these similar objects is not inherent, but rather processual, and often processual in two different ways. First the biological process of perception engages different materiality in a process that produces similar results: I see one table, then another and my visual pattern matching makes a connection. Second the physical process of production and operation, by which ideas are physically expressed, itself creates the similarity. The practical value of a horizontal flat surface at which a human can sit with their hands and arms able to rest on the surface and therefore conduct numerous delicate (and not so delicate activities) is one reason for the similarity of tables. Another is that the best way of creating such surfaces (economically and manually) is by using wood, and that in itself dictates or at least directs certain aspects of the table's appearance and therefore creates a similarity.

The concept of Fractals provides another way of thinking about the role of processes in the generation of similarities (and therefore giving the appearance of classes). Fractals are essentially functions (operations, processes) that show the ability to repeat complex behaviours time and again given the same inputs. It is important not to confuse fractals with the images that can be created using fractal functions. These picture fractals should be seen for what they are: a frozen moment in the ceaseless iteration of the fractal function. What they illustrate in this icy snapshot is the means by which oft repeated iterative functions can create patterns and the resemblance of order based on such simple inputs. They are metaphors for the process-equivalent of abstraction and generalisation.[3]

Through-out this thesis I use the concept of ideas to refer to bundles of process threads connected together by some common point: the use of a particular word; the inclusion of a similar operation; the sharing of a common visual cue, or more often the divergence from a common history, or convergence on a common present. Ideas provide the process researcher with a means of structuring the myriad processes that individually relate to a particular situation or moment in time. It is, however, fundamentally a crude methodological device because it would be impossible to define what an Idea is in an absolute way. Indeed, trying to provide such a definition is essentially a betrayal of the whole concept: attempting to fix ideas as clearly defined Things rather than accepting their micro-processual complexity.

[3]Note that the word “Fractal” has been used with different meaning by other authors, such as Abbot (2001). He uses the term “Fractal Distinctions” to demonstrate how categorisations (particularly dichotomies) repeat themselves within the categories they create. This is not related to the concept of fractal processes that can turn simple combinations of events and materiality into complex patterns with seemingly emergent behaviours.

The idea of "processism"

> *What is characteristically definitive of process philosophizing as a distinctive sector of philosophical tradition is not simply the commonplace recognition of natural process as the active initiator of what exists in nature, but an insistence on seeing process as constituting an essential aspect of everything that exists -- a commitment to the fundamentally processual nature of the real. For the process philosopher is, effectively by definition, one who holds that what exists in nature is not just originated and sustained by processes but is in fact ongoingly and inexorably characterized by them. On such a view, process is both pervasive in nature and fundamental for its understanding.* Nicholas Rescher[4]

In using the word "processism" I am referencing a collection of various related ideas that course through writings spanning the last two or three thousand years. There is no single project that can be described as "Processism" - no consistent and coherent body of work. Rather there are various "threads" that seem to have certain themes, aims, or assumptions in common. Sometimes these threads are quite closely connected, whilst at others it seems that they are only connected by the word "process" itself.

I believe that one of the themes uniting the various ideas that I see as forming this collective is best understood in its opposite: a reaction against the notion of substance. This is based on the understanding that most people most of the time accept the world as composed of durable "Things" having definable attributes and behaviours: objects. This common sense view is deeply ingrained in the general acceptance that this world is best understood as being stable; where change is fundamentally an aberration. The world is ordered and change is unavoidable in transitioning from one state of order to another.

Processism is the opposite of this belief: the world is constantly changing and stability is always temporary. It is also a conviction that this holds true for everyday objects as much as it does for political epochs, for example. After all, the atoms making up a china mug have experienced a far longer and more complex process than that which marks their time in this one particular configuration. Some of the ideas that are processist take this belief to its ultimate conclusion, inspired by the revolution in science that resulted from the notion of quantum mechanics. They assert that substance itself is illusory and the very essence of the universe can only be understood in terms of the processes that flow through it.

On the other hand, there are processist ideas that do not find it necessary to challenge the very fabric of the universe, but instead attempt to counter the more modest assumption that social "forms" are themselves stable, durable Things. They assert that approaching social situations as sets of dynamic processes can be more fruitful than regarding them as instances of stable social "objects" or structures.

[4]Rescher, 2002

Processism can, therefore, be understood as a collection of ideas united in their general opposition to "Substantivity". If nothing else, they act as a reminder of how much this substantivity has itself been *created* over the centuries. Our biologically mediated senses perceive the world already packaged into Things of a certain size and form. Linguistically we reinforce this packaging with an inescapable grammar of objects and subjects (Things again). We have reinforced both of these dispositions with an Aristotelian obsession for categories (of Things), and a long born conviction that there was once an Adamic *forma locutionis* – a perfect language that could convey the true essence of Things[5].

What is the Appeal of Processism?

I have sometimes tried to compare processism with substantivism but have now concluded that this is not really a useful exercise. The two perspectives are fundamentally different which makes comparison difficult if not meaningless. It seems, therefore, more appropriate to consider why people are interested in finding an alternative to the concept of Substantivity?

For a start, wherever there is a well established "dogma" there are always people trying to find an alternative to it: looking to rebel against the establishment for any number of reasons. Heraclitus' all-consuming fire of change stands against the doctrine of stability espoused in the works of Parmenides. Bergson's ideas of Duration and intuition was an antidote to what he saw as a fixation on space, form and language. The processist concept of "Longitudinal Field Research" can be seen as an alternative to "Parsonian Functionalism", the incumbent doctrine in the US during the late 1950's and 60s. Processism is always an alternative if only because substantivism is second nature and therefore bound to be the incumbent Weltanschauung.

People have also been drawn to processism as an alternative not to the established but to the problematic. Whitehead wanted to discover a grand unification theory for mathematics, but even as he worked the problem, Maxwell and others seemed to be undermining western science in general. Perhaps Whitehead saw this as an opportunity – a totally new idea that could lead him to unity through another route, which was to become his Processism.

Processism may also be a reaction against Alternatives themselves. Where post-modernism has acted to undermine totalising theories, which were largely substantivial, processism offers the possibility of recapturing this aim without necessarily offending post-modern sensitivities. It retains a focus on the local and the dynamic while at the same time offering the prospect of integration and, ultimately therefore recapturing a totalising movement. It offers another way to access a world of theory and ideas that post modernism strived to put our of reach. Perhaps the threads of work that illustrate this well can be found under the title of "Actor-Network Theory"

[5]Eco 1999.

(ANT), dissolving away the *individual* in favour of an heterogeneous network of dynamic relations. No one part of this network is indivisible because it is always acting for and summing up its historical connections.

Ultimately, however, Processism doesn't result from the rational selection of the best tools for the job so much as from a conviction – a belief that fundamentally this is the way the world is. It is a conviction that Substantivism is a construct, albeit a multi-layer, sophisticated and highly useful one. But ultimately the world *is* process, and Things are put there by us to make that process intelligible. But when the Things begin to become unreliable we have to find ways of seeing around them, of re-connecting with process again.

> *... social life is in its fundamental reality one and indivisible, a seamless web, a single inconceivable and transindividual process, in which there is no need to invent ways of linking language events and social upheavals or economic contradictions because on that level they were never separate from one another. The realm of separation, of fragmentation, of the explosion of codes and the multiplicity of disciplines is merely the reality of the appearance: it exists, as Hegel would put it, not so much in itself as rather for us, as the basic logic and fundamental law of our daily life and existential experience in late capitalism.* Frederic Jameson[6]

Problems with Processism?

Processism is essentially problematic in two ways. First there is an inherent problem: if the means by which we express and explore ideas are essentially substantivist (language tips the reader into the domain of Things), then we are always detached from process when we try to conceptualise it. This is the Problem of Orthogonality that I don't think can be overcome and therefore expending effort on trying to overcome is probably futile. However, I think that it is a problem that can be alleviated by remaining as close to the world of process as we can. It is perhaps an issue of methodology and one that I explore further in chapter 9.

The second problem is ontological. Processism is, fundamentally, an ontological idea that opposes the concept of Substantivism: that reality is composed of Things. Understanding the ontological replacement proposed by processism has never been easy though. It is like trying to understanding elemental fire compared to water or earth: the latter are substantial, can be held, measured, controlled. The former is ephemeral, elusive and cannot be held. Perhaps this is what inspired Heraclitus to associate change with fire?

Each of the various processist ideas can be crudely categorised. On the one hand there are those that appear to address ontological issues directly, but provide solutions that are conceptually difficult to apply to practical, everyday situations. On the other are those that focus on practical

[6]Jameson 1981, p25

application and utility, but are either deliberately vague about their ontology or avoid taking an ontological position altogether.

The works of Alfred North Whitehead (see chapter 6 for details) provide a good example of the former position. Whitehead proffers a process ontology, but it is extremely difficult to understand, evidenced by the frequent discussions of his intelligibility, or lack of it[7]. His ontology pivots about the concept of an "actual entity", the choice of the word "entity" demonstrating how hard it is to convey a process ontology without being reduced to a Substantivist position. It is difficult to intuitively understand what an actual entity is: "a trivial puff of existence" is one and so is God, but a human is a complex collective of actual entities[8]. The causal force that animates these actual entities is provided by "eternal objects" bathing actual entities in the "lure of possibilities"[9]. The ultimate source of these possibilities is God. Whitehead's processism turns into an ontotheological synthesis rather than a straight ontology, putting it beyond my reach at least.

Given the challenges presented by ontological foundations such as these, it is not surprising that those seeking to practise processism should be attracted to ideas that are fundamentally practical. There are quite a few to choose from: the rich and broad school of Longitudinal Field Research, for example; or the various works that collect under the banner of Actor Network Theory (ANT), both of which are explored in detail in chapter 7. The latter may be less easy to categorise as processist in nature, but the methods are clearly compatible. Bruno Latour follows a team of scientists through the Brazilian rain forests as they gradually reduce the reality of soil, flora and fauna into progressively more abstract representations: the confluence of processes whereby ideas, methods, instruments and personal experience are all brought to bear on the generation of a single scientific paper[10].

These methods may be sympathetic to the processist cause, but ultimately they hold back from committing to a defined process ontology. As Latour says of ANT: "It's a theory, and a strong one I think, but about how to study things, or rather how not to study them."[11] Longitudinal Field researchers may eschew synchronous research studies, but they still operate within a substantive Weltanschauung and, by staying within the bounds of a clearly bracketed research episode, they do not allow themselves the freedom to follow the process whether it may go.

[7]This is explored in more detail in Chapter 6.
[8]See Johnson 1946 page 235
[9]Johnson 1946, page 236
[10]See Chapter 7 for more details.
[11]Latour 2004.

If this outcome was the inevitable consequence of the first problem: that we can not really conceptualise problems in terms of process without pivoting into the world of substance made inevitable by language, then I would have to accept these methods as the best that can be achieved. But are they, or can we do better?

Providing a Solution?

To solve the problem I need to work in two directions. I need to find a method or methods that bring the conceptual into contact with the processual, and I need to find concepts that bring the ontological nearer to the experiential.

The former lies in comprehending the difference between knowing and understanding: between the domain of the conceptual and the domain of the intuitive. I have an example that I think explains the difference. When a Japanese master of Lean Manufacturing (*sensei*) first encounters a novice, he may explain the concept of waste (*muda*), but he expects that the novice will not understand. You have to *get* the idea before you can really start to apply it, and many people struggle to *get* the idea without being given a lot of practical help. For that reason *sensei* do not teach their methods in the classroom or the board room but out on the shop floor where people can *experience* what they mean rather than conceptualising it. Understanding process should be like watching a film: you don't conceptualise it, you experience it and conceptualisation comes afterwards. Bergson's intuition (explored in chapter 6) is similar: you have to imagine your subject without using words to describe it; you have to *feel* for it.

This methodology suggests a means to address the ontological problem. To understand a process ontology you have to be able to imagine it. The words can only ever take you close to the intuitive experience and imagination is needed to do the rest. In this respect, the venture I have embarked upon is this thesis is always risky – if a reader doesn't *get* process then he or she will not understand what I am writing about. And there is no scope for practical demonstration.

2.2 Methodological Challenges

> *It has even sometimes happened that a conception of major historic influence and importance has long gone unrecognised, because its various manifestations, the parts which make up the whole story, are so widely dispersed among different fields of historical study, that no specialist in any one of these fields became distinctly aware of it at all.*
> Arthur Lovejoy[12]

Arthur Lovejoy was aware of it. So too was Bruno Latour when he wrote his essay on Frederic Joliot[13]. The problem that both these authors understood so clearly is one that acutely affects anyone attempting to adopt a processual approach to any significant situation. It is the problem

[12]Lovejoy, 1940, page 4.

[13]Latour, 1999, pages 80-112.

of specialisation; or more accurately the problem of needing to follow a process whether it goes without stopping simply because the process crosses into a different discipline. Lovejoy's History of Ideas had to overcome the resistance of academic specialisation. Latour wanted to show how Joliot's scientific work was as much dependent on the political events of his times as on science itself.

The researcher who wants to adopt a processist approach has to face up to this challenge: has to become a jack of all trades and therefore a master of none. I will even suggest that this researcher has to forsake the role of expert entirely in favour of become a facilitator. This should be seen in two distinct ways: first as a facilitator of expert opinions required to construct the processual threads that intersect and define a problem; and second as a facilitator of the audience who will eventually engage with their works and hopefully attempt to apply it.

I want to raise this point now to make the reader aware of what I believe to be a significant difference between the contents of this thesis and what might be expected. You will find that I have covered a range of subjects from the Protestant reformation to the the stock market. I cannot apologise for this because process necessitates that I explore these subjects and include them in my own narratives. But is it legitimate research or “theory-lite” ramblings? In chapter 9 I relate the problem to one facing field archaeologists. To ensure interpretations are made as close to the point of excavation, archaeologists are inevitably required to become a Jack of all Trades. But they also employ methods to compensate: having on-site experts to consult; training up local and indigenous people to excavate within the team and thereby share their knowledge with the regular excavators. Perhaps this is one area I have been totally deficient: involvement. In my defence I have only really become aware of the problem during writing up. In chapter 13 I suggest that this is one area where there could be much more development. In the meantime I can only apologise and ask you, the reader, to bare with me.

Chapter 3
Theoretical Beginnings

Preamble

The following chapters (4 through to 7) are concerned with the life history of those ideas[1] that flow through this thesis and shape it. They are an exploration of these ideas: where they have come from, how they were formed and how they evolved. My intentions are several. Primarily I wanted a way of reviewing the literature relating to the subjects I am exploring[2]. However, I did not want this to just be a conventional literature review based on the assumption that my thesis represents a nugget of knowledge that sits within or alongside some pre-existing pile of other nuggets. I felt uncomfortable with the assumption that this "knowledge" is a Thing that sits outside those that call it to use, and as such is something that can be "contributed" to in a piecemeal fashion.

Throughout the writing of this thesis I have wrestled with the issue of definition. I have resisted setting out my ideas in a clear and logical order because of the risk that I perceive of transmuting them into static Things. Instead I have worked from the insight that ideas are constantly evolving and developing in an incremental and iterative manner. These chapters represents an opportunity to gently experiment with the more traditional forms of writing. This is a literature review, but perhaps not as you would expect it to be.

What is the purpose of a literature review?

Is it to provide an overview of a body of work? Does it locate a research topic within a pre-existing academic dialogue? Is it the platform from which to argue a new perspective? Whatever the definition, there is a danger that the reader takes the purpose of a literature review for granted, and in so doing runs a number of risks in assessing the authors "contribution".

Whatever else a Literature Review is about, it is primarily concerned with that which is "outside" the author's own research. It is a narrative preamble that seeks to set the scene, defining the academic landscape with familiar landmarks prior to describing the unfamiliar inside of the author's own work. This outside is often treated with a different epistemological rigour. Problems and uncertainties become crystallised as unwavering forms of words bearing

[1]In using this phrase "history of ideas" I have not intentionally made reference to the movement that goes by it and has arisen through the works of Arthur Lovejoy, although I could not claim that I have not been influenced by these works. However, I will claim that I decided on this approach before I became fully conversant with the school and knew of its techniques. Perhaps this is an example of convergent evolution at work? It is, more importantly, an example of how thinking about process forces one towards certain techniques rather than others.

[2]Perhaps I also want to be able to say to the more traditional reader – here, this is the Literature Review!

the solidity of all written history. Plurality is collapsed for the sake of brevity. Truth, which is often a rare commodity inside a research project, is liberally accessible on the outside. It is difficult for any author not to utilise these characteristics of the outside to his or her advantage. We can interpret the "literature" in order to construct our own rationale for our researches. Conversely, the abbreviation consequent of any "review" brings with it the risk of readers recontextualising our work to suit their own political disposition.

Does process provide an alternative meaning for the Literature Review? Consider the research process as a whole, consisting as it does of a sequence of thoughts distributed through time and interconnected by observations, readings and writings. Researchers are continuously engaged in the process of recombining ideas in order to try to create novel and hopefully useful new combinations. Their inputs come from those around them and those who came before. Their outputs are unlikely to be much different from these inputs. For this reason, the power of the whole process can perhaps only really be appreciated if it is envisaged as a collective process distributed through time and space. The Literature Review is crucially an opportunity to engage readers with the sense of this collective. It permits them to experience the processes of discourse and thought that have impinged upon this one small contribution.

In order to do justice to the concept of experiencing this distributed and collective process it may be necessary to dissolve away some of the conventions of the Literature Review. The first of these is the author-centricity of many reviews. A paper may have been written by one or a group of people but that does not mean that its contents are not due to a whole variety of people. The paper itself is unlikely to convene this sense of isolation, being heavily laced with references to other works so why do we, as authors, tend to allow the given author to take so much of the credit. Ideas flow through the discursive academic process, meeting up with other ideas to recombine into a liberating new form with as much serendipity as intention. The breakthrough may have occurred when the ideas were first set on a collision course rather than their moment of actual impact.

The second convention is the synchonicity with which reviews are imbued. They reflect an orderly linearity in the way they are set out. This is in stark contrast with the disorderly distribution of interactions that marks a collective process of this sort. We fix a text with a date, being the date of its publication, and yet the significance of a text is not when it was written so much as when it is read. The works of Plato were not fixed as he finished scribing the last word on the last page. Texts travel through time and as they do so they change to give up new meaning and possibly provide new worth.

Whether or not these chapters achieve any advancement over the conventional forms of literature review can only be judged by you, the reader. I am not sure I have escaped the author-centricity I have criticised here, if only because a good story needs actors. I have, I think, succeeded in at least taking a long-term view that I hope illustrates just how long a time period is involved in the evolution of ideas.

How I got to doing this research project

My particular interest in ideas that led me to carry out this research project was clearly defined at the eve of my researches but has it origins as far back as my secondary education. Although it may seem a little tangential, it could help my readers to understand where I was coming from and the ideas that influenced me as I started on my research proper if I recount some of my biographical details first.

I studied biology at school in the 1970's and botany at University in the early 1980's. I watched David Attenborough's Life on Earth when it first came out and was swept up in the general interest in life sciences that seemed to follow. Around the same time I recall watching Richard Dawkins' TV programme on "The Selfish Gene" and, judging from the price and the publication date of the faded copy on my shelves, I must have bought the book[3] as well.

Attenborough's Life on Earth amazed its viewers with the sheer diversity of living forms, their subtlety, complexity and elegance, all of which originated from the simple process of genetic expression and replication. I was intrigued by the notion of genes being selfish, and by the peculiar concept of imagining evolution from the gene's perspective. Becoming a student of Botany I went on to learn much more about molecular genetics. It was a time when so much was being discovered: everyone was sequencing genes and working out what they did. It seemed that molecular biology was the new Quantum Physics – everything else in biology would end up being no more than a consequence.

In the last chapter of Dawkins' book is a speculative idea about "memes". If it as possible to conceive of a biological world in which genes were the ultimate source of causation, was it possible to imagine a similar circumstance in the social world? Was there a social equivalent to the gene? Dawkins hypothesized that memes are just such a parallel, providing a unit of cultural expression that can be replicated and spread as genes are. I was interested by the idea, but, being a student of the life sciences and not the social sciences, found little opportunity to explore it.

I was also a victim of Karl Popper's philosophy of science and the "Null Hypothesis". The science I was taught, perhaps understandably given the changes affecting the entire field of biology, was far from the truth defining, positivism that most lay people associate with the

[3]Dawkins (1976)

discipline. In one of those few educational insights anyone is privileged to as a student, I remember a lecture given by Dr Alan Yarwood on the subject of the Crebb's Cycle. He had brought on of those acetate rolls you could wind across an overhead projector. Having talked for 5 minutes over a complex diagram of the Crebb's cycle, he wound the roll forwards to reveal another, different diagram. “That was in 1935,” he announced, “and by 1941, the picture had changed somewhat...”. I looked at the notes I had been making and crossed them through before starting again on the next diagram. “And then”, he wound the acetate roll on, “in 1952...”. There was a sigh from the audience and pretty much everyone stop taking notes and put their pens down. When he finally closed the lecture, several versions later, I was left with one thought: what was going to be on the next picture? How could we assume that *our* picture was ever going to be the last?

In the early 1990's I was striving to become a Systems Engineer, having reached the top of the Software Engineering tree in my particular company and finding that the really difficult problems we faced resulted from other people’s inadequate understanding of the systems that our software formed part of. There seemed to be two schools of Systems Engineering (there are always at least two schools for every subject): the traditionalists, who believed that we could design perfect solutions by studying the problem hard enough and for long enough; and the pragmatists, who believed you had to have a go in order to understand the problem better. If a system showed a fault, the traditionalists would diagnose a failure in original analysis while the pragmatists would point out that it was bound to go wrong, that we could better learn from making such mistakes and that we had spent too long already analysing something that could only be understood in practice.

I found myself allied with the Pragmatists, in favour of techniques such as Rapid Prototyping and reluctant to commit to yet more ways of managing requirements. I was involved in trying to break into a new market area for the company, where prolonged analysis was a disease that customers were struggling to break away from. I tried launching a mini-revolution at work in the form of a systems engineering process entitled GOWI, for “*Getting On With It”*. Unfortunately, the proposition of finding out by getting it wrong was never going to be popular with customers, however often they messed up on their monolithic grand “solutions”. Besides, by now I had discovered that Systems Engineers were getting software engineers into trouble because someone else was directing the business into markets where it couldn’t hope to succeed. Naturally I found myself compelled to try and solve this problem, and so I moved into “strategy”. My job was to assess new business propositions in order to ensure that they were robust before they progressed onto the expensive and risky development stage. In reality, my job was about stamping on bad business ideas that we had already committed to.

In the late 1990's I found myself in the centre of an organisational change programme – managing a team of internal consultants tasked with saving £4M off the company's cost base. Through our analysis of the company, we had discovered ourselves at the centre of a whirlpool of ideas. We had our own plans to streamline the business using the idea of Value Chains. Manufacturing had recently introduced the idea of World Class Manufacturing and were planning how to roll what they had learned to more than just manufacturing. Engineering had introduced the idea of Phase Reviews and were still working hard to embed it within the company. Finance and manufacturing were about to implement a new ERP system[4], which itself would see the introduction of "Standard Costing" and the removal of time sheets. Finance were also trying to implement the ideas of "Activity Based Costing" and "Zero Based Budgeting". In the board room we were trying to introduce the directors to the "Balanced Scorecard", and in the background our parent company was threatening to roll-out Value Based Management.

With all these ideas floating around I found myself thinking about them in a more abstract organisational context. Success seemed to depend on the ability to identify valuable and suitable ideas and find ways of integrating them into an already working company. It was never as simple as the idea salesmen would have you believe, and the guidance from magazines such as Harvard Business Review, while warming the reader with stories of success, seemed to offer little more than: "it worked for them, so it could for you", or "take these [4|7] (delete as required) steps to ensure you implement idea [X|Y] successfully".

It seemed to me that there were two problems that organisations kept stumbling in to. The first was the assumption that ideas are relatively independent – that in considering the implementation of an idea like Value Based Management it is not necessary to take into account any other ideas. The second problem seemed to be a failure to account for the real world, out there, when planning the implementation of a new idea. This was the Pragmatic Systems Engineer: you can only really understand what is going to happen by doing something and seeing what the result is. No matter how carefully my company had developed its plans for Value Based Management, with senior management workshops, newsletters, forums, pilot studies etcetera, it never accounted for some pretty obvious facts. For a start, managers don't generally produce forecasts of future performance based on their objective understanding of the value creation potential of their business, but are more inclined to do so with the aim of either retaining control of the resources they already have, or commanding more resources on the back of an ambitious growth plan. And Accountants have earned their position in any organisation partly because of their ability to "manage" profit, so a certain amount of hostility to an approach that tries to dispense with such skills is bound to be expected. So there is no point in investing

[4]Enterprise Resource Planning

large amounts of time and money in planning the implementation of an idea if you then find out afterwards that the two groups upon whose success it depends are both hell-bent on subverting it.

At the time I decided that the solution lay in understanding organisations not as "environments" themselves within which separate ideas take root, but instead as systems of ideas, interacting with each other to create an environment. It was a sort of naïve ecological metaphor where ideas are like life-forms, and the success of a new idea was something like the success of a new species arriving on an island. What seemed to make these snake-oil idea-recipes so inadequate was the way in which they treated ideas in isolation: idea meets organisation, outcome success. What was needed was an approach to ideas that treated them as the part of the very fabric of organisations.

It seems therefore appropriate to start with a more detailed exploration of the idea of ideas itself...

Chapter 4
The Evolution of the Idea of Ideas

Idea is a bodilesse substance, which of it selfe hath no subsistence, but giveth figure and forme unto shapelesse matters, and becommeth the very cause that bringeth them into shew and evidence. Socrates and Plato suppose, that these Ideæ bee substances separate and distinct from Matter, howbeit, subsisting in the thoughts and imaginations of God that is to say, of Minde and Understanding. Philemon Holland[1]

4.1 Introduction

The relevance of this chapter and the next to the subject of process appears to be somewhat obscure. This was my starting point, being concerned with the ecological model of organisations that I was initially interested in developing. It is through this axis that I arrived at the notion that ideas could better be understood as processes rather than as things, and some of the issues touched on during this journey start to develop the concept of a process world-view. Both chapters provide a deep historical analysis of the single notion of Idea, a premonition of the *longue duree* that typifies the process world-view as, for example, illustrated by Whitehead's *Adventures*[2] or Elias' figurations[3]. They also touch on another process problem: the inter-disciplinary nature of processual studies as encountered by Lovejoy[4] or Latour[5]. However, neither of these chapters are directly concerned with the processual and their primary purpose is to establish the context of a problem (the relationship between organisations and ideas) that starts out within the substantive world-view and ends up in the processual world-view.

This Chapter, in particular, is concerned with the long process through which the notion of "ideas" itself has developed and evolved. The analysis starts at a critical moment in western history when intellectual processes were being freed from the constraining forces of the church and uncertainty in existing doctrines was pervasive. The concept develops in two opposing directions: as a unifying concept that ultimately gives us access to true knowledge on the one hand; and as a mental veil that obscures us from the truth in the outside world on the other. From this central point the process is first traced back in time to its origins in Plato and beyond, and then forwards to another period of uncertainty that resulted from the development of quantum mechanics and relativity.

[1]Holland, 1603, p. 813, reproduced in the Oxford English Dictionary entry for *idea*, n. Second Edition
[2]See section 4.3 and chapter 6
[3]See section 6.2
[4]See section 4.3
[5]See section 5.3 and 7.2

14th September 1643

My dear ...,

I have spent much time in the last few weeks engrossed upon these new works of Monsieur Descartes. It seems to me that he has much to explain, confounding us with his notions of God, existence and ideas. What right have these people to spend their time absorbed in nothing more than thought? And how, pray, do they make their living? If Monsieur Descartes manufactured his writings in a bread oven, then upon what, indeed did the baker survive?

It would, perhaps, be not so bad if these new fangled notions have not gripped all London. Why, if I were to stop and listen for a moment I fantasize I would hear someone conversing even here on the subject. Didn't a gentleman in that corner just exclaim to his friends: "I think therefore I am?"

I must confide in you. I find the blame for our present predicament lies firmly with Henry VIII. Before his wretched reformation, the Church could not have tolerated this nonsensical liberal thinking, but now it is as if anyone can stand up and tell us how they think the world is organised. But may be I am being harsh on our Monarchy. Perhaps we should seek to blame those that spend their time meddling in what is called science, and so upsetting the order of the world with "discoveries" and the like that we cannot make sense of.

Still, I have no time left for these musings, I am away to the Theatre to see Jonson's learned sock

your humble and obedient servant,

... [6]

4.2 A Revolution of Ideas

It seems apt to start this analysis in the middle, as it were, at a time when the whole notion of "idea" seemed to evolve from its early classical roots into something akin to the modern concept we are familiar with. This period, being the sixteenth and seventeenth centuries, can be characterised as revolutionary, at least in the sense that widespread social and political changes were enabling novel philosophical and scientific ideas to emerge and develop. It is this "revolution" that needs to be inspected first in order to better understand the idea of ideas.

The sixteenth century was a period of great upheaval in Western Europe[7]. The cause of this upheaval could be roughly described as originating in the division of the authority of the church into Catholic and Protestant. But this does not explain why this upheaval had such a profound impact on philosophical and scientific ideas. There had been similar events: the Byzantine

[6] This is purely fictional passage by the author intended to set the spirit of this chapter for the perhaps unprepared reader.

[7] For example, see pages 509 to 511 of Russell (1961) for a very short outline of the events of this time.

schism, for example, which involved a comparable religious division and a similar loss of blood[8] but did not result in anything resembling an intellectual revolution.

The Catholic Church had been in decline for over 100 years[9] and had, at the same time amassed enviable riches. Whether the revolt against it was led by greedy aristocracy or business-like bourgeoisie, the net result was an assault on the physical assets of the church that coincided with challenges to its authority and theology. The means for this revolt were provided by Protestant rebels such as Martin Luther. Until Luther, dissent in the church had been expressed as a demand for reform rather than revolution[10]. Protestantism, on the other hand, was about revolution – wresting God back from the priesthood into the hands of ordinary people[11]. Henry VIII utilised Protestantism to usurp Rome's authority although he never intended to embrace Luther's new church. However, his son (Edward VI) and Daughter (Elizabeth I) were both Protestants and by the end of Elizabeth's reign the English Church and state seemed firmly embedded in this new world-view.

What was that world-view and why was it so important?

In Catholicism, people were subrogated to the cosmic whole – a spiritual unity in which individualism had little meaning. Knowledge lay under the hegemony of the scriptures – the ultimate authority on all matters. The Protestant revolution, which was often anarchic[12] and always anti-authoritarian, dissolved the Catholic Ontotheological synthesis[13] and replaced it with a new individualism in which each person was "free" to interpret the scriptures as they were intended to be[14]. As with all Revolutions, this promise was short-lived but the institutions that filled the vacuum it created never had the unity and authority of the catholic church they replaced[15].

The overall result was to create a sense of individualism and freedom of thinking that had probably not existed for centuries, if at any previous time. Its initial effect was a proliferation of different religious sects: Anabaptists, Lutherans, Chiliastics, Antinomians, Calvinists, Diggers,

[8] John Julius Norwich (1997) provides a splendid account of Byzantium including the various disputes that culminated in the Great Schism of 1054.

[9] See for example Brinton (1950) for a short account of these events.

[10] Brinton 1950

[11] As Brinton (1950) wrote: "the Luther who preached thus was preaching anarchy, was telling each man to listen to something inside himself and disregard all outside himself – law, custom, tradition the Christian inheritance of the Middle Ages." Page 310.

[12] For examples of anarchic protestant sects, Brinton (1950) refers to the Antinomians who preached that Christians could not lose their spiritual holiness regardless of any act of disobedience and Anabaptists amongst others.

[13] This phrase is in Dupre (1993) and captures so clearly the way in which our understanding of the nature of the world was dictated by the church prior to the Reformation.

[14] Brinton (1950) describes how Luther realised this "freedom" was not as he had planned and soon introduced the Lutherian Authority to direct people in their freedom.

[15] See Russell (1961): "The important aspect of protestantism was schism not heresy, for schism led to National Churches, and national Churches were not strong enough to control the lay government." (page 515)

Levellers, Quakers, Presbyterians, and Congregationalists to name only a few. Religious tolerance was far from universal although some sects genuinely believed in it[16]. Maybe this plurality where there had been solid conformity before was to sow the seeds of doubt, to breed a scepticism that provided another vital ingredient of the times. The breakdown of the Church's authority brought with it a breakdown of certainty.

The Rise of Science

Certainty's greatest enemy at this time was, perhaps ironically, the rise of "Science" and the scientific method. A gap was gradually opening between the knowledge of the scriptures (old-world scholasticism) and the growing empirical evidence of the world. The Church's authority appeared to have relaxed enough in the face of this evidence to enable people (including its own clergy[17]) to tentatively explore a space that would previously have been determined as heresy. Perhaps this tentative nature of their work was itself an important contribution to the development of scientific method? By avoiding the absolute in favour of the hypothetical, ideas such as heliocentricity could resurface[18] and, for a time, co-exist with the dominant theological ideas that refuted them. Under the threat of sanction by the Church, science developed its focus on evidence, facts, and hypothesis[19] that enabled it to eventually undermine the Church's epistemological authority altogether.

Nothing could better describe this tension between the Church and this new science than the experiences of one man: Galileo[20]. Below is a simple annalistic summary of his life.

> Galileo Galilei was born in 1564 in Pisa. Galileo's father was a music teacher who had developed theories about music and carried out experiments on strings to support these. Galileo was taught in a monastery and found the life agreeable enough to want to become a monk. His father, however, had already decided that he should become a doctor and so brought him back from the monastery to continue his schooling from nearer home. In 1581 he enrolled for a medical degree at the University of Pisa.

[16] See Brinton (1950) for a discussion on Protestant intolerance and tolerance, p313 onwards.

[17] For example, Copernicus was a Polish Cleric (Russell, 1961) who found enough time away from his duties to take up a keen interest in Astronomy.

[18] Popper (1994) reminds us that the idea of Heliocentricity can be found in the remaining fragments of the works of Aristarchus (e.g. see page 14).

[19] Russell (1961): "it is not *what* the man of science believes that distinguishes him, but *how* and *why* he believes it. His beliefs are tentative, not dogmatic; they are based on evidence, not on authority or intuition." (page 514)

[20] The following passage is an abridgement by the author of O'Connor and Robertson, 2003.

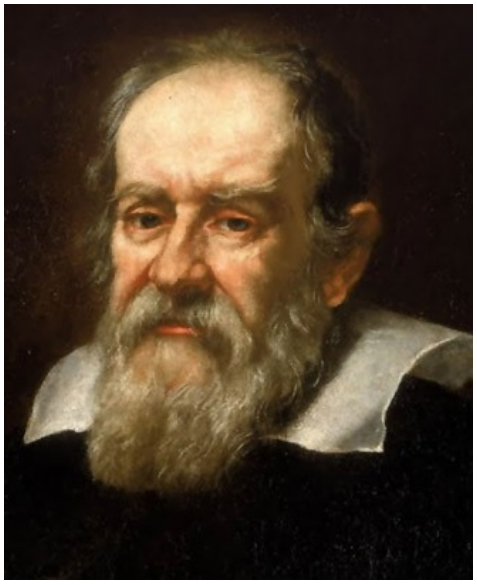

Figure 2. Galileo Galilei

Galileo soon discovered that his interest in mathematics was far greater than his interest in medicine. With help from an influential teacher, Galileo managed to persuade his father to allow him to give up medicine and become instead a teacher of mathematics. As well as teaching, Galileo found time to conduct his own theoretical work and to publish. His interests at the time concerned density, the centre of gravity, which was of particular interest to the Jesuits, and the theory of motion.

In 1591 Galileo's father died and left him with responsibility for supporting the whole family. Galileo was forced to seek a new, better paid job which he eventually secured at the University of Padua. As well as teaching medical students geometry and astronomy, he continued his own work through lecturing on both mathematics and astronomy. Significantly, he started to oppose the Aristotelian tradition in favour of new theories associated with Copernicus and Kepler. At the same time he continued to develop his own theories of motion and density.

In 1609 the invention of the telescope was brought to Galileo's attention. He was so taken with the idea that he set about making his own and was soon producing the best instruments of the time. Although initially he used and sold the telescope for terrestrial purposes he soon turned his attention to the heavens and started to make the sort of discoveries that rapidly projected him into the role of a celebrity. He observed mountains on the surface of the moon, that the Milky Way was composed of tiny stars, and that Jupiter had at least four moons. He also observed the rings of Saturn although he saw them only as lobes that appeared and

disappeared. Eventually Galileo's work on Astronomy brought him into conflict with the Jesuits, and erupted over the validity of Copernicus' heliocentric theory.

Unfortunately Galileo misjudged his relationship with Pope Urban VIII and went into print in favour of Copernicus. He was summoned to Rome by the Inquisition, condemned as a heretic and subjected to House Arrest for the remainder of his life. He still managed to work on his theories of gravity, which led, among other things, to him producing a design for the world's first pendulum clock.

Whether or not Galileo could be regarded as a genius, his achievements were clearly enabled by the cumulative achievements of those who preceded him. He was taught in schools and universities that had access to the latest ideas on science, geometry, astronomy etc. He was able to make a respectable living from working on these subjects, both as teacher and as theoretician. He was in constant dialogue with like-minded thinkers[21]. And, perhaps most significantly of all, he was permitted to explore and develop ideas that in previous times would have been outlawed as heresy, although in the end he overreached the tolerance of the Church.

The impact of science was to create a source of knowledge that had nothing to do with interpreting the scriptures. Regardless of whether or not the proponents of these ideas played down the challenge this created to the authority of the Church, these hypotheses and theories stood alone. As protestantism rose, and with it the power of the institution of the Church diminished, science found fertile ground in which its new ideas could develop and flourish.

Que sais-je?[22]

Sonnet of Black Beauty

Black beauty, which above that common light,
Whose Power can no colours here renew
But those which darkness can again subdue,
Do'st still remain unvary'd to the sight,

And like an object equal to the view,
Art neither chang'd with day, nor hid with night
When all these colours which the world call bright,
And which old Poetry doth so persue,

Are with the night so perished and gone,
That of their being there remains no mark,
Thou still abidest so intirely one,
That we may know thy blackness is a spark
Of light inaccessible, and alone
Our darkness which can make us think it dark.

[21] For example, Kepler wrote to Galileo on reading about his astronomical observations despite the divide that might have been created by their different religious faiths.

[22] According to Marc Foglia (2004) this was a sceptic motto that Michel de Montaigne had engraved onto a medal around 1576.

Edward, Lord Herbert of Cherbury[23]

Scepticism, as the notion that nothing about the world can be rationally known with certainty, had re-surfaced in sixteenth-century Europe, in part as a result of geographical discoveries such as The Americas[24]. These revelations shook the foundations of contemporary knowledge and led to sceptical attacks against the established Scholasticism. By the early 17th Century, various catholic intellectuals were putting scepticism to use in attacking the protestant rejection of the authority of the Church. They contended that protestants could not achieve certainty through reading the bible because they could not be sure of how to interpret it – they could not find "an unquestionable standard of true knowledge"[25] At one time[26] the Jesuits led a campaign to overwhelm Protestant certitude with the aim of forcing them to abandon "the quest for knowledge by rational means and accept the truth (...) on faith"[27].

In the long term the effect was to focus both Protestant and Catholic thinking inward onto the realm of private experience and to colour this experience with scepticism and doubt. Evidence of this state of mind is provided by Montaigne's "An Apologie of Raymond Sebond" written in 1580:

> *To judge of the apparances that we receive of subjects, we had need have a judicatorie instrument: to verifie this instrument we should have demonstration; and to approve demonstration, an instrument; thus are we ever turning round. Since the senses cannot determine our disputation, themselves being so full of uncertainty, it must then be reason: and no reason can be estiblished without another reason: then are we ever going backe unto infinity.*[28]

These "Sceptics" all tended towards one clear conclusion: that given our doubt about the world we experience, we should suspend all judgement and live without opinion.

Although scepticism was permitted within the Catholic Church, it is hardly surprising that opposition to it was mounting during the early part of the seventeenth century. In particular, there was a loose grouping of friends centred around Marin Mersenne who provided a focus to this opposition[29] and attempted to provide resolution to the sceptical crisis of the time[30].

[23]Herbert, Lord Edward of Cherbury (date not known) Edward lived between 1583 and 1648. Reflects upon the darkness of ignorance inflicted by the discoveries of the times?

[24]My main source on Scepticism is from Popkin (1973), published in the Dictionary of the History of Ideas. I came to this source rather circuitously, looking for evidence that the ideas of Descartes, far from being unique and original, were firmly set in a contemporary ongoing discourse. This article introduced me to the rest of The Dictionary which is conveniently on-line.

[25]Popkin (1973) page 242.

[26]See Popkin (1973) page 242.

[27]Popkin (1973), page 243.

[28]Popkin (1973) quotes this passage in a modern translation by Frame but this is Florio's translation from 1603 (Montaigne 1998), giving much greater authenticity and pointing to a few interesting changes: Frame's translation changes the word "subject" to "object" as if in the intervening years the word subject has lost some of its reliability?

[29]See, for example, the descriptions of Mersenne and his colleagues in O'Connor and Robertson 2003 .

[30]See Popkin (1973), page 244.

Mersenne and Gassendi proposed a style of pragmatism that effectively sidelined the sceptical crisis by placing it on a separate epistemological level detached from the practical concerns of science and living[31].

Descartes, who went to college with Mersenne[32] and was certainly part of Mersenne's group of intellectuals, must have been thinking about all of these issues during the lengthy periods of meditation he enjoyed. That he was able to indulge in uninterrupted thinking is itself interesting: his father had owned property and on his death Descartes sold this, investing the proceeds to provide a sufficient income for the rest of his life. Without the economic institutions to provide this interest it is unlikely Descartes would have been able to dedicate himself so much to his work[33]. Strangely he also seemed to have the habit of enlisting in armies (first Holland and later Bavaria) as a means of getting away from the attentions his writings otherwise attracted. Presumably his duties were sufficiently light to enable him to spend his days in meditation[34]

Descartes' ambition was to dispatch the crisis of scepticism once and for all by discovering a universal truth of which there would be no doubt. This he achieved by applying an ultra-sceptical method to our sensing the world that culminated in doubting his own very existence. Having thrown out everything else, Descartes finds himself left with just his now famous indubitable singularity: *cogito ergo sum*. From this single reference point, Descartes set about "to construct a complete philosophic edifice *de novo*"[35]. He defines his principle criterion of truth in the following passage:

> *I am certain that I am a thinking thing; but do I not therefore likewise know what is required to render me certain of a truth? In this first knowledge, doubtless, there is nothing that gives me assurance of its truth except the clear and distinct perception of what I affirm, which would not indeed be sufficient to give me the assurance that what I say is true, if it could ever happen that anything I thus clearly and distinctly perceived should prove false; and accordingly it seems to me that I may now take as a general rule, that all that is very clearly and distinctly apprehended is true.* René Descartes[36]

And Descartes calls these clear and distinct insights of truth "ideas". These Ideas are distinct from the confusion and obscurity of our perceptions: such perceptions having so clearly betrayed us in the past and led to the current malaise of scepticism. As such they are accessible only through rational reflection of the mind, rejecting the unreliable world outside. If we reflect long enough and with sufficient doubt we will eventually uncover the indefeasible ideas that

[31]See Popkin (1973), page 244. There is a curious resonance between this proposition and that described by the sociologists Bruno Latour in *Pandora's Hope* (Latour, 1999), over 300 years later.

[32]See Dubray, 1911.

[33]Neal Stephenson's (2004) excellent novel "The Confusion" provides some insight into how these institutions were developing in the 17th Century and the problems of hard and soft money that we now take so much for granted.

[34]An excellent account of Descartes' life is provided by Kurt Smith (2003).

[35]Russell (1961) page 542.

[36]Descartes (1642), taken from the last section of paragraph 1 in Meditation III.

denote the truth. For Descartes, these ideas are the rivets between reality itself and our perceptions of it. They weld the two back together into a united, sensible whole. In a methodological coup, Descartes wields scepticism as his weapon to defeat scepticism!

Ancient Origins

This notion of "clear and distinct" ideas is not something that is new to Descartes or his period. It's history is much older than this, being traceable back to ancient Greece. Descartes would have been familiar with the works of Plato and his peers, and his notion of Ideas cannot but have been influenced by notion of Forms[37] that is described in Plato's works.

These forms act as indubitable "patterns"; the perfect origins of all earthly, corrupted Particulars. In the allegory of the cave[38], Plato likens our perception of the world to seeing a shadow cast against the wall of a cave by a fire. Reality is the object casting the shadow while our perceptions of this reality are distorted, flattened and colourless. In this system of forms, each instance of an object, such as a table, is an inferior copy of its original perfect pattern or idea. But how then can we use this concept to access truth (the pattern rather than the copy)?

Both Plato and Descartes provide the same solution: by using the intellect. This is an example of what philosophers call "rationalism" as opposed to "empiricism" in that "truth" comes from rational thoughts and reflections rather than clear observations. What is important to remember when considering these positions in relation to contemporary ontological and epistemological concepts is that for Descartes and Plato this was very much part of the ontotheological synthesis of their times: their rationality was able to access absolute truth because of the their theological position: dependent as it was on God or the gods.

The political contexts in which Plato and Descartes conceived of their ideas had some interesting similarities. They were both creating their ideas at a time of relative change and instability. They were both attempting to provide rationales for the continuing authority of the "old" order – the order being threatened by change. Plato experienced the disintegration of Greek autocracy in the face of emerging democracy. Descartes experienced the disintegration of catholic authority in the face of both the scientific revolution and the rise of protestantism with its emphasis on personal authority. Perhaps both of them applied the same intellectual tactic – to seat authority within the mind of appropriately trained intellectuals, and thereby positioning it beyond the reach of sceptics and critics. The role of the idea was as a source of incontrovertible inner truth, where the representations of the mind mapped precisely onto an otherwise hidden reality.

[37]The Greek word for idea is sometimes translated as "forms" and sometimes as "ideas".
[38]Plato, 1993, 514a -520a

In many ways the intentions of both philosophers have completely backfired. Instead of being regarded as the indubitable reference points of mind and body, ideas became severed from the world of action and practice, from the world of reality. So for example, while the notion of idealism continues to embody much of the concept within Plato's Forms, it denies their "reality", forever making ideas whimsical – not of this world. So how did this reversal come about?

The Rise of Empiricism

Perhaps the best way to understand this reversal is to examine how the concept of Ideas evolved on the other side of the rationalist-empiricist divide. And what better way to do that than to look at the works of John Locke.

Figure 3. John Locke (left) and Robert Hooke

Locke[39] was born in 1632. His father was a Puritan and he was brought up a Protestant. He was lucky enough to be educated at Westminster College and then went on to Christ Church, Oxford. His education was traditional and provided little or no inspiration. Chance introduced him to Reverend Wilkins (at Wadham College, Oxford) and through him, the concept of "experimental" or "natural" philosophy and the emerging notions of science. Through Wilkins he came to know and work with Robert Boyle and Robert Hooke and was introduced to Isaac Newton.

Robert Hooke met Wilkins at Oxford when he was an undergraduate and Wilkins encouraged his interest in mechanics, and flying machines in particular. Hooke was extremely adept at mechanics and created a number of inventions, including the reflecting telescope and the compound microscope. His work with the microscope led him to write a book entitled *Micrographia* (Hooke, 1665) published in the auspicious year of the Great Plague. This extract

[39]This account of Locke's life is based on descriptions in Russell (1961) and Uzgalis (2005).

from the preface illustrates the onto-epistemological thinking of the Natural Philosophers clearly:

> *As for the actions of our Senses, we cannot but observe them to be in many particulars much outdone by those of other Creatures, and when at best, to be far short of the perfection they seem capable of: And these infirmities of the Senses arise from a double cause, either from the disproportion of the Object to the Organ, whereby an infinite number of things can never enter into them, or else from error in the Perception, that many things, which come within their reach, are not received in a right manner.*
>
> *The like frailties are to be found in the Memory; we often let many things slip away from us, which deserve to be retain'd; and of those which we treasure up, a great part is either frivolous or false; and if good, and substantial, either in tract of time obliterated, or at best so overwhelmed and buried under more frothy notions, that when there is need of them, they are in vain sought for.*
>
> *The two main foundations being so deceivable, it is no wonder, that all the succeeding works which we build upon them, of arguing, concluding, defining, judging, and all the other degrees of Reason, are lyable to the same imperfection, being, at best, either vain, or uncertain: So that the errors of the understanding are answerable to the two other, being defective both in the quantity and goodness of its knowledge; for the limits, to which our thoughts are confined, are small in respect of the vast extent of Nature it self; some parts of it are too large to be comprehended, and some too little to be perceived. And from thence it must follow, that not having a full sensation of the Object, we must be very lame and imperfect in our conceptions about it, and in all the propositions which we build upon it; hence we often take the shadow of things for the substance, small appearances for good similitudes, similitudes for definitions; and even many of those, which we think to be the most solid definitions, are rather expressions of our own mis-guided apprehensions then of the true nature of the things themselves.* Robert Hooke[40]

The latest scientific instruments were revealing a world that was very different from the one perceived by the eye. The point of a needle or the edge of a razor blade may have looked sharp to the eye, but under the microscope the needle appeared to be blunt and the razor looked like the last thing you would want to press onto your bare skin![41] The effect of these observations and many others made with telescopes and microscopes by Hooke and his colleagues was to demonstrate that our perception of the world was fundamentally unreliable. On closer inspection things were not the way they had seemed. For them, it was as if our ideas of the world were obscuring the reality – cluttering the view.

Locke was immersed in this world of empiricism: observation and experimentation when he read Descartes works. This was a crucial "cross-over" point for the notion of ideas. Descartes had had to reject the Scholastic and Aristotelian traditions in order to overcome the scepticism

[40]Hooke 1665.

[41]This is a reference to the dialogue in Neal Stephenson's Quicksilver where Hooke demonstrates the "rudeness and bungling of art" that characterised man-made artefacts seen under the microscope. Stephenson (2003).

they had bred, and his rejection provided Locke with a new framework of thinking that perhaps he had been searching for. And in the middle of this framework was Descartes notion of Ideas.

But Locke's entire methodological perspective and his motivation were in complete contrast to Descartes. He was fundamentally anti-authoritarian[42] while Descartes was seeking to re-establish the authority of the church and God as the root of all knowledge. Locke wanted individuals to use reason to arrive at their own conclusions, while Descartes used Ideas to create an inner truth that could only be revealed to those with a sufficient intellect to see clearly and distinctly. Locke was happy to adopt and adapt the notion of ideas but he was generally critical of the Cartesian doctrines from which he took it.

Where the two coincided was in defining ideas as the matter of thought, or as Locke put it: "Idea is the object of thinking."[43] This notion is perhaps at the foundation of what has become known by many as the mind-body divide[44]. All that we think about can be seen as abstract, detached representations derived from what we perceive. When we perceive a tree, it is not the tree itself that we have in our minds, but the idea of that tree. Where Locke and Descartes part ways is over the issue of the accuracy of ideas. As has already been stated, Descartes proposed clear and distinct ideas as the source of certitude (being ultimately derived from the idea of God). By contrast, Locke was more inclined to regard ideas as obscuring the view of reality[45].

Locke's theory of ideas is the central topic of the *Essay*. Perhaps noteworthy among the many aspects of this theory is the source of ideas. Locke proposed that ideas originated from just two sources: sensations, or perceptions of the outside world, and reflections or perceptions of the operation of our own mind[46]. Again, a reminder of how influential Locke must have been on the mind-body divide issue! The key empirical dimension to this proposition is its denial of *a priori* knowledge, in that all knowledge is derived from sensations or from reflecting upon sensations.

Summary

The notion of ideas seems to be central to the general movement of the times: a shift away from the epistemological authority of the church towards a more personal inward looking authority. This ancient authority was found wanting, precipitating a crisis of scepticism. Descartes uses scepticism to fight scepticism and re-establish the authority of God against the usurping

[42]Uzgalis (2005)

[43]See Locke (1690) Book 2 Chapter 1.

[44]For example, see Latour (1999) page 4 where the author recalls Descartes. Latour refers to the issue as mind-in-a-vat. Perhaps attributing the problem to Descartes is a little unfair. For Descartes was clearly of the view that clear and distinct ideas bridged the divide between mind and body. It might be more correct to lay the blame on Locke?

[45]This has variously been referred to as the "veil of ideas" or "veil of perception". It is perhaps necessary to note that there is some dispute over whether Locke held this view or not. See for example, SparkNotes Staff (2005). It does not appear to be a phrase repeated in the *Essay* (Locke, 1690).

[46]Russell, 1961 page 589.

sciences. In doing so he re-vitalises the ancient concept of the Idea. Descartes and the Rationalists use Ideas to provide the focus of their certitude – the reference point from which to reconstruct a true understanding of the world through the Rationalist process.

Locke, steeped as he was in the world of empiricism rather than the church[47], provides a locus of recombination, taking Descartes notion of Idea and recombining it with the new methodologies and ontologies of experimental science. In so doing, Locke represents both the collision of empirical science with rational theology, and its departure point on a divided course that defined the pattern of philosophising for the next several centuries[48]. Locke used Ideas to locate the uncertainty of the world – to difference the reality outside from our perceptions of this reality. Based on this position, it seems reasonable to argue that Locke and his compatriots are the root cause of the mind-body divide rather than Descartes[49].

4.3 A less Observed Revolution

In developing this description of the idea of Ideas, I want to jump forward from the revolutionary times of the 17th century to the early 20th century. Here, Western Society was certainly subject to events as revolutionary as the 17th century: the Great War, the Depression, the rise of fascism. Intellectual revolution was also afoot although perhaps less ostensible when compared with the "Rise of Science"[50]. I have made this jump because it is my contention that as far as the concept of Ideas is concerned this is when the next revolution occurred after the works of Rationalism and Empiricism reflected most clearly in the writings of Descartes and Locke respectively. In this second part I will elaborate on what this development was and why it was important before working to link the two events up by understanding what enabled it to take place.

This development of the notion of ideas can be most clearly seen in the writings of two authors: Alfred North Whitehead who is primarily known for his work on Process Philosophy and whose work has recently become popular within the gerundial discourse on Becoming over Being; and Arthur C. Lovejoy who is regarded by many as the founder of the History of Ideas school. Both were more or less writing at the same time and must have known each other to some degree.

Adventures with Ideas

The life and times of Alfred North Whitehead is more relevant to the development of the idea of process and is therefore covered in chapter 6 where this topic is elaborated in more detail.

[47]We are told that when faced with the choice of becoming a Doctor or a Minister, Locke chose the former despite having little to qualify him for the job. Uzgalis, 2005.

[48]Russell (1961), page 617.

[49]See "Do you Believe in Reality", (Latour, 1999) where Latour argues that Descartes was the creator of the mind-body divide.

[50]Russell (1961) has a chapter with this title.

Whitehead did not primarily write about ideas as such, or propound a specific theory of ideas. Rather his notion of ideas was integral to his overall philosophy.

Whitehead had a broad education at home and at Sherbourne School. He started his career as a lecturer in mathematics and much of his work is devoted to this subject[51]. In the 1920's he became interested in the emerging Theory of Relativity and Quantum Mechanics and in the relationship between the mathematics of physics and experience. This interest developed into a broader philosophy as Whitehead became detached from English academia[52] and took up a post in Philosophy at Harvard University, where he remained for the rest of his life.

Whitehead's writings are notoriously difficult to penetrate[53]. A key part of his philosophy is his concept of God – whose primary purpose "lies in the patient operation of the over-powering rationality of his conceptual harmonisation"[54]. One of the functions of God is to provide "the lure of possibilities", where these possibilities can be best understood as ideals or ideas: "In ethical ideals we find the supreme example of consciously formulating ideas acting as a driving force effecting transitions from social state to social state. Such ideas are at once gadflies irritating, and beacons luring, the victims among whom they dwell."[55]. Perhaps the best description Whitehead provides is:

> *We notice that a great idea in the background of dim consciousness is like a phantom ocean beating upon the shores of human life in successive waves of specialisation. A whole succession of such waves are as dreams slowly doing their work of sapping the base of some cliff of habit: but the seventh wave is a revolution – 'And the nations echo round'.*[56]

Johnson contends that Whitehead's notion of ideas is not deterministic in any way because individuals[57] are essentially *causa sui*[58]. However, Whitehead suggests that the world may indeed by deterministic if only we knew enough about it, and that it is our ignorance that creates the impression of uncertainty[59]. Thus ideas are "lures" or "potentialities" that may be more or less achieved by actual entities according to their own capabilities and the limitations of the times in which exist (e.g. their own ignorance). Whitehead uses the notion of ideas in a manner that is similar to the concept of Ideals and perhaps uses the words interchangeably at times.

[51]For details of Whitehead's life, see O'Connor and Robertson (2003)

[52]It would be possible to describe this detachment more subjectively as "falling out".

[53]See, for example, Johnson (1943). My own understanding of Whitehead was greatly assisted by Johnson (1946).

[54]Whitehead, 1978, p. 346.

[55]Whitehead, 1967, p. 17-18

[56]Whitehead, 1967, page 19. The quote at the end of this passage is from Shelley's *Prometheus Unbound* and is used in full by Whitehead in his Introduction to Mathematics (1911), to explain the revolutionary nature of the discovery of calculus, demonstrating that Whitehead's own concept of ideas was already developing 22 years before he published the book.

[57]More precisely *actual entities* is the term that Whitehead uses, being something like the processual equivalent of individuals.

[58]Johnson, 1946, p. 244.

[59]Whitehead, 1967, p. 87.

These are not "trivial" ideas that might be thought of as making up the bulk of human thought, but those rare Grand ideas that stimulate social progress. For example, the idea of freedom can be seen to exist first in the system of slavery that typified early civilisations, then in the early sporadic articulations of freedom in contrast to slavery and finally as the implicit adoption of freedom within "high civilised" societies[60]. Whitehead expresses a view that much of what constitutes normal social activity is instinctive and customary and therefore indistinguishable from animal societies such as ants and bees[61]. High civilisation is his primary concern and the "lure of possibilities" are the ideas that shape it.

The importance of Whitehead's notion of ideas, as expressed in Whitehead's works, lies in the way ideas are shifted out from the human mind. Locke and Descartes located ideas firmly in the mind and shut the door on outside reality (or at least their successors did). Whitehead's notion of ideas places them firmly outside the confines of an individual – they persist through both time and space luring successive generations of thinkers towards their ideals.

This could be seen as essentially a return to Plato's Theory of Forms but in a less deterministic style. Whitehead himself suggests that "the European philosophical tradition … consists of a series of footnotes to Plato"[62]. But his own writings can be seen as a rejection of at least one key Platonic concept, for Plato regards everyday reality as an insubstantial shadow of the true Forms of reality. Whitehead locates reality in the temporal everyday actuality of life[63]. Whitehead's ideas exist in a transcendent metaphysical form, above and beyond the ordinary person, providing reality with no more than a potential towards which we are lured. Whitehead is also less elitist than Plato. That is to say there is much less a sense of these ideas as representing absolute truths, being instead ideals and directions towards which to strive. Similarly there is a relationship between all people and ideas, not just a few gifted individuals able to see through the veil of reality. Is this sense, Whitehead's notion of ideas is much more socially situated than Plato's, Descartes' or Locke's.

Unfortunately this concept is dependent upon a theological metaphysic. It depends upon some form of "absolute spirit", recalling as it does Hegel. Without the existence of a Divine force it is essentially meaningless and methodologically useless. Which is somewhat in contrast with the next author...

[60] Whitehead, 1967, Chapter IV.
[61] Whitehead, 1967, pp. 48-49.
[62] Whitehead, 1978, p.39.
[63] Jones 2007, p. 1.

The Great History of Ideas

Unlike the works of Whitehead, those of Arthur C. Lovejoy are firmly centred upon the concept of Ideas. Lovejoy believed that the history of mankind and the history of ideas are one and the same thing. Like Whitehead's notion, this squarely places the concept in the field of the social – transcending the individual prison that the Cartesians and Lockeans had made for themselves. Unlike Whitehead, Lovejoy's writings are easier to read, but perhaps also unlike Whitehead they are apparently filled with contradictions and problems[64].

Lovejoy was an Idealist, and very much influenced by Plato, Hegel and Hegelianism in general[65]. Like Whitehead he moved to America in the early part of the twentieth century. There he became involved in what could broadly be described as American Idealism, in many ways detached from English empiricism and its traditions.

What was perhaps most important about Lovejoy was not his Philosophy as such but his methodology. For a start he was unconventionally eclectic, insisting on taking an approach to studying history that crossed conventional academic boundaries indiscriminately[66] and presumably brought with it considerable aggression from those who's boundaries he insisted on "breaking through"[67]. As well as breaking down academic boundaries, Lovejoy sought to position his thinking within a much larger historical context. The basis for this approach was, he believed, in the way in which ideas permeated human progress, transcending the acts of individuals and therefore developing more gradually through time and space.

Where Lovejoy's ideas seem to break down is when other authors have attempted to construct a wider philosophy from them. The notion of idea is itself an example of this. For a theory of ideas it is odd that there should be no explicit definition of the term[68]. For his successors this creates a problem: "The first problem one has to face squarely is the problem of just what an idea is."[69]. It seems that much work has been carried out to solve this problem, but perhaps without an emphatic conclusion. The most common approach is to propose a typology, such as the one in Bredsdorff[70]. The aim of these typologies seems to be to define a category of ideas that can be seen as relating to Lovejoy's work and one or more other categories that take care of the rest. And yet whichever way the field of Ideas is divided it does not seem to cover all eventualities. Whatever differences of opinion may be expressed, all these authors are inclined

[64]This is my own conclusion but is largely based on Bredsdorff (1977) and on Kelley (1990).
[65]For example, see Mazzeo 1972.
[66]See, for example, Lovejoy 1940.
[67]Lovejoy, 1940, p5
[68]Bredsdorff, 1977, p196
[69]See quote of George Boas in Bredsdorff, 1977
[70]Bredsdorff, 1977

to agree with one thing: Lovejoy (and therefore his methods) was not concerned with anything as mundane as the idea of a Table!

Lovejoy does not appear to help when he describes his "theory" of unit ideas. Perhaps inspired in some way by the ideas of evolution and genetics, he proposes that all ideas are complex combinations of unit-ideas and that unit-ideas are atomic and durable: they cannot be broken down into sub-ideas and they remain unchanged by time. The problem with this notion is that by making unit-ideas so fundamental they fall outside the sphere of history, undoing exactly what Lovejoy appears to be attempting to achieve.

I believe that the reason why this is simply not a problem for Lovejoy is precisely because his main focus is on methodology rather than ontology. It does not matter precisely how we define the concept of idea, because what matters are the ideas we choose to study and in most cases these ideas are self-evidently appropriate. It does not matter that the notion of unit-ideas does not have a clear definition, what matters is that we use a method in which the particular complex ideas of a problem are broken apart so that the problem becomes seen as being part of the development of one or more other, simpler ideas permeating through time, space or both. Is there any need to become distracted by what Popper might have called "essentialist" debates over the precise meaning of the notion of idea provided the methods we use are appropriate to the ideas being considered?

It is more difficult to reconcile this pragmatic approach with Lovejoy's Idealism, but perhaps he was someone prepared to accept unknowns provided he had a sufficient basis for continuing his own theories. In this sense it is probably true to say that Lovejoy was not a Philosopher as such. By contrast, it was precisely the need to understand everything that drove Whitehead from Mathematics into Philosophy.

Like Whitehead, what Lovejoy achieves is to decentre the individual from the concept of idea, demanding that ideas are seen as being outside the prison of the human mind. Whereas Whitehead's ontology is unsatisfactory because it is dependent on belief in a divine force, Lovejoy's ontology fails because it is not really defined and cannot be satisfactorily reverse engineered.

Berkeley and Hume

What, then, enabled this decentering to be accomplished? How did the notion of idea manage to escape from the prison of the mind in which it was so convincingly locked during the 17th century?

Perhaps it is worth recalling that the earliest empirical insights, such as those of Hooke, originated from the discovery that the appearance of the world to the naked eye was vastly

different from that seen through the new technologies of microscope and telescope. From this point onwards, the so-called empirical movement was concerned with resolving this problem: with finding a basis of truth that was founded in our perception of the world while overcoming the imperfections of our senses. There was no attempt to develop a philosophy in which such doubt could be accommodated. Coming from the absolute certainty of the scriptures, the emphasis was and remained for much longer, on recapturing certainty.

The notion of ideas as developed by Locke was further developed in the writings of both Berkeley and Hume. Berkeley's solution was simple: to give precedence to the mind to such a degree as to dismiss the notion of materiality altogether. Nothing exists except in our minds and permanence is only achieved because everything is held in God's mind at all times. In other words, Ideas and the things they represent are essentially the same thing.

Whitehead was strongly influenced by the writings of Berkeley[71]. It is possible to see a connection between Berkeley's notion of God as holding the ideas of all things in his mind and Whitehead's own theology. Also, Whitehead started his exploration of philosophy trying to solve the same problem that the empiricists were addressing: how can we understand truth from the fundamental experience of perception.

Hume's contribution is to develop a much more rigorous theory of ideas, including the notion of “simple” and “complex” ideas that perhaps inspired Lovejoy's unit-ideas. He develops a pre-psychological theory concerning the relationship between outside reality, perception and thought. He concludes, most significantly, that there is no rational basis for believing in induction or causation. In a sense, Hume represents the culmination of Empiricism and its destruction. The world outside is essentially unknowable, the only solution is to ignore it with a certain carelessness and inattention[72].

Hume's assassination of Empiricism explains how someone such as Whitehead, who appears to be more of an Idealist than an Empiricist can claim to have been inspired by him. So the Humian connection can account for both Whitehead's and Lovejoy's theory of ideas, but not necessarily for the relocation of ideas out of the mind.

Perhaps the writings of Victor Cousin provide the best evidence for how ideas migrated out of the mind. Cousin was “a product of the French Revolution”[73]. Like Berkeley he was interested in the relationship between perception and thought and contributed to the development of the notion of Psychology. The following quotes illustrate how Cousin saw the mind of the

[71]Lowe (1949) contends that Berkeley and Hume were much more influential on Whitehead than Bergson etc.

[72]See Russell 1961.

[73]By which I mean his writings were affected by the impact of the French revolution on continental European thinking.

individual connecting to the external: "As the history of philosophy is the manifestation of the human mind in time and space, there must be in history all that there is in the human mind."[74] From this Cousin developed a theory of social history whereby there are three moments in universal development that correlate to the development of human consciousness: the infinite, the finite and the synthesis of the two.[75]

There is an immediate link here to the much more influential works of Hegel, who Cousin had visited in 1817 and later befriended. Perhaps they shared a political interest in the Restoration of monarchy[76], although Cousin arrived at this position through his liberalism. Cousin's development of humanity shows not only a dialectic turn that Hegel would have encouraged but is also very similar to Hegel's own version. It seems likely that one was influenced by the other or both developed together.

Cousin was definitely an influence on Lovejoy and the History of Ideas movement[77]. Like Lovejoy, his approach was essentially methodological[78] rather than ontological, being based on careful observation and analysis. He was an eclectic, believing in the integration of various systems of thinking as the means to arriving at a higher truth. His method was indeed even called the History of Ideas, taken as it was from his predecessor Brucker[79].

4.4 Recapitulation

The notion of ideas could be described as representing a struggle to understand the gap between the way we see and think about the world and the way the world appears to be or actually is. In this sense, it was an notion with no value in the Medieval period simply because if such a gap could be admitted then it was solely there for divine reasons and could only be properly understood by those with sufficient expertise to interpret the scriptures. As the power of the church waned and doubts about this authoritarian interpretive process grew, then Ideas became useful once more – as the device for locating these differences, if nothing more. To begin with, this device seemed to be conceived solely in terms of the individual mind, but as our horizon of knowledge expanded dramatically in the 19th century it became perhaps more useful to release ideas from this cage and see them instead as something more social.

Throughout its history, the ontology of Idea has never been clear, but a common sense approach has usually been sufficient to create something usable in most circumstances. For those seeking

[74]Taken from Simon, 1965.
[75]Wikipedia(Victor Cousin).
[76]See Simon (1965) p 46.
[77]For example, see Kelley (1990a)
[78]Wikipedia (Victor Cousin)
[79]See Kelley (1990a).

closure, the normal recourse has been to rely on some form of spiritual or even divine existence or metaphysic. Perhaps it is because of this lack of a solid grounding that the notion has never really escaped from its common sense clothing – as something vague or "idealistic" and otherwise not of this world.

The notions of Ideas explored in this chapter are ambiguous. On the one hand Idea represents a rational certainty, whilst on the other, an empirical vagueness. In Descartes and Locke, ideas are intra-mental while in Lovejoy, and Whitehead they are inter-mental or social, perhaps even Divine. While Lovejoy glosses over the ontological basis of his social ideas with the somewhat under-described *unit-idea*, Whitehead takes a similar path to Plato, seeking to locate ideas in a separate spiritual or theological space. All of which illustrates the problems that I had in understanding social model of ideas but none of which provide a solution. Does this ambiguity continue into modern works on Ideas or is there a solution that could provide me with the basis for developing a model of organisations as ecosystems of ideas?

Chapter 5
Evolving Ideas

5.1 Introduction

In this second part on the idea of Ideas the narrative focuses on the modern development of the notion. Ideas move on from being a philosophical concern to a sociological one. The story starts with Everett Rogers whose writings essentially capture the school of "Diffusion" as it evolved through-out the 20th century. Then in the latter half of the century the influence of post-modernism sees the quasi-scientific notion of diffusion eclipsed by the more localised concept of translation. But do any of these concepts address the underlying nature of ideas?

5.2 The Diffusion of the Idea of Diffusion

Everett Rogers was born in a small town in Iowa in 1931 and grew up in this isolated farming community knowing little of the rest of the world. That was until someone took him and his friends on a trip to Iowa State University; Rogers must have been impressed by the place, enrolling first for a degree in agriculture and later (after a spell in the Korean war) completing a Ph.D. in Sociology and Statistics. He went on to become a prolific author of books and academic articles.

Most of his early work was the study of farm economics and, in particular, the adoption of innovations by farmers. He and others wrote often in the *Journal of Farm Economics* and were concerned with the problems of low-income farms in the mid-west. In particular, Rogers and the other "Rural Sociologists"[1] were interested in the process by which farming innovations (such as new types of weed killer) were adopted or not. Rogers initial interest was in developing a system of categories to describe adopters according to how readily they used new technology[2]. This system provided the basis for what became known as the School of Diffusion.

The idea of Diffusion appeared to originate in anthropology at the turn of the century[3] where it was used to describe the way in which technologies or specific behaviours spread through communities. In the 1920's and 30's writers were referring to "Culture Diffusion" in journals

[1]This was a phrase used by Rogers in one of his key papers (Rogers and Beal, 1958, p330) as well as a journal: *Rural Sociology*.

[2]Rogers and Beal (1958) appears to be the first peer-reviewed publication of Rogers categories, being innovators, early adopters, early majority, late majority and laggards.

[3]Rogers, 1976, p. 290.

such as American Sociological Review[4], based on a mathematical model of diffusion[5]. Culture diffusion was largely an analysis of individual behaviours, such as Radio Amateurs[6] and was, to a great extent, synchronic in scope[7].

In 1943 Bryce Ryan and Neal Gross published an article entitled: The Diffusion of Hybrid Seed Corn in Two Iowa Communities[8]. Later, when reviewing the history of the idea of diffusion, Rogers identifies this paper as the "Revolutionary Paradigm"[9] that gave rise to the Diffusion School in which he was a leading figure. Using his own methodology, Rogers measures the spread of Diffusion as the number of publications on the subject against time, demonstrating the lower half of the S-curve. By 1947-48, the year of the Paradigmatic Revolution, there had been only 46 articles published on the subject. In the following year it rose to 68, but then, with a lag characterising the publication of reviewed papers, the number of articles rose to 112. In the following ten years another 1400 articles were published and the rate was still climbing in 1974.

In 1963 Rogers published "*The Diffusion of Innovations*", seen by many as the standard text of the Diffusion School. To some observers, it was little more than a broad review of the field[10], melding in his own categorisation of adopters, but such critical reviews seemed to do little to diminish its popularity over the next several decades[11]. One achievement that the book can certainly be attributed with is the clear conflation of technology, innovation, culture and ideas, as all being, more or less, the same object of diffusion studies.

By the 1970's interest in diffusion studies was still growing[12]. The greatest growth field was in the area of developing countries and the rate of technology adoption. Diffusion had also taken root in communications studies, where the spread of the "news-event" was itself a "mini-revolutionary paradigm"[13], and in market research where product take-up was the motivating factor.

In his 1976 paper, Rogers reflects on the rise of the Diffusion School, with space to consider some of its short-comings. He identifies three main "biases": a lack of process-orientation; a tendency to focus on existing innovations rather than what could or ought to be; and a bias

[4]Pemberton (1936).

[5]S-shaped Diffusion curves, as in Pemberton (1936) and also described in Rogers (1976).

[6]See Bowers (1938) for an example of a study of cultural diffusion.

[7]Rogers (1976).

[8]The article was published in *Rural Sociology* (Vol 8, March 1943) and is referenced in Rogers and Beal (1958) and again in Rogers (1976).

[9]See Rogers (1976) p 290, the author clearly referencing Kuhnian philosophy of science.

[10]See, for example, contemporary reviews such as Wilkening (1963) and Stanton (1963).

[11]The book is now in its fifth edition and can still be found in university short loan collections.

[12]Rogers (1976).

[13]Rogers (1976).

towards individuals over social structure. On the last point, Rogers himself quotes the following:

> *... the survey is a sociological meat-grinder, tearing the individual from his social context ... like a biologist putting his experimental animals through a hamburger machine and looking at every 100th cell ... anatomy and physiology get lost; structure and function disappear and one is left with cell biology*[14]

Rogers proposes the greater use of diachronic studies to counter the first two weakness, and the development of new methodologies based around network studies to restore social structure to the study. In other words, Rogers wants to see diffusion studies continue into the future and believes that they can overcome these recognised short-falls by appropriate adaptations.

What followed Rogers' moment of reflection was a spate of "enriched conceptualisations" that were more or less aimed at filling the structural gap. For example, Gatignon and Robertson[15] proposed a framework of diffusion techniques that they felt would provide the basis of developing Consumer Diffusion Research. This framework attempts to integrate all of the concepts from the field, addressing the short-falls that Rogers had highlighted in his paper.

The works of Eric Abrahamson represent a different attempt to address the lack of structure in Diffusion Research. Whether intentionally or not, Abrahamson's writings distance themselves slightly from the Diffusion School by focusing the reader's attention on his unique selling proposition: The Study of Management Fashion. Diffusion becomes a means to an end, and at the same time Abrahamson revises the means to introduce his own enriched conceptualisation. This takes the form of a Supply and Demand based process in which diffusion becomes the taken for granted means by which fashions (fads or ideas) move from Management Fashion Setters to Management Fashion Users[16].

Abrahamson's approach attempts to reconcile diffusion studies with its critics, but it remains solidly within the Diffusion school. Has Diffusion reach the top of its own S-curve? A brief sample of articles confirms that people appear to be writing about diffusion as much as they were, but whether what they write about can be placed within the Diffusion School as Rogers and others must have seen it, is not so clear. A very small sample of diffusion literature demonstrates that while the concept is still popular, and has expanded beyond "ideas" into "knowledge", it does not appear to be applied with the same quantitative approach, but is perhaps used more figuratively[17].

[14]Rogers (1976) quoting a passage from A.H. Barton's 1968 paper "Bringing Society Back In: Survey Research and Macro-Methodology", *American Behavioral Scientist* Vol 12, p1.

[15]See Gatignon and Robertson 1985

[16]See Abrahamson (1996)

[17]For example, see Bresnen and Marshall (2001) and Sturdy and Fleming (2003) as examples of recent research where the concept of diffusion is employed in the analysis. Neither paper includes any quantitative information.

Diffusing Ideas

This exploration of Diffusion is not intended to provide the reader with a comprehensive survey of "Diffusion Studies". It is instead meant to provide sufficient understanding of a field of research which itself depends on the notion of ideas, and therefore it is a way of understanding that notion in use. What are these ideas that get themselves so readily diffused?

In its initial conception, the idea of diffusion was primarily concerned with examining the spread of a particular "trait" or "technology" across a population. This basic mode of analysis suffers from being focused on individuals without being concerned with the structure that connects these individuals together[18]. The concept of "diffusion" is a convenient short-hand for explaining how innovations get from A to B. The observation that, when measured over time, the spread of an innovation seems to follow the same pattern as would be predicted for the diffusion of particles, is taken as confirming the validity of this short-hand. This is simulation rather than modelling – its effects are realistic so it does not matter that much how it actually works.

The concept, or metaphor of diffusion implies certain characteristics of ideas. The first is that ideas are interchangeable with "innovations" or "technologies" or even "news", and as we see more recently "knowledge". It is possible to speculate that the roots of this interchangeability lay in the processes being studied: that first the adopter would hear about a new innovation before later actually adopting it. In this sense, all innovations and technologies exist both in practice and as descriptions, and the diffusion of an idea about an innovation follows the same pattern (more or less) as the diffusion of its actual practice. Perhaps the shift from innovation to idea was political – reflecting as it did the adoption of the concept of diffusion in the field of communications where innovation was less interesting than texts. By moving the subject of diffusion to the more generalisable concept of ideas the school retains control over the field despite the emergence of a whole new area of study.

Diffusion implies that ideas are "particulate", and therefore relatively self-contained, autonomous, and separate. They are also durable and constant. An idea in Iowa can be placed in the same category as an idea in Arizona ten years later. It was perhaps an ecologically-inspired metaphor that Rogers grasped back in the late 1950's. Ideas were like the Seed Corn in the article, flowing through the farming community, germinating immediately they touch the innovators' farms and perhaps never germinating at all where they land on laggard's ground.

Diffusion also makes a clear distinction between the mobile subject of diffusion (the diffusand) and the fixed environment into which or across which these innovations/ideas float. In this

[18]This weakness has already been noted and is discussed in Rogers (1976).

sense, ideas are a special case, they are not the bread and butter of everyday human activity. They are not the "matter of thought", which, if it still relates to ideas, has to be considered part of the environment rather than diffusible in its own right.

It is curious that despite the clear imagery of ideas that the metaphor creates, the exact ontology of ideas remains about as ill-defined as it had when authors such as Whitehead and Lovejoy first saw the notion become part of "the social" as opposed to being locked away in the mind. Diffusion is a simple idea that remains useful only provided you look at it from the right distance. Get in too close and it quickly unravels. What are these ideas that they are able to diffuse? How can we class ideas together just because they use the same label to identify themselves? How can we assume that ideas are interpreted or expressed in the same way by different people in different places at different times? While diffusion remains welded to concrete ideas with concrete expressions (like certain types of weed killer or varieties of corn) then its use is more easily justified, but this is not sustainable when ideas become more abstract and therefore more negotiable.

In summary, the value of the idea of diffusion clearly lies in it simplicity and yet this simplicity depends upon ideas themselves conforming to certain, simple characteristics. Convenient and easy to use? Yes, but at the cost of sophistication and sensitivity. Are Diffusible Ideas a solid enough foundation for building a detailed exploration of ideas in organisations? Not at all.

5.3 Translating Ideas

There have been various attempts to move the study of the spread of ideas on from the metaphor of Diffusion[19]. The most successful of these has led to what is *not* known as the Translation School, although it could be thought of as this.

From a distance, translation could be represented as a reaction to the short-comings of Diffusion studies, primarily to the notion of ideas as homogeneous and to the structureless nature of the diffusion process. Translation injects two important degrees of freedom into the model. First, it requires ideas to be passed from person to person: it puts the process firmly into the hands of people themselves, not just as producers or consumers, but also conveyors[20]. Second, it enables people at each step to modify, adapt, redefine, to collectively translate ideas as they receive them and transmit them on.

The origins of the Translation School are in the combined works of Bruno Latour and Michel Callon. In 1981 they produced a memorably entitled article: *Unscrewing the Big Leviathan :*

[19]For example, see Doorewaard and van Bijsterveld (2001) who use the metaphor of Osmosis rather than diffusion, although remaining firmly in the field of physics when they do so and therefore providing little new insight into the nature of ideas themselves.

[20]See Latour (1986)

how actors macro-structure reality and how sociologists help them to do so[21]. Exactly what they meant by Translation is demonstrated in the following quote:

> *... all of the negotiations, intrigues, calculations, acts of persuasion and violence, thanks to which an actor or force takes, or causes to be conferred on itself, authority to speak or act on behalf of another actor or force*[22].

This "law"[23] of translation appears to have no direct relation to the notion of idea. Translation is proposed as being the means by which actors acquire strength and size: become macro as opposed to micro. Translation is used as if it refers to "interest", that one actor translates the interests of another: speaks on its behalf, and in so doing accretes it to itself, being the essence of Callon and Latour's "growth". These actors are not just people, but seem to be material as well: material of varying solidity and durability, and therefore including bodies, discourses, even feelings[24]. Whenever Latour describes networks and translation he appears to carefully avoid providing a clear, crisp description of what it is that flows (or circulates) through these processes and in particular he does not describe them as ideas.[25].

Latour's reluctance to pin down the contents of his flowing networks has not put others off adapting his concepts to the topic of ideas. Czarniawska and Joerges draw directly on Translation when seeking to replace the concept of Diffusion in their work on ideas: "The Travel of Ideas"[26]. It is not, perhaps, exactly the same Translation as Callon and Latour had described, but then it would be difficult for them to argue that their idea of Translation was not itself the subject of translation. Rather it is more pragmatic – a point to point transfer of something involving some level of mutation. And that something is the Idea.

Ideas that travel and translate are:

> *images which become known in the form of pictures or sounds (words can be either one or another). They can then be materialised (turned into objects or actions) in many ways: pictures can be painted or written (like stage-setting), sounds can be recorded or written down (like a musical score) and so on and so forth*[27].

These ideas move through communication and at the same time are subject to translation, causing them to change, develop and adapt. They can be fashionable ideas: arriving suddenly,

[21]Callon and Latour (1981), referenced by Latour (1999a) as the very inception of Actor Network Theory and the idea of Translation (p20), although in Callon and Latour (1981) Translation is already a concept introduced by Callon in 1975 from Michel Serres.

[22]Callon and Latour (1981) page 279.

[23]It is perhaps interesting that in more recent discussions on Actor Network Theory, Latour has tried to distance himself from the notion that it is a theory, and therefore presumably a law, instead preferring to see ANT as a methodology. Yet the term "law" is clearly used in the 1981 work.

[24]Callon and Latour (1981) page 284.

[25]whether or not this is intentional is worthy of further investigation, but not here. The story of Actor Network Theory impinges more directly on the idea of Process and is taken up in that chapter.

[26]Czarniawska and Joerges 1996.

[27]Czarniawska and Joerges (1996) page 20.

moving quickly and disappearing equally as fast. Or they can be institutionalized ideas: becoming durable, stable, spreading out in time and space. And fashionable ideas can become institutionalized.

Czarniawska and Joerges go somewhat beyond these simple notions to construct a more sophisticated schema of idea-related processes:

1. Ideas are translated into objects that are translated into actions that are translated, repeated, stabilised into an institution.

2. An object can also be disembedded from this process and sent/translated to another place/moment to start another process of translation: idea-object-action-institution.

In this conception it is clear that Czarniawska and Joerges are putting ideas squarely back into the domain of the mind. Ideas are mental, objects are their physical representation: words, pictures etc. A common-sense, pragmatic definition that continues to provide utility to those who study ideas on organisations. For example, Vandenbosch, Saaticioglu and Fay assume from the start of their article on Idea Management that an idea is "commonly understood to be a concept or plan formed by mental effort"[28]. They ask "what do we really know about ideas" but go on to consider what people in organisations do with ideas, assuming their opening definition to be complete.

5.4 Summary

Ideas are something we take so much for granted and yet when you choose to study them in detail they seem to elude definition. History suggests that they have served two different processes. On the one hand, with a provenance extending back to Plato and beyond, Ideas represent something eternal, fixed, and hence Ideal. This theme recurs in the works of Descartes and again with Whitehead. On the other hand, since the time of Locke and Hooke, ideas represent something vague that obscures the true nature of reality that they seek to represent.

Whichever view is taken, ideas remain ontologically problematic, at least if we abandon some form of theological reference. The root problem is understanding how something that seems to be so clearly fixed in the mind can display properties that can only be considered extra-mental. As a result more recent studies of ideas have effectively stopped worrying about ontology and focused more on metaphor and methodology: diffusion and translation.

As a source of understanding the nature of the social, which was the starting point for my own research, abandoning the ontological basis of ideas seemed unhelpful and appeared to present a

[28]Vandenbosch, Saaticioglu and Fay (2006), page 259

major problem in forwarding my research aims. If I wanted to understand the role of ideas in the development of organisations, which was my declared intention, then I was convinced that I needed to address this point and could simply not afford to opt out of the problem.

5.5 A Way Forward?

Getting from Ideas to Process – a personal journey

I thought that the obvious place to start a research project into the nature of ideas was with the model of diffusion[29]: Ideas are particulate, diffusing through time and space so that they spread out across a society. It didn't take me long to decide that this concept had little utility to offer. It is based on a simple model that is unable to articulate relationships between different ideas or represent the environment as being composed of other ideas that are more or less favourable to a newly arrived idea. It is individualistic, treating people as unconnected points where an idea may find favour or not[30]. Finally, it offers no insight into any specific organisational problem: what happens when an idea arrives in my own organisation? How does it develop? How does it get spread? What makes some ideas reach successful implementation while others spend forever being talked about and yet others are dismissed without any real consideration at all?

Similarly Abrahamson's theory of management fashion did not offer anything with significantly greater ontological richness. This theory adds sources and sinks for ideas but retains the core concept of diffusion and particularity, providing no additional means by which ideas can be seen as relating to each other. It adds structure to the previously unstructured diffusion model. It may even be possible to use such a framework to interpret the story of an idea struggling to find a purchase within an organisation, but it seems to be a technique that creates little new space in which to discover valuable insights. It provides a simple interpretive movement that reduces the textures and colours of everyday organisational life to a flat plane with just two features: idea creators and idea consumers.

I had always anticipated exploring the notion of Richard Dawkins' "meme" to see if that provided any useful inspiration. Dawkins' memes had spawned a following that had consolidated into the School of Memetics at the University of Bristol[31]. The common thread uniting the various writings and factions that make up this school seemed to be a metaphor: that memes are "viruses of the mind"[32]. To quote from Susan Blackmore:

> *Memes are habits, skills, songs, stories, or any other kind of information that is copied from person to person. Memes, like genes, are replicators. That is, they are information*

[29]Chapter 5 has already provided details on the diffusion model of ideas.

[30] Rogers (1976), p. 296.

[31]This is a liberal definition of school - it seems to be more of an informal collection of people.

[32]This is the title of an essay by Richard Dawkins (published in *Dennett and His Critics: Demystifying Mind,* 1993, Oxford: Blackwell) and a book by Richard Brodie published in 1995.

> *that is copied with variation and selection. Because only some of the variants survive, memes (and hence human cultures) evolve. Memes are copied by imitation, teaching and other methods, and they compete for space in our memories and for the chance to be copied again. Large groups of memes that are copied and passed on together are called co-adapted meme complexes, or memeplexes.*[33]

Although this idea seemed to fit with what I was looking for, I felt dissatisfied with it. It was too dualistic and remains particulate: on the one hand there are people and on the other, ideas. "Humans are apes infected with memes"[34]. If ideas are the stuff of the social then it seems likely that there will be a more inseparable or intertwined relationship. To model ideas on viruses is to make little or no progress beyond the ontological problems of diffusion: ideas remain encapsulated and autonomous. What I wanted to explore was the way in which ideas were bound together. It was also dualistic in another way: if memes infect the mind, what are those things in the "world out there" that reflect these memes in the mind and therefore allow them to "spread"; and if they are significant how do they relate to these memes. Finally, I felt that the whole Memetic thing was really too positivist. It failed to reflect intractables, the difficulties that were bound to interact with any ideas that could pretend to explain the social. Take a look at the quote above and ask yourself whether or not the last sentence is convincing. Exactly how can groups of memes be copied and passed on together?

Whether or not I was justified, I decided to move on and look elsewhere for inspiration. From Abrahamson I came to "The Travel of Ideas" by Barbara Czarniawska. Czarniawska and others were clearly concerned to replace the naivety of diffusion with something more compelling and that something was "Translation", a concept taken from another emerging school: Actor-Network Theory. Translation replaced the diffusion of ideas with a person-mediated transport whereby each person in the chain was able to interpret and re-interpret ideas as they absorbed and passed them on. It made the mechanism more socially mediated, but kept the notion of "idea" as something distinctly mental. But it didn't speak about the interactions between ideas so it was not the whole answer.

From Translation I began to look at Actor-Network Theory (ANT) itself. What attracted me to ANT was twofold. First was the way it accounted for interactions, being the network itself and the performances of the actants within that network. Actants is an ANT concept: actors can be human or non-human, hence actants. Second was the way in which it included objects or technology within these networks, making them a part of the social order. This was different from diffusion and management fashion that provide no account of hard technology and how technology interacts with ideas.

[33]See Blackmore (2006), About Memes.

[34]Blackmore (2006)

At this stage I determined that ANT was the answer, providing the means of seeing ideas as socially-mediated through networks of people and technology. I developed and presented a schema that extended the concept of Actor-networks into Idea-Networks. My first presentation was to a small group of academics at another university and I feel sure that their relatively positive response reflected their concern for this new post-graduate student who was clearly in unfamiliar territory. But when I presented the model to my own department at our Ph.D. workshop, I was faced with a completely different response. There was universal consent that I needed to explore just what an idea was before going any further. What was it that it could be both in the mind and could form networks? I had not convinced my audience and I realised that I had not actually convinced myself.

Latour, in his introduction to Pandora's Hope[35], recalls a conversation he had with a scientist about the nature of Reality. It is a theme that recurs through-out his work: the mind-in-a-vat problem. Indeed Latour frequently claims that ANT is all about "bypassing" the realist-relativist dilemma: that the whole mind-in-a-vat issue is essentially a distraction best ignored. Where I had perhaps miscalculated when adapting ANT to my problem of ideas was in ignoring its silence on the issue. Not once does Latour refer to ideas in the ANT scheme or methodological tool box. Why then did I presume that I could simply pick up this notion of network and superimpose ideas on it?

Perhaps I have only recently realised why ANT does not explicitly tackle ideas. Is it because ideas force us back to the very issue that ANT was trying to avoid: the dualism of mind and body? The moment we try to foreground ideas from the general movement of networks, actants, summing, framing etcetera, we are faced with an ontological crisis: what are these ideas that they are of the mind and yet can be seen as existing within social networks? Why not just bypass the issue? Is ANT any the worse off because it does not provide a theory of ideas?

What followed was months of wandering, knowing that I had lost my framework but not knowing how I could replace it. I read about Elias and figuration, and I read Margaret Archer's works on Realism. Archer's work and particularly the issues of individuals, collectives and emergence, seemed to provide me with a lot of ideas[36]. I remained convinced that what I was looking for was a way of describing the social through ideas, and that therefore whatever it was that defined collectivism and emergence ought to be articulable in terms of ideas.

[35] Latour, 1999

[36]Based on the frequency with which I wrote about them in my notes between the PhD presentation in May 2001 and the "breakthrough" in early 2002.

What caught my attention after several months of reading was the way in which these Realists[37] spoke about Society and Social Forms as if they were things. I now know that there is a tendency among Realists towards what some have termed "Heavy Ontological Furniture"[38], meaning that Archer perhaps intended that we should see Society and Social Forms as real things and not just abstract concepts or representations. However, I posed myself the question: why did we see them as things at all, and not as "processes":

> *It is interesting that everyone accepts "society" as a "thing" yet no-one tries to define it as such. If we see society not so much as a thing, but as a process, does it make a difference? You can't reduce a process to a thing, but you could argue that people are the only active constituents in the process and therefore make up society. ... At the heart of emergent sociology is the need to define the thing that emerges. And this seems to be what is elusive.*[39]

I wanted to unpack these Social Forms, with their resonance to Plato's forms. Was a mug a Social Form? On its own it seemed not – being no more than molecules of clay re-arranged into a shape by a process that is now complete. But then the idea of mug as it was in my mind seems wholly inadequate as defining Mugness. Without the accumulated apparatus of mug production and the knowledge that has been incorporated into this apparatus, then the idea of mug is itself not very useful. If I went into the wilderness with no more than the idea of mug in my mind it is quite possible that I would fail totally in my attempts to implement it. Where would I get the clay from? How would I process it into something usable? How would I fire it, out there in the wilderness? What sort of temperature is needed to fire a mug anyway? And besides, with each of these questions I have revealed some other, pre-existing idea that enabled my mug to become reality: clay, puddling, and firing. How would I get to Mug without these ideas, and without the reality that makes these ideas useful? How would I know what too look for, where the materials I need come from etcetera? All of these matters may be taken for granted, but it is only because we already have the answers in place that we can begin to implement the idea of mug.

At some point between that note I had made in December 2001 and the following March I seemed to make something of a breakthrough. I recall walking down into my local town one lunchtime, grappling as usual with the problem and thinking: what if ideas are not things in the mind or in the world out-there, but are instead "processes" - being the interaction between us humans and the material world. What if the whole notion of ideas as things is misleading? Do we bypass the problem by assuming that ideas are not things but processes? And does an idea such as this depend on accepting a whole host of other ideas as well? Are there things at all or do we essentially need to adopt a process ontology?

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[37]Probably an unfair and inaccurate collective noun for Archer and those who shared her views.

[38]See Kivinen and Piiroinen, 2004.

[39]Entry in my Diary of Notes and Thoughts for 22nd Dec 2001

This was how my thinking went. There is some obscured reality in which the material exists that is my mug. The reason it is obscured will become evident. When I pick up my mug and fill it with a liquid and drink from it I am expressing the central idea of mug: I am directly experiencing the idea of mug. When I look at my mug and describe it to you I am engaged in an intellectually-intensive process of mugness. Both these processes involve the material of the mug, but it is important to understand that my mug is only a mug through these processes. When no-one is looking at it or using it then it is not a mug. In a way "it" does not exist at all.

The performance of mugness is both constrained and enabled by the physical properties of the material mug. It has a handle that suggests picking up. It has a quality that suggests heat and water resistance. The physicality of this mug creates the potential for these performances. What is hidden in this physicality are the processes that enabled it: the processes by which my mug was made and got to me, and the processes by which these processes of manufacture and distribution were themselves enabled: the development of kilns, the quarrying of clay, etc.

Similarly the descriptive idea of mug is constrained and enabled by the properties of the material mug (its colour, feel, weight) and the descriptive apparatus available to me: the means by which I can sense these properties and the means by which I can then express them.

Conclusion

I started out seeking to develop a model of metaphor based on organisations being ecosystems within which ideas were created, developed, spread and eventually died. This model foundered on understanding the nature of ideas such that they could be seen as both intra-mental and extra-mental. Ideas have variously been understood to be one or the other; they have either been stuff of the mind and locked within it or they have been outside and either grounded with the mind through a belief in some spiritual mechanism or else the whole mind-matter issue has been conveniently sidestepped. In pursuing my ecological metaphor I needed ideas to be both extra- and intra-mental.

The solution that presented itself was that ideas should not be considered to be distinct Things in their own right, but could instead be seen as processes, as existing through the interactions between humans and materiality. Therefore, in trying to understand the nature of ideas I turned towards understanding the concept of process. How could ideas be regarded as processual? Given the ontological problems that had got me to this point, what is the ontological basis of process and therefore ideas-as-process?

Answering these questions is the task of Chapters 6 and 7.

Chapter 6
Process: Philosophy and Sociology

What then, in Causes can there be an infinite processe; And can no End bee found?

(M. Fotherby, 1619)

In this fusion of ground with consequent, the creative process brings together something which is actual and something which, at its entry into that process, is not actual. The process is the achievement of actuality by the ideal consequent, in virtue of its union with the actual ground. In the phrase of Aristotle, the process is the fusion of being with not-being.

(Whitehead, 1960)

6.1 A Philosophy of Process

This exploration of the idea of Process starts at that moment when the word emerges with a precise "meaning" in the philosophical discourse now reflected in the writings of Alfred North Whitehead. That is not to deny that the concept does not have a prior history, but it provides a convenient point where various concepts seem to converge to create something with a distinct integrity and greater clarity. Having said that, A.N. Whitehead's writings were anything but clear:

> *The speculative philosophy of Alfred North Whitehead, especially as presented in his magnum opus* Process and Reality, *is generally reckoned to be difficult, indigestible and obscure. It has failed to achieve any significant impact on analytical philosophy and its chief influence has been on what is called process theology. The fact that leading analytic philosophers familiar with Whitehead and his contribution to logic, ..., found themselves unable to penetrate it, has helped to relegate it to the sidelines.* [1]

The quote at the top of the page illustrates the point, and Simon was not alone[2]. It is this obscurity and the highly specialised nature of Whitehead and his colleague Bertrand Russell's writing that immediately launches the process researcher into a dilemma. How can we expect to understand the significance of these works without being experts in Mathematics, Logic, Metaphysics and indeed Theology? And yet how can we understand the meaning of process if we have to draw an arbitrary line (defined by the author's own limited capacity for knowledge), beyond which we dare not trespass?[3]

[1](Simons, 1998)

[2]Hernes 2007, p. 34

[3]This is not a new dilemma and was one of the key themes of Arthur Lovejoy's development of the History of Ideas – the need to go wherever necessary in understanding an idea. See Chapter 4 for more details. It is also a point that

The answer, I believe, is that we cannot. We have to make an expedition into this territory and hope that we can come back with something useful. So here goes.[4]

The Revolution of Quantum Mechanics

Whitehead and Russell were, first and foremost, engaged in the process of developing mathematical knowledge. The 19th century saw a radical development of mathematical ideas, culminating in the system of logic set down by Frege[5]. However, Frege's ideas were considered by his successors to be inadequate in certain areas, resulting in the need for further systems to be developed that could provide a more complete analysis[6]. It was this exact project that inspired Bertrand Russell and Alfred Whitehead, first separately and then in collaboration. Their aim was nothing less than defining the basis of all mathematics as being logic. In publishing *Principia Mathematica* there can be little doubt that they achieved their expectations, even if the exact extent of their victory is still disputed.

Perhaps for Whitehead, moving from a Grand Unification Theory of Mathematics to a Grand Unification Theory of Philosophy was a natural step. And perhaps the inspiration for this step came just at the right moment. Consider the following time line[7]

1898 Whitehead publishes his first book: *A Treatise on Universal Algebra,* being his first attempt at resolving some of the mathematical issues arising since Frege's Logic.

1901 Russell discovered his Paradox while working on his response to Frege's logic, although this did not become public until 1902[8].

1901 Max Planck published his key paper on quantum theory. This was *mathematics* proving that a practical, common-sense ontology was wrong.

1903 Russell published *The Principles of Mathematics.*

1905 Einstein publishes his trio of papers including the Special Theory of Relativity.

1905 Whitehead publishes his own *On Mathematical Concepts of the Material World.*

Bruno Latour makes (Latour, 1999) when recounting the story of Jolliot and the development of the Nuclear Bomb.

[4]The need for methods that can transcend disciplinary boundaries while minimising the impact on academic "standards" is explored more in the section on Methodology. Drawing on Lovejoy's view that developing the history of an idea requires a multi-disciplinary team, there would seem to be scope in many of the collaborative techniques and technologies that are available today. However, the normative PhD Thesis precludes the uses of such techniques in drawing together texts such as this, so I am going to do this alone and risk some small sacrifice of academic standards as a result.

[5]See Zalta (2005).

[6]See O'Connor and Robertson (2003).It was Russell who demonstrated the weaknesses of Frege's work with his Paradox, but it was also Russell who claims Frege to have been a major contributor to Mathematics, despite this.

[7]Much of this comes from O'Connor and Robertson(2003)

[8] For completeness, Russell's paradox is summarised as: "Some sets, such as the set of all teacups, are not members of themselves. Other sets, such as the set of all non-teacups, are members of themselves. Call the set of all sets that are not members of themselves "R." If R is a member of itself, then by definition it must not be a member of itself. Similarly, if R is not a member of itself, then by definition it must be a member of itself." Irvine, 2004

1907 Einstein publishes his Principle of Equivalence in which he describes gravitational acceleration as the same as mechanical acceleration.

1910 Whitehead and Russell publish the first volume of *Principia Mathematica* which is the second stage of their project to place the whole of mathematics on a logical foundation.

1915 Einstein submits his definitive version of the General Theory of Relativity.

1919 Russell publishes his *Introduction to Mathematical Philosophy.*

1919 Eclipse of the sun across Britain confirms Einstein's theories and causes him to become widely known. Headline in The Times reads: *Revolution in science - New theory of the Universe - Newtonian ideas overthrown*

1922 Whitehead publishes *The Principle of Relativity: with Applications to Physical Science*

1926 Russell includes an entry in the *Encyclopaedia Britannica* entitled *Philosophical Consequences of Relativity* which provides a lay account of Einstein's theories and their impact on philosophical thinking.

1929 Whitehead publishes *Process and Reality* in which he defines the principles of what comes to be known as Process Philosophy.

This sequence of events suggests the following tentative hypothesis. Planck, Einstein and others were together involved in a revisionary project of science – one in which mathematics assumes a dominant position over empirical observation, as demonstrated by the 1919 Eclipse. The Newtonian ontology, largely derived from empiricism and certainly in accord with it, is dead, to be replaced by the infinitely more abstract and certainly unintuitive ontology of Quanta and Relativity. At the same time Russell and Whitehead were involved in the mathematical project of their time. Specifically their task was realigning the great work of Frege to enable it to bring a logical unity to the whole of maths. In a sense their work was on a collision course with relativity. In the preface to his *Treatise on Algebra* Whitehead writes:

> *The ideal of mathematics should be to erect a calculus to facilitate reasoning in connection with every providence of thought, or external experience, in which the succession of thoughts, or of events can be definitely ascertained and precisely stated. So that all serious thought which is not philosophy, or inductive reasoning, or imaginative literature, shall be mathematics developed by means of a calculus.*[9]

[9]See Whitehead 1898, page viii

As the story around Relativity unfolds both Russell and Whitehead respond with their own contributions. Russell explains relativity and how it relates to philosophy but holds back from projecting these matters directly into the realm of the human condition:

> *... there is a grave danger when this habit of manipulation based upon mathematical laws is carried over into our dealings with human beings, since they, unlike the telephone wire, are capable of happiness and misery, desire and aversion. It would therefore be unfortunate if the habits of mind which are appropriate and right in dealing with material mechanisms were allowed to dominate the administrator's attempts at social constructiveness.*[10]

Whitehead on the other hand, appears to show no such reservation:

> *To expect to reorganise our ideas of Time, Space and Measurement without some discussion which must be ranked as philosophical is to neglect the teaching of history and the inherent probabilities of the subject*[11]

He squarely faces up to the challenge raised by Quantum mechanics and Relativity: to construct an entire philosophy based on these new ontological foundations. Being a mathematician at a time when mathematics and philosophy had come into such close proximity, he seems to have been entirely right to make this decision.

What is Whitehead's Idea of Process?

The simple answer is that reality, rather than being understood to be composed of hard, static matter or things is better understood to be dynamic "processes". The fundamental units of reality are:

> *'Actual entities' – also termed 'actual occasions' , are the final real things of which the world is made up. There is no going behind actual entities. ... The final facts are, all alike, actual entities; and these actual entities are drops of experience, complex and interdependent"*[12]

Actual entities exist within networks and are short-lived, influencing the Actual Entities around them before perishing. Lubbock offers a musical metaphor: the cosmos is likened to a musical performance. The music resembles a "free-wheeling jazz festival", coming together in harmony for periods before descending into chaos, only for some beautiful melody to emerge in counter-point[13].

[10]See Russell 1926.

[11]See Whitehead 1922.

[12]Whitehead, 1978, p. 18

[13]Lubbock, 1999. There is a striking similarity between this concept of the universe and Tolkein's creation myth in the Silmarillion (Tolkien, 1977) made more so by Tolkien's professional interest in theology and the time at which he was creating this story.

The ultimate stuff of the universe is Creativity[14], which is directed or lured by an eternal God, himself an outcome of this creativity[15]. This God is not an "omnipotent creator and universal king of the Jerusalem tradition"[16], but rather a process by which eternal objects are made available to the universe. These eternal objects represent an enduring potential through which temporal "actual entities" come into existence as partial realisations[17]. Although they exist through their participation with these eternal objects, actual entities remain autonomous. Returning to the musical metaphor, each player is at liberty to play what they want but is more or less likely to respond to the players around them. Eternal objects are perhaps best understood to be as the instruments – the potential being provided by the players if they can and chose to exploit it. What we regard as "things", such as people and chairs, are better understood as being complex societies of actual entities. They are secondary productions compared to the world of emotions. Reality can be understood only through pure, overpowering emotion: "Being tackled at Rugby, there is The Real! Nobody who hasn't been knocked down has the slightest notion of what The Real is"[18].

The exact processual nature of these actual entities is not clear. They are incomplete, imperfect or partial instantiations of eternal objects, shaped by their potential, but what is the ontological basis for eternal objects. Their eternal nature, whatever it may be in detail, suggest that they are somehow outside of process? Whitehead also describes actual entities as "drops of experience, complex and interdependent"[19]. This suggests, as does the rugby quote above, a subjective or at least social interpretation: drops of whose experience? Who is being tackled? Are there actual entities that exist outside of experience? Whitehead tell us that an actual entity becomes something more when its outcomes affect other actual entities. Such actual entities can be considered to be "objects"[20].

Whatever other, more complex meanings Whitehead may have developed through his entire schema of speculative philosophy, as set out in *Process and Reality*, it is very difficult to develop a "usable" understanding of actual entities that does not, at least in the hands of a novice, seem to reduce itself to just another way of identifying Things. Actual entities become objectified and enduring so that people can be seen as complexes of actual entities that can be regarded as objects, returning us to a substantive world-view. However well one understands Whitehead's concept of process, it must be admitted to rest almost exclusively on a new Onto-

[14]Whitehead 1978, p.21
[15]Whitehead 1978, p. 88
[16]Lubbock, 1999
[17]Whitehead, 1978, p. 40.
[18]This is an unattributed quotation of Whitehead from Lubbock, 1999.
[19]Whitehead 1978, p.18.
[20]Whitehead 1978, p.220.

theological synthesis[21] to replace the old theologically-independent Newtonian ontology. This may do him an injustice, suggesting as it does a reversion to the values that the 17th century revolution of science had sought to shake off. Rather than theological, Whitehead's idea could be considered to be spiritual in a wider sense. It could be a reflection of a curious confluence of ideas: the son of a church minister, schooled in English Empiricism, almost converted to Catholicism, married to a Catholic, influenced by the Romantics. Perhaps Whitehead gains his inspiration and his uniqueness from his ability to blend Empiricism with Idealism: an idealist conception of the cosmos coupled with a very empirical understanding of each person's experience of this cosmos[22].

Whatever else Whitehead's writings have or have not achieved, they are attributed by many as being a focal point in the development of the concept of Process[23]. But Whitehead did not invent the concept, so what was its prior trajectory? Where did the idea come from?

The Origins of Whitehead's Process Philosophy

The topic of what, or whom inspired Whitehead's Process philosophy has been subject to considerable debate since he published *Process and Reality*[24]. In particular, it appeared to be widely believed that Whitehead was influenced by the writings of Bergson, James and others. Against this was another view, articulated by Victor Lowe, that Whitehead was primarily influenced by English Empiricism, and by Hume and Berkeley in particular[25].

Lowe's argument is attractive, although the gap between Empiricism and process philosophy may seem too large to cross. Whitehead wants to build his philosophy from the ground up, from the most basic empirical observations ("to describe the sensible in terms of the sensible"[26]). Lowe describes his project as being the extension of English empiricism using the concepts of classes and relations that he and Bertrand Russell had described in *Principia Mathematica*. To evidence his assertion that Berkeley, Hume and Mill were significant influences on Whitehead, he provides the following early quote: "an extended body is nothing else than the class of perceptions of it by all of its percipients, actual or ideal"[27].

[21]See Chapter 4 – the old Onto-theological synthesis was effectively dispatched by the 16th and 17th century philosophising.

[22]This ontotheological synthesis does not appear to deter Tor Hernes (see chapter 7) who identifies it with a category of absolute human experience and says of this category that it "belongs to questions of God and will not be pursued here" (Hernes 2008, p. 35)

[23]For example, Rescher (2002) "In recent years, 'process philosophy' has virtually become a code-word for the doctrines of Alfred North Whitehead".

[24]Whitehead, 1978.

[25]See Lowe (1949)

[26]Ibid., p274 for this quote from Whitehead.

[27]Ibid., This is taken from a 1916 essay of Whitehead's

Whitehead's Process appears, therefore, to be similar to Berkeley's rejection of substance. Perhaps the following passage from Whitehead's friend Russell conveys the similarity:

> *It will be seen that ... a mind and a piece of matter are, each of them, a group of events. There is no reason why every event should belong to a group of one kind or the other, and there is no reason why some events should not belong to both groups; therefore some events may be neither mental nor material, and other events may be both. As to this, only detailed empirical considerations can decide.*[28]

Another resonance between Berkeley and Whitehead is the pivotal role of God in their ontology. For Berkeley, God is the necessary means of ubiquitous perception by which the universe is stabilised – preventing things from disappearing when no-one is perceiving them. For Whitehead, God provides the lure of possibilities by which actual entities (roughly equivalent to perceived things) are self-created. Without God both Berkeley and Whitehead are stuck.

Hume is concerned that Newtonian ontology denies us the power to assume causal relations between moments in time. Whitehead accepts Hume's contention, very probably in light of the revelations of Quantum physics. He proposes that time and space are a secondary effect, and that we are better understood to be like quantum particles: their influence is everywhere and all at once[29].

The Wider Philosophical Context

Whitehead lived through a significant evolution of philosophical thought and was involved with many of the people who contributed to this. Their influence is undeniable whether or not Whitehead's ideas can be directly attributed to any one of them. Charles Sanders Peirce (1839 – 1914), William James (1842 – 1910) and John Dewey (1859 – 1952) were together attributed to founding the philosophical school of Pragmatism[30]. Other contemporaries who had considerable influence over Whitehead included Samuel Alexander[31], who was also influenced by the revolution in Quantum mechanics as well as Darwinian evolutionary theory, and Frances Bradley, acknowledged by Whitehead in the preface to *Process and Reality*[32]. From all of these various influences I have chosen to consider Dewey and Bergson in a little more detail because they were directly influential on the development of the concept of process itself.

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[28]Russell (1961) page 633. It is not clear from this closing passage on Berkeley whether Russell is summarising Berkeley's position or his own. Given his involvement in the "Classes and Relations" project I could speculate that the statement is more his own than Berkeley's.

[29]Lubbock, 1999

[30]Peirce's work on pragmatism diverged into what he called pragmaticism (Burch, 2007) while Dewey preferred to use the term Instrumentalism rather than pragmatism.

[31]Emmet, D. 1992.

[32]Whitehead, 1978, p. xii.

The Importance of Experience

John Dewey lived through a period of turbulence from the American Civil War through to the Cold War with Russia[33]. He was taught by Peirce while studying at John Hopkins University and had a long relationship with William James from 1890 onwards. He was essentially a hybridiser; bringing together ideas from philosophical idealism and the emerging school of pragmatism with those from experimental psychology[34] and education.

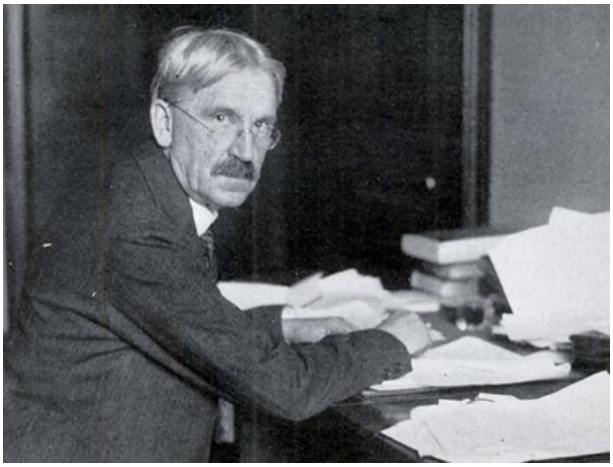

Figure 4. John Dewey (1859 – 1952) American Pragmatist

Dewey's processism is not as explicit as Whitehead's but it is still a fundamental aspect to his writings. He places great emphasis on experience and therefore process above facts and knowledge as an end in their own right. This is illustrated in the following brief analysis.

In Democracy and Education, published in 1916, Dewey wrote:

> *The nature of experience can be understood only by noting that it includes an active and a passive element peculiarly combined. On the active hand, experience is trying -- a meaning which is made explicit in the connected term experiment. On the passive, it is undergoing. When we experience something we act upon it, we do something with it; then we suffer or undergo the consequences. We do something to the thing and then it does something to us in return: such is the peculiar combination*[35]

According to this account, experience involves two processes: the process of action itself followed by a process of reaction or consequence, as he illustrated further in the same work:

> *Experience as trying involves change, but change is meaningless transition unless it is consciously connected with the return wave of consequences which flow from it. When an activity is continued into the undergoing of consequences, when the change made by action*

[33]Anderson, 2005

[34]Festenstein, 2005

[35]Dewey, 1999, Section 11: Experience and Thinking. All of the following quotes are from the same source.

> *is reflected back into a change made in us, the mere flux is loaded with significance. We learn something.*

In this next section, Dewey expresses an idea that is fundamental to the separateness between experience and description:

> *As matter of fact, every perception and every idea is a sense of the bearings, use, and cause, of a thing. We do not really know a chair or have an idea of it by inventorying and enumerating its various isolated qualities, but only by bringing these qualities into connection with something else -- the purpose which makes it a chair and not a table; or its difference from the kind of chair we are accustomed to, or the "period" which it represents, and so on. A wagon is not perceived when all its parts are summed up; it is the characteristic connection of the parts which makes it a wagon. And these connections are not those of mere physical juxtaposition; they involve connection with the animals that draw it, the things that are carried on it, and so on.*

Dewey is suggesting that mere descriptive knowledge is inadequate for understanding the nature of a situation compared to what can be learned through experiencing it. Finally, he cements the split in this last excerpt:

> *Words, the counters for ideals, are, however, easily taken for ideas. And in just the degree in which mental activity is separated from active concern with the world, from doing something and connecting the doing with what is undergone, words, symbols, come to take the place of ideas. The substitution is the more subtle because some meaning is recognized. But we are very easily trained to be content with a minimum of meaning, and to fail to note how restricted is our perception of the relations which confer significance. We get so thoroughly used to a kind of pseudo-idea, a half perception, that we are not aware how half-dead our mental action is, and how much keener and more extensive our observations and ideas would be if we formed them under conditions of a vital experience which required us to use judgement: to hunt for the connections of the thing dealt with.*

Dewey identifies an alienation between the process of human experience and the language mediated process of description: “pseudo idea”, “half perception” and “half-dead mental action” being emotive terms expressed against the intellectualising to which he appears opposed[36]. Unfortunately, Dewey was often represented as anti-intellectual and it was one of Whitehead's aims to redress this in his own *Process and Reality*[37].

[36]Festenstein, 2005 suggests this opposition while not explicitly stating it.

[37]Whitehead, 1978, p. xii.

Bergson's Intuition

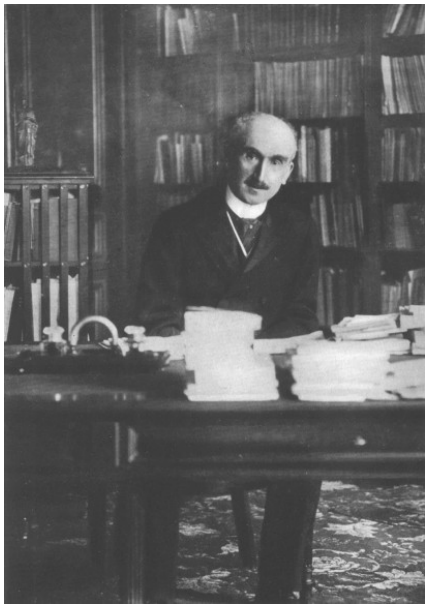

Figure 5. Henri Bergson (1859 - 1941)

In the same paragraph, Whitehead acknowledges his debt to Bergson and includes him in his attempt to rescue these authors from the charge of anti-intellectualism. It seems, however, that by the time he wrote *Adventures of Ideas* he had given up trying to clear Bergson of this charge[38].

To describe Bergson as a Philosopher of Change[39] would be a gross simplification. Bergson's writings, like Whitehead's are not easy to interpret[40] and therefore any convenient rendition is bound to simplify them. Perhaps it would be more useful to describe Bergson as the Philosopher of the Continuous. Change, especially in its modern or lay-managerial usage is a reference more to leaving one state to achieve another than to some form of continual process and Bergson was very critical of the state model:

> *We shall say as much for change; the understanding breaks it up into successive and distinct states, supposed to be invariable. If one looks a little more closely at each of these*

[38]Whitehead, 1967, p. 223, "This type [of dogmatic intellectual analysis] is illustrated by the anti-intellectualism of Nietzsche and Bergson, and tinges American Pragmatism".

[39]This is how Linstead (2002) describes him, although in the same paper Linstead points out how Bergson tried to avoid being labelled as the Philosopher of anything.

[40]See, for example, Russell's (1961) comment on Bergson's *Time and Free Will*, p. 759. Bear in mind that Russell probably wrote the majority of this work before the Second World War and at a time when Bergson was widely read. He is also a recognised critic of his work, and as with other sections of his book, his assessment of Bergson can hardly be accepted as objective.

> *states, noticing that it varies, ... , the understanding hastens to replace it by a series of shorter states, which in their turn break up if necessary, and so forth ad infinitum.*[41]

Bergson's ideas are often regarded as anti-intellectual or at least anti-rationalist[42]. There is some accord with Marx, even if Bergson may have been loathe to accept it[43]. Both are rejections of Hegel and Kant and of idealism and rationalism. Both are responding to the emergence of the wider idea of Evolution. Both are essentially historicist, although Bergson is anything but conventional in this sense. Both are intrigued by the sense of change and development (or creativity in Bergson). But in terms of ontology and methodology they are very far removed. Bergson's ontology is "duration", a rejection of space and therefore also a rejection of materialism. And his methodology is "intuition" - the conceptually challenging idea of understanding by "entering into" an experience through the process of self-sympathy and dilution[44].

Bergson's position starts from the assumption that science (and hence, modernity) has reduced the concept of time in its broadest sense to a simple and regular measure that can then be largely ignored. Time is treated as an extension of space so that the world can be conveniently summarised into three dimensions separated by mere intervals of time. The reason for the deletion of "Real Duration"[45] is to preserve the fixity or invariance of the world so that we can subject it to our intelligence[46]. For Bergson, the intelligence alienates us from real duration, replacing it with the "phantom of duration, … the elimination of time [being] the habitual, normal, commonplace act of our understanding"[47]. By reconnecting with duration – the truly continuous movement, we can recapture reality. This is the essence of Bergson's processism: the purity of uninterrupted or indivisible movement made possible by stepping outside of, or looking through the divisions or interruptions created by space (and therefore reflected in the spatially dominated intellect).

Bergson's method for reconnecting with real duration is intuition. Intuition is, first of all, a reconnection with immediate consciousness. It is also consciousness extended to the edge of the unconscious. Finally, intuition offers the promise of accessing an underlying spiritual reality existing as the interpenetration of interconnected human consciousnesses[48]. This is the fundamental axis to the whole of Bergson's Oeuvre and much of his writing is dedicated to

[41]Bergson, 1992, p. 16.
[42]For example, Whitehead's attempt to rescue Bergson from this charge, as mentioned above.
[43]Hamilton, 1973 provides a good example of how the two were compatible.
[44]See Lawlor and Moulard, 2004 and Linstead 2002.
[45]Bergson, 1992, p.14.
[46]Ibid, p.15.
[47]Ibid, p. 31.
[48]Ibid, p. 32.

developing these concepts at a psychological or even neurological level as well as philosophical. Bergson was very much in touch with the science of his times. Much of the first chapter of *Time and Free Will* is given over to an analysis of bodily phenomena[49]. In *Matter and Memory,* Bergson describes two forms of memory: one being a habit of the body while the other, pure memory, provides access to an underlying unconscious, true memory[50]. This memory captures our inward experience in a pure state, protecting the past and prolonging it into the present[51]. It is what intuition connects with in order to provide insights into ourselves and, through our interpenetrating consciousness into the wider gamut of our spirituality.

Bergson and Whitehead share the same concern with the intellect but seek to resolve it with diametrically opposite solutions[52]. Whitehead identifies wisdom is the means of transcending intuition and intellection and thereby discerning the process wherein actual entities reflect the potential of eternal objects. Bergson, instead of moving out from intellection, turns back into intuition as the means to access duration and pure memory. Both aim at the same target: a source of certitude in a world made uncertain by science. Both appeal to some form of transcendent metaphysic, although Bergson's spirituality is not overtly theological in the same way that Whitehead's is.

The importance of undivided duration to Bergson, and of the enduring past suggests that his work is essentially historicist, but Bergson's concept of creativity refutes any determinism in his approach. Creativity, which is only made possible through the experience of duration, is the means by which the truly novel is injected into the world. In contrast, the intellectual, which is always constrained by its own vocabulary, is only capable of re-arranging pre-existing ideas and therefore bereft of true creativity[53]. He goes on to convince the reader that when we are faced with the truly novel, we deny it by asserting that it was always made possible by prior events and therefore always already existed[54]

This stance seems awkward from today's perspective and indeed there seems to be something of a tension between the need for a truly novel creativity and the essential connectedness of duration. Since Bergson wrote these works there have been at least two ideas that have passed into popular knowledge that may have changed his position: the molecular foundation of evolution in the form of DNA and molecular genetics; and Chaos theory. Molecular genetics provides a model for how novelty can be generated simply through the variation of pre-existing

[49]Bergson, 2005, pp. 1 – 74.

[50]Bergson, 2004, p. 86.

[51]Bergson, 1992, p.74.

[52]Whitehead (1978, p. 33) is critical of Bergson's intuition as being made impure by its physical nature – its mental operation.

[53]Bergson, 1992, pp. 35-36.

[54]Bergson, 1992, pp. 21-22.

components (the various base-pairs of the DNA code). Admittedly Bergson may have dismissed this as irrelevant because it relates to all animals in the same way that both he and Whitehead dismiss animal social behaviour. However, Bergson was very much aware of modern science and tried to assimilate it into his works so it seems unlikely that he would have ignored it. Similarly, chaos theory shows how totally closed and deterministic systems can generate unpredictable results, again providing a source of novelty or creativity that was not previously recognised, and yet could be intellectualised.

A Summary of Process Philosophy

The century from 1850 – 1950 saw several revolutions in scientific thought that must have been as disturbing to the foundations of intellectual thinking as the collapse of scholasticism several centuries earlier. Evolution revolutionised biology while quantum mechanics revolutionised physics. If nothing else, these revolutions demonstrated the fallibility of all human intellectual endeavours and for one reason or another inspired various philosophers to follow suit and attempt their own breakthroughs.

The re-appearance of the concept that the world is essentially processual rather than concrete marked one of these revolutions while recalling a similar period of intellectual hiatus dating back to Heraclitus. Change and discontinuity take precedence over stability and the continuant object. Experience, intuition or wisdom are needed to counter the unreliability of words, descriptions and the intellect – ultimately the unreliability of science. Each of these ideas of process was a rejection of the status quo and of the dominant substantive world-view. And yet in the case of both Whitehead and Bergson it could be said that each was also an attempt to re-establish certitude where science or normative modes of thinking had been found wanting. And, unfortunately, both of these proposed systems ultimately depend on some form of absolute: God as the ultimate process of creativity, in the case of Whitehead, and the underlying spirituality of Bergson's duration. These philosophical theories of process were very much a function of their times, when the church was still a vital authority and philosophy was as much concerned with morality as ontology etc. What happened next in the philosophy of process depended upon the erosion of this moral and theological authority in the second half of the 20th century.

Before continuing with this thread, however, it is worth staying the first half to consider another aspect of process that emerged around this time: the development of a processual sociology.

6.2 The Sociology of Process

The impact of Quantum mechanics and evolution was not limited to pure philosophy. Although possibly starting in philosophy, another strand in the development of process came in the form of something that emerged much more slowly through the 20th century: the sociology of process.

Norbert Elias and the *Longue Durèe*

Elias was born in Germany in 1897 and, after, serving in the Great War, he studied philosophy and medicine at Breslau University, where he went on to complete a doctorate in Philosophy in 1924[55]. Before completing his thesis he fell out with his supervisor because of his refusal to accept the Kantian notion that certain categories of thought were universal and eternal, including Newtonian space. Looking back to the time-line at the start of this chapter suggests a reason for this disagreement: by 1924 Newtonian mechanics was well and truly dead. The result of this disagreement was the end of Elias' career as a philosopher and the start of his career as a sociologist, moving to Heidelberg.

Elias shares some of the same fundamental assumptions as Whitehead, primarily being the notion that the world is better conceived of as process rather than objects. Indeed, it is possible to conjecture that Elias and Whitehead were working on the same overall project. Both were convinced that the Newtonian conception of reality was flawed. Whitehead focused his energies on the philosophical, building his process ontology. Elias takes the idea into the more applied domain of sociology. Hence the term used often with respect to Elias' work: Process Sociology.

Elias' concept of process is perhaps more pragmatic than Whitehead's. Process is understanding the world as a network of interdependencies. It is not necessary to completely abandon the common-sense ontology of objects or Things. It is more important to concentrate on the way in which Things are inter-related and the way in which such inter-relationships have themselves developed over time. For Elias, the focus of these relationships is power, behaviour, emotions and knowledge. This is the central concept of Elias' Process Sociology and is given the specific term of Figuration[56], being the conception of society as the networks of inter-relationships between people, with primacy given to these networks or Figurations over and above the individuals within them. The researcher must resist the temptations of *process reduction* whereby continual flux is reduced to objects in a series of defined states. Figurations need to be understood to be in flux with patterns of changes that cover quite different periods: from short-lived and ephemeral to long-lived and lasting[57]. These long-lived patterns of change are not easily perceptible to those involved and are therefore not necessarily planned or managed. It is, however, these patterns that can shape the development of society. This last point, which leads to the Eliasian term: *The Longue Durèe*, also accounts for why Elias' works are sometimes referred to as Historical Sociology. It is only possible to properly understand the factors that are

[55]See the Biography of Elias on the Norbert Elias Foundation Website (Mennell, 2006)
[56]See Newton, 2001.
[57]See Mennell, 2006

driving the development of a social situation through studying that situation in an historical context.

To illustrate this, Elias uses a powerful metaphor[58]. He describes how generations of people gradually colonised successively higher floors of a tower. After many generations the colony forgets about the lower floors and instead assumes that their particular perspective on the world represents an absolute vision of the world. The implication of this metaphor is that each generation's potential is always a legacy of the efforts of prior generations – that we are always connected through history.

This metaphor also illustrates another important concept that Elias used[59]. He believed that we readily assumed ourselves (and others) to be freely acting self-reliant individuals capable of being independent from the world around us. He termed this *Homo clausus* to reflect the concept of individuals living in closed worlds divided into inside and outside. In contrast, he wanted us to see ourselves as *Homines aperti*: "multitudes living in open and interdependent processes"[60]. He also wanted us to understand that these communities of *Homines aperti* are not conditioned by the ambitions of powerful individuals, but instead understand that social outcomes are the achieved through the "*interweaving* of countless individual interests and intentions"[61]

Influences on Norbert Elias and Process Sociology

At first glance, the works of Norbert Elias seem to be the product of *Homo clausus*[62]. He is not developing or extending any particular school of thought and his work does not locate itself within existing fields[63]. But clearly, by his own theories, Elias cannot be taken as the originator of these ideas. They must have come from somewhere, be part of some other trajectory. And indeed scholars of Elias have determined at least three distinct threads that flow through his works.

The first of these has already been mentioned: the rebellion against the Kantian/Newtonian ontological settlement of distinct substance, time and space[64]. Unlike Whitehead, who was clearly involved in the emergence and impact of Quantum physics, Elias appears to have signed up to this rebellion with little significant input, and perhaps considerable discouragement[65].

[58]See, for example, in Newton 2001.

[59]See Newton 2001

[60]Quotation of Elias from *What is Sociology* referenced in Newton 2001 page 469

[61]This quotation of Elias is from *The Civilising Process* and was used by Tim Newton in a draft of his 2001 paper, although it did not make it through the editorial process.

[62]Szakolczai, 2000.

[63]Lepenies, 1978.

[64]See Mennell, 2006

[65]I refer to the falling out between Elias and his Ph.D. supervisor mentioned by Mennell, 2006.

The second influence was quite probably the development of proto-processual thinking in the works of Marx and Comte[66]. Comte, who had experienced the French Revolution, was involved in a revisionary project aimed at binding the wounds suffered by France in the 25 years after the Revolution[67]. He proposed an idea of "evolutionary process" in which societies could be seen as developing from a Theological state (prior to the Revolution), through a Metaphysical state (post revolution) to a Scientific state (being the solution to France's problems). Society is not conforming to a steady state, but instead progresses from one state to another.

None of the scholars of Elias mention any influence from Victor Cousin, who was a powerful rival of Comte's. Cousin proposed a similar three-state social progress[68] and also espoused an early form of what could loosely be called a social psychology[69]. Is it possible that Elias was familiar with Comte and knew nothing about Cousin, even though he spent 2 years in Paris between 1933 and 1935?

Compared to Comte, and despite his attribution as the Father of Sociology, the influence of Marx on Elias is better understood and more profound. Elias studied Marx in Frankfurt and was later friends with Borkenau, who was a Marxist, turned anti-communist living in exile in England. Elias commends Marx for breaking away from Hegel's strong influence when he rejects Hegel's asocial conception of The Spirit as the primary drive force of social development[70] and for adopting a social perspective over a philosophical one. Perhaps he identified his own career history with Marx's? However, Elias believed that Marx over-reacted to Hegel and went too far in a dialectic response, establishing the Economic as the primary driver. What Elias wanted to do was correct Marx's correction of Hegel, completing the Dialectic perfectly and ending with a social conception of human development.

Elias attributes both Comte and Marx with a common understanding of Change. He situates this understanding in the French Revolution. Marx did not live through the revolution itself but he did experience the revolutionary unrest that punctuated the early part of the 19th century up to 1849. The relationship between revolution, change and process has also been attributed to the works of Heraclitus. He believed in a world that was in constant flux – like a fire, consuming and being consumed[71]. His was, however, a thoroughly pessimistic and misanthropic outlook,

[66]See Elias, Krieken and Dunning 1997, Szakolczai 2000 and Aya 1978.
[67]See Simon, 1965, p45.
[68]This has already been mentioned in Chapter 4 under Whitehead.
[69]Simon, 1965.
[70]See Elias, van Krieken and Dunning, 1997
[71]Russell, 1961 pp. 59-65.

apparently born from his own experiences of social and political unrest. The source of this unrest was the decline of tribal aristocracy and the rise of democracy[72].

Is there a pattern in this recurring idea of process? Social upheaval in early Greek democracy leading to Heraclitus. Social upheaval in the French Revolution and its aftermath leading to Comte and Marx. Intellectual upheaval with the discovery of quantum mechanics and the overthrow of Newtonian mechanics. Was it possible that both Whitehead and Elias were also affected by social upheaval? They both lived through the Great War, Elias as a combatant and Whitehead as a father who lost his son. Elias was also subject to the upheaval of Nazi Germany which effectively cut short his developing career and contributed to the 40 year gap before he became widely appreciated. Perhaps process is more readily comprehended when you have experienced the frail and insubstantial nature of ordered social forms?

The Influence of Norbert Elias

The effect of the Nazi's National Socialism on the development of social theory in Europe was quite profound. Exiled from Germany, social theorists from across central Europe where swept first to France and then on to either England or America. The difference between these two destinations was significant. In America there was money and interest sufficient to see Sociology become a recognised profession[73]. In England there was not. Elias, coming to England rather than America, and speaking little English was destined for obscurity. But perhaps obscurity gave him opportunity, for his idea that became *The Civilising Process* was born from a modest research grant made by the Jewish community for refugees and involving him in studying Nineteenth Century French Liberalism in the British Museum[74]. When Elias published his book it was in German and was published in Switzerland through German printers during the war. A modest first run took 25 years to sell out.

Elias' lack of success was therefore partly attributed to his move to England and his publication in German. But his work was also slow to spread because it lacked any orientation to guide readers about its contents and provenance. Even once his work became known, it was only to a select few and it wasn't until the 1970's or arguably the 1990's that he became “popular” and “influential”.

Elias can be seen as something of a focal point: a confluence of ideas. On the one hand there is a strong parallel between his Process Sociology and Whitehead's Process Philosophy and their common rejection of Newtonian ontology. There is also a parallel between the methods of Elias and those of Lovejoy, both concerned with history, both with tracing interdependencies.

[72]Popper, 1966 p.12
[73]Lepenies, 1978
[74]Aya, 1978

Lovejoy connects to Cousin, Elias to Comte, and Cousin and Comte are themselves inextricably linked. There is the dialectic project of synthesis: of reconnecting Marx with the social proper. And then, flowing outwards from Elias are various Eliasian themes that can be more or less attributed to his influence. On the one hand is Historical Sociology, which in turn leads to another variation on the theme of process in Longitudinal Field Research and a more contemporary discourse on organisational change. On the other hand there are more direct influences on French thinking and sociological studies: through Foucault and the School that bears the label Actor Network Theory. The rest of this chapter pursues these two lines of influence.

6.3 Historicism and its Legacies

Comte and Marx may have been significant influences on the works of Norbert Elias, but were not the only ones, being part of a larger movement that developed in the early 19th century and continues into contemporary thinking: that of Historicism. It is a broad reflection of those who believe that it is (only) through the study of history that we can understand humanity[75]. Its roots might be attributed to Hegel[76], or at least to the period in which he lived. In Marx, at least, the idea becomes clearly defined and acquires a power that lasts well into the last century, possibly even into this.

Historicism has to be seen in opposition to the dominant view held up to the late 18th century, that humanity can only be properly comprehended through reason. It should also be compared with the widespread view (at least until the 17th Century) that humanity was in decline from some utopian antiquity[77], and that such a utopia defined the truth of the human condition. Against these ideas, Historicism can be seen as a radical movement that situated Truth amongst the activities of people in the past and present.

Historicism can be regarded as being pre- or proto-processual: it articulates the importance of causal links through time and space and in doing so enables two significant developments. The first is the idea that if we can connect together past events through some form of causal reasoning, then we can discern a trajectory into the future: what becomes in Marx, historical or sociological determinism. The second is that if we can reduce the various elements of history into a causal theory then, through extending and developing this history, we can work towards a total history: the totalising effect of historicism.

[75]Olabarri, 1995, p3.

[76]See Popper, 1965, although it should be noted that Popper uses the word specifically to denote historical determinism, hence my qualification.

[77]See Elias, van Krieken and Dunning 1997. Also, this is nicely portrayed in Neal Stephenson's "*Confusion"* (2003) where the events of 1665 and 1666 were seen as properly apocalyptic and the optimism in the Rise of Science was pitched against the prevailing belief in degeneration.

Comte and Marx were both significant influences on the development of the idea of Historicism. Comte described how human thought had developed through time while Marx focused on the development of economic relations. Comte's ideas, through Durkheim and others, were to influence successive generations including the Annalise School[78] and Elias. The influence of Marx, however, merits further consideration.

The Ideas of Karl Marx

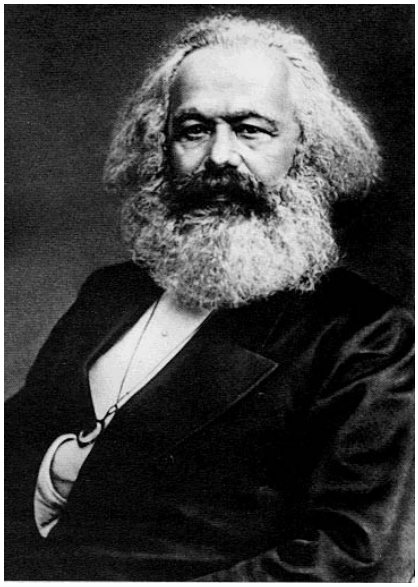

Figure 6. Karl Marx

To identify all of the links between the works of Karl Marx and his disciples and the idea of Process would be a complex task, worthy perhaps of its own volume. In the spirit of my chosen method, I cannot, however, justify passing Marx by without some examination, but neither can I justify the considerable detour that might be involved in trying to trace these links and influences. Therefore I have chosen to try to strike a compromise with a synopsis of Marxist influence having a particular focus on Process and avoid being pulled into what would probably amount to linking everything to everything else.

Marx was educated in the Hegelian tradition, and in particular Hegelian Historicism. At the time of Hegel's death, mainstream Hegelians proffered the view that the Prussian State had achieved the ultimate synthesis in the dialectical movement of history: being at the summit of civilised development. Marx, however, became one of a group of people who opposed this view, being called the Young Hegelians. The Young Hegelians believed that contrary to reaching the summit, the Prussian State was corrupt and oppressive. They also believed that the source of

[78]Olabarri, 1995

Prussian authority was derived from the Bible. They therefore set about undermining this source in order to demonstrate their point.

In particular, Ludwig Feuerbach wrote a treatise describing how God was the creation of man and bestowed with qualities that were really the qualities of humankind. Marx was influenced by Feuerbach but ultimately did not accept the argument that Prussia's power was derived from Religion. Instead Marx believed it to be founded on controlling the means of production. With this insight he is able to stand Hegel on his head.[79] He rejected the notion that human activity was the outcome of intellectual activity[80] and instead asserted that it was the means of production that dictated social progress: that the "material 'base' of society gives rise to its cultural, legal, political and ideological 'superstructure'"[81]. At the heart of his belief was the notion of materialism:

> *The older materialism, he said, mistakenly regarded sensation as passive, and thus attributed activity primarily to the object. In Marx's view, all sensation or perception is an interaction between subject and object; the bare object, apart from the activity of the percipient, is a mere raw material, which is transformed in the process of becoming known. Knowledge in the old sense of passive contemplation is an unreal abstraction; the process that really takes place is one of handling things.*[82]

This concept of "handling things" illustrates how the idea of change is at the heart of Marx's materialism: that the subject (human) and the object(thing being handled) are continually adapting to each other in a dialectical process that is never complete[83]. Marx extends this dialectic into a mutual inter-dependency between humanity and its environment, where each is shaped by the other in a process that is essentially inescapable. This dialectic movement is played out at a macro-economic level. It was manifest in the struggle between classes (those who controlled the means of production and those controlled by the means of production) creating, through a series of revolutions a progression of cultural states: from land-owning feudalism, to industrial capitalism, to wage-earning socialism.

What is important about Marxist ideas with respect to the idea of Process is the central role of change, of transition. It is a rejection of a static world-order in favour of a dynamic progression. Ontologically it is essentially realist, being opposed to idealism: the driving force of the social process lies in the material of production rather than intellectual ideas. Finally there is an epistemological dimension: that knowledge comes about from action or interaction and is

[79]"Marx's well-known inversion of Hegel" as described in Eagleton 1997. Although I have portrayed this as the result of Marx's interactions with the other Young Hegelians, including Feuerbach, Moore (2001) proposes that Marx was already thinking along these lines in his doctoral dissertation and that the source of this influence was in the writings of Epicurus.

[80]What might loosely be described as Hegelian Idealism, see, for example, Elias, van Krieken and Dunning 1997.

[81]See Eagleton, 1997, p. 12

[82]Russell 1961, p. 749.

[83]Russell 1961, p. 749.

therefore negotiated rather than absolute. Marxist ideas, however, prospered not so much because of these philosophical attributes, but because of the political dimension: the inevitability of class struggle, revolution and progression, and because of Marx's activism. He believed that the true role of the philosopher was to hasten us towards the inevitable outcome:

> *the question whether objective truth belongs to human thinking is not a question of theory, but a practical question,' he says. 'The truth, i.e. the reality and power, of thought must be demonstrated in practice. The contest as to the reality or non-reality of a thought which is isolated from practice, is a purely scholastic question. . . . Philosophers have only interpreted the world in various ways, but the real task is to alter'it.'*[84]

Evolution, Marx and the End of Teleology?

The idea of Evolution was quite well developed by the early part of the 19th Century. Through the 18th Century ideas about Geology and Palaeontology developed to the point where the invariance of life on earth was difficult to sustain[85]. Instead it became fashionable to conceive of species as transforming and diversifying over long periods of time[86]. For some, the source of these changes was accidental while for others it was the result of preformationism: an evolutionary determinism that was based on observing embryonic development and asserted that all forms of life were already determined at creation by a complete set of primordial germs[87].

Evolutionism became coterminus with another idea that developed towards the end of the 18th Century: progressionism. This was, broadly speaking, the doctrine of human and natural development progressing always to a greater level of perfection. Amongst the many forms of this idea was one that centred on the assumption that all forms of life were in some manner or other prototypes used in the perfecting of the ultimate outcome: humanity. This was a unilinear vision of progress in which different forms or prototypes could be arranged in a single chain of being. Growing knowledge of the natural world led to this concept being undermined by the sheer diversity of lifeforms and eventually the metaphor of linear progress was replaced by the Tree of Life: of branching out in irregular patterns from one, or two (for those who want to keep humanity separate from animality) trunks[88].

Darwin was instrumental in enabling the future of the idea of Evolution. He brought together the ideas of Transformism and progressionism and gave then the means to happen: the process of natural selection. He removed the need for theological pre-suppositions to justify the

[84]the quote is from Marx's Eleven Theses on Freuerbach, 1845, and is found in Russell 1961 p 749

[85]See Goudge 1973 for a full description of the idea of Evolutionism.

[86]The formation of the earth telescoped from 4000BC to 70,000 BC to several millions of years BC within 200 years. See Goudge 1973.

[87]See Goudge, 1973, p. 187 Vol. 2.

[88]See Goudge, 1973.

existence of the evolutionary process and he also removed for need for any teleological assumptions: that the progression of species and the development of the world was inevitably part of a grand design aiming at some greater, as yet unrevealed ending.

Marx and Engels soon became aware of Darwin's theory and both were interested in its relevance to their own work and the significance of its anti-teleological conclusions: Marx wrote that Darwin's book: "deals a death blow to teleology in the natural sciences"[89]. The reason why Marx was impressed with Darwin was because it supported his conviction of the central teleological role played by humanity in the unfurling of history: in the dialectical process of material interaction, it is humanity who has the purpose, not nature[90].

Marx was, after all an Historicist who believed that he had discerned the master narrative of humanity: the progressive struggle between the classes that would lead eventually to the fulfilment of man's purpose. This master narrative could be discerned in the history of human interactions and could also be used to foretell its future. And, through careful interventions it could be used to hasten this future. Unfortunately for those who tried to implement Marx's master narrative, the exact details of how to hasten this future we left unsaid[91].

Therefore it seems possible to conclude that Marx, and Historicism more generally post Marx was concerned with discerning meaning in the history of human interactions, and therefore was concerned with a purpose behind those interactions and was therefore teleological. What Marx achieved, with Darwin's considerable help, was basically extinguishing any immanent natural teleology: some purpose or meaning that lay beyond humanity within some wider, and most often deistic Natural World.

Historical Sociology and Sociological History

Historicism percolates through the corridors of History and Sociology with differing fate but a more or less similar pattern of interest. The "New Histories"[92] are modernist, positivist interpretations raised from a Scientific perception of history, as in the Social Sciences combined with a totalising narrative. In Britain, the movement is reflected in the journal *Past and Present*. In Europe it is carried forward by the *Annaliste* school. In Germany it takes on a slightly different form in the *Bielefeld School*, but it is still profoundly influenced by the historicism of Marx and others. The impact of Nazi Germany on the fate of historicism was perhaps profound. Elias, who I am broadly categorising as belonging to this school, albeit he has significant differences from Marx (as described above), was forced out of Germany in 1933 and went

[89]Ball, 1979.
[90]Ball, 1979
[91]See Popper, 1966 p. 313 where the author describes the problems encountered by Lenin.
[92]Olabarri, 1995

eventually to London where circumstances placed him out of academic reach for many years. But much of the Frankfurt School to which he loosely belonged, went to America.[93]

Sociology in 1960's America was dominated by what has been termed *Parsonian Functionalism*. Functionalism, itself a descendent from the ideas of Durkheim, is a sociological viewpoint in which institutions and systems dominate social causation and which pays little or no attention to change, and therefore history and requires little observation or empirical study[94]. Dissatisfaction with the monopoly of functionalist views led to a series of rebellions and attacks. Amongst the more or less successful ideas vying to oppose functionalism was a rising star in the form of Quantitative Empiricism. Starting out with identifying social trends and carrying out surveys, Quantitative Empiricism was propelled into the front line of social methodologies by Blalock and Duncan when they borrowed path analysis from Biology in the mid-60's[95]. And with popularity came domination, and with domination, new opposition.

Historical Sociology was an idea used by many people with quite different agendas to attack both Parsonian Functionalism, for lacking any attention to change, and the dominant form of quantitative empiricism: the status attainment model, for being antihistorical and too focused on the micro. What Historical Sociology used to attack these ideas was the methodological respectability of History and its focus on facts, events and change. In an attempt to escape the quantification nightmare, Historical Sociology became defined as a "theoretically impregnated analysis that was qualitative but not quite narrative".[96]

As sociologists rushed to embrace the methods of history, historians passed them in the opposite direction, seeking to find an escape from the conventions of history in sociology. Quantitative History was borrowed directly from the social sciences, replacing a purely descriptive history with the causation of regression. Feminist history and Marxist history were also moving towards sociology although neither perhaps achieved a sound theoretical basis that should have distinguished them more from the historical methods they were seeking to escape.[97]

Despite these promising cross-overs there was never synthesis. Sociological History needed to adopt theory: "to become more causal and less descriptive", and Historical Sociology needed to "make theory more time- and place-specific."[98]

[93]See Lepenies 1978, p. 58.
[94]Abbott, 1991, although any such categorization is by definition inaccurate.
[95]Abbott, 1991
[96]Abbott, 1991. The quote in the last sentence is from p. 210.
[97]Abbott, 1991.
[98]Abbott, 1991, p. 223.

6.4 Recapitulation

Process philosophy has always been revolutionary – a reaction against the status quo, which has typically been a world-view dominated by invariant Things. What it achieved in the works of Whitehead, Bergson and others, was to be taken seriously – that there could be a valid processual world-view and that such a view was essentially different from, if not in opposition to the substantive world-view that permeates everyday life. The works of Bergson are perhaps the most reactionary. His anti-spatial (and therefore anti-intellectual because the intellect is essentially spatial) stance is unique, seeding a thread that feeds and develops through various contemporary works that are the subject of the next chapter.

This process philosophy is itself part of a deeper thread that might be labelled historicism – that the world can be understood through its dynamics rather than or at least in addition to a set of characterisable, static entities. Historicism acknowledges that the world is continuously in the process of being shaped – that it is changing and that this change is itself an essential property to be studied and understood. This push and shove continues even into the contemporary themes considered in the following chapter.

Chapter 7
Process in Organisation Studies

7.1 Introduction

I started the previous chapter seeking to understand the concept of process in pursuit of the notion that ideas, as key determinants of organisational behaviours, can be better conceived of as processes rather than distinct things. I arrived at this position because I could not determine a coherent ontological basis for ideas where they could be seen to be something both within and outside of the human mind. Adopting a similar approach to that employed in exploring ideas themselves, I reviewed the emergence of the notion of Process as part of the intellectual revolution that shook the early part of the 20th Century, with Quantum Mechanics and Relativity at its centre. Process philosophy, establishes and reinforces the validity of a processual world-view, albeit one that still depends on a theological foundation. Process sociology and historicism at large shows how a focus on the processual offers a valuable mode of analysis, especially when the alternative (and invariably established) models are found wanting.

Process philosophy establishes the validity of a processual world-view but appears to fail to provide an enduring ontological basis for process. The works of Whitehead and Bergson continue to be referenced by contemporary writers and particularly by those in the field of organisation studies. Perhaps if I explore these works I will be able to understand how organisation-as-process can be conceived as "human interaction with materiality".

This chapter is divided into four main sections. The following sections picks up from where chapter 6 ended by exploring how Historical Sociology influenced organisation studies through the disciplines known as Longitudinal Field Research and Actor Network Theory. This is followed by a section that traces various processual themes in organisation studies: Sensemaking, autopoiesis and Change Management. Section 7.4 reviews the lastest research on process studies and provides examples of how many of these studies are conducted primarily from a substantive world-view. Finally, section 7.5 explores the works of Tor Hernes that provide a coherent approach to organisation-as-process.

7.2 Evolution of Historical Sociology

The previous chapter ended with a brief review of the historical sociological and sociological history. These threads continued into the late twentieth century, via various routes, and

influenced several fields of research. Below is a summary of two of these fields where process has either explicitly been introduced or is otherwise close to the surface.

Longitudinal Field Research

The historicist roots of Longitudinal Field Research (LFR) are apparent in the title: the "longitudinal" being the need to study over time, and therefore historical, and the "field" being the location of research in a defined time and space. LFR is undoubtedly an example of the reaction against Functionalism and specifically its inability to theorise change. This is clearly conveyed in Van de Ven and Huber's definition of LFR as answering the unaddressed research question:

> *"How does organisational change emerge, develop, grow or terminate over time? ...The "how" question is concerned with describing and explaining the temporal sequence of events that unfolds as an organisational change occurs. Process Studies are fundamental to gaining an appreciation of dynamic organisational life...*[1]

In other words, Longitudinal Field Researchers are seeking "to develop and test generalizable theories about changes in organizational design and effectiveness"[2] through the study of how organisations change over time: through history as opposed to, or at least in conjunction with more traditional studies of what led to and resulted from organisational change. Where the latter examines the inputs to and outcomes from change, LFR seeks to theorise the causes of change by examining in more detail the processes involved.

The idea of Process emerges once more from the historicist tradition, as it did with Elias. Only this time it is less a theory of process and more a signpost in an essentially historicist tradition: We are not just going to look at What happened, but How it happened. There are no ontological ramifications to the idea of Process in this form. It is more of a lay term, and its interest is methodological – how do researchers study how things happen over time?

Take, for example, a recent longitudinal case study by Frances and Minchington[3]. The methodology is taken for granted without any specific description or elaboration. The study that is the subject of the paper emerged from a prior postal survey and involved identifying a suitable candidate company and then conducting a series of interviews. The bulk of the paper consists of a normative account of the subject being researched and the company involved. The results of the survey are set out as a single narrative evidenced with quotations from the interviews. There are no other forms of supporting information offered to the reader. It is clearly a study situated within the substantive world-view making no attempt to embrace a processual

[1]Van de Ven and Huber, 1990.
[2]Glick et. al. 1990
[3]Frances and Minchington, 2002.

perspective other than through the implicit values of its methodology. This methodological emphasis is picked up in Chapter 9 were further consideration is given to LFR.

Pettigrew, a central figure in the school of LFR, proposed a processual analysis[4] that was based on certain guiding precepts for what constitutes process. These were a) that processes are deeply embedded in contexts that produce and are produced by them, b) that process must always be understood as a sequence and flow of events, c) that process and context are inseparably intertwined, d) that understanding process requires an holistic approach, and therefore has to be carried out over long periods of time, and e) that processes should be linked to outcomes.

Pettigrew's paper illustrates two assumptions that sit uncomfortably within the notion of process: that of context and that of outcomes. Context clearly involves other processes; Pettigrew uses the metaphor of a river basin containing many rivers that are interconnected as opposed to a single river in its own channel, but context is still provided by the land within which these processual rivers exist. This context provides means of bracketing the research subject, reducing the role of that which is "outside" to something like prefatory material. This same bracketing enables processes to generate outcomes: things that come out of processes. These outcomes permit a sense of stability or fixity to leak in: we run the process and out comes a result. Both context and outcomes, therefore, permit a substantive analysis in which process gets to play a symbolic role that guides our choice of methodology rather than defining an radical ontology in the sense of Whitehead or Bergson.

Actor Network Theory

In Europe the development of Historicism was somewhat different from the US[5], perhaps because the mindset of Functionalism was less dominant, perhaps because Europe in the 1950's and 60's was still receptive to ideas that were otherwise driven underground in the US by a strong anti-communist movement.

In the 1980's there was a gradual emergence of a "theory" that appears to have been influenced by Historical Sociology, being concerned with studying events over time and with localisation as well as generalisation. It is difficult to be precise about the idea simply because it was rather dynamic: tending to change as it evolved in the hands of those who "practised" it. So perhaps it is easier to refer to the works of those people, such as Bruno Latour, and Michel Callon, and to use their own retrospectives to explore the idea.[6] The concept picked up the title "Actor-Network Theory" or ANT at some point but inevitably such a moniker led to misunderstanding

[4]Pettigrew, 1997

[5]See Stedman Jones, 1976 and Hall, 1989

[6]Much of what follows is digested from Latour 1999a

and eventually to dissatisfaction with the term, which in turn led to explanatory justifications intended to remind people of what the idea was all about rather than what the words invoked.

The practice of ANT involves studying social interactions as "Networks". Latour is careful to point out that the word "network" does not mean some structured Thing[7] as perhaps we tend to view it, in light of the dominance of Computer Networks. Instead it corresponds to "a series of *transformations*"[8] in which individual Actors engage with each other, mediating, interpreting, and transforming. It is not just dynamic either: when an actor is engaged it does not need to dynamically network with others in order to express their interests, being able to store their interests durably in some manner within itself or as part of its own performance. To appreciate this attribute of networks it is also necessary to understand that Actors are not just humans, they are also non-humans: objects. Hence the frequent use of the word "actant" to designate human and non-human actors.

Consider the example explored by Latour, of the Speed Bump or Sleeping Policeman[9]. The moment in which the travelling car slows to pass over the raised section of the road not only expresses the driver's understanding of the car's response to such an obstacle and his or her interest in avoiding damage to the car. It also expresses the interests of several other actors: the legislators who enacted laws to limit the speed of cars; the local community whose concerns over dangerous driving were directed at the Local Authority; the Local Authority who needed to find a cost effective way of enforcing the law and satisfying local pressures; and the engineering department whose knowledge of road structures and car dynamics led in turn to the invention of an ideal sleeping policeman. And it doesn't stop there: what about those whose interests were compromised by the sleeping policeman, such as the ambulance drivers or fire brigades unable to reach those in need as quickly as they could because of its non-negotiable physics? The sleeping policeman "sums up" these interests, positive and negative, and encodes them into durable form, at least until the engineers return with their breakers to remove the concrete to replace it with the next idea in speed management.

The Sleeping Policeman interprets, transforms and shifts these interests into a purely local expression of law-enforcement: not every sleeping policeman applies the same compromise between speed reduction and risk of damage, as every driver knows, making each unique and in need to local attention. The network can be seen as the various relationships that connect the interests of those involved with the summing up carried out by the policeman. It is never a

[7]He does so strongly in Latour 1999a, p. 15, and also in Latour 1997.
[8]See Latour 1999a, p. 15, with original emphasis.
[9]Latour, 1999 p. 186-187.

Thing, but always the means by which historically accreted relationships get to be expressed, more or less accurately, in the present.

As well as conveying what Latour mockingly refers to as the "actant-rhizome ontology"[10], ANT also has an epistemological dimension, conveyed in what its practitioners refer to as the "circulating reference". To describe this concept, Latour relays his experience of studying a field research project in South America[11]. The Pedologists engaged in this study are attempting to understand the soil systems at the boundary between forest and savannah. Latour observes them engaged in their studies and discerns not the complete transformation of concrete soil into abstract concept, but rather a series of gradual transformations mediated through carefully rehearsed processes of collection and examination. The forest floor is transformed through a gradual process of mapping and sampling into a "pedocomparator": a grid of cells into which regular soil samples are placed for comparison. Further transformations, also through pre-agreed processes and standards, transforms the pedocomparator into a graphical cross section that can now be shared with and understood by penologists the world over.

Latour's contention is that rather than seeing the world as reality and representation separated by the gap of "correspondence", we should see it as a series of much smaller transformations, each of which is effectively reversible. Hence the phrase "circulating reference". He admits that this is essentially a "bypassing strategy"[12] not intended to refute the mind-body divide, but instead render it ignorable. We do not need to concern ourselves with the correspondence between the symbolic and the actual, but instead trace back the symbolic to the actual from which it was derived.

Another aspect of ANT is its treatment of the micro-macro divide. The macro is not something ontologically distinct, but merely the way in which certain micro-actants are able to sum up the interests of many other micro-actants, without the necessity for the observer to understand how. This is referred to as black-boxing[13]: how one actant's network is taken for granted as being of that actant and is no longer of interest[14]. Unfortunately, this trick of ANT's is not regarded as a universal solution and debate on the macro versus micro continues as before.

ANT does not expressly work with the word "process". Perhaps it is simply a language thing, as most of the work originates in French. Perhaps it is the recognition that the word is already

[10]Latour, 2004

[11]Latour 1999, p.24.

[12]Latour, 1999

[13]see Callon and Latour, 1981. Also Latour 1999, p. 304 provides the following definition: "... the way scientific and technical work is made invisible by its own success. When a machine runs efficiently ... one need only focus on its inputs and outputs and not on its internal complexity."

[14]Callon and Latour, 1981, p.285.

loaded with different meanings and that to use it would be to bring in unwanted intellectual baggage. Unfortunately, as Latour himself points out, almost any set of words brings with it unintended meanings[15], but this word at this time has plenty so it may have been a wise decision to avoid it. Regardless of the lack of the word, the spirit of the idea of process runs through ANT[16]. The focus is on events or performances, on what is going on rather than on what is. The chain of events gives the researcher a structure to follow, not some preconceived mode of thinking. As Latour says in his own exploration of the history of France's wartime nuclear research efforts and the role played by Frederic Joliot:

> *To understand science is ... to understand this complex web of connections without imagining in advance that there exists a given state of society and a given state of science.*[17]

The word process could so easily be eased into this discussion, but the fit is not perfect. The concept of network implies, however reluctantly, some form of structure, of persistence, of Thing: a web of connections. But Latour does not describe this web as a thing, but instead follows Joliot as he works, as he expresses and facilitates the process of his own research. Just as Latour follows the Pedologists through the forest margins, back to the remote Brazilian hotel and eventually back to their labs in France. He is following the process even if he does not use the word.

7.3 The Gerundification of Organisation Studies

Process has emerged in organisation studies through various routes, in addition to those discussed above. This section provides a short summary of two key fields where process has been an important component.

Sensemaking and Organising

Weick's seminal work *A Social Psychology of Organizing*[18] can be seen as a major influence on mainstream organisation studies[19] that introduced the concept of process, or as Weick terms it "process imagery"[20]. Weick's proposition is that organising consists of two intertwined processes: the process of sensemaking and the process of action that actually organises. Weick draws on concepts from Bergson, such as pure duration[21] and James' streams of consciousness to propose that sensemaking works in one or two modes: sensemaking in motion, consisting primarily of verbs, and sensemaking as stabilising, consisting primarily of nouns. Sensemaking

[15]See Latour 1999b.
[16]Hernes (2008) illustrates the processual nature of Latour's works in Chapter 4 (pp. 59-77)
[17]See Latour 1999, p. 90.
[18]Weick, 1979
[19]Hernes, 2008
[20]Weick, 1979
[21]Weick, 1995

in motion can be seen in the intersubjective experiences of people and small groups working in dynamic conditions. Sensemaking as stabilising can be seen as a process of fixing and framing that enables us to create a relatively stable world of things. For Weick, the process of organising involves a relationship and an oscillation between these two modes, the intersubjective and the generic subjective.

Because Weick was working within mainstream Organisation studies, his ideas were very influential and could therefore be seen as popularising a move towards the concept of process and of becoming[22]. But Weick stops short of proposing a full-on processual perspective. His focus on sensemaking enables us to accept that reality is constructed through this process, while his duality of modes enables us to accept a reality that is largely substantive or composed of substantive elements that might be surrounded by the dynamic flux of process or even decomposed into this flux.

Whether or not Weick was responsible for it, many of the papers that explicitly deal with process in organisation studies make mention of the gerund. For example, Pettigrew talks of "becoming, emerging, developing, transforming, and decaying"[23]. One area where this sense of becoming has been particularly strong is Change Management.

Organisational Change Management

Pettigrew's study of ICI[24] in the mid 1980's was an influential part of the emergence of Change Management as a distinct subject. LFR went on to focus on the need for organisational studies to address change as opposed to function[25]. By the late 1990's Change Management had emerged as its own field and was becoming a fashionable concept, much written about and readily procured from management consultancies, etc. It had emerged into the business world through such books as Michael Hammer's *Re-engineering the Organisation*[26] and William Bridges' *Transitions*[27]. Popular books, such as Kotter's *A Force for Change*[28] and *Leading Change*[29] challenged business leaders to embrace change as a means of ensuring their businesses success rather than something to be resisted.

As change became the fashion, there was a growing concern that conventional ideas about change were inadequate and that new theories were needed that were more process-based[30] and

[22]Hernes, 2008, p. 114, and Czarniawska, 2007
[23]Pettigrew 1997, p338.
[24]Pettigrew 1985
[25]See above and, for example, Pettigrew 1990
[26]Hammer, 1993.
[27]Bridges, 1980
[28]Kotter, 1990
[29]Kotter, 1996
[30]Chia and Tsoukas (2003), p. 196

therefore better able to help us understand change. For example, Weick presented a paper at the 1998 Summer Conference at Harvard[31] that admonished the "hyperbole of transformation", as he termed it, and presented the case for small, emergent change. In 2003, *Organization* ran a special edition exploring alternatives to conventional Change Management[32]. Organisational Change Management stood accused of being biased towards change (change for change's sake) and of being essentially managerialist. Taking a more radical approach, Chia and Tsoukas asserted that "organisation" and "change" are intrinsically opposed[33], organisation being a static conception while change is dynamic and therefore processual. In their paper, entitled "*Everything Flows and Nothing Abides: Towards A "Rhizomic" Model of Organisational Change, Transformation and Action*", they explored the tensions between static and dynamic:

> *It implies that what we experience as a substantial, objective organisational reality is in fact an aggregate of social routines built around interlocking acts of "arresting", "locating", "regularizing and "stablilizing" portions of an intrinsically fluxing and transforming "real" into a coherent liveable social world.*[34]

Chia and Tsoukas concluded that organisational change is an oxymoron. Seen from this processual perspective, change has to be treated as something organic rather than mechanical:

> *... the management of change must entail, not the kind of deliberate and externally-driven intervention so much favored by conventional organisational change theorists and practitioners, but the alternative relaxing of artificially-imposed structures of relations. ... This strategy of relaxing control structures will naturally allow the intrinsic change forces, hitherto kept in check by systems of organisational accountability, to express themselves naturally and creatively and to find their own rhythm in the change process.*[35]

The implication is that process is at the spiritual heart of human endeavour and that organisation is somehow opposed to this *natural* order. This is perhaps a position that has developed from Bergson's own conception of a spiritual connectedness.

This history of Change Management illustrates Bergson's argument that we tend to break up the continuous into fixed states[36]. What started as a focus on organisations as changing processes became appropriated into episodic and transformational change[37] needed to get organisations from a parlous state to a successful state. What Weick, Chia and others have been attempting to achieve, one way or another, is to debunk this model of stateful change and return to the core Bergsonian value of movement.

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[31]Weick, 2000

[32]Sturdy and Grey 2003 is the introductory article to this special edition.

[33]Chia and Tsoukas 2003, p 197.

[34]Chia and Tsoukas, 2003, p.197

[35]Chia and Tsoukas, 2003, p. 199

[36]Bergson, 1992, p. 16

[37]Weick, 2000, p. 223.

7.4 Process Today; Heterogeneity or Confusion?

Process, in early 21st century organisation studies, has itself become heterogeneous, having a multiplicity of meanings. Or, as Barbara Czarniawska warns[38], process is becoming meaningless through over-use and insensitivity to its original intent. It is almost as if the only thing needed to demonstrate you understand the significance of process is a liberal use of the gerund. To be or to become, that is the question.

Exogenous and Endogenous Processes

One way of understanding this heterogeneity of process is through the typography described by Hernes and Weik[39]. They have discerned two major classes of process termed exogenous and endogenous. The exogenous process relates to approaches where the overall conception of organisation is substantive while processes are seen as flowing through or around this substantive structure. This divides into two subclasses, the first being free-flowing processes and the second being programmatic, or structured processes. The endogenous class admits of processes in their own right and therefore not defined within the context of some other (and therefore non-processual) structure. Endogenous processes are also subdivided into two: the first having an emphasis on connectedness and the second being termed "recursive reproduction" where the emphasis is on the process by which structure is reproduced and evolves.

Hernes and Weik reference both the works of Whitehead and Bergson[40] and acknowledge the divide that exists between the processual and substantive. But they then dismiss this division as "too coarse to be of much help to organisation studies"[41]. They believe that the core issue is knowing when to treat something as a process and when it can be treated as a stable entity. Their typography provides various views of this problem. In the exogenous model, the world is largely substantive while processes flow through and around this substantive superstructure like blood through the body. In the programmatic case, the blood becomes more like some form of clockwork. In the endogenous model, process becomes inter-relational rather than a thing in its own right. It connects, or is the connectedness of different (and therefore heterogeneous) stable entities. It forms or provides networks.

The mixing together of process and substance is something that is difficult to escape simply because words and language are so substantive – we do not really have a processual vocabulary. However, this mixing is more intentional – a deliberate disregard of the philosophical

[38]Czarniawska, 2007 p. 354.
[39]Hernes and Weik, 2007.
[40]Hernes and Weik, 2007, p. 252.
[41]Ibid, p. 252.

distinction that underpins the works of Whitehead, Bergson and others. For example, the rhizomic metaphor mentioned above was originally conceived of by Deleuze and Guattari[42] as a Bergsonian concept. Rhizomes symbolise an undirected connectedness in opposition to the hierarchy of tree or root that are directed and ordered. Rhizomes are heterogeneous. They have no single point of reference. They can be disrupted but are capable of recovery. This is a popular metaphor and has been much written about, but it contributes to the confusion above: it is essentially a spatial (and therefore substantive) metaphor derived from a philosophy that was explicitly opposed to the spatial[43]. It supports or promotes this hybrid approach by mixing up the notion of process with the overtly spatial; and with the influential nature of the authors, this has done much to shape the debate on process.

For example, Wood and Ferlie[44] apply Bergson's ideas and Deleuze's Rhizomic metaphor to a practical organisational scenario: the relationship between research and practice in the use of "Evidence Based Health Care". The paper is concerned with the epistemological divide between research knowledge and practical activity, which can be seen as a question of change: how is practice changed by research? The authors conclude that the two should not be regarded as separate activities but rather interpenetrating processes. This paper is an example of the exogenous model above, although there is clearly some mixing of the different modes they referred to: substantive organisation, programmatic practical processes, and a more flow-like process of knowledge acquisition and learning.

Kjærgaard and Kautz focus on process when they conducted their study of knowledge management in a small European company[45]. Here process is depicted as relatively programmatic and therefore exogenous: defined process bubbles with interconnecting inputs and outputs. Activities within these bubbles are explored using Weick's sensemaking paradigm. The bubbles themselves exist within a general stable organisational context. A similar study by Duanmu and Fai[46] is also programmatic, depicting process as interconnected linear operations. In both cases the studies are focused on the contents of the process bubbles and pay little attention to anything outside these bubbles. Process is essentially unproblematic – a way of connecting up discrete activities or tasks or events into a logical arrangement.

[42]Deleuze and Guattari, 1987
[43]See Chapter 6.
[44]Wood and Ferlie 2003
[45]Kjærgaard and Kautz, 2008
[46]Duanmu and Fai, 2007

Koivunen's study of leadership discourse[47] is essentially exogeneous, focused on discursive processes within an essentially substantive organisation. Similarly, Larson and Wickstrőm's[48] study of interaction processes in project networks assumes a substantive organisational setting in which individual processes are the subject of the study.

The four papers above study processes-in-organisations as opposed to organisations-as-processes. Perhaps the latter is just to difficult, whilst the former is gradually undermining the concept of process in the manner predicted by Czarniawska[49]. Even authors such as Robert Chia, a long-time proponent of process, is displaying a certain ennui with process. A recent paper by Chia, titled: *Post-processual challenges for the emerging strategy-as-practice perspective: Discovering strategy in the logic of practice* puts the case for finding alternatives to the processual perspective.

7.5 A Processual Framework

But process is still alive and kicking. Tor Hernes, in *Understanding Organization as Process: Theory for a Tangled World*[50] provides a comprehensive analysis of current processual theorising and sets out certain premises that he proposes as defining an endogenous process world-view.

Hernes develops this framework through analysis of Whitehead's works and then a comparison with the works of four contemporary writers: Bruno Latour, Niklas Luhmann, James March, and Karl Weick[51]. As already noted, however, Hernes caveats his approach to Whitehead with something of a broad get-out clause that sidesteps the ontotheological basis of all Whitehead's works[52].

Latour's contribution to processual analysis is acknowledged as his work on actor-network theory. Luhmann, who was mentored by Talcot Parsons[53] and therefore exposed to Parsonian Functionalism, contributes the concept of autopoiesis – a means by which processes perpetuate themselves. Luhmann's background positioned his work within a vocabulary of systems, albeit he used the term in a less structural manner that Parsons[54]. He acknowledges the supremacy of process in understanding organisation. His focus is on communications as the means by which systems are constituted and perpetuated. March, another highly influential writer, adopts a

[47]Koivunen, 2007.
[48]Larson and Wickstrőm, 2007
[49]Czarniawska, 2007
[50]Hernes, 2008
[51]Latour and Weick are briefly discussed earlier in this chapter.
[52]See Chapter 6
[53]Beckmann and Stehr, 2002
[54]Ibid, p. 70.

similar position wherein organisations as things are really labels used by people to refer to organisations seen from the outside. March's focus is on decision making processes that are more or less loosely coupled, out of which emerge organisations as coupled systems. Finally, Hernes draws in possibly the most influential writer on process: Karl Weick, who articulates organisations as sensemaking processes.

Hernes concludes his book with a scheme for process-based organisational analysis[55]. In summary this is:

Connectivity – an essential concept in any processual world-view providing the means by which processes can be understood as flowing through spacetime. Connectivity emphasises the multi-dimensional nature of process and cuts through the conventions of layered analysis. All of Hernes authors explicitly address connecting in one way or another.

Reiteration and Novelty – Hernes uses the term reiteration to emphasise what he sees as the means by which organisation achieves coherence. He draws on Luhmann and March in this context. Reiteration enables learning. It also provides continuity and the possibility of variation, which is novelty. Novelty is vital to organising because organising occurs in an inherently uncertain environment.

Plot – being a sense of that which connects people and process in some sort of purpose, an implicit narrative perhaps. Hernes sees plot in the connectivity of Latour's networks, in the themes of Luhmann's communications, and in the rules and routines of March's decision making processes[56]. Interestingly he is not able to relate this concept to the works of Weick.

Potentiality and Actuality – in general terms this can be seen as the way in which processes convey a potentiality that is more or less actualised and how that actualisation alters, to a greater or lesser extent, the potentiality of the following moment.

In addition to these key themes, Hernes also identifies the following as important elements in a processual world-view:

Events – a synonym for actual occasions, as discussed in chapter 6. Events remain ontologically problematic but Hernes bypasses this with two partial conflations: events are obviously part of processes; and events are points in time marking the process by which entities are becoming. This permits a common-sense understanding of events without needed to get fully involved in Whitehead's concept of actual occasions.

[55]Hernes, 2008, pp. 128-141

[56]Hernes 2008, p. 135.

Heterogeneity – in a broad sense, acknowledges that processes involve different materiality: that a chair is not an homogeneous entity but that what we call a chair is involved in diverse physical processes and represented in many different ways in diverse intellectual processes. Hernes also uses the term to refer to the way processes cut across or involve different levels of analysis, although he seems comfortable that these levels of analysis retain a reified position in order to participate in processes on multiple levels.

Abstraction and Concrete Experience – Hernes contends that most philosophical positions focus on one or the other, but that Whitehead's emphasis is on reconciliation: how do we get from one to the other.

Stabilisation – not entirely clear that this is a concept derived from Whitehead, denoting a tendency towards or a need for stability, fixity or "routinization". Perhaps this is better understood in Hernes' other works where he discusses the need to discriminate between that which can be considered stable and therefore substantively and that which is in flux and therefore processual. This is a sort of "two-phase" analysis allowing a pix'n'mix approach depending on circumstances.

This framework is used in the next chapter to assist in evaluating the model of process that is developed there.

7.6 Summary and Conclusions

Hernes and Weik's typology provides a useful way of analysing process theories, only I would like to augment it slightly by distinguishing three broad groupings:

organisation-as-process, where process has primacy over substance so that everything is process. This corresponds roughly to their endogenous grouping and is the model that Hernes develops in his examination of Latour, Luhmann, et al, all of whose work also falls into this category[57]. It broadly descends from the works of Whitehead, Bergson, and James.

process-in-organising, where organisations are substantive but within which there are processes that connect together and otherwise exist within some form of organisational context. This is equivalent to their exogeneous view and encompasses a broad range of work published under the process banner. It could be seen as representing a reactionary view taken against a prevailing dominant theory; and

process-as-methodology, in which primacy is given to processual methodologies in an otherwise substantive world-view. There being no clear distinctions it is possible to see that these last two categories overlap. By and large LFR falls into this category.

[57]Hernes, 2008

My aim in examining the nature of process was to explore whether or not I could use it to develop an understanding of what I have called ideas-as-process: where ideas are not things within or outside the mind, but exist in the interactions between humans and materiality. From this exploration I can see that my concept sits within the first group: organisation-as-process. That which I have called ideas essentially permeate "the social" and are themselves processual so that the social is fundamentally processual. Both of the other categories exist within the substantive world-view and therefore do not further my quest for a processual ontology.

My vision was that concepts such as tables or, more exactly, those processes that together constitute what we might refer to as tableness, exist in the multitude of connections between thinking about and imagining tables, reading, writing, drawing tables, seeing, describing, and using tables, making tables, destroying tables and the many other processes that are linked by this common tableness. It is this tableness that we experience in a multiplicity of ways. These experiences represent the reality of tableness in accord with Whitehead's ontology of experience[58].

It is apparent that those approaches that focus almost exclusively on discursive processes (such as Luhmann, March and Weick) do not adequately provide for the need to consider the physicality of tableness. This is exemplified in at least two of Hernes' principles (above). Reiteration is necessary because it is seen as the means by which organising achieves consistency. This does not credit the material aspects of process with any properties of consistency. When processes engage with specific materiality, their consistency can be defined through that materiality. When you sit down at a table, for example, the way you interact with that table are constrained by the physicality of both table and chair. In other words, the table and chair impart a certain potentiality that does not need to be preserved through continued iterations of the process of sitting at a table.

Plot operates in a similar manner. The frailty and negotiability of discursive processes seems to require some sort of teleology to direct what might otherwise be aimless or uncoordinated enactments. But if materiality already constrains and directs our actions then the role for a coordinating teleology is much reduced. Indeed, it could even be possible to get away with a wholly individualistic view of purposes; taking us back to a quasi-ecological model, which is apparently close to Weick's position on this matter[59].

This appears to leave Actor-Network Theory, being the only conception of process that gives sufficient account of materiality. However, what ANT appears to do is elevate that materiality to being of equal status with human activities, as imparted by Latour's concept of "actant". This

[58]See section 6.1

[59]Hernes 2008, p. 126. Hernes could not relate his concept of plot to the works of Weick.

anthropomorphism tends to obscure the central role that humans play in social processes, as suggested by my own notion of idea-as-process being situated in the interactions of human activity with materiality. This suggests that materiality must always be subordinate to human activity.

Hernes' project to establish a processual framework is exactly what I was looking for. However, the discomforts I have described above leave me still looking for another approach. Is there anyway of conceiving of a processual world in which human action and materiality are given a balanced treatment? In the following chapter I make an attempt at defining such an approach, and find, to my surprise, that it has very much in common with all four of Hernes' process authors.

Chapter 8
A Complex-Conjugate Model of Social Process

8.1 Introduction

In the last chapter I concluded that while there were a variety of theories relating to organisation-as-process, none of them provided an entirely satisfactory model with respect to my own quest because they do not seem to provide a balanced account of the role of materiality together with human interactivity. This chapter is, therefore, my attempt to synthesize a number of sources into a tentative processual model.

The chapter starts with an outline of a high-level processual model that attempts to encompass all of reality, dividing processes into three fundamental and autonomous groups: the physical, the biological and the social. This is followed by a more detailed description of each of these three classes before arriving at the central purpose of the chapter. This is that if we can understand how one set of autonomous processes can emerge from another (its genesis) then perhaps we can understand something of its fundamental nature: of what defines it. In order to understand this process of genesis I start by considering how living processes are thought to have emerged from the physical. This provides a basic model: that autonomous processes require a means of autocatalysis – that they assist in their own replication; and a source of variety so that they can evolve towards more efficient processes that enable them to become self-sustaining.

Using this basic model of process genesis, I present a speculative account of how social processes may have evolved out of the biological. From this I shape a generalised model of social processes and then attempt to outline some of the dynamics of these processes to provide a rudimentary processual framework. Finally, I return to the model provided by Hernes and explored in Chapter 7 and compare it to this speculative theory. I attempt to demonstrate how this theory might resolve the discomforts that I had identified at the end of the last chapter.

This section has been developed from an earlier essay that explores some of these issues in more depth. The essay is included in Annex E.

8.2 A basic process ontology: physical, biological and social

In this section I sketch out a simple schema within which to conceive of all processes as occurring. This is a framework consisting of three different processes: the physical, being primarily the thermodynamic expansion of the universe; the biological, being, so far as we

know, a set of processes that arose on this planet 4 billion years ago and have since evolved and expanded to cover virtually every part of its surface; and the social, that emerged sometime in the last 40 thousand years and has rapidly expanded to cover most of the land surfaces. There are at least two reasons for considering all three sets of processes. First, because the social is always within the biological, which is always within the physical and therefore when we observe human behaviour we need to distinguish between the social and the biological (or at least be aware that the biological accounts for a significant amount of human behaviour). Second, because each emerged from its predecessor and understanding the process of this emergence or genesis may provide insights in the nature of the processes themselves.

Consider a few simple examples. The rotation of the planets around the sun is clearly something that happens with no dependence on anything biological or social – its a direct consequence of the physical processes that characterise what we call the universe. Similarly, the growth and development of the various living systems that we call plants and animals in a virgin rainforest is a consequence of biological processes, driven ultimate by the replication and expression of genetic systems. Its cause cannot be found in the physical universe alone. Finally, the erection and occupation of a city sky-scraper cannot be accounted for by any biological process alone, being a consequence of the social.

Physical Processes

By physical processes, I am referring to all those processes that define very nearly everything that has happened and is ever likely to happen within the Universe. These processes can be characterised[1] as the thermodynamic expansion of the universe acting through its physical properties, such as gravity, and having the Big Bang as their ultimate cause.

This is not a theoretical proposition, but more a principle or assumption through which to consider the nature of the universe-as-process. It does not enquire about the fundamental nature of matter, for example. Philosophers have always been concerned with theorising about the nature of matter and the nature of the universe, including Whitehead[2] and Bergson[3]. Whitehead, for example, proposed a theory of matter that was developed out of Leibniz' monad's[4] and his own theory of gravity still attracts debate today even though it has been thoroughly repudiated[5].

[1]There needs to be a fundamental assumption that the world *out there* exists independently from our observing it, but the way we describe it and the rationale we ascribe to it do not have to be accepted as true. They merely represent our current understanding.

[2]Whitehead 1978, pp. 79-82

[3]Bergson 2004, pp. 259-266

[4]Whitehead 1978, p.80

[5]See for example, Gary Gibbons and Clifford M. Will On the Multiple Deaths of Whitehead's Theory of Gravity, Studies In History And Philosophy Of Modern Physics 39:41-61,2008

This physicality displays some accord with the concept of Brute Reality. For example, Chia refers to an "an undifferentiated flux of fleeting sense-impressions" and "this brute, aboriginal flux of lived experience"[6]. He illustrates with a quote from James:

> *'…in the sky "constellations", on earth "beach", "sea", "cliff", "bushes", "grass". Out of time we cut "days" and "nights", "summers" and "winters". We say what each part of the sensible continuum is, and all these abstract whats are concepts'*[7]

These accounts are, however, subjective, being derived from the *experience* of brute reality. What characterises the physical as process is precisely the lack of this experience – that the existence of these physical processes is not dependent upon any mode of observation. This is the sheer vastness of spacetime without any apparatus to describe it. There are no planets or stars or asteroids or dust clouds. These are all "things" that we have discerned from our particular experiences (albeit enhanced through successive generations of instrumentation) and named – these Things do not exist *out there*. This is the physical and it is the receptacle of everything, and very, very, little of this totality is not entirely defined by it.

It is important, when *imagining* this "physicality" to try to overcome the particular perspective from which two-metre-high people see it. Physical processes are most apparent at the atomic or micro level: their thermodynamic and gravitational behaviours shaping the macro universe that are their outcomes. This vast spacetime continuum is, therefore something that stretches from the orbit of electrons to the cloud nebula. It is also far more active, or colourful than we perceive it, bathed in spectra from the low RF to gamma rays. And it would seem that much of these physical processes involve the impossibly difficult ontology that we know of as Black Holes.

Biological Processes

Imagine being able to survey the universe of physical processes. We know that at least locally to our particular portion of the spacetime continuum, you would be able to observe processes that could not be explained by the physical alone. You would observe processes that were capable of very high levels of ordering and that were replicated across most of the surface of this planet. These processes can be called the biological. Biological processes are distinguished from physical processes by their autonomy. Autonomous, but not independent because everything exists within the physical and is subject to it and dependent on it. The two processes are intertwined. For example, as life-forms generate their necessary order they must expend energy in order to satisfy the physical demands of entropy.

[6]Chia, 2001
[7]Chia 2001

The biological is recognised in many ways by writers such as Bergson and Whitehead. The writings of Whitehead show little direct interest in biology or biological systems and tend to treat social animals and primitive people as being similar: subject to instincts and habits[8]. By comparison, Bergson was very interested in the biological, but not so much as a process in itself but as a receptacle within which the secret of humanity can be discerned. He uses human biology and neuroscience in particular to demonstrate how aspects of human behaviour can only be explained by the ingression of some other, spiritual force[9].

Both Bergson and Whitehead were influenced by the rise of the idea of Evolution and Darwin's natural selection, but there was no understanding of how any of this worked at a molecular level. This understanding arose from chemistry and physics as illustrated by Schrödinger's *What is Life*[10] (see 8.3 below). Then, in 1953 came the discovery of the structure of DNA and its role as the genetic material, enabling an detailed understanding of how genes were expressed and cells replicated etc. The notion that the rich tapestry of natural life could ultimately be explained by the functioning of a collection of molecular complexes and that the extraordinary diversity of these life forms was caused by the random mutation of long-chain biopolymers would have altered Bergson's perspective on the biological and creativity.

Social Processes

If we were able to survey the biological over a long period of time, say the last million years, then we would notice the appearance of certain patterns that could not be explained by the biological or the physical. We would see the gradual accretion of successively sophisticated technologies that could not be accounted for by the genetic evolution of the higher-apes. We would see the development of language and symbols of representation. We would see the emergence of social processes that were autonomous from, but dependent on the biological, just as the biological was autonomous from but dependent on the physical. Unlike the biological, with its highly ordered and relatively uniform micro-structures based around the central role of DNA, these social processes display a much greater degree of freedom in their forms. They are heterogeneous, involving all manner of materials and behaviours, but they are consistent in their overall pattern: the inter-dependent development of technology and language.

Whitehead extensively explores the history of humanity but his attention is on discerning the emergence of civilisation. The following quote, where Whitehead is describing the emergence of the Professions and Institutions, illustrates his stance:

[8]See, for example, Whitehead (1967) p. 49 where there are two passages likening uncivilised societies to social animals.

[9]Bergson 2004, Chapter I is full of examples, culminating with the proposition that the brain is effectively an interface to the spirit (pp. 81-82).

[10]Schrödinger, 1944.

> *In the earlier centuries the professional influence […] was mainly a welter of bygone flashes of intelligence relapsing into customary procedures. It represented the continual lapse of intellect into instinct.*[11]

Whitehead is searching for the emergence of "high-grade human society"[12], exhibiting the characteristic of "progressiveness"[13]; the latter being a critical distinction from mere animal society. It follows that Whitehead is not interested in mere social processes, but rather in the Civilising Process to borrow the phrase from his contemporary, Elias.

Bergson approaches the social from the biological. He proposes that humans are different from other animals because they have intelligence, which they need to compensate for their lack of the instinctiveness that enables animals to survive[14]. They use this intelligence to produce various tools with which to fashion and shape our lives. These tools are themselves derived from General Ideas upon which we depend, and because these General Ideas include the general idea of General Ideas, they can be created in infinite variety.

8.3 Process Genesis

Bergson appears to accept the human state as already defined and does not therefore explore how these tools and this intelligence came into existence. Humans are already different from the rest of the biological world and this difference is, for Bergson at least, something that can be accounted for in the nature of their intelligence. However, it is now taken for granted that humans, and therefore social processes, emerged out of the biological. It is, therefore, possible that the nature of these social processes can be understood from their genesis. Furthermore, as social processes have themselves developed out of the biological, there may be a pattern or similarity between this emergence and the way in which the biological itself emerged from the physical. Could this establish a model of process genesis that could be used to throw light onto the fundamental nature of these processes, and particularly the social process?

Abiogenesis

Erwin Schrödinger, a theoretical physicist, Nobel prize winner and friend of Einstein, wrote a very influential booklet, "What is Life"[15] that addressed the nature of living processes from the viewpoint of physics. This book had a significant influence on the study of biological sciences in general and on molecular biology in particular, inspiring, for example, James Watson to give up ornithology and to research the nature of DNA instead. Schrödinger's book developed an understanding of living processes that can be summarised as follows:

[11]Whitehead 1967, p. 60.
[12]Whitehead 1967, p.63
[13]Whitehead 1967, p. 91.
[14]Bergson 1992, p. 60.
[15]Schrödinger, 1944

- Living processes involve a statistically small number of molecular complexes that are highly dissipative and operate far from equilibrium. They achieve this by consuming large amounts of energy in order to maintain their complexity while paying the inescapable entropy debt imposed by the physical (a process termed "negative entropy" by Schrödinger). These molecular complexes are often referred to as "dissipative structures"[16] although in this context, they might be more accurately called "dissipative processes".
- To achieve the extreme level of order exhibited by these dissipative processes there has to be a stable environment in which a myriad of chemical reactions can be controlled and the waste energy of negative entropy dissipated without harm. These environments are assumed to have occurred naturally at some point in the remote past, allowing a level of these complexes to exist spontaneously.
- At some point in the boiling of this primeval soup these prebiotic complexes became able to catalyse their own reactions (autocatalysis) and therefore easily replicable[17]. This is the point at which molecular evolution could commence. Given a source of sufficient variation (achieved through mutations of the genetic code[18]), this evolutionary process would ensure that more favourable changes (wrt sating the energy demands of these complexes) would be automatically selected over less favourable ones.
- At some later point, these molecular complexes evolved membranes to create a controlled environment and free them from their dependence on the primeval soup. These self-contained, self-replicating environments were now mobile and could spread out across the entire surface of the world. Biological processes had achieved autonomy from the physical.

The sequence above suggests a pattern to the process of genesis. First, there are the arrival of conditions that support the spontaneous emergence of prototypic processes: in this case the prebiotic or primeval soup. Then there must be the development of some form of autocatalysis so that these processes can multiply rapidly[19]. Third, there must be some source of variety so that these processes can evolve, and finally there must be some means by which these new processes become freed from their dependence on the initial conditions from which they emerged; a means by which they can be made durable.

[16]Pross, 2003

[17]Pross, 2003

[18]See Schrödinger (1944) for a summary of this process in this context.

[19]See Annex E for a more detailed description of why autocatalysis is important.

Biogenesis and Creativity

Bergson's concept of creativity is an important part of his theorising. He asserts that the creativity we encounter in our everyday rational lives is insufficient to account for the creative depth of the world around us[20]. Instead, Bergson proposes that true creativity originates in an underlying spirituality that can be accessed through the methodology he calls Intuition[21]. However, Bergson was writing long before the notion of chaos had been recognised, and therefore believed that rational or deterministic systems would always result in entirely predictable outcomes, meaning rational thought could never explain anything truly original. If Bergson had had the benefit of understanding the modern theory of chaos, he might have found his position harder to maintain?

Chaos theory was developing at the time Bergson and Whitehead were writing, but only as a particular topic within the field of physics (e.g. turbulence). It was not until the second half of the 20th century that Chaos theory became established as a wider theory of non-linear systems and it was not until the advent of digital computers in the 1960's that one of the main tenets of chaos theory was discovered. Non-linear systems could exhibit radically different and unpredictable outcomes through minute changes in initial conditions. Compare this to the position taken by Bergson in *The Creative Mind*:

> *a superhuman intelligence which would know the position, the direction and the speed of all the atoms and electrons of the material universe at a given moment could calculate any future state of this universe as we do in the case of an eclipse of the sun or the moon – I admit all this for the sake of argument, if it concerns only the inert world and at least with regard to elementary phenomena, although this is beginning to be a much debated question.*[22]

Or to that of Whitehead in *Adventures of Ideas*:

> *Perhaps, if we knew enough of these laws, then we should understand that the development of the future from the past is completely determined by the details of the past and by these scientific laws that condition all generation.*[23]

Random variations in gene sequences as part of non-linear living systems is almost universally accepted as sufficient to account for the biodiversity of this planet. Creativity, at least in the field of the biological, requires no other factor.

8.4 The Genesis of Social Processes

Can this simple pattern of genesis be discerned in the emergence of social processes from the biological?

[20]Bergson, 1992, chapter 1, particularly pp. 21 -25.

[21]Bergson, 1992, chapter 2, particularly p. 35.

[22]Bergson, 1992, p. 92.

[23]Whitehead, 1967, p. 87.

Before I can answer this question I need to establish a rudimentary concept of what social processes are to help distinguish them from the biological. Bergson suggests that social processes can be discerned through the use of tools[24], which is probably a workable assumption although tool-use alone is really sufficient. There are plenty of examples of animals that use tools "intelligently", including the higher apes and, more surprisingly, the crow family[25]. To understand the distinction between human and non-human tool-use we need to explore the genesis of social processes in more detail[26].

The Emergence of Technology

If we go back in time to the early hominids and pre-hominids, then there is plenty of evidence to suggest that there were tool-using behaviours and had been for 1 – 2 million years[27]. But the skills needed to produce even quite sophisticated tools were not fundamentally different from those employed by other higher apes. Innovations, such as they were, occurred at the same rate as their host species evolved. What was different, however, was the use of tools to produce tools, which could be tentatively defined as the advent of technology, or perhaps more cautiously, proto-technology. Stone technology started with hammering stones together to create sharp edges. Over the next two million years it developed to the point where the manufacture of tools involved raw materials, rounded hammer and anvil stones for initial shaping, selected bones or antlers for finer shaping, and pointed sticks for flaking to create precise, sharp edges. The development of better technology allowed the manufacture of better tools to create better technology. These simple technological processes were becoming autocatalytic. However, the rate at which these developments occurred was still fundamentally the same as the biological evolution of their hosts. Furthermore, although there is variety of form in this stone technology, there is no evidence of any novelty. No degree of varying the process of making stone tools is going to lead to the discovery of bronze technology. It therefore seems safe to say that these technological processes had not yet achieved any autonomy from the biological. Another factor or dimension was needed before this could be achieved.

The Genesis of Language

There is evidence to suggest that this other factor was provided by the emergence of language, and that this emergence was intimately tied to the emergence of tool production and use. The central plank of this speculative proposition is to be found in a part of the brain called Broca's

[24]Bergson 1992, p. 60.

[25]Further examples and more details are provided in Annex E.

[26]The following passage is a summary of the relevant section in Annex E, which includes references to various sources.

[27]See Annex E for more details.

Area[28]. This involves two key functions: the so-called mirror reflex, and language. The mirror-reflex is a response seen only in monkeys and apes whereby an individual observing another engaged in manual or bimanual activity (e.g. grasping, shaping, etc) automatically mirrors the same behaviours with their own hands. The Mirror Theory of language development postulates that this mirror reflex developed into imitation and mimicry and hence evolved into a form of pantomime. The effect is the evolution of a form of communication that heralded the language-ready brain:

> *"that such an observation/execution matching system provides a necessary bridge from 'doing' to 'communicating',as the link between actor and observer becomes a link between the sender and the receiver of each message."*[29]

It is easy to imagine that the biological development of Broca's Area would be reinforced by the advantages it conferred upon its tool-using hosts. The more developed the mirror-reflex, the greater the ability to learn the bimanual actions involved in tool production.

The Mirror Theory postulates that the next step in development was the introduction of vocalisations. If these vocalisations were involved in learning important skills such as tool manufacture and use then they would have been positively reinforcing. Furthermore, there is clear evidence in the archaeological record that shows how tool use replaced jaw strength, allowing hominids to develop a more flexible and agile mouth, which is itself an important aspect of a language-ready morphology. However, these processes are still essentially biological, still dependent upon the evolution of the animals involved.

The Emergence of Symbolism

In the pre-language phase it seems likely that whatever utterings were being made served to reinforce the physical actions being observed/learned, being intimately tied to the mirror-reflex in the same part of the brain. The more sophisticated the utterings, the more effective the communication and the faster the learning. At some point in this development cycle there must have been a detachment of these utterings from their actions – the relationship between uttering and action became sufficiently loose to be considered symbolic. Prior to this point, utterings reinforced action, after this point utterings symbolised action. Once these utterings became symbolic they had the potential to convey more information, faster, depending less and less on being reinforced by accompanying action. What follows is essentially the evolution of utterings into proto-language and hence into language. To be really useful, this proto-language needed to be able to define more clearly the relationship between actions (verbs) and the world on which these actions are to be performed (nouns). In other words, the structure of language was born

[28]Arbib 2005, p.106. Further details are provided in Annex E.

[29]Rizzolatti and Arbib 1998, page 188.

out of the actions it sought to represent and the need for such representations to be generalised. The ability to represent anvil stones in general is much more useful than only being able to represent a particular anvil stone.

Language's ability to represent and generalise fulfils an essential aspect of the model of process emergence: it provides a means for replicating and distributing processes at a rate far in excess of the biological. But it does not in itself provide a source of variety that could account for the proliferation of social processes that now characterise this planet. This variety does not come from language's ability to symbolise actions and objects in the real world, but rather from the consequences of languages inherent freedom from that real world. It comes from the ability to re-combine actions and objects in entirely novel ways: the ability to imagine that which does not exist, albeit an imagination that is always conditioned by reality.

Here is a clear distinction from Bergson's position on creativity. Bergson was adamant that the truly novel could not be achieved by recombining that which already exists. But, as suggested above, we now know that the diversity of living processes that characterise the biological has arisen through just such a process of recombination – and involving a language with just four letters! We also know through Chaos Theory that infinite variation can be created by altering one or two inputs to entirely deterministic systems. In other words, there is no need to seek out another source of creativity to account for the way the world is. All that is needed is a process that is autocatalytic, replicable and distributable, and has a sufficient source of variety.

As handling/utterings developed, the rate of technological advancement increased and technology spread but the process was still limited by its biological dependence. As language separated from action it introduced a new degree of freedom and variety to the process. A generalisable language could imagine new technologies out of existing technologies or apply existing technologies to new applications. Thus the autocatalytic processes of technology achieved autonomy through their intimate relationship with language. Language enabled us to learn and share and to create novel forms of technology at a rate far in excess of our biological evolution. It took two million years to finesse basic stone technology. It is only in the last 40,000 years (just 2% of this period) that we are thought to have had language. In the most recent 10,000 years (0.5% of this period) this process accelerated us from the stone age to the silicon age.

But then, language has created the world of Things, which has been incredibly useful to human endeavours but has also created problems. Language's ability to provide new degrees of freedom, and therefore variance, means it is fundamentally always inaccurate and therefore misleading. Language creates the fixity that Bergson was so concerned to overcome.

8.5 The Nature of Social Processes

If the essence of what defines social processes is determined by its genesis: how it emerged and achieved autonomy from the biological then that essences can be summarised as follows:

- An autocatalytic technological process that initially involved manual interaction with materiality but has progressively been levered through technology itself; and
- A lingual process involving a generalisable language (and mediated through the generalising biological process of recognition) that both represents existing technological processes and enables potential novel processes through variations on, and recombinations of these existing processes.
- These two processes being mutually interdependent and interwoven: new technology comes about through imagining variations and new combinations, while language and what language can represent is advanced through new technologies. Serendipity must also be admitted to the equation: much of the process involves trial and error and is often advanced through beneficial accidents.

Put in more general terms still, social processes are the mutual interweaving of technical processes and language processes. At times the two are intimately bound together and at other times they are relatively far apart. In general, however, progress (or evolution) only occurs when they come back together: when language and action recombine in fruitful articulations.

Social processes as a complex-conjugate

Social processes exist as the intertwining of technology-mediated experience and language-mediated intellection. These processes, in conjugate, have achieved autonomy from the biological processes within which they are nested. They are autonomous because they are able to develop/evolve/vary at a rate and in a manner that is independent of the biological. They remain, however, within and therefore dependent upon the biological.

The technological provides the process with a means of autocatalysis – a process to create more of itself. This autocatalysis is open rather than closed: a set of tools can be used to produce another set of tools that can change the first set and therefore change the second etc. The technological also gifts the process with other vital characteristics: durability and mobility. When a tool is made it embodies a potential that endures through time and can be moved through space. When a tool is used that potential is actualised to a greater or lesser extent and this actualisation can be replicated more or less often depending on the durability of the tool. Thus it is that the technological provides the social with the means of creating and distributing potentiality and making it more or less durable, mobile and replicable.

Intellection provides the process with creativity – with a level of variability and a rate of variation that could not be achieved through the biological selection of beneficial changes. Intellection is imagining potentiality. What follows is an act of actualisation that can vary from the totally mundane to the colossal. My biological thirst leads me to the imaginary drinking of a cool lager, which I promptly actualise by visiting the fridge to help myself. Alternatively, and very rarely, someone glimpses a totally unrealised potential and sets about to actualise it – a process that could take a very long time and involve a great many people. Quite often such processes are unfruitful because the technological potential needed simply does not exist. There again, the process may be fruitful in unforeseen ways – the potential that did exist suggested a different outcome that only came to light when striving for the first. Or maybe came about quite serendipitously[30].

Intellection is not the opposite or even the counterpart of the technological, because intellection involves its own technological component. To begin with, these were largely biological – voicing, hearing, thinking; not fundamentally different from the biological technology involved in making the first primitive tools. Over time there have been several breakthroughs into new technologies: pictures, symbols, writing, numbers. Each of these has revealed its own, autonomous rationality: perspectives, geometry, grammar, mathematics.

The social process is essentially kinaesthetic – the potentiality of technology and intellection is both created and actualised through the actions of the human body[31] (intellection is experiential as well). Such is the extent and durability of contemporary technology that this seems quite unlikely, but it can be seen that technology has always acted to extend, in some domain or other, the kinaesthetic. Ultimately, nothing that is social happens that is not dependent upon the actions of the human body. Hand tools are mere levers of the physical body. Instruments are levers of the senses. Even machinery amounts to nothing more than a very extended lever. For example, nothing happens in a computer that isn't ultimately attributable to the actions of a human body. There is no fourth process set that differences modernity from antiquity – it is only ever a measure of degree.

It is necessary to understand that social processes always exists *within* the biological and, as this kinaesthetic principle reminds us, are always dependent on the biological. This means that many "social" processes are themselves conjugates of the biological. Many animals display "social" behaviours, where these behaviours are clearly biological in nature. Humans display similar bio-social behaviours, which may be augmented by social processes. Partnering, for example, is a biological process augmented by the social. Enjoying music is another example where social

[30]For example, Fleming's discovery of penicillin.

[31]There is an unexplored link to the works of Merleau-Ponty and other works which feature the role of the body.

processes of music making have intimately developed within an overall biological response. It is for these reasons that concepts such as "culture", when approached processually, require particular caution. Much of what we call cultural is intimately entwined with the biological.

The Dynamics of Social Processes

This section develops the concepts of potentiality, durability, mobility and replicability. It illustrates how the technological carries more or less of the potentiality that is actualised through human action, and how this actuality has itself shifted more potentiality into the technological. It also proposes a framework that maps processes according to the intensiveness of the intellectual or technological components and whether or not they are more or less extended in spacetime. This framework is used to understand the impact of durability, mobility and replicability on different patterns of process development, dividing processes into those focused on consumption, production, and support.

The Social is always Organised?

In preparation for considering the dynamics of social processes it seems necessary to revisit a particular assumption that seems prevalent within organisation studies: that organising is somehow an uphill struggle against a background of the disorganised. This assumption masks a feature of social processes that can be understood from the biological, being characterised by their negative entropy. They are highly dissipative processes operating far-from-equilibrium; they are, by definition, organising processes. Social processes can also be regarded as highly-dissipative and operating far-from-equilibrium. It seems reasonable to say, therefore, that they are by definition, organising processes. The mundane everyday processes of living are organising. Even cataclysmic acts of destruction are a form of re-organising, involving processes that have played a major role in social development throughout the ages. Imagine the degree of organisation that led up to the detonation of the bombs of Hiroshima and Nagasaki. By contrast, if you visited the abandoned towns and cities around Chernobyl you would see what happens when the social stops organising and the biological returns. Social processes are always organising.

Distributing Potentiality

Every actualisation involves a settlement of the potentiality that is distributed between technological and intellectual components of the process. Using a simple hand tool draws on the potentiality embodied in the tool's design and selection of materials and equally upon the skill of the operator learned through years of repetition and observation. Time has seen this settlement shift profoundly from intellection to technology. Consider, by comparison, the potentiality embodied in a simple mobile phone, weighed against that needed to use it.

It is also possible to discern a similar shift between the processes of production and consumption (or use). Early tools could be made almost as readily as the products they were used to make. Over time processes of production have become more complex and more extended and therefore less mobile and harder to replicate. These processes of production are concerned with converting intellectual potential (e.g. designs) into technological potential (e.g. products) that can then be more easily actualised through the process of consumption. Returning to the mobile phone example, even the tiny electronic chip needed to switch the radio signals to an appropriate frequency band has taken years of design and is manufactured in one of only a few huge factories located around the world. Yet the potential created by this extended investment is actualised every time the user switches on their phone, without them even knowing.

There is another dimension to this general process of differentiation: the emergence of intermediate processes that are associated with the term "infrastructure". Infrastructural processes represent a different settlement. Here, potential is split between an ephemeral, mobile and highly replicated process of consumption and a highly durable but very immobile and unreplicable process that enables this consumption. For example, by investing in durable, straight roads the Romans made the process of journeying around their empire much easier and faster. There are other countless examples: the distribution of water and electricity, the telephone network, and, to continue the example above, the "backhaul cellular network" that covers the countryside with mobile phone masts to enable mobile phone users to talk to each other.

There is a another aspect of these processes that needs to be considered in this framework: their inter-dependency and coupling. The more differentiated processes have become, the more they are inter-dependent. Early communities were largely self-sufficient. Now, even simple processes such as feeding a family are heavily dependent on a large number of other processes – transportation to get to and from the supermarket, and again to get food to the supermarkets; distribution centres, packaging and processing plants to prepare the food for sale; farms to grow the food and other farms to provide feed for the animals; factories that produce the tools used in processing, packaging and transporting; oil and gas wells and refineries to produce the energy to power all this equipment, the fertilizers used to grow the food, and the energy to cook the food involved; reservoirs, pumping stations, purification plants and pipe infrastructures to supply water to cook and clean with.

The more durable and mobile their potential (the more it is invested in the technological) the less closely coupled these dependencies become. When I boil an egg I use a pan I purchased years ago. Without pan production I would have no pan to cook with but the coupling is very

loose. Right now I can cook regardless of the state of pan production processes. By contrast, when I switch on an electric hob to boil the water in my pan I am tightly coupled to the process of electricity generation – no process, no electricity, no boiling water and therefore no boiled egg. Electricity without batteries has no durability which is why we need a highly durable infrastructure to connect us directly to the process of production.

Dynamics of Intellectually-intensive Processes

This framework seems to make sense where the processes being considered are technologically-intensive, but do these same principles work when the processes are biased more towards the intellectual where it is harder to discern the technological components?

There are plenty of examples of local, intellectually-intensive processes. Telling and listening to stories, reading and writing, singing and playing musical instruments, watching plays, having conversations, etc. Many of these processes have been affected by a shift from being purely inter-subjective towards greater technological-mediation. An example of where the shift has been profound is provided by the rise of the music recording industry. Two hundred years ago, listening to music depended on finding someone to play it for you. Now, music processes have become highly technological and durable, and massively replicated. The consumption of music no longer depends on finding someone to play for you. It exists at the press of a button.

Most of these processes of consumption are loosely coupled with more extended processes of production. For example, reading a novel connects to its writing through the processes of retailing, distribution, printing, publication, editing and authoring. The book, being durable and portable, decouples the act of reading from the rest of the chain.

Many intellectually-intensive processes that are extended and more tightly coupled could be associated with the term “service industries” or the “professions”. The processes constituting what is called the “finance industry”, for example, are highly extended, as are accountancy, consultancy and many other intellectually-intensive processes. Understanding how these extended processes are made durable and replicable and how they connect is more challenging where the technological components of these processes are not so obvious as they are, for example, in “industrial” processes. Financial processes course through virtually all human endeavours to a greater or lesser extent, yet in most organisational settings, the hard materiality of money is noticeable by its absence.

The case study, in chapters 10 through 13, provides an opportunity to test out the applicability of the concepts developed above in the case of an intellectually-intensive process: the introduction of Value Based Management. In analysing this case study, particular attention has

been given to identifying this technology and its role in catalysing these processes (see chapter 13).

There are plenty of further examples that deserve to be considered in this context. For example, the manner in which processes of "social control" have developed from elementary local processes, that parallels with many animal societies would indicate to be tightly coupled with the biological, to the actualisation of hard technology through court hearings, rulings and even imprisonment whose potentiality is largely imagined by most people, suitably reinforced through the processes of policing and communicating (e.g. the media).

8.6 Assessment and Evaluation

This section provides an initial assessment and evaluation of the model set out above. What is unique about it? How does it compare with other process theories? How does it measure up to the framework established by Hernes and outlined in the previous chapter?

Uniqueness

The model has similarities to three elements of contemporary process theory: Weick's process of sensemaking equates broadly to the intellectual component of the conjugate pair; Latour's emphasis on materiality accords with the technological component and brings to the whole the concept of durability; and Luhmann's theory of autopoiesis compares with the autocatalytic character of social processes and the concept of replicability. What this model achieves is the integration of these three elements into single theory. It also attempts to situate this model of process within a wider model that acknowledges the biological and the physical. In doing so, it provides a means of distinguishing between the three, although it must be admitted that the distinction is never clear-cut. An inter-subjective social process will always have a strong biological component, but separating the two is as inadmissible as separating the components of the social itself.

Another feature of the model that is unusual is the way it grounds the basis of a social process in its genesis and the use of a general model of process genesis, derived from a crude analysis of the genesis of biological processes. The analysis is speculative and suffers from a lack of the detail that would be required before it could be taken seriously. It ought to be seen for what it is, a creative and spontaneous flash of intellection that requires considerable and distributed effort before it can be considered durable in any sense.

Hernes' Framework

What follows is a brief analysis of the model proposed above, using the framework developed by Hernes and summarised in the previous chapter. This is also an opportunity to make a more

detailed comparison between this and the works of the other processual authors put forward by Hernes.

Concrete connectivity

The model places emphasis on the role of the technological as the primary means of connecting process and the role of human body in the actualisation of process. Social processes are always technological and kinaesthetic and therefore always concretized through human action. The technological provides an important dimension to this connectivity. It is able to store up potentiality, making it durable, mobile and replicable. The kinaesthetic does not, therefore, need to be sustained in order to achieve connectivity. Social processes can effectively break and be resumed because of the way their potentiality is stored in the technological. This is, however, only made possible by continuity of the biological.

It follows that there is no Abstract, for all abstractions are themselves concrete symbols that more or less represent generalised perceptions of concrete particulars. Abstraction can be seen as a process of pattern-matching (both intellectual and biological) whereby a multitude of perceptions are converted into a few concrete symbols. These concrete symbols are themselves the stuff of intellection and connect up in one form or another, intellectually-intensive processes.

Weick portrays the social as processes of sensemaking in which individual's are more or less engaged in collective processes, through, for example, inherited vocabularies, or making sense of an otherwise problematic world. There is, therefore a direct accord between Weick and the intellectual component of the model. But Weick's approach focuses on the transition between inter-subjective and generically-subjective processes; between verbs and nouns[32]. It does not give room to a technological component or acknowledge the way in which sensemaking processes are intimately connected with technological-mediated experience and need to be considered as a whole in order to understand them as social processes.

Karl Popper once made the bold claim[33] that if everything in the world made by humans was destroyed except for our libraries, then we would soon recover. This demonstrates how easy it is to overlook the potentiality that is stored in the technological. How, for example, would Mr Popper imagine we could build a car without machines and electricity and without the means to make those machines or to refine the materials needed for both machines and car, or without the tools to measure, etc. All of this technology is essential to our lives and yet so much of it is totally taken for granted, especially the technology needed to make technology.

[32]Hernes, 2008, p.124

[33]Objective Knowledge: An Evolutionary Approach

Heterogeneity and Durability

Concrete connectivity is very much in accord with the works of Latour when he promotes non-human actors to the same status as human. These non-human actors are heterogeneous; social processes are not just about humans, but also involve durable technology. Where Latour's ideas differ from the model above is their anthropomorphising of the technological into actants. They become ends in their own rights connected to human actors as part of the network. This effectively masks the essential kinaesthetic dimension of model. Technology does not act like humans, it levers human capabilities through space and time. It stores up their potentiality and makes it durable and mobile, but it is always actualised through the human body. Technology is not connected to humans – it connects humans.

This sense of heterogeneity is particularly strong in relation to intellectually-intensive processes. There are always multiple and often diverse technological components associated with any process of intellection, including the hard technology that shapes our experience of these processes. When we think about tableness, for instances, we draw not just on a vocabulary of table-related terms, but also on our memories, on images and symbols, and on the tables themselves.

Creativity and Replicability

The model depends on variation and creativity, initially as the vital means by which one process emerges from another, and subsequently as its source of progress. Where the model differs from Bergson's concept of creativity is being comfortable with the process of recombination, both intended and accidental as sufficient to account for history and diversity. Furthermore, it's insistence that process must be seen as a whole complex-conjugate means that creativity only really exists in the actualisation of created potential, and therefore in the creation of new potentiality. Creativity lies in the processes whereby the imagined becomes. Rather than this being some form of spiritual collective as Bergson conceived it, it is a purely experiential collective. Creativity lies in the collective, technologically-mediated, physical experiences of many people actualising one potentiality into another.

Variety is only meaningful within an overall evolving process if there is a means by which it can be replicated. The model is based on the concept of autocatalysis – catalysing its own replication. This can be seen to be very similar to Luhmann's concept of autopoiesis, or self-replication, a concept that also originated in the biological. There is, however, a difference. Luhmann applies his concept to “systems” or social features that exhibit system-like characteristics[34]. This concept of system seems to be slipping into a substantive world-view,

[34]Hernes, 2008, pp. 78-95

although it can be understood in the iteration of processes that keep these "systems" from falling apart. However, this appears to shift the meaning of autopoiesis away from self-replication (how to produce more of the same) towards self-maintenance (how to keep the same going). It focuses more on the substantive issues of self-sustainment than on the question of how processes go from being locally spontaneous variations to universal phenomena.

The problem with the phrase "self-replication" is that it focuses on the word "self" and therefore asks what "self", leading towards a substantive analysis. Catalysis is a more open concept that involves no self. When putting the auto into catalysis, it is important to see processes of replication as both open and recursive. It is whole social process that sustains, not just particular parts of it.

Potentiality and Actuality

The complex-conjugate social process can be seen as the continual interweaving of potentiality and actuality. We create technology that stores up potentiality well in excess of that which we could access with out bodies alone. As we experiment with this potentiality we imagine both new actualisations and new potentiality and we attempt to actualise these imaginings. Sometimes these experiments are fruitful, leading to sparks of creativity, as Whitehead might have called them. Often they are not. But these sparks have become durable and replicable for this potentiality to become accessible.

8.7 Recapitulation

This chapter provides a rough outline of speculative model for a social-processual-ontology. The model distinguishes three fundamental processes: the physical, biological and social. It provides a vision of the an all-embracing physicality driven by the thermodynamic expansion of the universe, within which nests an autonomous biological process, at least as far as this planet is concerned, within which nests an autonomous social process.

The essence of each process lies in their own process of becoming. If we can understand how an autonomous process, such as the biological, can emerge from its encompassing process (the physical) then perhaps we can understand what defines its essence. This process of genesis could then be used to shed light on how the social emerged from the biological, which in turn could a framework for imagining how the social is itself constituted.

The process of genesis suggested the following principles. First there needs to be the appearance of conditions that are conducive to the emergence of a new process – an environment where promising prototypic processes can be seen to occur spontaneously. Next there has to be a means by which these prototypic processes can replicate themselves within this environment.

This ability to replicate only becomes significant when it is coupled with some source of variety, so that these processes can change, thereby permitting the process of evolution to commence. Finally, autonomy is achieved when the whole process is able to become durable and mobile.

A wholly speculative proposition is developed using this process of genesis that suggests how human social processes could have emerged from suitable biological processes over the course of the last one to two million years. Early tool making and use provided an autocatalytic process but probably without sufficient variation to achieve autonomy from the biological that this technology was reinforcing. At the same time, proto-language skills were developing in harmony with tool-making skills, and at some point these two processes became less tightly coupled so that language could emerge as a separate process able to represent the world symbolically. This ability to represent and to imagine these representations provides a powerful source of variety or creativity, giving the whole processes the autonomy it needed to become free from the constraints of the biological.

The resulting model of social processes consists of the intertwining of technologically-mediated experience with language-mediated intellection. These two sets of processes must be seen as a complex-conjugate, to be understood as a whole rather than separated into constituent parts. The model can be elaborated to explore its dynamics. These two components can be seen to impart the process with varying degrees of potentiality. Processes that are intellectually-intensive carry most of their potentiality within intellection. Those that are technologically-intensive typically carry most of their potential in their technology. It is possible to speculate that time (and therefore progress) has seen a significant shift of potentiality into the technological. But this shift has also been accompanied by other forms of diversification. Processes of consumption have become more technological and have become increasingly decoupled from the processes of production, which have become more extended and more inter-dependent. Between the two, processes of support or infrastructure have emerged to enhance the independence of consumption by providing a durable re-usable backbone to enable these processes. Finally, similar patterns can be seen to characterise intellectually-intensive processes, involving service processes that make available intellectual potentiality on a global scale, and institutional processes that can be thought of as providing infrastructures within service processes, making them more durable and replicable.

The final section of this chapter compares this tentative model with other existing processual theories, frameworks or approaches. It shows how it incorporates many of the components from these other theories and attempts to integrated them into a single, hopefully coherent model. The intellection accords with Weick's processes of sensemaking and Luhmann's processes of

communication. The technological accords with Latour's heterogeneous networks and his concept of durability. What the model provides is a way of combining these two components into a single complex-conjugate, shifting the technological to become the means of replication and the intellectual to provide a source of variety, while centring humans as the means of articulating the whole through bodily action – an insistence on the kinaesthetic nature of the social that is less pronounced in these other theories.

Chapter 13 provides a chance to test out the relevance of some of the concepts developed here through the analysis of the case study set out in the following chapters. But first it is necessary to review how research methods can be sensitive to process, if indeed they can.

Chapter 9
Methodology

9.1 Introduction

Up until now I have been concerned with developing a theory: initially a theory about ideas in organisations but then transformed into a theory about processes in organisations or organisation-as-process. This Chapter is concerned with exploring how this theory can be put into practice: making it perform.

The chapter is divided into three main sections. The first of these reviews the challenges that face someone attempting to research organisation-as-process, exploring the role of the researcher and the reasons why there are no specific "processual" methods. The second section describes how process is researched in the field of archaeology and proposes that this model of research is broadly applicable to organisation studies. The third section then sets out a detailed consideration of possible methods and assesses these to determine how sympathetic they are to process.

9.2 The Challenges of Process Research

This section explores some of the challenges that the model developed in chapter 8 present to someone attempting to conduct a research study within a process world-view.

Role of the Researcher

One of the key themes developed in chapter 8 is that social processes must be understood as a complex-conjugate with a technological and an intellectual component. These two strands (the technological and the intellectual) can be seen as intertwining, diverging as humans explore existing and imagine new potentiality and converging as they attempt to actualise this potentiality. Within this context, any research episode can be seen as being primarily concerned with the intellectual processes of exploring and imagining. However, it follows from the inseparability principle that this intellection only has significance within the context of the whole "cycle", i.e. as the process converges through our attempts at actualising.

In other words, research only achieves significance when it is seen as part of an overall process of evolution (or change, to put a contemporary spin on it). However, this notion does not demand that all research should be limited to that which can be determined to be of practical value. It must be acknowledged that the open exploration of any subject can take time to develop any potentiality and discovering ways of accessing this potentiality can take longer still.

What it does suggest, however, is that the role of the process researcher in any research episode should be conceived of as potentially extending across this entire cycle. The process researcher is, therefore, less concerned with "knowledge" generation and more concerned with facilitating a collective process of learning.

The Substantive Nature of Research

The second challenge facing the aspiring process researcher is that all attempts to intellectualise a subject inevitably involve fixing the subject in a substantive world-view. This has already been suggested and referred to as the "problem of orthogonality". When we observe a situation and attempt to translate what we see into a description we are effectively pivoting out of the subject process into an orthogonal process enabled, so to speak, by the technology of description. There are, therefore, no properly processual methodologies. Describing and rationalising situations always reduces them to the world of things[1].

All that we can hope to do is to alleviate the problem. The following are some principles that should help:

Beware of abstractions. There are no abstracts in the process world-view, just patterns that are mapped onto symbols or concepts that give the impression of abstract concepts. The names of Things should be regarded as labels[2] that map onto processes that match the patterns that these labels more or less reference.

The significance of discursive processes needs to be established in the actions that follow. In other words, the process researcher needs to examine what is actually going on in a given situation and not just what is being talked about. For example, the significance of discussions about strategy only ever lies in what organisations actually do to implement that strategy, which might, on occasion, be nothing.

Social processes are always centred on the human body: always kinaesthetic. This reinforces the point above, that discursive processes involving talking and thinking, which has to be followed through to doing in order to understand their outcomes. It should also remind us to avoid ascribing too much significance to technology in its own right. There is no autonomous technological process separate from the social. Technology always acts as a lever of some sort that extends the power of the human body through spacetime.

These principles are reviewed at the end of Chapter 13 where they are assessed in respect to the case study.

[1]There is a connection here to the concept of process reduction developed by Elias and referenced in Chapter 6.2.
[2]Hernes, 2008, connects this concept of labelling with the works of James March. (pp. 96-97)

9.3 Seeking Inspiration: Process Archaeology

From an early stage in this research project I have been drawn by a parallel that I saw with archaeological methods. For example, archaeology is seldom if ever concerned with analysing texts, focusing instead on the raw materiality that it uncovers. I was, therefore, interested to discover a theme in contemporary archaeological theorising that I saw as being directly relevant to process research. There is a recognition that archaeologists, far from being the ultimate interpreters of an archaeological truth, need to seek inclusivity with many stakeholders who have differing claims on the past[3]. This is a past that is no longer some normative linear narrative but rather an complex and plural record[4]. Archaeologists, and therefore archaeological methods need to be opened up to allow participation in their interpretation. This appeared to be a parallel project to my own belief that process researchers have to facilitate participation towards a collective interpretation, rather than providing already interpreted solutions. It seemed, therefore, entirely possible that here was a methodological framework already well established and fit for purpose that could be adapted to suit the process researcher's needs. Below is an outline of this framework as it applies to archaeology. My intention in this section is to promote methodological parallels that I will explore in more detail later.

Surveying

The initial approach to a subject is to carry out surveys that will assist field workers in understanding the context and deciding the best approach for detailed excavation. Surveying techniques are many, but can be broadly grouped into four types:

Remote sensing, using instruments such as magnetometers or ground radar to build up a picture of study area through regular sampling. The result is typically a visual image of the area with response levels shown in different colours. The image is typically interpreted by eye. Remote sensing can be unreliable. Individual samples are one-dimensional and therefore interpretation often relies on prior assumptions. For example, some forms of sensing measure the levels of carbon in the soil. It is assumed that high levels of carbon reflect human activity: detritus lying in the bottom of a ditch or the remains of a fire. But often readings are caused by non-human activity and digging reveals nothing of archaeological significance.

Airborne Prospection is used to identify patterns and features not evident from the ground. Aerial photographs are also interpreted by eye, but with fewer levels of interpretation involved (the raw data is often unprocessed prior to viewing). However, compared to remote sensing, aerial photographs usually reveal less detail.

[3]Hodder, 2003
[4]Criado Boado, 2001

Landscape Archaeology involves carefully examining the landscape, typically from ground level to determine whether there are any subtle features that have been man-made, or natural features that may help to identify likely places for human activity.

Finally, *field walking* may be appropriate where there are plenty of small finds, such as pottery shards, scattered across the surface. By mapping the location of these finds and the type of find it is possible to again see if there are any patterns that may help to indicate where there has been human activity. Interpretation needs to account for later human and natural disturbance that could have re-distributed the finds, such as ploughing or rain run-off on inclined sites.

Surveying is about contextualising the whole: the creation of a systematic picture surrounding a potential subject in order to determine what is and is not of direct interest. Although surveying may appear to be synchonic it is not. Archaeologists are often able to deconvolved time from space: layers provide sequencing and movement often translates to time.

Detailed Methods

Excavation

Based on the initial interpretation of surveys, field archaeologists decide where to excavate and what methods to use. Typically there are three methods available:

Keyhole sampling: small "test pits" dug at various locations to build up a picture of the archaeology distributed across a large site;

Cross-sectional trenches: larger trenches aimed at cutting into significant features to provide cross sections. Useful when resources do not allow open area excavation, or where large complexes of buildings etcetera are involved; and

Open area excavation: large scale excavation of relatively large areas, best for dense features such as buildings.

Excavations yield two types of results: artefacts (or finds), from small fragments of pottery to entire buildings; and sequences: the juxtaposition of finds used to recreate temporal sequences as well as locating spatial relations. Finds are typically subjected to further detailed Artefact Analysis.

Artefact Analysis

Finds can be examined in many ways to identify and characterise them. Dating analysis may be used where possible. Chemical composition and detailed structure can be analysed. Techniques such as Archaeobotany can be used to identify seeds, pollen and spores, all of which assist in dating and sequencing.

Detailed analysis has lead to a scientification of the discipline, as is evidence by the following passage:

> *Most archaeologists spend much of their time in the field worrying about radiocarbon dating, geophysical prospection surveys, DNA sampling, Munsell colout charts, Harris matrices, micromorphology, phytolith analyses and so on. Much of their work is carried out in on- or off-side laboratories devoted to archaeozoology or archaeobotany and the like*[5].

This need for detailed analysis has generated significant specialisation, which in turn has presented new problems for the field archaeologist: how to access this expertise in order to guide the process of excavation itself (Interpretation at the Trowel's Edge[6]). The optimum solution has been integration, made easier by the rise of specialisations *within* the field of archaeology itself (e.g. Archaeobotany), reducing the resistance of crossing interdisciplinary boundaries.

Both Lovejoy and Latour[7] were aware of the academic dangers involved in trespassing into other disciplinary fields while following their wayward subject's course. No one process researcher will ever be able to achieve expertise in each and every subject through which they will have to wade. But few projects will be able to deploy a team of multidisciplinary experts, as Lovejoy suggested[8].

Interpretation and Reflection

Archaeological interpretation operates on three levels: what could something have looked like (for example, when studying a fragment); what could it have been used for; and what events were taking place that caused it to be here in this state. Interpretation starts with reconstructing finds, which are typically only fragments of something whole. This process is largely comparative: by studying pictures and examples of previous finds it may be possible to identify the object to which the fragment belongs. Computer imaging techniques can help with this process by fitting a 3D image of the real fragment into a reconstructed image of the object.

Experimental Archaeology is concerned with how artefacts could have been used and made. It reconstructs the methods that were thought to be used with the materials that were thought to have existed to see whether or not the artefacts could be produced or used in the ways that people interpret them to be.

The most difficult stage of archaeological interpretation lies atop these two: trying to understand what events took place, and who was involved. For example, a burial might be examined to

[5]Hodder 2003, page 57.
[6]Hodder 2003, page 58
[7]See Lovejoy 1940 and Latour 1999
[8]Lovejoy 1940

determine the age and gender of the buried person through detailed analysis and the date of the burial, also through detailed analysis and from sequencing against other datable material. But then the orientation of the burial (east-west or north-south) may be used to interpret who might have carried out the burial: middle Anglo-Saxons are thought to have buried their dead in a mix of east-west and north-south burials, distinctive of the period.

Archaeological interpretations of the past are often politically loaded, especially where pasts are themselves contested[9]. There is, therefore a growing need for archaeological methods to reflect upon these issues and consider whether or not these interpretations may be serving particular interests or appropriated for current ends. The issues may not be the same in organisational studies, where the historical past has less direct relevance, but there is always an opportunity for events to be retold to serve particular interests or simply ignored altogether. Indeed, the past is generally de-valued within everyday organisational life which suggests the need to reflect on why this may be so and whether or not it should be given more voice. Similar situations within organisations exist where perhaps management and or consultants are engaged in "diagnosing organisational problems" - or constructing narratives about organisational pasts that justify new or different futures. Are these pasts contested and if so, have these alternative voices been represented? Is there a tendency for rational and attractive stories to be given credence over messy and disjointed experiences?

9.4 Methodology and the Ontological Framework

In Chapter 8 I set out a simple framework about the ways in which we think about a processual reality. The framework consists of two fundamental processes that are inter-dependent and intertwined: processes of biologically- and technologically-mediated experience that constitute uninterpreted everyday living; and processes of neurologically- and language-mediated intellection: thinking and representing. These two fundamental processes can be seen as intermediated by description that seeks to represent, describe and elaborate what is experienced, and the performative that seeks to express intellections in more and more concrete experiences.

How does this relate to research? The initial task of researching appears to be descriptive: translating experience into intellections, but it is also performative to an extent because as I construct these descriptions I "test" them by imagining how they apply back to the basic evidence I have collected. This could be seen in narrative forms as checking the coherence of my narratives with the facts I have collected. The process researcher should pay attention to these performances and make more use of them. Bergson's intuition, for example, provides an opportunity to feel through the descriptive and imagine processes in action. The attention to the

[9]Hodder 2003

materiality of process is a reminder to keep checking back with the evidence, and to keep ensuring that the researcher is focusing on the local reality of process and not being tricked into accepting abstractions as reality. Finally, the process researcher should recognise and enhance the distributed and collective nature of the research process by expanding it to involve others: those experts needed to explore processes that stray into different disciplinary fields; and the stakeholders of the processes being researched.

In the following section I have set out the basics of a methodological tool-kit. These start out at the descriptive: the experiential-intellection relationship, establishing context and collecting detailed facts. They move onto the performative: the intellection-experiential relationship, as the researcher begins to animate his or her findings into imagined performances. Finally there is a note on reflexivity – on the need for the researcher to reflect on, and research their own processes.

9.5 Developing a Tool-kit for Process Research

Inspired by the model of archaeological methods roughly described in section 9.4 above, this section provides an outline design for a tool-kit for the researcher of social processes. I have two primary purposes that I think this tool-kit needs to address. First is the need to establish a sense of the processes that flow through the subject: their depth, time constants, direction and energy. This is about context and detail. Second is the need to step back from these emerging patterns, themes or narratives in order to identify and characterise discontinuities. These lie in the turbulence between experience and intellection. They are the vortices where the intellect twists in on itself, never delivering any potential for performance. They are the truncations where the performative ends abruptly, never embedding. What are the causes of these discontinuities? How might they be overcome, if indeed they can? This is about Interpretation and Reflection.

Below is an outline of the methods that could be used, structured within the same framework as the Archaeological methods where presented.

Surveying Methods

The purpose of using surveying methods is to gain a picture of the context: what are the processes that flow back and away from the subject and have been significant in its development? What is the wider context within which the subject processes are operating?

In Chapter 7 I explored the discipline of Longitudinal Field Research (LFR) as part of the developing concept of process. LFR claims to be process focused, placing a strong emphasis on time[10] and therefore on studying research subjects over an extended period. As a result many of

[10]See Pettigrew (1990) where he states: "for the practitioner of Longitudinal Field Research, issues of time are critical and pervasive" (p. 271).

the methodologies used in LFR would seem to be appropriate candidates for this Surveying phase.

Quantitative cross-sections

Quantitative methods from LFR[11] could be used to provide far ranging cross-sectional views of a problem space. They are, however, processually limited because of the way they compress reality into numerical representations and substitute potentially non-linear behaviours in the real world with a well-behaved numerical linearity. The orderliness of numbers is understandably seductive, but numerical analyses should be treated with caution. They are inevitably interpretive turns that lead the researcher (and her audience) further away from the subject being studied.

Web and Pettigrew[12] used a method whereby they sampled corporate publicity and news articles to identify and classify statements about strategy in different companies. They mapped these statements against time and used the resulting information to measure a company's strategic lag and compare this against its competitors. There are three transforming steps in this approach: the interpretation of strategic types, compressing a wide range of statements into simple categories; the mapping of these statements against time; and the measuring of intervals between statements as a determinant of "strategic lag". The cost of this technique lies in its decontextualising each corporate history and recontextualise it into an ordered world of strategic groupings, leaders and laggers, created by the researchers. What gets deleted includes any differences between communication processes within each company, the individual meaning of words and strategic types as understood by each company, and the "so what" relationship between the timing of these statements and significant outcomes. What it also fails to admit is that companies may pursue different strategies at different times for a variety of reasons and not just because some have the idea first and others follow. The emergence of dominant ideas determining "corporate strategy" may not be a rational process and certainly reflects complex social interactions between a variety of different individuals and groups within the organisation.

The downside, therefore, for process researchers is the gap these methods introduce between reality and representation, and the power of the orderly numerical processes that these representations become enrolled in, taking the process of analysis even further from the reality it seeks to represent. For these reasons I would recommend that purely quantitative methods should be used sparingly and in particular the temptation to use further numerical analyses should be resisted. Perhaps quantitative methods can be more easily applied where there is already quantification in the subject?

[11]For example see Van de Ven and Poole, 1990.

[12]Webb and Pettigrew, 1999.

In the case studies that follow this chapter I have made very limited use of quantification. There are some charts showing share price against time but these were part of the subject space. I have included various "statistical" measures over a long time period (e.g. Inflation) but this is offered as background, intended to make the reader reflect on that period rather than drawing the reader into direct numerical analysis. They are intended for visual interpretation only.

Sequencing Methods

Another technique used in the discipline of LFR is sequencing[13]. This is a form of pattern analysis in which the researcher establishes temporal sequences of events[14] and postulates their cause and consequences. These events are described by Abbot as being conceptual, occurring on a single plane of action[15]. For example, a local community establishing a medical school or, on another plane, a national community establishing a national association.

The ontological status of these events and actors sits uncomfortably within the process framework described in Chapter 8. A "local community" is a description grounded in the everyday patterns of living of co-located people who interact with each other in a variety of ways. A Medical School is a name attached to a range of processes most of which have something to do with educating individuals in "medicine", but many of which are secondary to this purpose (cleaning, catering, etcetera). "Establishing" a medical school cannot been seen as a discrete event in itself unless you select a arbitrary event as representing or otherwise delimiting this "establishing", such as the schools inauguration ceremony.

As well as ontological difficulties, there are also methodological problems with this sequencing. The researcher establishes a template from the sequence of events as an hypothesis of cause and consequence. She then matches this template against particular histories in order to demonstrate the template's validity. The process researcher ought to be engaged in identifying patterns and flows without abstracting causal templates. Focus is on the materiality of repeated processes and the means of their distribution. Sequences are assumed to be more stochastic than deterministic.

Temporal Bracketing[16] is a variation of sequencing methods in which histories are divided into broad phases rather than discrete events. These periods may be nothing more than convenient "units of analysis"[17] or they may reflect underlying changes in "context". For the processist, the latter carries with it similar ontological problems to those above. What is a context other than something we talk about as representing otherwise complex and distributed social interactions?

[13]See, for example Abbot, 1990

[14]Abbot (1990) claims that sequencing can be used in one-dimensional space as well as time but does not explain how.

[15]Abbot 1990, p. 381.

[16]See Langley, 1999, p.703

[17]Langley 1999, p.703

Barley's 1990 paper[18] is offered by Langley as an example of bracketing. There is very much to commend in this work, particularly for any process researcher interested in studying the everyday realities of organisational life. However, Barley's analysis still presents problems. His focus is on "roles" rather than processes, which implicitly connects events (or, if you prefer, behaviours) around people with organisationally designated job titles[19]. His analysis categorises and groups interactions between roles into "scripts" that are identified with a given purpose. For example, an interaction between two roles becomes labelled as "clandestine teaching" or "blaming the technologist". Barley then examines the occurrence of these scripts during what he sees to be different phases of the organisation, relating to the introduction of new technologies.

One of the drawbacks of this method is the way in which it entails the complete loss of processual context. Within each broad phase, Barley effectively grinds down the process into a myriad bits that he then sorts and sifts into little piles of different types. The interpretation that follows is based on examining the patterns that emerge from these little piles of dismembered reality. It would be rather like collecting remote sensing data and then throwing away the spatial information for each sample.

In conclusion, sequencing methods appear to have a natural affinity for the processist but are equally strewn with traps that threaten to flip the researcher firmly back into the world of Things and their representations. There are tools to be used but only with caution.

Sampling and Surveying

Similar to the archaeological method of digging test pits, these could be seen as very small test pits, aimed at building up a rough picture of the subject processes from lots of small and quite different snapshots. They could be in almost any media:

> Photographs or other images, video clips, etcetera of objects or events, buildings, badges, uniforms ...
>
> Documents, memos, press releases, brochures, web pages – textual evidence;
>
> Aural soundscapes and sound-bites taken from the everyday reality of the subject.

The aim would be to identify material components as indicators of process replication and distribution and to use these to build up spatio-temporal sequences. These "sequences" cannot be inferred to indicate any causal relationship as the gaps between samples are likely to be too great. It is an approach that should be attractive to the process researcher because it makes the native subject more accessible compared with conventional narrative forms. It is, however,

[18]Barley, 1990

[19]Roles may be thought of as abstractions that do not adhere to the flow of processes.

already interpretative in the choice of samples and their presentation. This could be balanced perhaps by promoting an awareness of the spaces between samples.

This approach may be uncomfortable because it could be seen as being superficial and disconnected. It therefore needs to be used as one of several methods aimed at building up an understanding of the context, its breadth and depth. The case study (see chapter 10) contains a variety of sampling style methods.

Historical Cross-sections

This is a method based on the "History of Ideas" school described in Chapter 4 and is demonstrated in the approach used throughout chapters 4 - 7. It is concerned with tracing the development of one or more "ideas" in a manner similar to the method used by Bruno Latour in exploring the history of Nuclear Science in France[20] . It can be seen to be something of an extension of the sampling method described above but with more emphasis on depth through connectedness rather than breadth of coverage.

This method presents a challenge to the field worker because of the scope: it is likely to take the researcher into many disciplinary fields. In section 9.4 I suggested that Archaeologists may already have developed a solution to this problem. Field workers are trained to achieve a level of general expertise, and then given access to appropriate experts to advise on specific issues that go well beyond that general expertise. This access may be immediate on-site or back in the laboratory but, as Lovejoy would probably have understood, Archaeology has the advantage of being able to develop each of these specific experts (archaeobotany, for example) within its own general discipline. When the process researcher pursues an idea across disciplinary fences, there are often no such umbrellas to promote co-operation[21]. Perhaps this problem reflects a misunderstanding of the purpose of these histories. It is easy to examine a statement in the perpendicular and declare it to be shallow and therefore inadequate. But the intention is horizontal: to identify the connections *between* disciplines, ideas, subjects, and therefore the issue to be examined is not whether the analysis is deep enough , but whether it is sufficient; adequate.

Detailed Methods

The objective when using detailed study methods is to focus in on a specific and local problem space to gather more detailed evidence of the processes that impinge upon and characterise it.

[20]See, for example, Latour's (1999) description of Jolliot's discovery of Nuclear Fission and the issues that Latour raises concerning the need to follow the story across whatever disciplinary boundaries may present themselves.

[21]See Latour 1999 and Lovejoy 1940.

Interviewing and Observing: Test Pits

These could be described as the conventional methods of Sociology. For example, Grounded Theory Methodology[22], with its particularly strong emphasis on "empirical data" is typically based on "structured and semi-structured interviews ... supplemented by observations, informal discussions and documentation reviews"[23]. Examples of similar methods under different schools abound, such as Wood and Ferlie's research into Evidence Based Health Care:

> *The approach to data collection primarily involved in-depth, non-participant observation of the day-to-day activities of investigators in research situations (...). Observations supplemented by secondary documentary analysis (...), and a total of 70 in-depth semi-structured interviews conducted across the case-study sites.*[24]

Interviews are the rock of sociological research methods, but the process-oriented field worker needs to be cautious in their use, hence the term "test pit". They are typically descriptive with little emphasis on materiality, involving people's ideas about and representations of the problem space being examined. Whilst it is useful to understand the stories that people tell each other within an organisation, it is important to maintain a scepticism of these stories and to look at what these people are actually doing as well as what they are talking about. Interviews will always be like test-pits: able to speak only about what they contain, leaving the researcher to tentatively join up the gaps as best they can.

Hence the need to observe as well as interview. But what exactly gets observed? In Wood and Ferlie's examination of Health Care research, did the field workers actually recount anything about the impact that their subjects had on the practice of health care itself? Did Schwarz and Nandhakumar step beyond the management suite to observe what impact strategic ideas had on the shop floor or the customer's business? Admittedly, however thorough the observer's notes are, you cannot observe everything. The concept of the test pit should be recalled: the bulk of the native subject remains unexcavated and unseen.

The metaphor of test pit is useful not only because it reminds the researcher that the majority of the subject is outside the researcher's gamut, but also because it illustrates how dislocated the contents of the pit are without reference to this outside. It is as if we have dug a 1 metre cubed pit and afforded the contents equal merit, able to speak at length on those that make sense within the context of our pit while having to remain silent on those that only hint of some larger mystery, simply because that mystery lies outside our pit. This is illustrated in John Law's study of Daresbury Laboratory[25]. It is a good example of extensive research using interviews and

[22]Langley, 1999, p.699

[23]Schwarz and Nandhakumar, 2002, page 69.

[24]Wood and Ferlie, 2003, page 53.

[25]Law 1994.

observations but Law is clearly concerned about being drawn across boundaries. He chooses to relay the history of the laboratory in the terms used by his interviewees, seemingly without question. For example, he portrayed the current leadership of the laboratory as "good" whilst its predecessors had "failed" and were therefore "bad". Is not this in itself a mystery? If the last lot had been bad, how come they had managed to succeed in getting the technological monster at the heart of the organisation to work? Was it not more likely that they had been "good" at addressing the problems of their time: fixing the technology, and that once this was done, they were not the right people to then manage a working system? Law's approach deprived him of the opportunity to position his subject as a phase in a larger process of development in which the current generation of managers are recognised as enabled by their predecessors' successes rather than required by their failures.

I hope that the moral of this story is simple: the process-oriented field worker should not allow herself or himself to become a prisoner to method. If you find a fragment of something that asks more questions than it answers then it deserves to be investigated even if you have to break your methodological rules to do so. Follow the process wherever it takes you!

Participation: Ethnography and Ethnomethodology

Ethnography can be summarised as someone parachuting in to a situation to live as part of it for a period and yet remaining always an outsider[26] (social anthropologists living with "primitive" tribes in New Guinea) whilst ethnomethodology is someone who is already part of the "system", already native, becoming the researcher. Although not strictly a correct interpretation of ethnomethodology, it differs from ethnography because the researcher-participant is aware of the common-sense methods that form the subject of his or her researches, being already a part of it. As a full-time employee of a large international business I consider myself to be in this category for the case study later on, but I am also aware that there are times when I cannot honestly claim the method: when I am really doing ethnography rather than ethnomethodology. Just because I am an employee does not mean I belong to every part of my organisation.

Whichever the style, participatory methods usually consist of interviews and observation. Observation is probably the more important approach for ethnography while ethnomethodology requires more reflection on what you have been doing during your working day and what you have "noticed" as well as observed. Ethnographers may struggle with "cultural" differences, but then ethnomethodologists find it difficult to see what they take for granted. Participants may be more objective when talking to ethnographers about their experiences, but they are also more

[26]The phrase "participant observation" is used to define ethnography in the *Dictionary of Sociology*.

likely to be guarded. Participants may well be more open with ethnomethodologists but then both may take local scripts for granted without being sufficiently objective.

A good example of an ethnographic study is provided by Barley[27] (described in more detail above) although he does not directly participate in his subjects' everyday work but remains an observer of them as they work[28]. Similarly, I would consider Latour's study of scientists working on the fringes of the Amazon[29] to be ethnographic in nature. His essay is a very good example of how process research ought to be conducted in this phase. Latour pays close attention to the little technologies[30] and how they both enable and constrain the process, which is precisely the approach that should be followed by process researchers. In criticism of this essay, however, Latour is inclined to promote the status of these little technologies to being equal to humans and therefore masking at least the important difference: that the prime driver of all social events are humans and not technologies. He also gives little time to the study of the wider contextual processes: those that impinge on these small scenes, enabling and defining their overall shape and purpose.

Standing in the Aisle

This is not a method derived from research sources but one that is inspired *Lean Thinking*. In a way it is just another version of the method described as Historical Cross-section above (Section 9.6), but rather than following one idea through its historical development, it starts at a point in the problem's Spacetime and attempts to trace back all the ideas/processes that impinge upon that point and have enabled it.

The concept in Lean Thinking[31] is based on a metaphor: you take the position of the customer at the moment of sale and imagine yourself moving back down the processes that have led up to that point: the distribution of the product, its manufacture, the procurement of the various materials, their distribution, their production, etc. The metaphor itself was created when a group of Japanese production experts visited a supermarket in the US that practised a particular technique for stocking its shelves: the aisle therefore being a supermarket aisle[32]. In process research this needs to be more wide ranging than these lean thinking consultants probably intended. As you trace backwards you may become aware of processes that are working in much slower time but have as much impact as the more obvious and immediate ones: the development of production technology, the development of distribution infrastructure, etcetera.

[27]Barley 1990

[28]Barley acknowledges that his approach is only one face of ethnography (p 244)

[29]Latour 1999 Chapter 2.

[30]Latour has always paid close attention to the little technologies. See for example Latour 1991 and Latour 1995.

[31]Developed in Womack and Jones 1996.

[32]See Womack and Jones 1996. The supermarket in question was Piggly-Wiggly's

These may all merit further exploration if they can be seen to have influenced the course of events.

The empirical method that underlies this technique is one of drawing out the connections that link various ideas together. It is about identifying specific *material* connections. This is in contrast to conventional "process mapping" methods[33]. These appear to be more like interpretations provided in graphical form that depict events, or abstracted "factors" or "causes" with nominal links laid out over time and perhaps divided across functional boundaries.

There is a certain resonance between this method/technique and Bergson's concept of Duration. Although Bergson intended duration to be considered above space, I would argue that such a separation of space and time cannot be justified in a process framework, and therefore "the view from the aisle" needs to consider both temporal and spatial components.

Artefact Analysis

I use this term to denote a range of methods, tools or techniques that can be brought to bear on the study of particular material artefacts encountered during the research process. The purpose of these techniques is to focus on how the artefact could have come into being and how it could be used. It may even be appropriate to ask why this artefact was produced at a given time. Examples of these artefacts could be books and other documents, tools, models, images and even phrases. Take a simple chart of share-price[34], used in so many situations to portray the fortunes of a company. What does this simple chart assume of its readers? Do they have to understand the process by which shares are traded and prices negotiated, how these prices are then recorded and disseminated? Probably not, but then this chart was directly generated by these processes and without them it would not exist. Perhaps they don't need to even understand the concept of share-price itself. The chart's most compelling story is simply one of vertical motion: steep rises are good, sharp drops are bad. And yet such an immediate and simple view is itself misleading: the goodness of these increases has to be considered in relation to other companies; alternative investments. This chart is only one among many and only begins to share its secrets when seen along side the others.

Artefact analysis initially seems to contradict the principles of process research for two reasons: first it focuses on material things; and second it seems to take these things out of the context of the processes within which they were being used. Whilst this is undoubtedly true it should be worth doing in order to better understand the origins, role and potential of this materiality in

[33]See Langley 1999 figure 2.

[34]See figure 11 in Chapter 11.

general. This may then provide insights into the particular ways in which the technology is being used in the original context[35].

There is another reason for using this approach. Often artefacts are the only hard evidence left of a process that occurred and understanding their potential can shed light on a process that was perhaps unobserved, albeit with a fair degree of speculation. This is the equivalent of experimental archaeology.

Presentation and Interpretation

Channel 4's Time Team sets the gold standard for the presentation of Archaeological research and for its accessibility, although it should be admitted that interpretations may be forced to premature conclusions by the programmes constraints and need to entertain. But just imagine what it would be like to carry out a social research programme using this format as the route to your readership! When it comes to presentation, at least, I think that Archaeologists have learned a few tricks that other academic schools may do well to pick up on.

Hodder[36] describes the issues that have lead to this situation as primarily being the need to open up the process of interpretation; to allow a more inclusive approach that enables off-field professional and local non-professional stakeholders to participate. The solution to this problem seems directly relevant to the process researcher: to get the audience as close to the "experience" as possible with as little "professional" interpretation in between, or at least an awareness that such interpretations are just that and are one amongst many. Hodder describes this as "Interpretation at the Trowel's Edge"[37]. The field researcher leads, with locals and experts engaged in a live process of interpretation that feeds back into directing the research process itself. Presentation is aimed not at providing interpretations but at enabling them. Data is presented at a relatively low level in such a way that current and future audiences have a chance to re-examine the evidence and provide new interpretations depending on their own perspective and on new evidence that has come to light since the excavation was carried out. It is an opening up of research data, analysis and conclusions and fits perfectly with the role of the researcher as facilitator described in section 9.2 above.

The excavations at Catalhoyuk in Turkey provide a good example of this approach and are well documented on the web[38]. This website includes a detailed database on all of the artefacts, buildings, features et., daily diaries made by the excavators, a discussion forum, weblog, image library and much more.

[35]There is similarity here to the process of decontextualising and recontextualising described by Crang, 2003 and attributed to Walter Benjamin.

[36]Hodder 2003

[37]Hodder 2003 page 58.

[38]See http://www.catalhoyuk.com/.

An equivalent approach to process based research seems entirely feasible, albeit probably more short-term than the 10 years or so that the Catalhoyuk project has been going. I could imagine providing either virtual or physical space for building up an organisation's history with the researcher leading the work and employees and others being free to contribute material, comments and interpretations. The project's aims and plan would be similarly open for inspection, comment, and even amendment where this was considered necessary. Finally the primary data could be carefully laid out for review and comment as it was accumulated with space for regular contact between the research team and participants/employees and even open reviews.

This open and iterative process of interpretation sounds very attractive but also rests on fairly uncontentious research aims. Archaeologists are primarily concerned with How and possibly Why rather than What, whereas organisational studies are more likely to need the What to be fixed near the outset of the project. It is not feasible to plan a research project based simply on digging in to an organisation to see what lies within. In a sense, this means that the research is already interpreted before it even starts: the forming of an objective itself depends on pre-existing assumptions. This can be offset to some extent through participative sessions at the start of the project that aim to build a consensual purpose; the ability to change course once funding is in place has to be questioned.

The Narrative Form

The Narrative style as an instrument in Organisational Studies has become widely accepted[39] and widely used[40]. The term “narrative style” is used quite loosely to refer to a type of story-telling: a means of organising experiences around a plot, with a beginning and ending. The table below illustrates how the narrative mode of thinking differs from the main non-narrative mode: the Logico-Scientific.

Modes of Thought	**Logico-scientific mode**	**Narrative mode**
Objective	Truth	Verisimilitude
Central problem	To know truth	To endow experience with meaning
Strategy	Empirical discovery guided by reasoned hypothesis	Universal understanding grounded in personal experience
Method	Sound argument	Good story

[39]See Czarniawska 1999, page 14 for example: “After years of following the lead of natural sciences, our fate has again joined with that of anthropology, sociology, social psychology, the political sciences, the theory of law, and other disciplines or subdisciplines that took a 'linguistic turn' in the 1970's and 1980's and that seem to be taking a 'literary turn' in the 1990's”.

[40]See below for examples.

Modes of Thought	Logico-scientific mode	Narrative mode
	Tight analysis Reason Aristotelian logic Proof	Inspiring account Association Aesthetics Intuition
Key characteristics	Top-down Theory driven Categorical General Abstract De-contextualized Ahistorical Non-contradictory Consistent	Bottom-up Meaning centred Experiential Particular Concrete Context sensitive Historical Contradictory Paradoxical, ironic

Table 1. Comparison of Narrative and Logico-scientific modes of presentation[41]

From studying this table it seems clear why the narrative mode should be attractive to anyone considering how to present research in a manner that is sympathetic to principles of process research. It is grounded in experience and in the local, starting from what actually happened rather than attempting to impose an interpretive framework upon events from the top down. It is facilitative: attempting to bring the audience closer to the original events rather than imposing the researcher's own interpretation upon them. Yet the narrative form does not represent a single consistent methodology. At one extreme there is a simple statement of the facts: of what happened, which is perhaps best likened to the Historian's Annals[42]. In the middle-ground lies a body of narrative histories[43] in which the author presents his or her story as objective fact complete with meaning. At the other extreme lies the work of pure fiction in which none of the facts are true but the meaning is intended to be authentic.

The use of the annalistic style to record bare facts as they happen or are discovered is achieved through the research diary or the event history[44]. It's lack of interpretation is useful where it may be appropriate to allow the reader to form their own, but if the study is dealing with very complex or specialist matters then this alone may be too much of a burden on the reader. But if the latter is true then this technique may still be appropriate if it can be overlaid with more succinct interpretive works to assist. There are few examples of this style of writing in Organisational Studies. Latour's *Aramis or the Love of Technology*[45] includes elements that

[41]Taken from Tsoukas and Hatch 2001 who sourced the table from Bruner, 1986.

[42]See White, 1980 p9.

[43]Or Histories Proper, see White 1980

[44]This is not the same as event history analysis but refers to the presentation of event histories.

[45]Latour, 1996

could be described as Annalistic: the presentation of raw material and interview transcriptions, and the chronology of events.

The tradition of Ethnographic Narrative is well established. Here the researcher draws on raw findings to develop *their* story: a description of their own experiences, but infused with an interpretive movement that makes sense of these experiences, or at the least describes the author's sense making process and conclusions. Examples are plentiful and include Stephen Barley's *Images of Imaging*[46], Latour's *Circulating Reference*[47], John Law's *Organising Modernity*[48].

The ethnographic narrative is always situated within the ethnographer's perspective: the first person; the point of experience. The narrative form *proper*, however, is intended to be "objective"; absent of all reference to the narrator[49]. Latour moves from ethnographic narrative to historical narrative when he writes of Pasteur and his discovery of fermentation[50]. This change of style is, of course, forced upon him by his subject: he was not able to study Pasteur at work but instead has to adopt an historical methodology. In general, this is a style of writing that is effected in many papers on organisational studies, particularly so when describing the context of a research study. For example, Schwarz and Nandhakumar[51] describe the "Strategic development process at SRS" in this style, taking up five of their fourteen page article with it.

The issue with this narrative proper style is its "closed" nature: the way in which it reconstructs reality as if the authors had been able to witness everything and understand everyone's motives. It is already interpreted. The telling of such a story is, in essence, fictional although not explicitly so. It is not that the authors are actually making it up, but rather that the meaning takes an upper hand with the events depicted in the story becoming fictional in character. Put another way, the author's understanding of the meaning of events allows them to reverse-engineer the story into a single homogeneous narrative.

If narrative proper is in its very essence fictional, then why not go one step further and explicitly permit fiction. This is the position advocated by Tony Watson through what he calls *Ethnographic Fiction Science*[52]. It is also the position adopted by Bruno Latour in his book *Aramis*[53]. In these types of work the emphasis moves away from representationalism towards an

[46]Barley 1990
[47]See Latour 1999, Chapter 2.
[48]Law 1994
[49]See White, 1980 page 7.
[50]Latour, 1999, Chapter 4.
[51]Schwarz and Nandhakumar, 2002
[52]Watson, 2000. See also Rolfe 2002, who argues for the use of fiction to convey meaning and authenticity.
[53]Latour 1996.

"understanding of human signifying practices"[54]. The events witnessed by the ethnographer are seen as a metaphor of the human condition, enabling the ethnographer to re-depict the meaning of his or her observations in metaphor. That these depictions can be relied upon is ensured by the process through which the conscientious researcher develops them[55]. In Latour, however, fiction is blended with what I have loosely described as annalism so that the latter serves to support, illustrate and justify the former: a hybrid form as the author clearly intended[56].

This fictionalisation can be extended one further step without completely dispensing with the underlying foundations of reality: constructing fictionalised accounts of strongly evidenced events. But isn't this just fictional literature? Is there a difference between Neal Stephenson's *Baroque Cycle*[57], whose historical novels are clearly fictional yet historically authentic and, say, Dan Brown's *Da Vinci Code* or Pat Barker's Great War Trilogy[58]. Perhaps they can only really be distinguished by their intentions: although the readers of Stephenson and Barker could corroborate the facts presented in these books, they are probably prepared to take it in faith that they are more or less accurate. To read Brown's works as historically accurate would probably be to miss the point.

Finally, the narrative style can be seen to extend beyond the historically accurate into the field of pure fiction. Meaning transcends facts completely, the reader relying upon the writer's gifts to trust to the reliability of their meaning[59]. Perhaps Shakespeare's works provide the most enduring example of transcendent meaning: they have even become the focus of leadership workshops[60].

There is another aspect to the narrative form that perhaps needs to be considered: that is the degree to which the narrative permeates and shapes the native processes being studied. People can be seen as engaged in narrative processes[61] about the events that unite them and about their personal and collective identities. The role of the researcher is, therefore, one of re-telling and re-framing stories that are already circulating within the subject space. But as the principles of process insist that research is grounded in "what is going on" as well as what people say they are doing, any such re-framing needs to bring these stories into a material context.

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[54]Watson 2000, page 500.

[55]Watson 2000.

[56]See Latour 1999, page ix.

[57]This trilogy of works consists of *Quicksilver*, *The Confusion*, and *The System of the World*

[58]This trilogy of works consists of *Regeneration, The Eye in the Door*, and *The Ghost Road*.

[59]Winter, 2002

[60]See www.oliviermythodrama.com for a description of a set of workshops that are based around the plays of Shakespeare.

[61]Czarniawska, 1997

In summary, the narrative form should be considered to cover a spectrum of methods from loosely structured factual reporting through to full-blown fiction. Yet there is another dimension that relates more to the authors intentions and interpretive position than narrative style: from attempting to recreate the experience of a situation to portraying reality as a metaphor for some already interpreted meaning. For the process researcher it is this dimension that is perhaps more important than style: being faithful to the experience of a situation; focusing on what is happening rather than what one person or another believes these events to mean. Meaning becomes an emergent property that belongs to the audience as much as the researcher. In so far as it might stoke the reader's imagination, the researcher may present his or her interpretations as such and as just one possibility among many.

Collage

If process researchers need to cover a lot of ground in order to scope the extent of the processes that constitute a particular subject, and if they need to present their findings with the least intrusive interpretations, then it follows that they need methods that are particularly suited to the presentation of diversity. My model for this style of presentation is the Exhibition, the museum (at least those with a more contemporary style of presentation), and the collage. The whole is essentially a sequence of loosely connected parts (somewhat like a physical version of the Annals or perhaps, with slightly more theming, the Chronicles). Each part is in a sense standalone whilst in another sense contributory to an overall meaning or impression: the significance of the material is based upon the whole effect and not on any one individual piece.

The construction of a collage is inevitably interpretative, but the looseness of the individual components decentres any narratival sense, allowing viewers (readers) to gain access through one of a number of alternative points. Perhaps the researcher can reduce the power of his or her interpretations further by making them explicit: added as discrete notes or separate exhibits in their own right. For example, the presentation of research diary extracts could be used to relay how a particular component became significant and what the researcher thought of it. An excellent example of this method is provided by Latour in his virtual book, Paris: Invisible City[62]. This is a series of images, mostly photographs arranged in a linear sequence. Each frame in the sequence has a textual caption and one or more images. These are sometimes presented as sequences and sometimes quite random. The user can interact with the images to “explore” the sequence. Linearity is, however, dominant and the overall impression is one of narrative by images.

[62]This can be access at http://www.bruno-latour.fr/virtual/ accessed by the author in January 2008.

The written thesis is not perhaps the best vehicle for illustrating the power of this method but Chapter 11 does attempt to illustrate how it could be used. The case study is a collage of different methods, but as it progresses it becomes more and more fragmented, finishing with an explicit sequence of exhibits aimed at invoking the "sense of the times" that led up to the central period being explored in the next chapter.

Multimedia

The narrative form is linear, relatively contained and constrained and unavoidably interpreted. It also tends to subordinate the role of the material in favour of text. Collage has a less bounded linearity and is also relatively contained but it is more open to alternative interpretations. It is more inclusive of materiality, depending on the physical form it takes. When collage is combined with presentational capabilities of the computer, however, the possibilities become seemingly endless.

I have already described how this technique has been used in Archaeology, with its strong emphasis on artefactual evidence. The use of browsable on-line databases allow outside stakeholders to access photographs and technical descriptions of all the artefacts involved. Hodder[63] recognises the importance of providing inexpert browsers with some form of context – an encapsulating narrative that juxtapositions individual artefacts to assist the audience in their interpretations.

In Organisational Studies this form of presentation seems to be resisted by the relatively strong conventions of publication. Even with universal access to the Internet, alternative forms of presenting research findings are rare[64]. There are projects aimed at collecting and presenting social research projects on-line[65] and an increasing number of on-line ethnographic studies[66], but little evidence of their use in Organisational Studies itself. Therefore, what follows is a brief outline of some ideas for using multimedia in this area:

A multimedia narrative: similar to a conventional narrative but with images, video and audio clips included within the narrative sequence. The researcher selects the clips and provides the structure and the glue. Relatively heavy on interpretation but providing more texture than conventional narrative. Latour's virtual Paris tends in this direction but with no actual narrative.

A multidimensional space, something like a computer game in which the audience is able to explore, room by room or space by space, various exhibits or pieces of evidence. Each space

[63]Hodder, 2003

[64]The on-line journal Ephemera (http://www.ephemeraweb.org/), for example, still presents the majority of its works as linear texts in conventional styles.

[65]For examples, see Coffey et al, 2006

[66]For examples, see http://mediatedcultures.net and http://artsweb.bham.ac.uk/citysites/

could provide a variety of multimedia clips: short stories, images, audio recordings, video, even interactive programmes. Each space provides connections to other spaces representing different situations and containing different clips. Some form of sequencing could be provided by progressively unlocking clips in a space as the reader unravels the story. This would be similar to the first option but without the sequential structure or narratival glue. The possibility of creating connectivity between different spaces provides a much greater degree of freedom for the audience but the researcher is still present as an interpreter in selecting and preparing clips and in providing connectivity and sequencing.

A multimedia database: similar to the last option but without the spatio-temporal arrangement. This option has the least sense of narrative structure (equivalent perhaps to the Annals) and provides the reader with the greatest degree of uninterpreted access. Obviously it also lacks any potential for sharing the researcher's insights, unless combined with some form of narrative "portal", as could be achieved with a web-based approach accessing a database back-end. This is similar to the approach taken at Catalhoyuk[67].

Conventional film: there aren't too many films about organisational life and the expenses of commercial film-making appears to make such a subject unlikely despite the accessibility of the technology. A good example is provided by Grierson's *Night Mail*, an artistic blending of film, music (by Benjamin Britten) and poetry (by WH Auden)[68] or Ken Loach's 2001 film *The Navigators*, which portrays the impact of privatisation on track workers in Sheffield. The increasing use of movie clips on the Internet suggests that a single, sequential film may be replaced by a number of movie clips included in any of the above approaches.

Participation

If the process of interpretation is not limited to the researcher but should involve the researchers' intended audience and/or subjects then participative methods that involve others in the interpretive process would seem to be appropriate if not necessary. This is more than the participation described in section 9.6 above which is largely concerned with participation in the creation of research inputs.

Action Research has a long history of participation traceable back to Kurt Lewin and the Tavistock Institute[69]. Participation is one of its key constituents: research, action and participation[70]. It is, however, focused on facilitating learning and change in a specific context[71]

[67]Hodder, 2003 and http://www.catalhoyuk.com/
[68]See Tyler 1949
[69]Hampshire 2000
[70]Lax and Galvin, 2002
[71]Lax and Galvin, 2002

with locally defined participants. Within this scope, the principles of process research are co-incident with those of Action Research. But does that mean process research is always constrained to the local? What if the subject process being researched is not unique (not local) and therefore the audience of eligible participants is also much wider than can be bounded in a typical action research event? How can these more anonymous participants be involved in the interpretation process?

I think there are two answers to this question: a simple one and a complex one. The simple answer is to address anonymous participation with an open and accessible style of presentation, much along the lines of those methods already described in this section. The aim is to keep the interpretive layers thin and explicit and to facilitate the reader in engaging with the material to create their own interpretations as much as possible. The drawback with this approach is that such interpretations are inevitably silent: this anonymous audience cannot engage directly with the process and are always held at a distance.

The complex approach recognises this drawback and seeks to address it through the use of emerging interactive technologies: the forum; the weblog[72] and social network sites.

The forum is a moderated discourse in which anyone can participate and is primarily limited to text. It has developed from the List, an e-mail based discussion vehicle. Moderation is usually restricted to categorising and censoring inputs. Forum users are often categorised as well depending on the length of time they have been registered with the forum and their level of involvement. There may also be categories for "official" users, such as representatives of a company or recognised experts in a subject field. Forums are useful in two ways: for individuals looking to solve problems in a reasonably short time-frame ("anyone out there had this problem and knows how to fix it"); and for organisations looking to gather views and opinions about products, services etcetera with a view to improving them.

Weblogs are based on similar technology (textual snippets recorded in time sequence) but are usually under the control of a single author or group of authors. They are often little more than on-line diaries although entries may be much longer and more structured: taking the form of on-line magazines[73]. Many weblogs also incorporate a forum based technology so that readers can voice their opinions and ask questions in relation to a specific entry.

Social networking describes a group of similar technologies where the emphasis is on individually defined profiles and on establishing networks between individuals. Social networks include multimedia profiles as well as elements of weblogs and forums. The term is also used to

[72]See Kaiser et al 2007

[73]The term "participatory journalism" has been used to describe this type of blogging, see What is Participatory journalism? at http://www.ojr.org/ojr/workplace/1060217106.php.

describe sites with more of an emphasis on shared multimedia, where social networking has evolved on top rather than being an explicit part of the system[74].

For the purposes of presenting research and soliciting feedback and participation in the interpretation of research outcomes, the Weblog appears to offer the most promise with the best support for the multimedia techniques described above combined with forum-style contributions.

On-line participation is not without its problems. The way people behave in social networks, where they remain hidden and can therefore effect various disguises, appears to be little studied and therefore not well understood. To effect studies in the real world and then invite participation in cyberspace could distort outcomes and have detrimental side-effects. Participants can be checked to reduce the chances of unauthentic users disrupting the process but this could equally be regarded as limiting participation and suppressing alternate and potentially discordant views. Even with such checks, the anonymous nature of the internet makes it very difficult to know whether or not users are authentic. In closed communities (e.g. Commercial companies) the risk of abuse is much less and therefore these technologies may be more appropriate, although the threats of censoring or surveillance may repress honest contributions.

9.6 Summary and Conclusions

Process research is always going to be methodologically challenging. First there is the problem of orthogonality – the separation of the process of representing from the processes being represented. This is unavoidable and therefore all the researcher can ever hope to achieve is to minimise its effects. Then there is the issue of the micro-structural present: that reality is always temporally and spatially local, and that generalities are the effects of replicable and distributable micro-processes. Finally there is the challenge of purpose: that process researchers must reject the partial ends of knowledge creation and look to the ultimate ends of changing practice. Research has to be seen in the context of a process of social change and therefore researchers need to engage with this process rather than just ignoring it.

I have drawn upon the discipline of Archaeology to provide a model of research methods because of its explicit grounding in materiality. This is purposely an antidote to the somewhat less materially-grounded nature that can characterise social research methodology, rather than a categorical statement that social research cannot provide. Archaeology also has to deal with the distributed: with processes that were themselves distributed and have subsequently become layered and shifted through subsequent human or geophysical action. It requires a constant

[74]For example: http://www.youtube.com/.

attention to these processes, to understanding how they have influenced the emerging evidence and to tentatively working them backwards to reconstruct what might have been original experience. Finally, Archaeology retains an openness in its interpretive processes throughout. Evidence reveals potentials that are always open to re-interpretation. Even the practice of covering up a finished dig reflects the opportunity that future archaeologists might bring new interpretations.

The result is not a methodology as such but something akin to a meta-methodology – an approach or synthesis aimed at integrating a wide variety of tools into understanding, reflecting upon and potentially changing an experience. The core operations of research will always be intellectual and therefore research methods will always be looking out from an essentially substantive world-view. For this reason there cannot be an essentially processual methodology. Instead process researchers have to accept this inevitability and work constantly to keep this layer of substantivity as thin as possible. There is a lot of imagination required – whether it is thinking back through time and space to trace the ways in which processes impinge upon a certain moment or location, or thinking forwards about the potential that materiality creates and how that potential might be used or explored. At times, it is almost possible to get a sense of what Bergson meant when he described intuition as being in touch with the way that matter vibrates[75].

I could not claim that this eclectic approach is in any way unique or that it represents a solid, considered framework from which to structure processual research. I think it is unusual and certainly experimental and the purpose of the next three chapters is to see how well this approach performs.

[75]Bergson 2004, pp. 276 - 277

Chapter 10
Introducing the Case Study

10.1 Introduction

It seems to be the way of extended research projects[1] that they change substantially during their course. Unfortunately, I started collecting data for this case study at the beginning when my view of my research was embryonic. As the project progressed two things happened: I ran into problems with my ideas[2] and had to rethink my fundamental position; and my case study took a significant and unanticipated turn that led to its somewhat abrupt ending. I spent the best part of 4 years rediscovering and rebuilding the foundations of my research, by which time my case study was well and truly history. And to make matters worse, the changes I had worked into my theoretical position were so radical that much of what I had done for my case study seemed to be entirely unsatisfactory.

This all amounts to an apology, for what is to follow is definitely an example of making the most of a bad case. The principle faults can be summarised as:

1. I collected data long before I recognised the pitfalls of focusing on the substance of Things as opposed to understanding the flow of Process;

2. Without the concept of process to guide me, the evidence I gathered is dislocated; and

3. The appropriate audience for the case study has itself given up and left: the subject is no longer interesting or relevant to those that should have been interested.

If I had the chance to start again, I know that I would do things very differently. In Chapter 13 I have outlined how I could have approached this case in light of the theory I have developed above.

10.2 Structure of the Case Study

The remainder of this chapter provides background to the case study and the process of research that was involved.

[1] I started this case in April 2000

[2] I have described these in chapter 5 above

Chapter 11 is an exploration of one company's attempts to introduce the disciplines of Value Based Management (VBM). It is concerned with the history of the organisation up to the apparent moment when it was decided to invest in the implementation of VBM.

Chapter 12 presents the story of how the company went about implementing VBM and how one of its subsidiary businesses reacted to these initiatives, first by resisting them and later by reluctantly adopting the idea. This chapter also deals with the decline of the initiative, pivoting around the defining moment when the company merged with its main competitor. What followed was not only the ascendency of ideas that were competitive with and intolerant of VBM, it was also playing out the consequences of the act itself – of an acquisition that seemed to contradict the very principles of VBM itself.

Chapter 12 is not intended to be analytical in any way. Its purpose is to arrange and present material from the case study without imbuing it with the author's interpretations – an opening up of the case study, providing readers with the opportunity to make their own sense of the case and then compare this to the author's sensemaking in chapter 13. This last chapter in the case study contains the analysis of the findings and some reflections on how it should have been conducted had the author started from the position he ended up at.

10.3 Context

What follows is a normative description of the case study and the author's involvement.

The case study involves a large British industrial company (referred to as MainCo) that had fallen on hard times in the early nineties, effected a dramatic turn-around in the mid nineties and was seeking to consolidate this success in the late nineties with a suite of corporate initiatives that included implementing an idea called Value Based Management (VBM). It is a term used to describe a number of related concepts all of which place an emphasis on managing a business in order to deliver cash returns to the shareholders. Many of these forms involve the measurement of Value by determining and then discounting the company's future free cash flows, taking into account all the demands that will be placed on these cash flows from capital investment to the payment of tax. Various forms of the idea have been developed so that these concepts can be applied to different types of business. In the mid-nineties several UK and US consultancies were offering companies their skills in implementing VBM, each with its own particular interpretation of the idea. There were also a number of large and respected businesses that were considered to have implemented VBM to the benefit of their shareholders.

I was employed by the company in 1996, when I was based at a subsidiary business unit in the UK (referred to as SubCo). I was involved in a number of change programmes within this subsidiary including VBM. In 2000 I commenced my research programme and at the same time

SubCo was re-organised into one of the business units that MainCo had acquired in 1999. In the same year I transferred from SubCo into the business unit that controlled it, and moved away from the site. I remained a part of MainCo until 2005 when MainCo sold the business I was working in to a competitor.

10.4 Data Collection

The data set that forms the basis of the case study comes from two sources: documents that I collected as part of my role in SubCo and MainCo, and documents that I explicitly collected for the purpose of this research. In writing up the case study I have not distinguished between the two. These include:

1. Observation of VBM forum meetings, day long workshops involving participants from across the company in discussions and presentations relating to VBM and its implementation. I took copious notes during these meetings which I attended primarily as a researcher rather than an active participant.

2. Interviews with 6 managers and the lead external consultant involved in various ways with the local and corporate roll-out. These were structured interviews in which my role as researcher was explicit, I posed prepared questions and took notes or recorded the interviews. The number of people interviewed was not great but this was largely due to the uncertainty about the future of the idea and, as I have already stated, its demise during this period.

3. Informally recorded or recalled meetings, discussions and telephone conversations relating mainly to my role as an employee but also as a researcher.

4. A collection of a wide range of documents (see Annex A) concerning VBM used within the business and generated either by employees or consultants. These include presentations, reports, spreadsheets and even posters.

5. A collection of corporate documents (see Annex A) spanning the period of implementation and setting out the company's values, objectives and targets, some of which concerned the implementation of VBM.

6. A variety of books and articles from the public domain that were in circulation at the time, most of which were used by employees to some degree.

10.5 Methodology Planning

Research Aim

The primary aim of the case study is to test out a methodological approach that I have proposed to be "process oriented". This is a relatively extensive case study touching on a large number of events spanning several years and involving thousands of people in many and varied ways. Tackling such a large case study with a new and untested approach is challenging, not least because it will be easy to lose sight of what it is I am trying to achieve.

Outline of the Case

This section provides a schematic outline of the case. Its an attempt to define the broadest features around which I have shaped my methodology. This outline is then followed by a more detailed development of the methodological plan. I have divided the case into three broad "eras" that I see as being separated by two key events:

1. First, the era leading up the decision to implement VBM as a corporate initiative, and therefore extending back indefinitely before this point;

2. This era culminates with the event at which the decision is made to adopt VBM, marking the end of this preparatory era and the start of the next;

3. Second, the era during which the organisation attempts to implement VBM;

4. This era is less obviously closed, but I have chosen to identify the event as being the acquisition of a major rival company. This is partly because the merger that followed directly led to the end of the company's attempts to implement VBM. It is also because the very event can be seen as part of the unfolding process, but one that demarcates itself as quite contradictory to the established values and purpose of VBM;

5. Third and final is the era following this acquisition during which time the VBM initiative was effectively dismantled.

Events enabling the adoption of VBM

My first step was to select a starting point from which I can look down "the aisle"[3] and imagine all the events that enabled this moment. The moment I have chosen is the board meeting at which it was decided to invest MainCo's time and money in adopting the "concept of Value Based Management". I know about this meeting because two of the people I interviewed referred to it, but it happened before I was involved in the programme and before I started to

[3]See Chapter 9 for a description of the method referred to as "Standing in the Aisle".

research it. What actually happened at the meeting is less important than the events that must have preceded it and made it possible. Tracing back from this meeting are three "strands" of events. First of these concerns the way in which the company had been managed over the preceding years, reflected in the stories of success and the rising concerns that this success would not be sustainable. Underlying these stories must have been the everyday reality of organisational events involving employees "doing the business", managers "managing" and "planning", and accountants "accounting". The other half of the reality that contributed to these stories was the "performance" of the company – or more precisely the performance of its share price, reflecting an underlying reality of share ownership: trading, reviewing annual reports, monitoring press releases, reading analysts opinions, analysts giving their opinions, Annual General Meetings etc. This is effectively my second strand of events: the history of the company's shares.

The third strand comes from a different direction to the other two – having links that could go further back. The idea that managers could and should manage their businesses in such a way that they deliver something referred to as "shareholder value" seems to have its origins in the accounting concept of Discounted Cash Flows. Around this idea has grown something of an industry: authors publishing books on it, consultants charging clients to tell them about and help them implement it, academics studying it and writing papers on it, and above all, accountants and business managers creating spreadsheets to calculate discounted cash flows and demonstrate the value (or not) of any one business venture or decision.

Underlying all of these strands is another, deeper and much older strand: the events that involve the use of money[4]. I want to include these as a strand because they seem to be the "taken-for-granted" that just might need to be looked at a little closer. There's a mystery here: if cash, and therefore money, is so important to the idea of Value Based Management, how come it is so obviously absent from everyday organisational life?

Implementation

Following from this decision, MainCo decided to invest in implementing VBM through a number of means. They appointed external consultants to provide advice and run workshops and pilot schemes. They appointed a "Champion" senior manager, a "Steering Board", and a team leader to plan and co-ordinate activities across the company. Workshops were run to indoctrinate senior managers with the concepts. The consultants led pilots in specific areas and recorded the results to provide case studies for further roll-out of the concepts. A forum was established to share experiences and businesses were encouraged to appoint their own

[4]Annex F is a mini-case study on the longer history of money.

champions to attend the forum. The company planned a roll-out programme that would involve all of the businesses in running their own pilots and then planning implementation across each business. Finally, various documents were produced such as Newsletters to make people aware of the idea and the plans for its adoption.

Demise

There was no discrete event that brought these implementation activities to a close. Instead the impetus was removed and with it the drive to act. In hindsight it seemed that this began just before the company announced a major merger with its main UK competitor (referred to in the case study as MergeCo) and was accelerated afterwards by a number of changes. The VBM Champion changed role and was not replaced and the VBM co-ordinator was appointed to a new position and not replaced. The consultancy contract was stopped, removing their involvement from various roll-out programmes that were still ongoing. Finally, the message from senior managers moved from VBM to "Synergy Delivery" and resources were diverted into supporting Synergy Delivery Teams. Synergy Delivery was the title given to a range of initiatives intended to save the company £240M in annual costs as a result from the merger that had taken place between the company and its rival. The need for these savings was to respond to "market sentiment" that the price paid for the acquisition was too high.

The idea was never officially stopped and no announcement was ever made. It was simply taken over by events, evaporating away rather than closing down.

The Methodological Plan

I have approached the case in three different eras in order to address three broadly different themes: first, what were the necessary conditions that enabled the directors of the company to make their decision to adopt VBM; second, what exactly were the events involved in the implementation phase and what was shaping these events; and third, what were the factors that led to the eventual decline and collapse of the initiative?

These three eras reflect another more general pattern of research: the unbounded period prior to a research event; the research event itself; and the period of reflection/development that occurs after the event. In the context of Process, the arbitrary bounding, the sectioning out created by "researching" itself ought to be ameliorated as far as possible. The researcher has to seek to maintain the connections that flow through his or her "episode" or at least reduce the damage done by breaking them. In writing up, the challenge is in reconnecting processes, or at least opening up interpretations so that readers are able to see the connections and may even make connections of their own.

Surveying Methods

The pre-implementation era appears to be suited to the use of surveying methods, as developed in section 9.6 above. It involves diverse processes with extensive roots that need to be explored to some degree in order to better appreciate the dynamics of the events that led to adoption of the initiative. I have therefore focused on using some cross-sectional of histories and event time lines, building a collage, and using "test-pits". Most of these techniques are deployed in Chapter 11.

Detailed Methods

The implementation era is studied through two quite different methods. The first can be described as an historical narrative, describing the intertwining events of one particular subsidiary business and the company's wider programme of implementation for VBM. This is a fairly normative account although I have taken care to exclude any opinions and interpretations as fas as possible without making the narrative too unwieldy.

The second method can be described as artefact analysis and consists of studying not particular documents but rather specific "patterns" that are flowing through these documents. This is an example of de-contextualising these patterns to consider possible explanations of their cause that may or may not assist in re-contextualising them later.

Interpretations and Reflections

Chapter 13 is concerned with the process of reviewing the case study and analysing it. The analysis is conducted on three levels, gradually rising up from a detailed consideration of the specific processes flowing through the case to an high level reflections. Initially the focus is on gaining a sense of the flow or movement within the case before considering the tensions and discontinuities disrupting this flow. The second level then considers what was being achieved within the case and what were the processes that were enabling these achievements, before reviewing set-backs and missed opportunities together with those processes that were flowing against these achievements. The third and final level is intended to be where the intuition and imagination are allowed space to reflect on the whole experience and where underlying themes are allowed to emerge, if possible.

Chapter 11
Introducing Value Based Management

11.1 The Pre-Implementation Phase

Note that through-out this section, highlighted paragraphs such as the following are delineated from the main text as being the reflexive voice of the author, concerned with understanding the method and approach rather than being part of the analysis itself.

This is my context – that phase that preceded my own involvement, both as a practitioner and as a researcher. The challenge I have in presenting this phase is to avoid turning it into a convenient narrative that reflects my interpretation of events, reducing them to a sort of *trompe l'œil* backdrop to the main case. Rather, I want to open up this contextualising so that the reader can develop their own sense of the momentum it gave to the events that followed, while at the same time limiting my own inclination to impose my interpretations.

In preparation, I have drafted something resembling a process chart (see figure below). This requires some explanation. It is intended to be a methodological guide rather than a description of how "things were". The large solid arrows represent ongoing processes, such as the "performance" of the organisation, shareholder's buying and selling shares, and the process by which share prices are determined. The boxes represent more discrete processes or events as opposed to the ongoing events in the arrows. The spiral arrows indicate iterative interdependencies. Finally, the plain arrows represent causal dependencies.

My starting point (working backwards) is the Board Meeting where the decision to implement VBM was made. It occurred sometime before I became involved, but I have chosen it because a) it marked the transition from conception to implementation, b) it is distanced from my period of research and therefore untainted by my own experience, and c) it provides a single starting point into which all prior processes were effectively focused.

What enabled this meeting to take place was the coming together of three broad threads: the developing consensus "within" that the business had a problem that required fixing; the "external" need to address that problem, either through its direct recognition or via expectations that assumed no problem existed; and the appearance of one or more potential solutions to this problem that were sufficiently credible to merit investing in.

What follows is a more detailed investigation of each of these threads. The first thread I shall attempt to follow is The Problem Recognition thread:

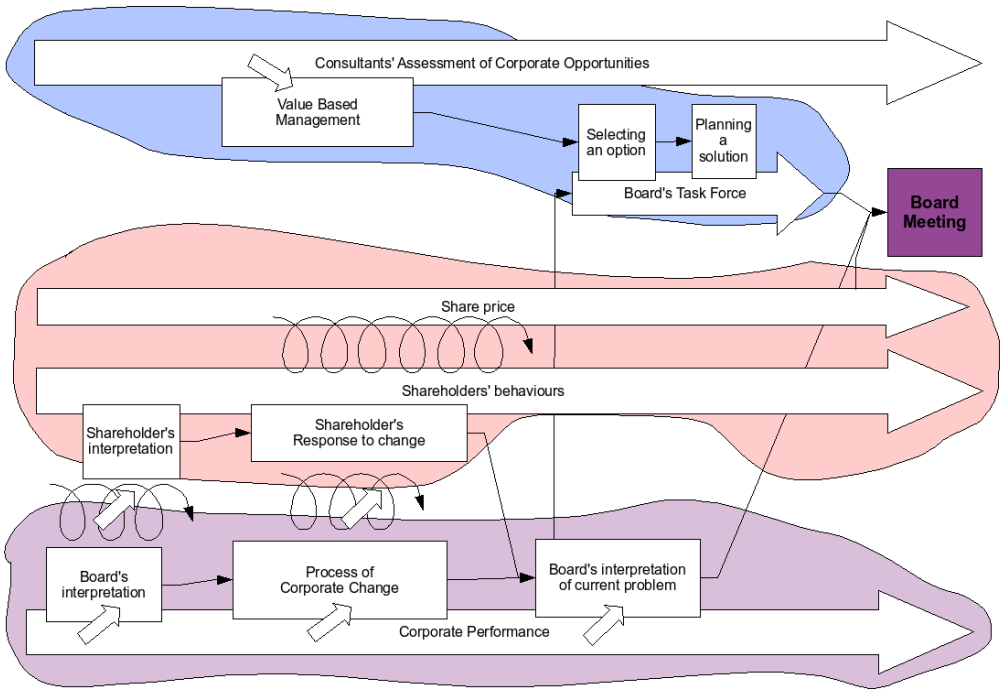


Figure 7. Outline of Process Flows

Meeting to Decide on Implementing VBM

My evidence of this meeting is slim: one or two interviewees referred to it and described who was involved. This is, therefore, largely a fictional reconstruction based on the snippets I gleaned from these interviews.

The meeting was attended by MainCo's board, a small team of in-house experts and a small team of consultants. The meeting was being held because for some time key members of the board had been concerned that the success they had achieved over the last few years was not sustainable. They had come to the view that this success was based on a fairly simple approach to managing cash across the business and that the parlous state of some business areas had made this task relatively easy. Having benefited from these quick wins they now wanted to find ways of continuing this success and shared the belief that some form of cash management driven into the businesses was the best approach. To that end they had established the team and tasked it with analysing the problem in more detail and coming up with proposed solutions.

The team had considered a number of alternatives, as offered by the major consultancies at the time. They had drawn up a short list and invited these consultants to present their cases. These had then been down-selected until they arrived at a preferred solution. They had then worked

with the consultants to devise a plan for implementation, which they now presented to the board.

Having listened to the proposal, and presumably asked searching questions of the team and the consultants, the board decided to sanction the plan and commit to investing the resources required to "make it happen".

This must have been a relatively simple and routine corporate event, but in terms of shaping the future of this particular idea, it marked a vital pinch-point upon which various processes had impinged and from which the programme of change was to arise. The meeting was descriptive in nature, consisting of the presentation given by the expert team and whatever discussion presumably followed. Where did these descriptions come from?

Expressing the Problem - A Story of Success

There must have been some form of description of the problems that were perceived to be facing the company. Based on my interviewees, my own experience of the company, and on later readings it seemed that this "problem" was frequently described in the context of a story of success. It was a corporate narrative that must have had many variations, but which more or less told a similar story:

The story started 5-6 years earlier when MainCo's fortunes were at an all time low. The board had laid off just under half the workforce (60,000 people) and written off assets worth over £1B. The share-price had plummeted from a high of £3.80 to under £1 and dividends had been cut to virtually nothing. The management team was under considerable pressure with both the chairman and the finance director leaving. The CEO barely survived.

The stories of how the company rose out of the mire are varied. However there was broad agreement about the key events: selling off a major business unit that was not core to the group and was costing millions to keep going; rationalising another business unit that had been hit by recession and was also losing money; and restructuring a very costly leasing facility. In addition they managed to secure a huge international contract with a very positive cash payment profile. Prior to the turnaround, the company was still achieving profit targets but there was no cash available and the company was paying heavily to borrow money just to keep ticking over. The recipe for the turnaround was "cash management": if you look after the cash, the profits will look after themselves.

The results were quite spectacular, although initially very painful. Within 5 years the share price rose from an all time low of less than £1 to over £20. From being the pariah of the stock markets, the CEO became their darling. The CEO preferred to attribute success to the building of strong organisational values, but the team presenting at this crucial board meeting probably

knew otherwise. Cash was king but having exhausted all of the quick wins, their task was finding a way of driving more cash from the businesses themselves.

This is a story of Champions and Heroes fighting adversity to win through against the odds. Its a story of success supported by the "objective fact" of the company's share-price and the subjective opinions of its managers and shareholders. But the veracity of this story is not important so much as the processes that led to it being told and the power it conferred through the telling. It is a story generated out of three separate but intertwining processes: 1) the everyday reality of the organisation itself as it struggles to do business; 2) the mechanical grinding of the share trading process generating the share-price that was apparently so influential on management's decision making; and 3) the multitude of local analyses, opinions and decisions that characterises the events of shareholding and provide the real driving force of share price. The "everyday reality of the organisation itself" encompasses a vast scope. I have chosen to skip over this partly because it is not that pertinent to the meeting and partly because it is more relevant to the following chapter. What, therefore, is the micro-reality of the other processes: share-trading and share-ownership?

11.2 Fundamental Processes

The Process of Share Trading

Why was share-price such an important measure? In considering an answer to this question it is perhaps worth analysing the process whereby this somewhat mysterious figure manifests itself. With the process of share-trading we arrive at hard artefacts to study: shares, share prices, and share price charts. A company's performance is often seen as being reflected in its share price. The share price chart (below) is seen as a valuable tool for existing and would-be investors, summarising the apparent fortunes of the company in a simple graphic:

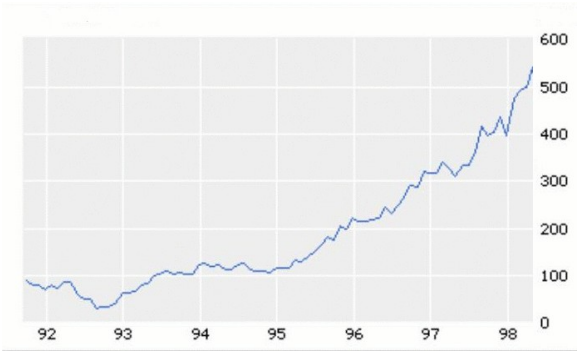


Figure 8. MainCo's Share Price Chart 1992 - 1998[1]

[1]Data from Yahoo Finance. A share split divided 1 old share into 4 new shares, quartering the share price.

The chart is produced from the records of the closing price of the company's shares on each trading day. The closing price is taken as an indication of the share price at which the company has traded through the day. Automation of the stock exchange trading systems (through which all these trades are conducted) means that each trade is recorded and the last trade data is therefore readily available. Various computers connected to these trading systems and the Internet are used to collect this data, process it, and convert it into these charts. For example, charts are available from the London Stock Exchange, the Financial Times, and business websites such as Hemscott, Yahoo Finance and Google Finance.

The events that generate all these processes of analysis and display are best represented by what happens on the trading floor. An interested buyer has to instruct a broker to act on their behalf. The broker instructs a clerk at the stock exchange where the shares are traded, who then instructs a floor trader. The floor trader's job is to find a seller willing to sell the shares at the required price or lower. If he can find such a seller then they agree to the trade and the terms are passed back to the clerk, who then liaises with the seller's clerk to complete the deal and tells the broker, who tells the buyer of their success. The clerks record the deal and arrange for the transfer of funds. Eventually the share certificates owned by the original seller are transferred to the buyer and his details are recorded on the Share Register of the company involved.

All of this can now be done through the Internet with just a few clicks of the mouse. Sellers submit offers to a computerised trading system that then offers the best price to a potential buyer. One more click and the deal is done. Of course it is not *that* simple – before anyone can access the system they have to establish themselves as *bone fide* parties and demonstrate that they have the funds or the shares to trade. This requires new intermediaries who can establish trust in the electronic trading environment and then gain trust in their clients before allowing them to participate.

This is the pattern of events that controls a company's share price. If demand from buyers outstrips supply then sellers are able to raise the price of their shares and buyers, if still interested, have to match the higher prices. If supply outstrips demand then sellers have to lower their prices in order to interest enough buyers to complete the trade. The effect is aggregated up from these individual transactions and absorbed into the series of trades that eventually make up a chart. The chart is a convenient and mobile representation that allows shareholders, managers, analysts and researchers to form their own views about the success or otherwise of a particular company's performance.

This is a comparatively grounded story of events consisting of traders, money, share certificates, and the like. It is made possible by the well-behaved numbers that course through these events:

adding, averaging, comparing, charting. This process is part of a larger, more complex flow that involves other, longer term processes: the regulation of share trading through the rules and guide produced and enforced by people working for the Financial Services Authority and the London Stock Exchange; the rules by which companies can create and sell shares and through which they can control those shares and their shareholders can control them, regulated by rules and guides produced by people working at Companies House. This mesh of process has emerged, evolved and established into an almost thing-like consistency, illustrating the notion of the "institution" - a interdependency of events that have little material grounding but are also largely independent of any individual event, and therefore individual people.

Investing in Business – about Shareholding

The events of share trading and the resulting share-price that emerges are one half of the process of share ownership. The other half consists of shareholders and would-be shareholders making decisions to buy and sell shares and benefiting or otherwise from owning them. The fortune of a particular company, as determined by its share-price is dependent on those people who are willing and able to buy and sell their shares. They usually make a decision to buy or sell based on the information available to them about the company and the markets in which that company operates. This information comes from:

Employees and professional advisers of the company itself, who prepare annual, half-yearly and quarterly reports on its trading status and also provide regular updates to the stock markets on other events that may affect a company's share price. Because of the interests a company has in preparing such information, there are strict rules concerning this information that are imposed by the stock markets and accounting bodies and policed by auditors and others;

Investment Banks, who employ analysts to study particular markets and particular companies trading in those markets, and publish advice and opinion on these companies. This advice is usually given to shareholders to buy, hold or sell the company's shares, depending on the analysts' opinion of the likely performance of the company. It may also include the analysts' own short-term forecasts of the company's results. This information may be made public through news releases, newsletters and the Internet, or it may remain private to those who have paid for it;

Independent sources of information, including everything from specialist analysts who may opine on market conditions without advising on trading shares, through to Internet forums where individuals share opinions about a company without the constraints of regulation. This information is usually made available through the Internet, trade publications or newspapers.

Shareholders probably do not make decisions to buy or sell based only on a long-term analysis of each company. There are many other factors that influence this decision[2], including the shareholder's inclination to take risks, where less risk-averse shareholders are more likely to make short-term trades to cash-in on share price fluctuations. In extremis this manifests as "day-trading" which has more perhaps in common with gambling than investing. Time is another factor where there is also the need to generate a return within a defined time period. This is particularly true in the case of "institutional" investors: people who invest in companies on other people's behalf. Institutional investors are often judged and rewarded according to the short-term (annual) performance of their investments[3]. This makes them relatively insensitive to long-term performance opportunities. The same is applicable to private investors looking for short-term returns from emerging business opportunities. Their investment model is not concerned with the long-term value of a new business, which is notoriously difficult to estimate anyway, but rather with the prospects of achieving the next investment opportunity, at which point the investor can sell-out while charging the company a high rate of return on their investment[4].

Institutional investors differ from most individual investor in another important aspect: they have a voice as a result of controlling large volumes of shares. Any investor is able to express their opinion on the company by buying or selling shares. They can also vote at the company's annual general meeting, but only in proportion to their shareholding. They could even attend the meeting itself and may find the opportunity to actually voice their opinions, if they can be heard above the others. But institutional investors have amplified powers: they can control many shares and therefore votes, and can talk or otherwise communicate with the company's board, and they can influence other investors by publicly (or privately) expressing their opinions.

Despite all of the information sharing and analyses of companies, competitors and markets and despite all of the controls on the trading of shares, the individual process of deciding to invest or not generates a pattern of emergent behaviour that is not far removed from a process of chaos. There are no laws of inertia, momentum and conservation that apply to the process of share trading and might otherwise constrain its behaviour. Billions of pounds of value can be wiped out in the space of a few hours with no resistance, just as it can be created seemingly out of nothing.

[2]A useful review and discussion of shareholder behaviours and interactions is provided in Hirshleifer and Teoh 2003.

[3]Hirshleifer and Teoh (2003) provide evidence that institutional investors are optimistic about long-term forecasts but increasingly pessimistic as companies approach announcements, making them more likely to achieve or exceed their targets.

[4]See, for example, Zider 1998

This tendency towards chaos points to a dilemma: are markets (and therefore the performance of individual companies) fundamentally rational or is the chaos real and therefore unavoidable? There seems to be a split in belief between those who want and strive for the economics of business to be made more rational and therefore predictable and controllable and those who accept that this can never happen, ride the roller coaster and look for any way we can to make money from a Bear Market.

For those who want to believe in control, the notion that business behaviours fundamentally comply with the rules of "long-term value generation" is, therefore, an attractive idea.

The Solution: Value Based Management

The experts had presumably come to the board meeting prepared with presentations explaining the theory of Value Based Management and providing evidence of its success through various suitably abridged case studies. These few moments of presentation and discussion were made possible by an iterative process of theory and practice, or perhaps more precisely: theorising, practising, interpreting and narrating. Each person has traced their own path through encountering the idea, understanding it, trying it out, interpreting the results and then telling their story. And in preparing for this meeting each of these trajectories had converged to some extent: the group normalising a dominant interpretation that synthesises to a greater or lesser extent all of these various trajectories.

This presents a methodological problem in which many quite varied and impossible to research stories potentially impinge on this one moment in the board room. How many different encounters does this simple phrase "Value Based Management" bracket? What can be said of any of this without simply replacing it all with the researcher's own personal and abstracted view? How can I claim to know of the "Value Based Management" that was discussed at this meeting? I cannot offer any interpretation that can overcome these problems, so I am going to attempt to overcome this problem by starting without any interpretation at all. I propose using an approach that focuses on the materiality that was or might have been part of these processes and considers how this materiality could have been used or could not have been used.

Item 1 – A book entitled "*Creating Shareholder Value, a Guide for Managers and Investors*" written by Alfred Rappaport with the added message "Compliments of LEK" printed on the sleeve[5].

This book is frequently referred to in all forms of literature on VBM and was handed to staff by the LEK consultants wherever they went – which explains why I have my own personal

[5]Rappaport, 1998

copy to refer to. Originally printed in 1986, this is the revised version published in 1998 and reflecting some sense of success since the first edition was published.

The book can be divided into sections: a justification of why companies need to use VBM; development of the theory of VBM; a short guide to how managers should interpret the stock markets; a lengthy justification for why executives should be rewarded for value creation; some more practical guidance for using VBM in mergers and acquisitions and for transforming a company; and a closing section aimed at demonstrating how "high performance" companies have nurtured shareholder value.

As a consultant's hand-out, it is odd that the book is not really a practical guide to implementing VBM, although that may just be to protect the consultant's role in the process. Rather it is a justification aimed at convincing managers that VBM is an idea worth investing in. It promises a method that can align managers' interests with shareholders, that can overcome what it portrays as the shortcomings of accounting systems, that integrates strategic decision making with financial management, that interprets the stock market, and last (but probably not least) justifies remuneration packages based on long-term value creation.

What can you do with this book? Once you get over the initial disappointment that this book is not going to tell you how to apply VBM, you can certainly put together some good arguments that rationalise why VBM is worth doing. Does it provide incontrovertible proof of the benefits of the method? Definitely not. It's most basic argument, that managers' interests can be aligned with those of shareholders is tenuous. It ignores the asymmetry that exists between shareholders and managers: that shareholders typically own a portfolio of diversified shares whereas managers are usually employed by one company at a time. Managers are therefore usually more risk averse than shareholders would otherwise want them to be if they were to perform best in accordance with the Capital Asset Pricing Model and its underlying principles[6]. Making managers into shareholders of their own companies does little to change this fundamental asymmetry.

The book also contains an extended argument intended to convince the reader that conventional accounting methods fail to convey the underlying value of the organisation, offering up VBM as a better alternative. What the book fails to convey to its readers is perhaps something of a fundamental flaw: that the greatest component in determining the value of a business is based on forecasts of corporate performance that typically fall outside any reasonable business planning window, and are therefore limited by the strength of their

[6]See McLaney 1994 for more details.

weakest assumptions. The book also ignores the motivation for producing management business plans in the first place: they are not produced as objective projections of likely corporate performance, but rather as justifications for obtaining control over resources or often for setting low expectations that ensure managerial success and sometimes set managerial rewards.

Item 2 – Published company results and related performance metrics.

At the time that the board meeting was taking place specific VBM related metrics were being published in papers such as the Financial Times and the Sunday Times. Two metrics were frequently used: Market Value Added (MVA), which is a measure of the amount by which a company's market value exceeds its total investment (equity and debt); and Economic Value Added (EVA), which is the profit remaining after subtracting the cost of capital from an adjusted net operating profit. As well as being published in weekly papers such as the Sunday Times, it was popular to produce rankings on a regular basis, such as Stern Stewarts annual ranking of the UK's top 500 companies. Alfred Rappaport included a similar table of top performers in his popular book (item 1 above), but this is a more general measure that does not involve Net Present Value. In addition to these more VBM-specific measures there are the daily measures of share price and the annual/half-yearly measures of performance such as “Dividend Yield” and “Earnings Per Share”, published in papers such as the Financial Times.

All of this information can be used to a lesser or greater extent in assessing the performance of any particular company (or sector) and therefore in deciding whether or not to buy or sell its shares. However, none of this information can be used directly in pursuing the idea of VBM, because VBM fundamentally involves the calculation of future cash flows based on projected future performance. Having said that, published annual accounts are often used as a starting point for creating projections based on extrapolating various performance parameters and converging these with accepted market projections (rate of growth, levels of profitability, technological discontinuities etcetera). And actual share prices provide a useful sanity check to compare with over-enthusiastic projections.

The problem is that, as Rappaport is keen to point out in his book, it is very easy to make inaccurate assumptions about a company's performance based on its published results, making such models difficult to validate except in hindsight.

Item 3 – the many popular articles about VBM that were published in the late 1990s and would have been read by Finance professionals, raising their awareness of what VBM was intended to be about.

Ronte[7] is an example of one of the many articles published in 1998 by the Chartered Institute of Management Accountants in their Management Accounting magazine. It is fairly typical of those published, being aimed at raising awareness of the idea without going into the details: "Value-based management is a journey", the author tells us, "that many of today's successful companies -- from Coca-Cola to Lloyds TSB -- have embarked on. Which company can afford to wait to join them?"

The utility of these papers is certainly limited when it comes to understanding how to apply the idea of VBM. In fact they don't really tell you anything to help. In this way they are similar to Rappaport's book and are otherwise part of the propaganda process. But perhaps they serve a slightly different function as well, providing evidence that this isn't just a consultant's idea that is helping to sell books; that others are engaged with it and appear to be benefiting from it. Not only could this help to motivate managers to consider VBM, it also helps to justify the effort for those who have already made the decision. Look! If we don't do something while others do then we are going to lose out.

Item 4 – Valuation Models based on the idea of Discounted Cash Flows, such as those provided in McKinsey's book[8] or given out by LEK to their clients' implementation teams:

These models are typically Excel spreadsheets that can be used to convert a business plan into free cash flows over the next 5 – 10 or more years, and then apply a standard discounted cash flow calculation to determine the business' Net Present Value. They vary from a simple "scratch pad" model that can be printed on a single page of paper, to complex multi-sheet models that make various adjustments to financial accounts to determine the underlying operational performance. In the case of the McKinsey book, unlike Rappaport this is very much about implementation although primarily it is about how to construct a model of a company's financial performance using VBM, rather than how to change your company to use VBM.

The attraction of these models (even compulsion perhaps) is that you *can* use them given even modestly detailed financial data, and they produce a result that suggests the possibility of Value Based Management. Detailed (and comforting) analysis and data entry leads to ordered tables of values and the big Answer: the net present value of your company. The problem is that their use often leads to the redefinition of VBM as Value Based Modelling, emphasizing the point that this is not really about managing the company but is simply

[7]Ronte 1998

[8]Copeland, Koller and Murrin 1995. The hardback version of this book came complete with floppy disks holding a spreadsheet that matched the worked example in the text.

modelling something, more or less intended to represent the company. Its a means to an end that can easily become an end in its own right.

Item 5 – Corporate Plans, produced by the management teams of businesses all over the world and used in various ways for various purposes but largely to negotiate performance targets and investment budgets for the coming year (or years).

These plans are primarily concerned with forecasting orders, sales, profits and cash over an agreed planning horizon. Operating managers produce them through a range of processes depending on the type of business, organisation, and organisational habits. In larger organisations with separate operating units individual plans are merged into consolidated financial plans, usually by people employed in accountancy roles, before being summarised and feed back up to senior managers for the process of negotiation. This is typically negotiation over performance targets, people and investment. Planning styles can vary considerably. They can be short term (3 years) through to long term (10 years or more), qualitative (action oriented) or quantitative (numbers oriented), and relatively public (lots of glossy brochures handed out to staff) through to secret.

These corporate or business plans appear to be essential for implementing VBM. Without a forecast of future cash flows it is not possible to calculate the value of a business unit and these cash flows can only be determined from a financial plan of some sort. However, the usefulness of such a plan is limited by a whole range of factors: the accuracy of the information and assumptions on which it is based; the nature of the markets in which the business operates – how dynamic and volatile they are; the level of competition and the behaviour of competitors; the likelihood of the market being disrupted, e.g. By the introduction of new technologies or changes in customer behaviours; and many other political, economic and social factors. In addition to these analytical problems there is a problem of motivation. Why did these plans get produced in the first place? Was it to provide an objective and realistic assessment of the company's business prospects over the coming months and years? Was it to impress senior managers with the ambitions, growth, and potential outcomes of a particular business opportunity? Or was it to provide an achievable target that would ensure managers receive a decent bonus at the end of the coming year?

Plans are vital but at the same time deceptively reassuring. Many business plans reflect a universal corporate memory loss: starting from “next year” with no account of how well they achieved against the last plan. When outsiders analyse a company they don't have the benefit of forward looking plans, but rather the benefit of previous results from which to test future

opportunities. If only corporate plans started with the last five years as well? But then, see Item 2...

Item 6 – Corporate Valuation Templates, produced by central planning or finance departments and mandated on businesses for the purposes of assessing business cases and plans.

Large organisations often see the role of the centre as coordinating and controlling the various subsidiary businesses and operations. Part of this function frequently involves central planning, sometimes of finance, sometimes strategy and sometimes both. The result is at least a common planning process, and often a common planning template. After months of strategic inputs, reviews and presentations the result is usually a thick document that defines the company's strategy for the coming year. Or at least professes to. As such, it is vital that VBM is reflected in this material if it is to command any priority in the coming year. It may just be listed as a corporate initiative or it may become the common language of the whole planning process. Whatever the outcome, the overall effect is usual much smaller than anticipated.

Despite the good intentions, strategic planning usually generates a lot of activity and nothing much else[9]. Planning documents may keep central teams busy for months in their preparation but they usually command little or no interest in the operations. Whatever the message might have been, it is worthless if nobody reads it.

These could be props in some imaginary play or film. What could people have being using them for? This is an “opening up” method – an imagining of the possible, grounded in the micro-material. It is an anti-interpretive movement: not “what does it all mean” but “what could actually have been happening”. By moving against interpretation it opens up the situation and allows other actors (readers) to bring in their own stories (props) and become more able to make their own interpretations. I find myself, however, struggling with the need to “say something”; to add some form of value to these otherwise somewhat bland statements. And I can't resist this urge but rather than dressing it up as “objective” fact, I let it fall as it is – subjective opinion; the inescapable voice of the author or narrator. There seems to be a radical tension developing between the “bare” uninterpreted facts and the possibilities that these facts open up for our consideration. The prudent researcher may feel compelled to step back from this tension in case he or she should betray the facts with fancy. But perhaps the process researcher should acknowledge that the momentum of process that drives forward any particular trajectory is as important as the particular trajectory itself – its what can and cannot happen that is as interesting as what actually happened?

[9]See, for example, Simpson, D.G. 1998 who provides a well needed reality check for those deeply involved in the corporate strategic process.

Here, as an example, is an entirely imaginary story in which some of these props feature. The story is not meant to portray what might actually have happened anywhere. It is instead an example of the patterns of behaviour made possible by these props: fragments of a fractal that may or may not have been encountered in similar forms in the real world.

Imagine yourself as the finance director of a business unit struggling each year to meet your performance targets. Each time you face the senior executives at the quarterly review their threat level seems to increase and their patience with your "jam tomorrow" forecasts reduces. If you don't do something soon to change the fortunes of your business then they are going to give you the sack.

Then one day your senior finance manager comes into your office with a bright look and starts explaining the latest idea in the finance community: value-based management. The thing is, that to date business performance has largely been determined by the operational guys: whether or not their engineering teams have finally managed to get that widget working or the sales teams have found someone willing to buy it, or the production team have managed to make it for a cost that is less than the price the salesman sold it for. As head of finance your job has largely been about watching the disasters happen and then finding ways of massaging the figures to hide them as best as possible.

What's really making your manager smirk as she explains this new idea (and the smirk is spreading to you as you realise what she is talking about) is the prospect that something like this presents an opportunity for Finance to take back some control. This utopian vision offers the possibility of transforming every business action into a measure of value added: either value creation or value destruction. If you (that is you and your department) can see the business in terms of "value" then you can bring it back under control by focusing on the value adding activities and reducing the value destroying ones.

"How do you know all of this", you ask, cautious of the possibility that this was something she learned on a recent "management course". She waves a book at you: its Rappaport's Creating Shareholder Value. "Its really taking off, you know. Even the papers measure company performance with VBM now."

Once aware of the idea you realise that she was right. You spot an article on it in your monthly finance magazine, and another in the Sunday Times. You even borrow The Book. Then, at the next board meeting, when everyone is sharing their angst over the forthcoming Quarterly Review, you see an opportunity and grab it. Perhaps there is something to be said for that Corporate Initiative they had all been so dismissive of last month? You explain your understanding of the idea and how it could help them to focus on the issues that really matter.

OK, they are sceptical but they also want to know more. How can we actually use it? That's a difficult question. Looks like you need to get some consultants involved...

This is fiction but it illustrates how these various props can be imagined into life, enabling them to animate the otherwise lifeless process that I have described so far. I think it works because it positions the reader within the experience of the process and lets them glimpse at the reality of these ideas. However, even if we overlook its fictional nature, this scene fails to convey any sense of the inertia and momentum that would have been defining or at least constraining events at the time. What were the wider forces affecting all businesses? What was it like to be an employee or a manager at that moment?

Trying to tune into this inertial process, this micro-local *gestalt,* is another methodological challenge. I am not sure how this challenge might be met, but I offer up the following method as an experiment. It is in the spirit of a collage – snap shots of quite different texture aimed at conveying an impression of the events that were inevitably permeating my subject. There is no narrator or meta-narrative: the emphasis is on the reader to make use of these props to imagine something that words cannot hope to do justice to.

Here goes:

11.3 The 1990's – A Collage

Figure 9. Fall of the Berlin Wall in 1989

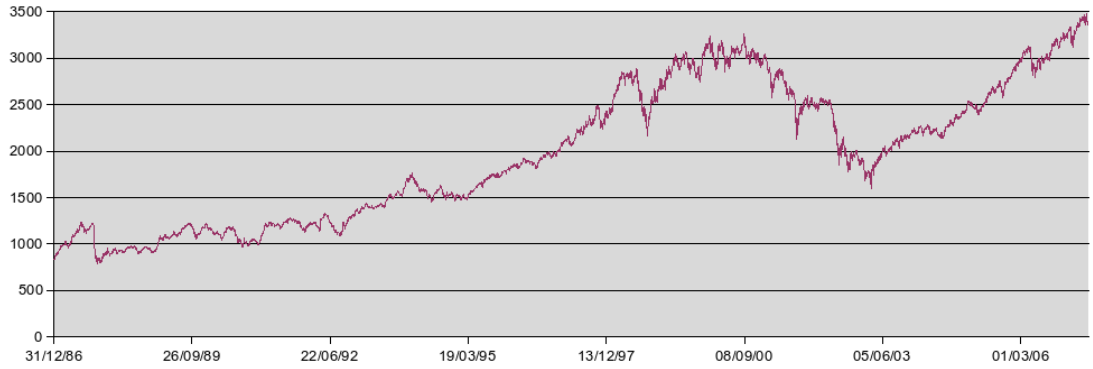


Figure 10. FTSE All Share Index – 1987 to 2007

Figure 11. Students in Tiananmen Square

Blur, Country House, 1995

(So the story begins)

City dweller
Successful fella
Thought to himself:
"Oops, I've got a lot of money
Caught in a rat race
Terminally
I'm a professional cynic
But my heart's not in it
I'm paying the price of living life at the limit
Caught up in the century's anxiety"
Yes, it preys on him
He's getting thin
(Try the simple life)

He lives in a house
A very big house
In the country
Watching afternoon repeats
And the food he eats
In the country
He takes all manner of pills
And piles up analyst bills
In the country
Oh, it's like an animal farm
That's the rural charm
In the country

He's got morning glory and life's a different story
Everything's going Jackanory
Touched with his own mortality
He's reading Balzac, knocking back Prozac
It's a helping hand that makes you feel wonderfully bland
Oh, it's a century's remedy
For the faint at heart
A new start
(Try the simple life)

He lives in a house (Blow, blow me out, I am so sad, I don't know why)
A very big house
In the country
He's got a fog in his chest
So he needs a lot of rest
In the country
He doesn't drink, smoke, laugh (Blow, blow me out, I am so sad, I don't know why)
Takes herbal baths
In the country
You should come to no harm
On the animal farm

[etc]
I wanna be.... I wanna be....

Figure 12. Blur

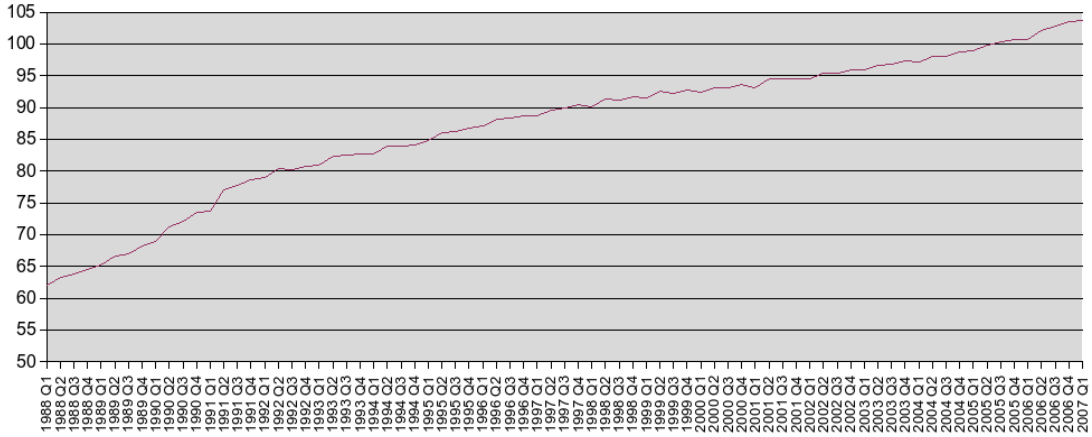


Figure 13. Consumer Price Index 1988 - 2007

Figure 14. Nelson Mandela in Prison

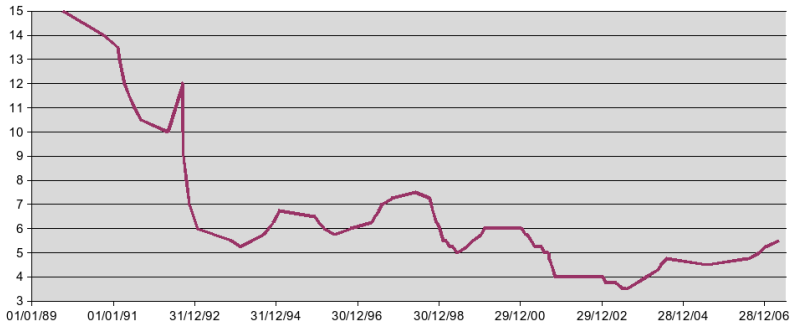


Figure 15. Bank of England Base Rate 1989 – 2007

Gordon Brown, Shadow Chancellor, talking to Jonathan Dimbleby in "On the Record", 7th March 1993:

Well, I think the important thing is building the capacity of the economy by getting people back to work. If my theory is right, then it is the failure to use the skills and mobilise the energies of people that's the root cause of our national economic decline. So you've got to have a budget that does two things. One: get people back to work and secondly, build the productive capacity of economy. Now I have sensed over these few weeks that redundancies are continuing, indeed, rising at a faster rate than at any point during the recession and I now believe that we don't just need the public sector initiatives that I've talked about in the past but we also need the government to take measures to encourage private industry to take more people on. In other words, to get people back to work.

Figure 16. Desert Storm

Oasis, Cigarettes and Alcohol, 1995

Is it my imagination
Or have I finally found something worth living for?
I was looking for some action
But all I found was cigarettes and alcohol

You could wait for a lifetime
To spend your days in the sunshine
You might as well do the white line
Cos when it comes on top . . .

You gotta make it happen!

Is it worth the aggravation
To find yourself a job when there's nothing worth working for?
It's a crazy situation
But all I need are cigarettes and alcohol!

You could wait for a lifetime
To spend your days in the sunshine
You might as well do the white line
Cos when it comes on top . . .

You gotta make it happen!

Figure 17. Oasis

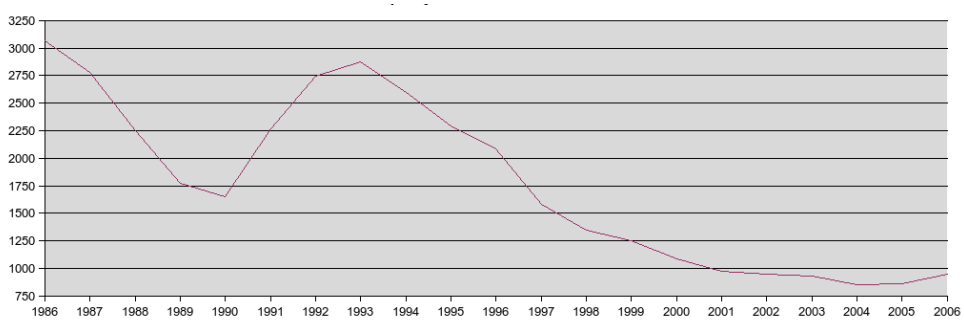


Figure 18. Unemployment Levels 1986 – 2006

Figure 19. World Trade Centre after the 1993 bomb attack

Before closing the collage I have included my own recollections of this period, reflecting on the fragments I have collected above. Perhaps this is the point of such a collage: to be absorbed and then reflected upon in whatever way the reader feels to be appropriate?

I recall the early 90's as my first experience of redundancy – not that I was laid off. I was working on a project that was drawing to completion with nothing else for people to move on to, so they had to be made redundant. I thought of it as being humanitarian – people got good notice that they were "at risk" and some of them were found work on new projects before they reached the brink. But it was also disquieting – heralding the end of the "job for life" era and opening a more uncertain future. I also remember the depression in the housing market: we bought a house in 1990 for £60,000, sunk £20,000 into improving it, and sold it in 1994 for £60,000. Its probably worth something like £250,000 now. But then we had the money for our deposit in a savings account for a few months and I still remember getting the interest cheques. That is not something you would notice at the moment.

11.4 Summarising and Analysing

It seems appropriate to include some form of summary and analysis at the end of this first chapter even though I had intended it to be relatively free from the interpretive movement. Therefore, what follows is really nothing more than a very brief summary using the framework first mentioned in Chapter 8.

Experiences

The everyday business of MainCo and its many subsidiaries, the hubbub of bidding and winning orders, negotiating contracts, planning projects and programmes, setting up teams, developing designs, purchasing components, systems, etcetera, manufacturing, assembly, testing, delivery, and support. These are the business processes that define the fundamentals of MainCo and are the subject of this study. These are the processes that generate the dividends that drive the next set of flows.

The furious activity of share trading. The mathematical reduction of trades into prices and indices. The analysis of financial reports, market surveys, press releases, etcetera. The rating of companies and expression of opinions. Decisions to invest, to buy, hold or sell. The transfer of funds, certificates, and the payment of dividends. These are the processes that drive the equity markets.

The management of MainCo with its board meetings, AGM's, annual reports, and press releases. Internal monthly and quarterly performance reviews. The appointment and dismissal of

managers and senior staff. These are the processes that attempt to bridge the gap: that bring the shareholders and the business together.

The process of accounting, from the billing of suppliers right up to the preparation of the annual report. The process of reporting, on milestones achieved and milestones missed, orders won and lost, market share gained or to be gained, competitors to be beaten or feared. The telling of corporate stories: of successes and failures, of threats and opportunities, of competence (mine/ours) and incompetence (his/theirs).

The process of reporting company and stock market performance. Authoring, publishing and reading: Internet pages, Google Finance, glossy reports, share tickers, stock market indices, news reports, FT feeds.

The process of selling ideas and selling the idea of Value Based Management, of telling stories of other peoples successes and failures, of reasons to buy our ideas or expertise, of Unique Selling Propositions, of experience accumulated and experience claimed.

Getting consultants involved "who know what they are talking about". Running workshops and briefing directors. Analysing financial results and drawing process maps. Creating and completing spreadsheet models. Training staff to do it themselves. Presenting the results.

As I read this summary through I cannot help recalling the film *Night Mail* and particularly its rhythmic poetry. There is something almost poetic here as well. Perhaps it is the way the text leans on the reader to imagine these processes rather than abstracting them into cold factual texts?

Interpretations

What follows is the author's own interpretation of the events and materiality set out in this chapter. This interpretation is a rudimentary exploration of the concepts developed in Chapter 8. It is an example of how these concepts can be exercised on a real case, albeit limited by its retrospective application to data already collected.

The processes involved in the management of companies are intellectually-intensive, depending heavily upon the understanding and judgement of a few people responsible for directing resources and "making decisions", although it has to be acknowledged that the decisions managers make are always a function of the issues and options they are presented with. Business schools have strived to introduce technologies into these processes, such as the many models and decision aids that have been published in management books and papers over the last several decades. These have certainly coloured the strategic narratives and texts that

managers generate and/or endorse but they have not fundamentally altered the nature of the management process.

Management processes in publicly traded companies have developed to cope with the increasing demands of share trading processes. Share trading technologies have enabled real-time share trading, share price reporting and widespread share-ownership. These processes can be seen to be summing up the cumulative interests of existing and would-be shareholders and representing as a judgement of the attractiveness of the company's shares and therefore a judgement of the effectiveness of the company's management. Technology enables each of these little intellectually-intensive decisions to be coalesced into a single highly public measure. Managers have to respond to this measure both directly, through the announcements they make and indirectly through their management of the company.

These were the processes that characterised MainCo's management processes. They dealt with shareholders' concerns directly and through a series of changes to the company that were clearly aimed at improving the share price. Having achieved success through managing the “value of the company” they now wanted to find a way to sustain this success.

Management processes are usually dependent on accounting processes to assess past performance, set future targets and allocate resources through budgets. These processes are local to the company and relatively technologized through the medium of numbers and, more recently, computers. These local processes are themselves made durable and replicable by the more extended infrastructural processes of professionalisation of accountants and regulation of corporate accounting processes. However, these processes were judged to have weaknesses, particularly in their ability to predict future performance and obscure underlying problems. A solution was proposed that involved integrating existing accounting processes with business planning processes to predict the future generation of cash, which could then be converted into a measure of current value, that could be compared with the current share-price to determine whether or not the company was improving.

This idea of Value Based Management was already within business planning processes in the form of Net Present Value calculations used to assess discrete investment activities. The idea had gained popularity through the nineties with several major companies “adopting it” and national papers including measure of Value Based Management against companies on a regular basis. There were also several books published on the subject. Finally, there were an increasing source of service processes able to assist companies in adopting the concept, largely developed out of existing consultancy processes.

When MainCo's directors decided to adopt VBM they recognised the potentiality that now existed outside the company and were ready to invest the resources needed to actualise this potentiality within their own management processes. What they were looking for was a shift in the technology of management that would integrate accounting processes, planning processes and reporting processes around the concept of value – a concept that they clearly saw as an extension of their own practices in managing the whole business and essentially non-problematic.

Finally, this concluding paragraph attempts to capture the essence of an overall shift in the processes involved – a sense of how the potentiality itself is evolving?

Perhaps what this reflects is an underlying desire both within the management and ownership of companies to create a technological infrastructure that assures the performance of those companies and reduces the company's exposure to the risks inherent within the existing intellectually-intensive processes of management. Value Based Management could shift the balance away from the personal judgement of individual managers towards the collective potentiality already inscribed within the company's planning, budgeting and accounting processes. It would make performance transparent to higher level managers just as the collective processes of share trading made company performance more transparent to shareholders.

11.5 Methodological Reflections

This section is about contextualising – how conventional research seeks to place a boundary around what is researched and what is not, and in doing so creating a two-tier epistemological problem. As an aspiring processist, my aim is to puncture these boundaries or dissolve them altogether to connect-up the "researched" events with those that made them possible. It is not about creating some sort of narrative that helps the reader to make sense, but more about cueing up various possibilities that could have impinged upon events. It is about opening up the context so that readers can establish their own re-integrating movements.

And does it work? Perhaps the constraints of a conventional written thesis make it too difficult to judge. I have a vision of facilitated events whereby various materials are brought together for people to learn about what might have happened and perhaps to reflect on why and what might have been. I can see much of what I have presented in this chapter working in a more interactive, three-dimensional process rather than the uni-directional, flat space of a written text. Is that a problem? I guess it depends on just how much imagination you, the reader, are prepared to employ on my behalf. Any thoughts?

I am not sure what to make of the "collage". On the one hand it seems to offer various prompts that may or may not stimulate the reader into recalling the Zeitgeist of the 90's. On the other

there seems to be no coherence to the various pieces I have put together. Perhaps I have not done the exhibit justice? I prefer to accept this short-coming as inevitable. The more effort I invest in producing this exhibit the more likely I am to load it with my own interpretation. Its lack of coherence can be seen as a lack of narrative and that was intended to be the point of the whole approach. So maybe it works as I had intended.

Chapter 12
Implementing Value Based Management

12.1 Introduction

The purpose of this chapter is to establish and open up the evidence that forms of backbone of the case study. In this respect it is not intended to include any analysis or critique but instead employs methods that identify materiality and establish process threads that are likely to be relevant and interesting. The task of analysis is fully tackled in Chapter 13.

This chapter is divided into four quite different sections, each aimed at providing a related but distinct perspective on the same period: the two - three years that took MainCo from its decision to implement Value Based Management to the sudden demise of the initiative in 2000.

The first section (12.2) uses a number of surveying methods to provide a broader context within which the case unfolds. Whereas Chapter 11 traces trajectories back through time to place the initiative within a longer process of organisational and economic development, this section seeks to expand the width of the case to give the reader a sense of the events that were taking place at the time.

Section 12.3 is an historical narrative covering the development of the case from the perspective of MainCo as a head office and from within one of its subsidiary businesses. This is followed in 12.4 with an examination of various “artefacts”, each suggesting possible processes with which they may have been involved. Section 12.5 closes the chapter with an ethnographic narrative corresponding to the time of the authors direct involvement in the case and taking the story to its untimely conclusion. Analysis, interpretation and reflection are covered in chapter 13.

12.2 A Landscape of Processes

This was a period of distributed activity and a high level of discourse about that activity. On the ground were people going about their jobs – the native processes that were intended to be transformed. The nature of this type of change means little attention was paid to understanding these realities as they were and therefore little evidence is available to describe them. Next to them, and to an extent intertwined with them were the pilots, led by the consultancy teams. These varied from desktop reviews through to unimpeded access to and involvement of the pilot's host business. The results of these pilots were two-fold: descriptive reports used by the host business and by MainCo to relate to the experience of the pilot; and people who had

experienced them, either as unknown subjects or as cognisant representatives able to learn the "trade of VBM" and catalyse its uptake through the rest of the business.

Then there were the talk-shops: various board meetings and steering groups within each of the pilot businesses; the VBM forum where representatives from each business unit could meet and share experiences; the 130 Group and the BEST group – senior management forums that would be kept abreast of progress by the VBM champions and their consultants; and the Main Board who presumably discussed progress on a regular basis.

Synopsis of the Case

I have provided the following outline to assist the reader in making sense of the remainder of this chapter. I am aware of its normative narrative style and the relatively high level of interpretation this involves but I have concluded that this particular *voice* is worth the interpretive risk. I hope you will agree...

I started my analysis of the first era with the board meeting at which it was decided to adopt and implement the idea of VBM. Then I was working backwards, looking at what had enabled that meeting to come about. Now I want to look forward, to consider what it was that this meeting enabled to occur across the business.

The board meeting gave backing to the proposal to adopt VBM across the company. It provided resources, primarily in the form of money to pay for the consultants whom the board appointed, and people, both as full-time VBM specialists and as senior manager "champions". It also created a mandate for change – communicating VBM as an organisational priority that needed businesses to commit their own resources. But it would also have sent out a double message: this is a priority for the company but don't worry, you still need to deliver your existing commitments so we are going to provide resources to help you to introduce VBM.

And so it did. The board set up a steering group charged with task of implementing VBM , appointed consultants (LEK), appointed a senior manager as process champion, and appointed a VBM co-ordinator with the task of coordinating all of VBM activities across the business.

The first objective was to try it out and for that they chose a business where conditions were so bad anything would be an improvement. The consultants were brought in to lead the "pilot", to write up its success, and to present the results to the next gathering of the top 130 managers in the company. This workshop heralded the spread of the idea to everyone else, each business unit being tasked with identifying one of their business streams to pilot VBM. Meanwhile the VBM Forum was convened as a way of getting practitioners from across the company to share their experiences and help each other. A VBM newsletter was produced to keep everyone informed of progress and the pilots across the business started to roll, led by the consultants.

And then ... then something else happened. The company acquired one of its main competitors, and at an eye-watering price. The corporate foot came off the VBM accelerator and the initiative started to drift. Yes, it was still important but there were other considerations to sort out at the moment. Then came the death knell: the forum was cancelled and the co-ordinator was transferred. Finally the board made an announcement: VBM was still important but it was time it became part of the "day-job". It no longer needed special groups and consultants to help. This was not a smooth transition within a well-thought-out plan. On the contrary, the consultants were only just getting started and were petitioning the board to take the initiative to a new level of implementation. This was a sudden change of direction or re-prioritisation. In three years VBM had gone from being a top priority for the company to just another acronym and without making any real impact on the business at all. This is a mystery: why did the company abandon the idea after investing so much in it? But this was not the only mystery. Having spent three years investing in the idea, how come it disappeared so quickly? Was it because there was no substance to the changes that had taken place, or was it the result of a backlash of resistance that rolled back the progress made to date as soon as the board withdrew its sponsorship?

An Event History

The following table sets out the basic events leading up to and through the period of implementation. These are divided into those led by the company's head office team and those affecting a particular subsidiary company. It is an example of the Annals described in 9.6. The focus is on the sequence of events and the juxtaposition of VBM processes with other significant processes affecting the two companies at the time.

	MainCo	**SubCo**
1992-1993	MainCo reaches low point with £1B write-off and 60,000 redundancies. Share price drops to all-time low of £1	SubCo struggles to recover its costs and starts a range of new products to try to build up the business
1994	Sells off problematic non-core business for an attractive price CEO conceives of need for major Change Programme	
1995	Change Programme develops. Company creates vision statement and core values.	
1996	Board makes decision to Implement VBM as part of Change Programme Winter – VBM included in Corporate	Overhead costs priority – Project CREAM established to better allocate costs to activities.

	MainCo	SubCo
	Value Plan	
1997	Spring – VBM Pilots run May – CEO's Workshop includes VBM training with results of pilots July – VBM Workshop for Finance Managers, repeat of CEO's workshop Winter – decision to roll-out VBM across all sites included in Corporate Value Plan	Number of directors reaches eight Implementation of Project CREAM commences Review of IT results in decision to introduce new ERP system Manufacturing department introduces World Class Cell Leaders course Nov/Dec – Increasing concern about the company's cost base leads to setting up Task Force charged with saving £4M pa
1998	Consultants mandated for use on all VBM implementation projects New Chief Executive Officer appointed but without affecting ongoing Change Programme Share price reaches £24	April – Task Force announces 200 job loses (20% of workforce) Summer – Task Force struggles to develop a new organisational structure, merging with World Class Cell Leaders initiative Sept – Consultants Visit Business and agree to pilot VBM at small remote business unit Sept – Task Force proposes new organisational structure based on World Class principles Winter – New organisational structure is introduced
1999	Jan – MainCo announces intention to merge with major competitor Nov – MainCo completes merger with MergeCo Dec – MainCo announces new organisational structure	Number of directors reduced to 4 by end of year Spring – first VBM pilot complete. Decision to start larger pilot on-site Summer – Consultants assist in VBM pilot Autumn – pilot concludes without further plans for implementation Dec – SubCo is re-organised into part of acquired business. New Group MD visits annual company gathering
2000	Jan – Mar – Re-organisation of the Business units and re-appointment of senior staff Setting up Synergy Delivery Teams to save £275m per annum within three years Autumn – VBM initiative becomes part of	Feb – SubCo MD is replaced by someone from acquired company Spring – most existing directors leave the company. Two are appointed to jobs within the acquired company Spring – 15% of management removed as

	MainCo	SubCo
	the day-job with no corporate support	part of synergy savings, despite having already downsized management team in 1999
2001		SubCo returns to functional structure, reversing changes introduced in 1998. Number of directors reaches 12 and salary bill increased by £1M with no increase in sales.
2003	MainCo seeks to sell off many of the business units acquired in the 1999 merger	
2005	MergeCo companies largely sold except for US	
2006		SubCo sold to private investor

This event history illustrates how the VBM initiative was a result of another, more general process of change starting 2-3 years before it. In my analysis of the pre-implementation era[1] I touched on the company's "story" of trouble and recovery, but with a specific focus on VBM I omitted to describe this wider context. As the company started to roll-out VBM it has to be seen as part of a greater field of activity: setting out a new vision and sharing this vision across the company; introducing a new training programme aimed at changing the way managers worked in line with this vision; introducing a range of new initiatives including EFQM[2], Customer Satisfaction Surveys and VBM.

It is worth noting the distance between SubCo's trajectory and MainCo's. Most of the businesses within the group were already doing their own change programmes of one form or another. Within this context, VBM was just another imposed initiative mandated, more or less, by head office and not particularly responsive to local priorities.

A Time-line like this is a reasonably unsophisticated tool but effective. I have given it some depth even though it now overlaps with the previous chapter. I think this helps to illustrate the momentum that must have been building up over several years before the initiative started in earnest. The comparison between the two different companies also seems to be useful because of how it suggests the opposite: that in SubCo the process had very little momentum.

[1]See chapter 11

[2]European Foundation for Quality Management

12.3 Implementing VBM – an Historical Narrative

This section provides a conventional third-person historical narrative covering events that took place between 1996 and 1999 involving MainCo and SubCo. I have chosen this narrative form for practical reasons: it allows me to animate the process in a consistent narrative using material from various sources. If I gave primacy to these sources then I fear that any sense of the process would be lost in the detail. Another reason is because I was not directly involved (either as employee or researcher) in some of the critical events that occurred during this period, and therefore I cannot use my perspective to structure the narrative.

First Steps

In 1996 the CEO and his top team of 130 directors developed a framework of qualitative values intended to promote the overall company vision and work in balance with the quantitative measures of performance. At the end of 1996 the company produced a brand new corporate plan, called the Value Plan[3] intended to communicate these values and engage the entire workforce in understanding and delivering them.

This document was given to everyone in the company. It was printed on high-quality paper with plenty of bold photographs capturing the people in the company as they went about their business. This pictures reflected the essence of what was different about this plan: unlike many comparable documents, they showed real employees involved in real work. The plan captured the spirit of the times: a successful company that recognised its people, involving them in planning the future and rewarding them for past achievements[4]. The plan makes mention of VBM as an important corporate initiative that is to be trialled during the coming year.

[3]VBM Case Doc 2

[4]In 1997 the company announced the introduction of a Share Bonus Scheme in which every employee received the same shares provided the company achieved specified performance targets.

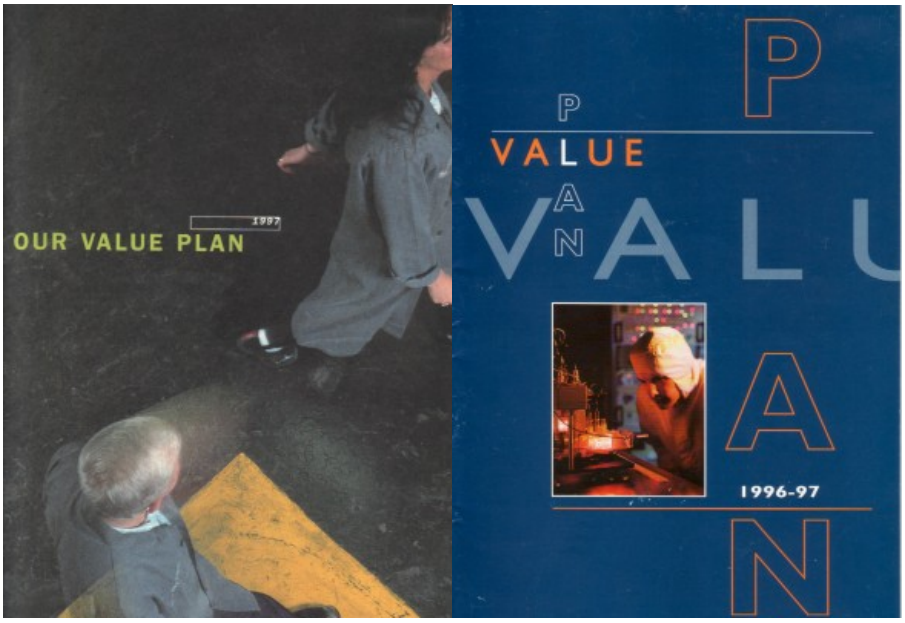


Figure 20. 1996/7 Value Plans (SubCo on right)

At SubCo, the directors had absorbed and even been involved in the value planning process and in late 1996 they produced their own Value Plan[5] along similar lines to the corporate plan, but without the inspired photography and expensive paper. In fact, it was a pale imitation in sombre two-tone blue. Although this local plan picks up on several of the new corporate change initiatives, it makes no mention of VBM, preferring to focus instead on preparations for Project CREAM – a finance led initiative to better allocate costs to projects and thereby "identify areas of high cost where improvements must be made".

In 1997 SubCo was not only concerned with managing costs through accounting systems. It was also implementing an initiative in manufacturing: the World Class Cell Leaders course. The aim of this course was to improve manufacturing quality and productivity through changes to the way manufacturing teams were organised and managed. The programme was not explicitly concerned with the wider idea of "Lean Thinking" but shared a common heritage through its links with the Japanese car manufacturer Toyota.

SubCo Creates Task Force to Save £4Mpa

Despite these initiatives SubCo continued to struggle through 1997 until that Autumn when the directors agreed to take more radical steps. They established a target to reduce the company's cost base by £4M per annum, the amount that the Finance Director believed was necessary to turn the company's fortunes around. To achieve this target they established a Task Force drawn from across the company and charged them with finding ways of delivering the required

[5]VBM Case Doc 4

savings. After a few weeks of little progress the directors recognised the need to bring in external help and duly appointed a small consultancy to work with the Task Force.

By the end of 1997 Head Office had completed its VBM pilots, conducting two senior manager workshops to propagate the message, appointing a VBM Champion to co-ordinate the initiative, setting up a pan-company forum to draw together the experiences of the company, and starting new pilots in a number of subsidiary companies. This positive progress was reported in the 1998 Value Plan[6] together with a commitment to roll out VBM across the whole company over the next two years.

SubCo's Value Plan[7], now a full colour booklet, was short on positive messages as illustrated in the financial review section:

> *Despite failing to achieve our key financial targets in 1997, notably cash flow and profits, our order intake during the year was at the highest level for five years.*
>
> *The challenge for the business is not only to continue to grow the value of the orders that we win but, most importantly, to ensure that the business is capable of generating sufficient cash and profits from these orders ...*
>
> *The financial forecast for the budget year 1998 shows that we are generating neither cash nor profits.*

It is not surprising then that the Managing Director should set out his objectives as cutting operating costs by £4M. He goes on to establish three priorities for achieving this: the work of the Task Force recently convened, the introduction of a new ERP system, and Project CREAM aimed at allocating costs more effectively. What is surprising is the lack of any references throughout the entire plan to VBM. At least three of the directors attended the CEO's workshop held in May and senior finance staff went to a similar meeting a few weeks later. There was concern expressed about the costs of having to employ expensive consultants for the proposed pilots. Someone from finance was dispatched to strike a deal with a finance manager from another site who had been through the process and was considered a more cost effective solution. With this done, the board probably felt the head office initiative could be ignored for a while longer.

Task Force Delivers Redundancies

In April 1998 the Task Force, including the consultants, reached a point where they could identify operational savings sufficient to release enough people from the business to deliver the required savings. Of 850 employees, 200 were to be made redundant and a process of consultation was commenced. Much of these savings were based on piecemeal changes, the

[6]VBM Case Doc 7

[7]VBM Case Doc 9

removal of "diversionary activities" that were not considered necessary, and an optimistic extrapolation into areas of the business that had not yet proposed significant changes. As Spring turned to Summer these expected changes appeared to be drying up. An article published in the Task Force's periodic "Bulletin" bemoaned the lack of new ideas and surfaced a growing tension across the company. For some time the manufacturing department had been introducing the World Class concept and was now implementing its new ERP. The Task Force had not been involved in these initiatives and manufacturing were convinced that the direction being taken by the Task Force was counter productive. The heart of the issue was a Cultural change programme that the Task Force consultants believed would eventually deliver the changes needed to underwrite the job losses.

After a few stormy meetings it was decided to bring the World Class team into the Task Force to see if they could explain the problem and change the Task Force's direction. The Task Force's own consultants had already taken a back seat and now appeared to step out of the team altogether. Following more conflicts and misunderstandings the World Class initiative seemed to prevail and the culture programme was allowed to peter out.

If the Task Force felt momentarily defeated it was short lived. They spent most of the summer working out the implications of the World Class initiative and devising a new organisational structure. Putting the operations at the heart of the business and removing the obstacles to delivering performance meant sweeping away the old functional structure and replacing it with an end-to-end value chain approach. Everyone involved in making a set of products for a set of customers, from Sales through to support and maintenance, should be put together to work together. That included finance, HR, manufacturing, procurement, QA, the lot. To run these value chains required one leader and a permanent "Change Agent", flattening the organisation instantly. The old functional heads lost their departments and became "professional leaders" with no more than dotted responsibilities into their former staff, now embedded in the Value Chains.

Throwing the Switch

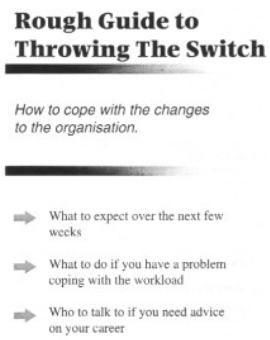


Figure 21. Task Force Leaflet produced in September 1998

In September 1998, just as the Task Force was "Throwing the Switch" on this new organisation, Head Office overcame the defences that had protected the business through the year from the impending VBM roll-out. VBM consultants came to the site to see what had been going on and draw up a plan for converting the business to VBM. Perhaps they were genuinely impressed with the new organisation, because at that meeting they accepted it was too soon to disturb the new order and agreed to run a VBM pilot at one of SubCo's satellite businesses located some 250 miles away. Because this business was largely self-contained and reasonably profitable it had not been within the scope of the Task Force.

By the end of 1998 VBM was still very much on the Corporate agenda, although the CEO's message in the 1999 Value Plan[8] betrays some concerns:

> *... We need to speed up the implementation of VBM in all our business units and to develop a strategy that ensures it delivers real benefits to the Company within the anticipated timescales.*

Perhaps SubCo was alone in finding reasons why now was not the best time to introduce VBM? The second part of the sentence betrays a growing concern that despite spending good money on consultants, pilots and implementations, VBM wasn't going to deliver. It may be significant that during 1998 the man behind the whole change programme had moved to become the Chairman of the company and a new CEO had taken over.

Over the page of this new "integrated" Value Plan is the MD of SubCo reflecting on the challenges of 1998 and setting similar priorities for 1999: having come this far we need to push

[8]VBM Case Doc 12

on to deliver lasting change. He makes no mention of VBM. But then deep in the document is the first (and only) reference in a list of objectives for delivering Performance in 1999:

> *Deliver financial targets. Focus on value-adding activities by implementing Value Based Management (VBM).*

The Merger

Almost immediately after the 1999 value plan reached the employees there was unexpected news: the company had agreed to a merger with its main UK rival. As news of the deal broke it seemed that the price the company was prepared to pay was also unexpected and considerably higher than many shareholders felt comfortable with. The result was a substantial drop in share-price and a lot of PR work justifying the acquisition price as necessary for consolidation of overcapacity in Europe.

As employees digested the news and set it on one side, in recognition of the distance still to be run before the deal could complete, they returned to business as usual. At SubCo the VBM pilot completed leaving the board with having to make another decision to move the process on. By running the pilot at a remote site they had protected the main business from any potential disruption, but were no closer to implementing VBM. The small remote business satellite could not afford to loose anyone to help the rest of the business, so the board justified another pilot on the main site.

In spring 1999 the VBM consultants returned to SubCo to form a new team. Leading this team from the business was David. David was the company's official Guru. He was the Chief Engineer with oversight of all projects and products, and through a long career, had been closely involved in most of them. In particular, David had been the technical lead on the Pilot business' main project, being part of the team that had rescued it from imminent disaster only a couple of years earlier. More recently David had been leading the Task Force. As this work neared implementation David shifted his role from leadership to advisor, and in particular Change Agent to the board. David worked with the VBM consultants, a small team from the chosen Value Chain and the company's financial controller, who himself reported directly to the Finance Director. To begin with the consultants worked hard at analysing and understanding the units accounts and their operational processes. From this understanding they constructed a financial model that was then used to identify the Value Chain's Key Performance Indicators. They concluded the pilot with a report presenting their findings.

Meanwhile, David, who had been learning the principles of VBM, set about applying them to the company as a whole: top-down. For some time he had been struggling with his role as Change Agent to the board, who themselves had been going through a period of difficult change

including several redundancies. With the new organisational structure and World Class principles, the senior managers were no longer involved in the day-to-day running of the business. Papers and reports that had frequently traversed through their offices for comment and signing no longer reached them. The uncomfortable consensus revealed by the Task Force was that they added no value, causing delay and frustration instead. So what were they supposed to be doing?

In David's opinion the Board had to stop worrying about the bulk of the committed costs of running the business, and instead focus on making the best use of the discretionary spend left over when all of those costs had been accounted for. But the concept had little appeal to the directors, who understood the message about their past interference but still felt the need to be engaged with the business proper. In their search for something to do, they discovered the concept of the "Balanced Scorecard" and decided that this was it. The Balanced Scorecard offered to refocus management attention away from the measures of performance that simply told you how bad you had done onto those measures that would drive tomorrow's performance.

By October 1999 the merger negotiations were complete. The pressure to implement VBM had gone. The Chief Financial Officer's deadline for every site to have approved implementation plans by 30th June came and went. SubCo had no such plans and received no reprimand. By August they had developed a completely new plan[9] that returned to the style of more conventional business plans but set out the company's objectives in its new organisational form. Inside the executive summary was a structure chart that defied the conventional hierarchy: Customers were at the top, served by the Value Chains, with the managing director at the bottom. The objectives themselves were articulated as a balanced scorecard showing the causal linkages between them. On Page 26 of there is one solitary reference to VBM as a means of better understanding the company's utilisation of assets. None of the measures set up for the new Balanced Scorecard are related to VBM in any way. And the Board's presentation to their Group MD in late August went well, with no comment on the lack of VBM.

The merger was consuming all of Head Office's attention and VBM would obviously have to wait until the dust had settled. By Christmas some shape was beginning to form around the new merged business. There was clearly no time to spare on matters such as Value Plans, so SubCo was left to do its own thing. A simple A5 booklet[10] was hurriedly put together in time for the annual MD's address, which was to include an introduction from the new Group MD, himself having come from the "other side" of the merger. It should not be a surprise to find that the term

[9]VBM Case Doc 21

[10]See VBM Case Doc 44

VBM appeared nowhere. It was the beginning of the end and therefore moves the story of VBM into the third and final era of this case study. This will be continued in section 12.5 below.

12.4 Field-walking: The Possibilities of Artefacts

Having established an overall temporal framework and a linear narrative describing the history of VBM at one particular site this section changes perspective completely. My aim in this section is to examine patterns and motifs. Throughout the process of VBM implementation (both descriptive and performative) there are certain recurring artefacts that encouraged the repetition of particular processes: a materially situated patterning. The following analysis identifies some of these patterns and explores not what they actually achieved but what they possibly achieved: their potential.

Descriptive Sound bites

There are many quotes in the VBM documents studied, but most particularly in Powerpoint presentations focusing on The Sell: the message that VBM is something that *needs* to be done rather than providing guidance on how to do it. Here are some examples:

> *Turnover is vanity ; profit is sanity ; cash is reality*

This first appeared in 1997 in a general VBM presentation[11] given to senior managers who were all required to pass through a management training programme. The text is displayed prominently as if it were a quote. Searching the Internet suggests it is an "old adage" or the saying of a wise, but unknown business person. Another quote from the same presentation[12]:

> *" To generate cash to underwrite the quality of reported profits"*

This is attributed to MainCo as part of its "Corporate Challenge" and appears to pre-date the VBM initiative by several years, reflecting the problems the company faced from 1992 when it was reporting profits but borrowing heavily because it had no cash coming from the business[13].

Another popular quote used in several management presentations[14] is:

> *"The three most important things to measure in a business are customer satisfaction, people satisfaction, and cash flow… …cashflow is the pulse - the vital sign of life in a company"*

This is from an original more extended quote by Jack Welch[15], CEO of General Electric at the time. It was (and appears to remain) very popular in many texts but it does not specifically

[11]See VBM Case Doc 5.

[12]See VBM case Doc 5.

[13]See above chapter 11.

[14]For example, VBM Case docs 5 and 6.

[15]The quote appears to originate in Tichy 1993.

relate to VBM. Although Jack Welch's success is often used to demonstrate how shareholder value can be delivered, and even as an example of "VBM thought leadership"[16], there is no evidence to suggest that Welch actually used any of the methods put forward by those espousing VBM. After all, the preparation of long term plans and detailed value models hardly seems in tune with someone whose autobiography is entitled "Straight from the Gut".

Finally, and with little of the snappiness that marks out the earlier examples, comes:

> *"to accelerate the deployment of VBM within and across all business units and develop a timed strategy that delivers VBM benefits throughout the business. VBM methodology is fundamental to the setting of priorities in our business and ensuring that our actions are driven by value creation"*

This is a quote attributed to the chairman of the company establishing the implementation of VBM as a business priority[17].

What is the purpose of these sound bites? What do they enable? Some of them are probably giving credence to the initiative: it is corporate and has the backing of the chairman himself; look, even someone as successful and down-to-earth as Jack Welch supports it. They also capture something of the why, giving it a simple common sense. Its all about looking after the cash. Its not difficult.

Perhaps the purpose is slightly more complicated. These simple messages could represent an attempt by VBM proponents to counter balance what they know will come as they explain their ideas in more detail: that this is not the natural style of management with which their audience is comfortable; that this involves complex mathematical ideas such as discounting cash flows and net present value; that looking after the cash in a large organisation is anything but simple.

Visual Patterns

What about visual patterns recurring through the documentation on VBM? Do they have any significance, and recurring purpose? Below are a few of these patterns and some thoughts about their roles.

[16]This from www.valuebasedmanagement.net's resume of Jack Welch's career.

[17]See VBM Case docs 6, 11 as well as others

Figure 22. The Value Triangle[18]

This basic triangle appears in a number of presentations and in many variations. It seems to represent the organisation and is probably a contraction of a conventional hierarchical structure. It is frequently shown with the exhortation to "Maximise Value Creation" within, although this is usually attributable to documents produced internally and may have more to say about the physical heritage[19] of these documents than the spread of the motif itself.

The heritage of this motif is not clear but it seems likely to be a visual contraction for a much more complex image that originated from the consultants' first introduction of the idea in 1997:

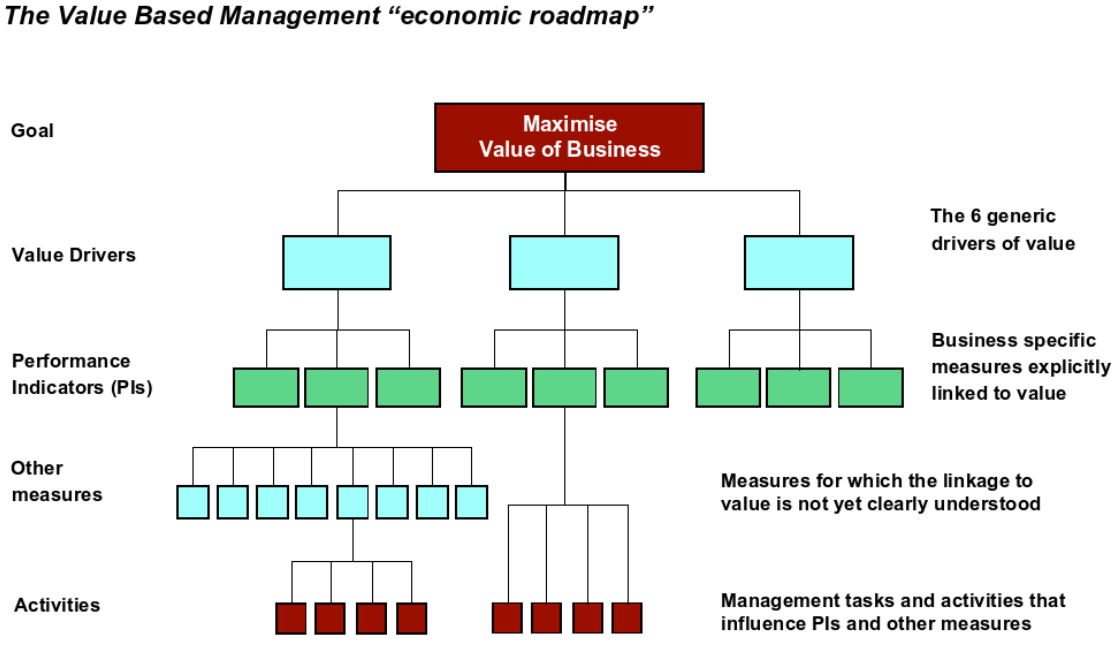


Figure 23. The origin of the value triangle?[20]

[18]See VBM case doc 29 for example.

[19]Some of the VBM documents were started in 1997 and re-used as late as 2000 with much the same content.

[20]VBM Case doc 14

Note the similar exhortation in the top most box: Maximise Value of Business. Finally, perhaps in recognition of the client's contraction, the consultants created a more complex triangle that falls somewhere between the two.

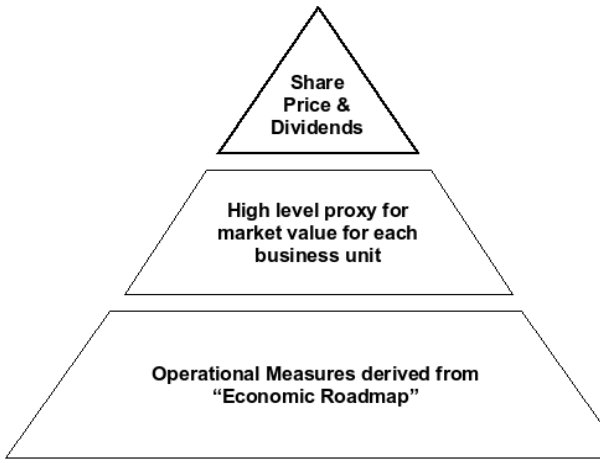


Figure 24. A more sophisticated Triangle[21]

There is no evidence of this more complex triangle being adopted by the company itself, although a similar layered triangle does appear in a presentation given at the very end of this period by the VBM Co-ordinator.

The triangle can be seen to represent hierarchy illustrating managerial control perhaps with the purpose of comforting the audience. It reassures them that whatever else this idea involves, you, the management, will remain in your established position. What is unusual about this motif is the way it fails to portray anything about VBM itself. Whatever else it is, it involves some form of three way relationship between customers, who provide the source of value, shareholders, who provide the assets used to create that value, and organisations who bring the two together. Yet this triangle does not represent these or any other relationships, but simply focuses on the organisation itself. What it seems to say is that this initiative is all about "you" and the way "you" do things, which may well be the intended message.

[21]This particular triangle appears in VBM case docs 36, 47, 43, and 14

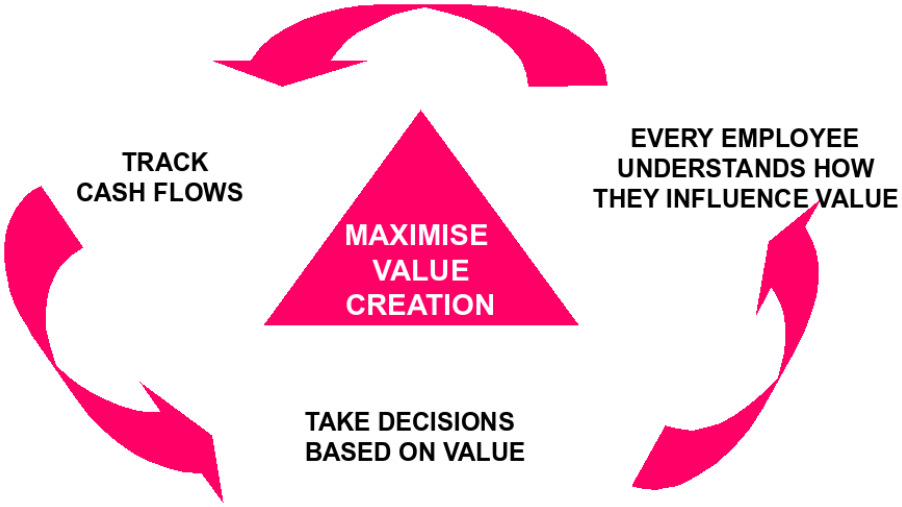


Figure 25. Circular flows

The pattern above adds a circular flow to the triangular hierarchy to represent action: what needs to be done to "maximise value creation". Although this pattern occurs in several documents, they are all direct copies of the original[22].

The following circle comes from the consultants, betrayed by its greater complexity and higher information content. Here the shareholder is placed centre stage, unlike the triangle motive. Each of the key corporate stakeholders is shown as having a two-way value relationship with the shareholder. The message could be relatively simple: we all depend on the shareholder, who depends on us. But the image raises a difficult question: how does a manager or employee relate to these relationships? It could be that this lack of meaning explains why this particular image did not get adopted by the company itself.

[22]See VBM case doc 5.

Figure 26. Circles around the Shareholder

No consultant would want to make a pitch without including a classic 2x2 matrix. This one in particular can be found in a variety of documents and was widely adopted by the company.

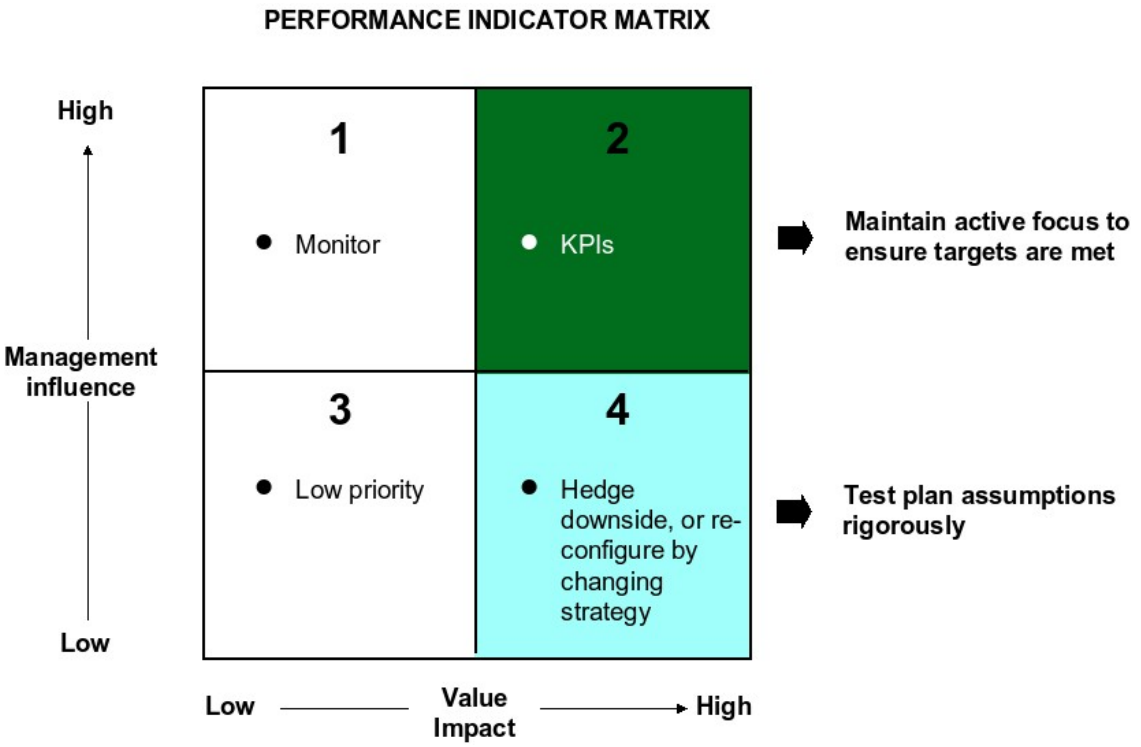


Figure 27. A Classic 2x2 Matrix

Why was this diagram so popular, given that the message it contains is a tautological platitude: the most important things to manage are the important things that are manageable?

Increasing the flow of information

The consultants led the pilot programmes to ensure that the right approach was developed and to train up local staff. Initial engagement involved briefings that significantly increased the information flow. Below is a typical slide showing much more detail behind the concept of value. It is not necessary to understand the specific meaning of any of these concepts to recognise the change in information richness compared to the earlier "propaganda" artefacts.

Discounted cash flow links management decisions to value creation

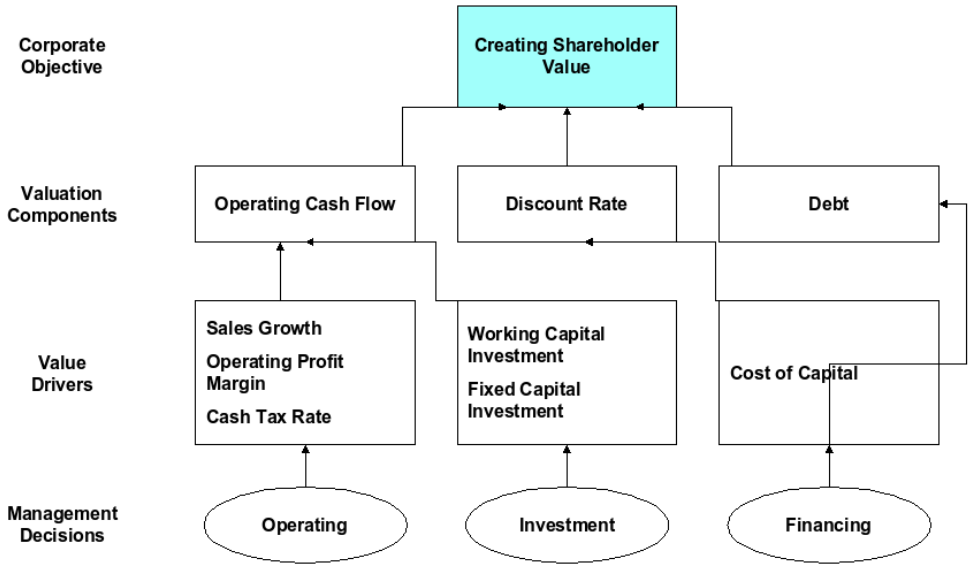


Figure 28. Summary slide from Consultants' Introduction to VBM[23]

These presentations provide much more information about what Shareholder Value is and about how it can be related to the business. The following slide is typical. Although it appears in several propaganda processes, its meaning becomes more apparent once the significance of value has been explained:

[23]VBM case doc 14

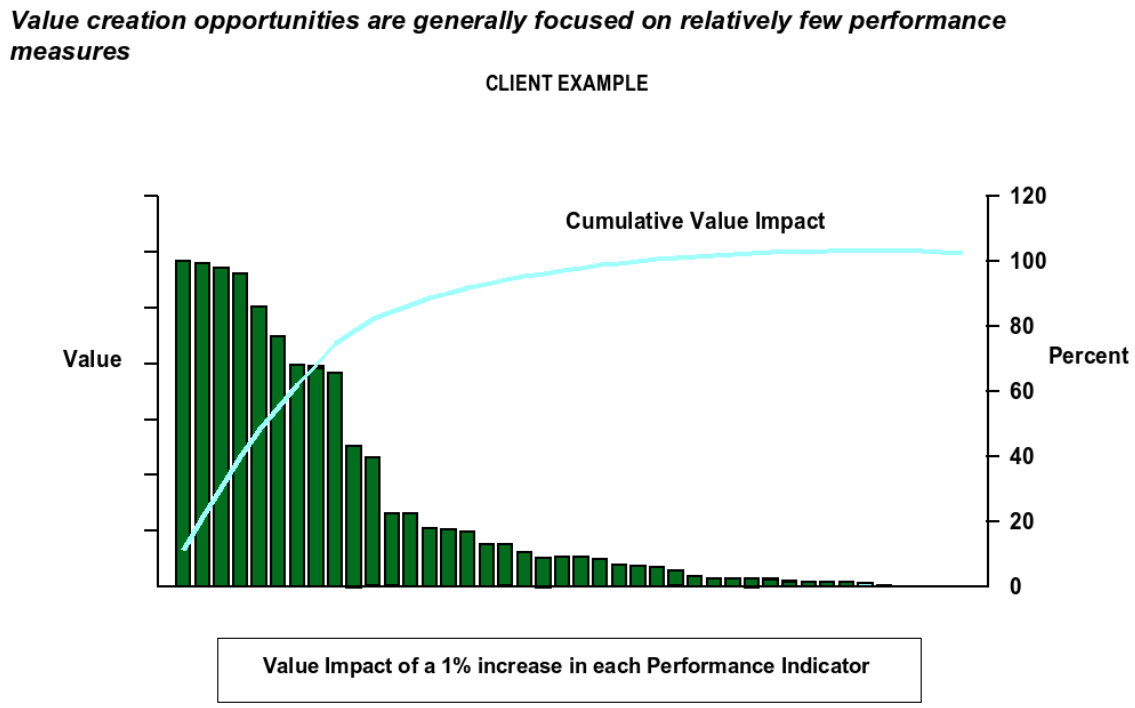


Figure 29. Turning Value into Management[24]

Process Mapping

The first stage of the pilot programme takes its cue from the concept of process analysis and mapping, process in this context being an analysis of operational tasks as a number of discrete transformations of certain inputs into certain outputs. Where VBM significantly differed from conventional process mapping is in its emphasis on financial measures. While conventional process maps are concerned with the physical transformations of input to output, the VBM process mappers were charged with inverting these physical transformations into financial ones. The results of these transformations were not really process maps at all:

[24]VBM Case Doc 14

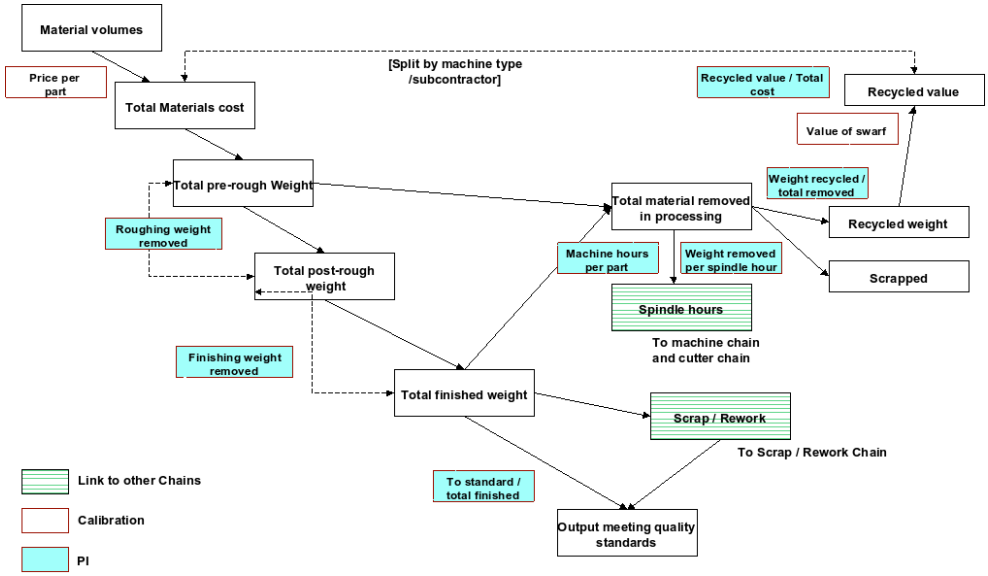


Figure 30. Diagram of Performance Indicators for a Machining Process[25]

The next stage of the pilot is transforming this information about the relationships between costs and operations into a model. This was a spreadsheet that modelled how revenues are converted into "free cash flows" that are then discounted into a Net Present Value. Once constructed the model was used to test the sensitivity of this NPV to variations in its inputs. Those inputs that gave the greatest variation to the value are the "Key Performance Indicators"

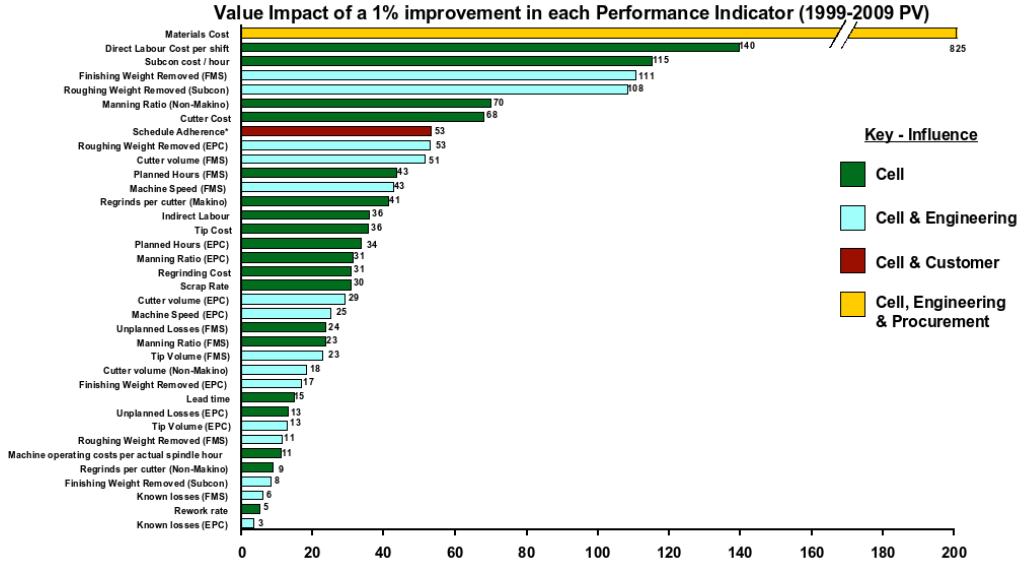


Figure 31. Pareto Chart showing the Key Performance Indicators[26]

[25]VBM Case Doc 22

[26]VBM Case Doc 22

Propaganda

So far I have focused on motifs and patterns found in a variety of documents associated with the implementation of VBM. In this last section on the "battle for hearts and minds" I have included a couple of examples of documents that are full-on propaganda.

The first example has clear visual impact without making too much of the VBM initiative itself:

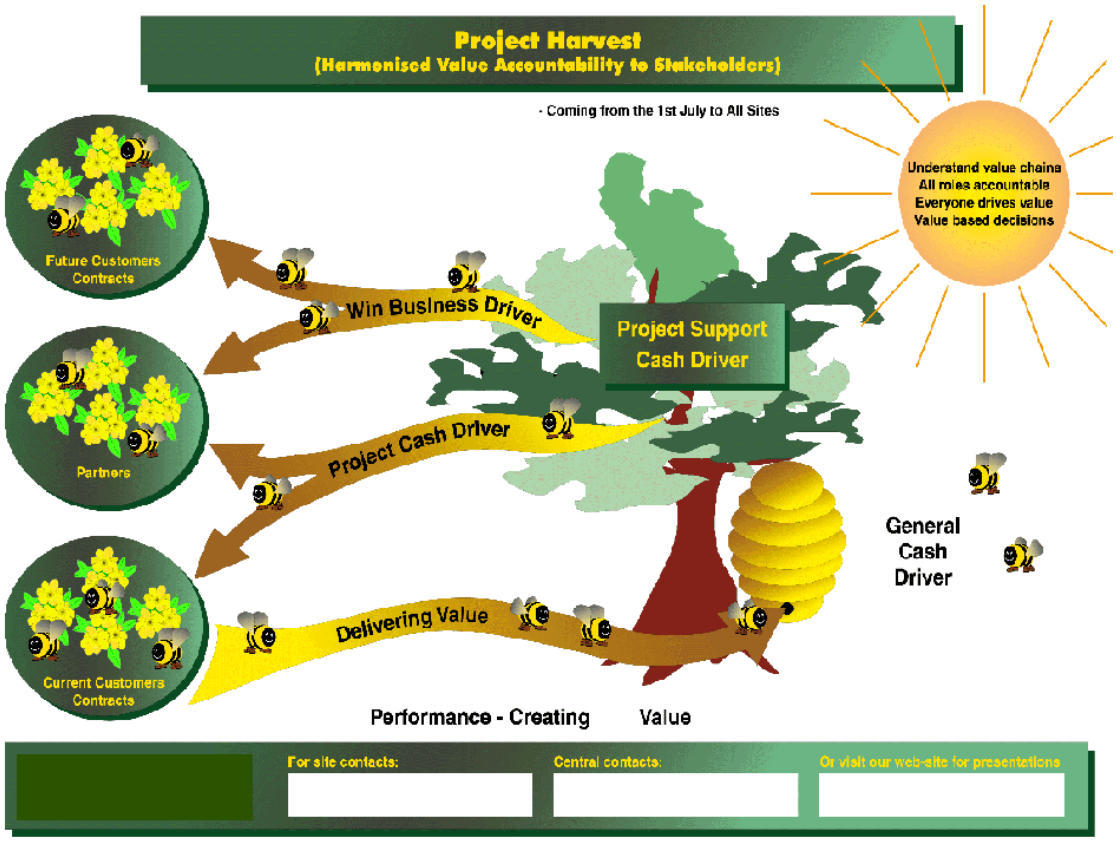


Figure 32. Eye Catching Poster[27]

It is really an elaborate variation on the circular flows motif, but importantly this diagram explicitly includes the customers as the source of value. Unfortunately, it does not represent or even reference the shareholder, preferring to show that projects store-up value.

The second example is a summary sheet that contrasts sharply with the above in its plain presentation of the facts:

[27]VBM Case Doc 18

VALUE BASED MANAGEMENT

What is VBM?

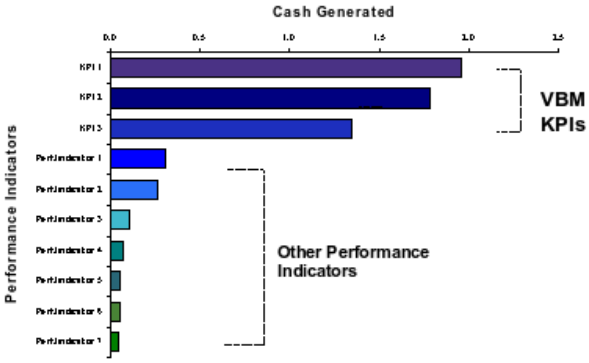
- A process which links the decisions we make to their impact on CASH(VALUE)
- Shareholders measure VALUE by the long term cash that a company can create
- VBM shows us how to maximise long term cash and hence the value of the Business

Benefits of VBM

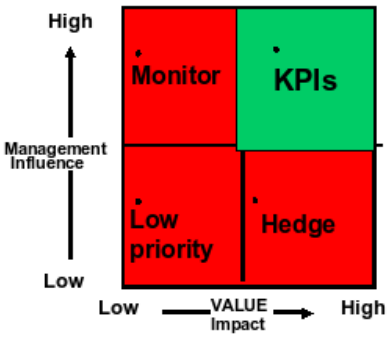
- Identifies those process levers that really drive VALUE within the business
- Focuses on the levers we can most influence, namely the Key Performance Indicators (KPIs)
- Shows us how to allocate resources to the KPIs and stop doing the UNIMPORTANT
- Maximises cash and hence VALUE

Identifying Key Performance Indicators

Step 1.
Calculate how much cash a 1% improvement in a performance indicator will bring.



Step 2.
Determine which performance indicators we can most influence, these are our KPIs.



The Implementation Process

Implement VBM using a "Two Phase Process".

- Phase I seeks to understand the levers and identify the KPIs that drive VALUE within the business.
- Phase II focuses the business resources on the KPIs and aligns all the processes towards driving improved KPI performance and hence cash generation (VALUE).

WHAT WE DO:

- Understand what drives VALUE

3 to 6 months

PHASE I

HOW WE DO IT:

- Business process mapping
- Identify KPIs and sell VBM to the business
- Prepare for Phase II

- Make VBM your day job

12 to 36 months

PHASE II

- Align the processes to VALUE:
  - Strategy & resource allocation
  - Manage for Value
  - Performance measurement
  - Employee incentives

MAXIMISE VALUE CREATION

Figure 33. VBM on a Page[28]

This is a fairly good summary produced at one of the company's subsidiaries, including at least one of the motifs above (2x2). Unlike the poster, this summary sheet makes no attempt to hide the association with VBM.

Summary

In this section I have abandoned the sense of flow that I tried to maintain in the previous sections. I think that in doing so, these artefacts or patterns admit the presence of other processes that were perhaps masked by the focus on VBM. One role of these patterns is as transitional devices that bridge the gap between the new VBM and already existing (and even dominant) ideas about what it is that managers do. They provide a means for the new to be translated into the familiar.

12.5 The Demise of VBM

The following account moves the writing perspective from the third-person, historical narrative used in section 12.3 to the first-person, ethnographic narrative. This is made possible by the author's direct involvement in the VBM initiative both as a representative of the business and as a researcher. This occurred after the company had completed its merger with a competitor and during the period when the future of the initiative became uncertain.

Transitions

In early 1999 I was still leading the Task Force at SubCo as its members became assimilated as Change Agents to each new Value Chains. With a declining workload I picked up a new task working with the Finance Director on introducing the Balanced Scorecard. The VBM pilot completed later in the year with rather inconsequential results and no clear follow-on, apart from one lonely reference in the new Balanced Scorecard we had produced: the top-most company objective was predictably entitled “Maximising Shareholder Wealth”. This was to be achieved through the three “strategic threads” of increasing productivity, creating value adding growth, and getting more value from our assets[29]. Annex F of the plan set out the measures by which we would assess achievement of each objective. For “Maximising Shareholder Wealth” there were three: 1) Net Present Value of Subco's ten-year plan, 2) Net Profit achieved for the year, and 3) Net Cash achieved for the year. Yet there was no calculation of NPV anywhere in the plan and no mention of this measure in either the detailed description of each measure or the table of expected results based on the plan. Clearly we had concluded that it was not a Key Performance Indicator, but why?

[28]VBM Case Doc 26

[29]VBM Case Doc 21

The Balanced Scorecard method we had adopted was that espoused by Kaplan and Norton[30]. We particularly took to heart two pieces of advice: first that objectives should be causally related, and second that traditional "outcome" measures lagged behind events, showing what you had achieved after you were able to influence it. Calculating the Net Present Value of the company from its 10 year plan was perhaps considered to be too great a step of faith, providing very little to steer the ship by on a week-to-week basis. There was also another matter affecting our attitude: the value of ten year plans. About two years before I had my first encounter with VBM and used it to calculate the NPV of the company from its annual business plan. By apportioning the shares of our parent company to our company based on the proportion of sales, I was able to convert this NPV into an equivalent share price. Unsurprisingly our plan made us look 10 times more valuable than our listed parent. Why then weren't those at Head Office beating down our door to find the secret of our success?

The answer was obvious: no-one believed the plans. Like so many other business units, ours were and had consistently been a tale of "jam tomorrow". Our actual performance was poor and we never managed to deliver the growth our plans presented year after year. Which was part of the problem with VBM at SubCo. VBM inevitably placed emphasis on forecasts, so if you had no confidence in those forecasts the NPV they created meant very little. Hence, no-one really believed that VBM would change that and no-one was therefore motivated to implement it.

In early 2000, SubCo was in a state of confusion. The merger had completed and Head Office had announced a re-structuring that saw SubCo being placed into a new Group under the management of the largest acquired business unit. Where SubCo had thought they were on the acquirers side they suddenly found themselves being acquired. The new group was now preparing for a top-down re-organisation and rumour had it that SubCo's existing directors were for the chop. We were effectively treading water waiting to see what would happen. My own role was similarly in a state of limbo and when the position of representative to the old VBM forum came up I decided to take it on. One reason was my role in the Balanced Scorecard initiative but outside this it was pure curiosity. I wanted to know what was going to happen to this idea in the new order.

My First VBM Forum Meeting

What impressed me most on my first trip to our old head office (the directors had recently relocated to a new office in London) was the lavish décor, abundant space, and on-site hospitality. Outside was all limestone, ponds and fountains. We met in a large conference room

[30]Kaplan and Norton, (1996). I have seen many balanced scorecards over the last 10 years and most of them do not seem to keep faith with Kaplan and Norton's intentions: particularly the insistence that objectives should be causally related. Most are simply a collection of measures that are conveniently available and appear to cover a wide range of business topics and must therefore be "balanced".

off a spacious foyer clad in modern hardwood panels. The table was a massive oval around which 22 people could sit comfortably. Views from the window were of leafy grounds and car parks with an airfield beyond.

The morning session started with a presentation on what our newly acquired business (NewCo) had done as their version of VBM. It appeared to be very top-down, being primarily about devising accounting measures through which business units would be assessed: the very thing that MainCo had not done. We discussed the pros and cons of this approach. Apparently 400 finance staff had been pushed through a 2-day VBM training course. “I would like to know how much that cost!” scoffed our VBM champion. At around the same time managers from NewCo were asking how much we had spent on VBM. When they found out that consultancy fees alone were around £5M I suspect the comment on training fees was quickly regretted.

Listening to this presentation, I realised that the merger was having something like the opposite effect to my expectations. Rather than the acquirer dominating the acquired and assimilating these new businesses into our own culture, we seemed to be overwhelmed by their ways of doing business and ashamed of our own. As the day progressed confidence in our old ways of working seeped away. The following presentation concerned something called “Life Cycle Management”, another import from the new company. Again, the tone was critical of our own processes, admiring this new way of doing things as disciplined and controlled.

We broke for lunch, served in the foyer and brought there by on-site hospitality staff from a kitchen somewhere below. They were dressed in smart uniforms and hovered on the edges of our meeting, apparently used to waiting on such occasions. Whereas we would have been more comfortable with a standard company buffet, served from plastic plates and dumped in the hall some while before.

After lunch we had a very brief visit from one of the Head Office senior manager who re-assured us that VBM would continue with both the current bottom-up approach and the new top-down approach. He urged us to continue with our work, putting a bit more of a framework around it, whatever that meant. Then he left and we continued with our debate. Can we really marry these two approaches when they seem to refer to quite different ideas? This top-down approach is about short-term performance measures and has nothing to do with long-term sustainable growth. But then wasn't the bottom-up approach many things to many people. “The way we did things before the merger, everyone changed it so it was no longer standard anyway”.

We progressed onto a presentation about Lean Manufacturing, although it was really about VBM disguised as Lean Manufacturing. By the end of the presentation I was wondering if it

was actually Lean Manufacturing disguised as VBM disguised as Lean Manufacturing, only Lean Manufacturing would not have involved a 57 sheet spreadsheet model to work out where the business could save money.

The last session of the day concerned a similar business to our own, struggling to introduce VBM across a site where most of the work was project oriented. Steve and the consultants had developed a complex value model using probabilities that had to be worked in between their project plans and their risk modelling. I was interested in their overall approach and agreed afterwards to pay them a visit and find out more.

A Day Out

I had worked at Steve's site 5 years before. We met at the once familiar gatehouse from where he led me round to a part of the site I had never been to. It consisted of a series of old wooden portakabins dating back to the 60's or 70's separated by small lawns and flower beds. Most of the portakabins were empty. Steve led the way to one near the back of the site. Inside was cold and musty. There were partitioned offices running down one wall that were not used. A little way in, the hall opened out onto a general area that was deserted. Steve's team were occupying a bay at the end of the offices. They were gathered around an electric fire, warming their hands on mugs of coffee. On one wall was a large poster they had designed with trees and bees and no mention of VBM. It was all a long way from the plush conference centre at head office.

The team had done well. They had run various workshops with the site's directors that had concluded with deciding value to be the primary driver to manage. Like SubCo they chose to introduce a balanced scorecard across the business but this was not the Kaplan and Norton variety, being more a bunch of balanced measures rather than causally linked objectives. They had reorganised the business into value streams but still retained a matrix structure beneath. They had then piloted VBM on a small project and developed the value model Steve had described at the Forum.

I asked what happened after the pilot. Ostensibly they were going to roll out the new method across the business but his team raised concerns about what would actually happen. It seemed that some of the directors were not comfortable with the style of management this would entail. Making decisions on the basis of numbers, and in particular the basis of probabilities was not what had brought them success in the past. “I don't need a model to tell me whether I am better off turning left or right on my way into work every morning” was apparently one director's comment.

As I left them to their planning and wondered back through the patchwork of gardens to the main site I couldn't help but feel sorry for them. Clearly their predicament was reflected in the

resources they had been allocated: a shabby office in a far flung corner of the site where they wouldn't get in anyone's way?

My next meeting was with my old boss. She was project manager of a large development project, the very thing this variety of VBM was aiming to help, so I thought her views on the subject would be enlightening. Jane was a pragmatist but her pragmatism tended to make her a sceptic, which too easily slipped into cynicism. She understood the principles of VBM, was sceptical about its value to her as a project manager and cynical about the attitudes of senior managers who were fronting the initiative. “It sounds good in principle, but its a bit like when they started talking about Risk Management. We do all of this anyway, we just never called it Risk Management and this could end up being very similar”

Jane's main concern was not being able to see how it would actually enable her to do a better job. “I suppose you've got to work with it and see how you can actually use it. We are now introducing it to one of our bids, but bids normally have very tight time-scales and you can't be fiddle-arsing around trying to experiment with things when you've got to sort out how you are going to do the work itself”. Later in the interview she returns to the concern: “There's a cost model you can build up but what we saw was horrendously complicated. You immediate reaction is 'Bloody Hell, it could take me hours to do this'. I know on one project they've had people full time on populating this model”. Another concern was with sponsorship and corporate motivation. “There was a feeling that there was a problem in achieving shareholder value, profit, whatever so they got this consultancy group who had heard that VBM was a good thing. I am being ever so cynical but things like that seem to happen. Initiatives are brought in because they are out there in the market and presumably the consultants are doing a very good job in marketing themselves and saying how wonderful this is... I don't know if there are problems with sponsorship; I don't know if sponsorship is the right word. Its more a case of 'You will Do it' which is not in my mind quite the same thing. John (Jane's boss) said that he wanted to attend both of the training sessions we had full time so that he would be seen to be sponsoring. In fact he only attended the 30 minute introduction and for the rest of the time there was no-one there. Sponsoring to me is much more proactive.”

Finally, Jane was concerned about the impact of the merger and the number of new initiatives being forced down onto the businesses as a result. “You've got Life Cycle Management, you've got the Capability Maturity Model, you've got the Project Management Charter and now you've got VBM and nobody is looking at the totality of it all. LCM and the charter may mention VBM but its just been thrown in. Someone is going to have to explain how you do all these things and make sure it doesn't add to the workload of project managers.”

Return to Head Office

Rogan, the VBM co-ordinator and chair of the Forum, was acutely aware of this new crush of initiatives that had resulted from the merger. On top of that the board had launched a series of "Synergy Delivery Teams" (SDTs) tasked with finding savings from the merger that amounted to £275M per year. The differences between the old bottom-up VBM implementation that had been developing over the last three years and the imported top-down VBM were almost incommensurable. Over a period of several months from Spring 2000, Rogan and the consultants had been pitching a solution, although the ongoing re-organisation seemed to make it slightly difficult to know who to pitch to.

The solution was to accept the two approaches as different aspects of the same thing rather than being incompatible[31]. We could continue to use the old approach within the business units, adding the new approach for measuring overall performance. But the new approach needed tuning to make it work well with the old. And managers would need more training, and that would require more senior commitment.

The heart of the problem seemed to be the way in which each approach measured value. The bottom up approach measured value through long term plans and was particular useful in businesses with a high volume of repeat work. Otherwise the accuracy of the plan soon becomes the limiting factor. The top down approach, however, had to be short-term because managers were not prepared to trust to measures whose emphasis on long term promises would ignore short-term performance. The merger had brought with it short term value measures that their proponents argued had been very successful in raising the company's share-price. But the existing consultants, and Rogan for that matter, were sceptical[32]. They believed that these measures were open to abuse.

Insider Information

And they were right. As SubCo became part of the new company we were exposed to what had really been going on prior to the merger. Under-investment was chronic. Even the existing managers knew it was bad. One of them branded the company as being "a camera business without a camera and a radio business without a radio". In the absence of investment they had fallen well behind with their own products and had resorted to selling on inferior substitutes. But the short-termism ran deeper than that. At one point just before the merger deal was sealed, in a frantic attempt to increase cash returns and push up the share price managers even placed a ban on all overseas travel, and that included the overseas sales force! But the result was a

[31] VBM Case Docs 27-29

[32] Interviews with both revealed this scepticism although this was not reflected in the documents they produced at the time (VBM Case Docs 39-41)

stunning success. The share price rose well but was still eclipsed by the price our company had been prepared to pay for them. As one director recounted later: "Our jaws dropped when we heard the figure. We'd been expecting less than half that as our best possible outcome."

Figure 34. Company's Share Price following merger announcement

Perhaps more than anything the price paid in the merger was responsible for the decline of VBM. It questioned the boards commitment to shareholder value, as is reflected in the figure above showing the decline of the share price over the 12 months following the announcement. Many commentators regarded the merger as a sound move, consolidating the UK's industry in the face of increasing global (i.e. US) expansion. But the price paid was too high[33] and the benefits were perhaps oversold, as is suggested by the company's subsequent share price:

Figure 35. Share Price in years following merger

The Last Stand

The next VBM forum meeting I attended was not only my last but the last. There was a palpable tension at the meeting concerning the future of the initiative that was not alleviated when the new VBM champion appeared and re-assured us that VBM would continue to be one of the company's priorities. The need to make such a statement betrayed the concern we all felt. We were given a presentation on how the old, bottom-up VBM could be successfully integrated

[33]For example, the following quote was made in the New York Times on the day after the deal was announced (Jan 20th 1999): "Investors sent the shares of both companies lower because of concern that [the company] paid as much as 30 percent too much to outbid a rival suitor. Shares of [the company] fell 68 pence, or 13.8 percent, to 425.5 pence, and [the target] fell 31 pence, or 5.4 percent, to 546.5."

with the new top-down VBM. This was then followed by a couple of external presenters who had experience of implementing VBM with other companies.

A few weeks passed before I phoned Rogan to find out what progress had been made. His news was not good. He had been re-allocated to a new role in mainstream accountancy and was transferring to France. What about VBM? The board had decided that it was time for VBM to become part of everyday business and no longer a special initiative. But how will that happen when none of the businesses have properly embedded the initiative? It won't, VBM is not going to survive the merger.

Which is exactly what happened. By the end of 1999 VBM was no longer on the agenda. As the Finance Director of SubCo later recalled: “It was a blessed relief when they gave up on VBM – we could get back to focusing on what we all felt comfortable with”. Not only did the old-style VBM simply evaporate, but there was no new-style top-down VBM either.

About 12 months later I happened to be walking to the tube with the Group Finance Director. I asked him what he thought had happened to VBM. He told me it was no longer a priority: what mattered to the board once the merger completed was proving they could deliver the synergy savings they had promised. VBM was all about Jam Tomorrow and what the board needed were concrete savings today, so it was simply shelved. Wasn't that a bad thing after all the effort that had been put into it? But he wasn't aware of the effort, having been with the new company and therefore having nothing to do with the initiative.

Documentary Evidence

This final section summarises the documents that were produced in 2000 as part of the company's attempts to reconcile the different approaches to VBM between the old company and its new acquisition.

Feb 2000 – VBM Champion produces a short report comparing the two approaches to VBM. He states that the two are independent but complementary and compatible and that the one reinforces the other: the top-down and bottom-up approach is identified.

March – Consultants produce 14 page presentation setting out their recommendations for a top-down approach to value measurement. Specifically this presentation argues for using a different short-term measure of value to that used in the recently acquired business.

April – VBM Forum meeting held – business as usual, except no-one from the merged company attended. Some discussion about the need for top-down measures to complement the existing approach and some concerns about the new company's measures are expressed by participants. Newly appointed VBM Champion drops in to express support: “VBM will continue... Don't

stop; keep on with your work... We need top-down and bottom-up approaches but in a robust way... We can't have the same words with two different meanings".

May – Two Consultancy firms present to the Board's "Process Council". The first is the original consultants who gave a 35 page summary of the VBM experiences of the old company to date. The presentation is prefaced with a summary from the March paper advocating the use of top-down measures but excluding the criticism of alternatives. The second consultancy is the firm who advised the new business on its use of measures. The outcome of this meeting is an endorsement of the continued use of VBM but an action to understand how the top-down approach interfaces with the bottom-up approach. At the same meeting VBM Co-ordinator provides a very brief overview of the VBM initiative to date including a list of successful projects and estimated annual savings. He acknowledges the lack of any top-down target setting.

June – another VBM forum meeting held. Process Council presentations were reviewed. Decision on future VBM framework expected in July. VBM forum likely to change as a result.

June – VBM Co-ordinator presents plan for creating a Value Based Performance Culture to the Process Council. This short (10 page) presentation includes slides from the original VBM overview[34].

July – Process Council meets to agree future plans for VBM. Co-ordinator presents a revised version of June's presentation together with a very short presentation proposing an integrated approach that uses "Total Business Return" as a top-down measure of performance. This is different from the merged company's measures.

August – VBM Forum meeting, turns out to be the last. Fairly low turn-out. Presentation given by one business unit about its implementation of VBM. Presentation from external VBM expert on other people's experiences of VBM.

August – VBM Co-ordinator is re-assigned to an overseas post.

October - Company announces that VBM will be adopted without support from the centre.

Summary

This concludes the description of the case study. The following chapter (13) attempts to provide a more detailed analysis of the case study itself while Chapter 14 reflects on the overall merits and demerits of the approach and summarises the Thesis.

[34]See section 13.6 above for details of some of the recurring VBM patterns.

Chapter 13
Analysis and Interpretation

13.1 Introduction

The purpose of this chapter is two-fold: to explore and test appropriate methods for interpreting and learning from a process-based research episode; and to use the case study set out in the previous two chapters to illustrate these methods. This chapter does not extend to reflecting on the overall approach, which is dealt with in Chapter 14.

13.2 Experiences and Technologies

Piloting and Propaganda

MainCo decided to engage the services of a consultancy to help them implement VBM. These consultants were able to bring people who knew how to introduce VBM into real companies, together with the technologies required to spread the word of VBM and to implement pilot programmes across the businesses.

These pilot programmes were part of the critical process intended to transfer the potentiality of "doing" VBM into a selected part of the business involving local people who could then replicate the process across the rest of the business using the technology left behind. The pilots were always run by the consultants and were supposed to be supported by a dedicated team.

Besides these pilots there was a widespread process of propaganda, aimed at convincing managers that VBM was a good idea that would help them to manage their businesses more effectively. This process involved dedicated off-site workshops for the most senior managers, similar, scaled down workshops for the senior finance staff, a VBM forum to which each business could send one or two representatives, a newsletter informing people about VBM and progress of the implementation project, updates in the annual Value Plan sent to all employees, the services of the consultants and the VBM champion and access to numerous related resources from spreadsheet models to presentations.

These propaganda processes was focused on two core groups: the senior managers of each subsidiary company or business group, responsible for setting priorities and allocating resources; and the middle managers who would be responsible for actually implementing the processes involved.

Finally, there was the ongoing process of discussion and negotiation between the VBM "team" (primarily the VBM champion and the appointed consultants) and MainCo's board. Most of the

time this discussions would have involved reporting progress against the implementation plan and discussing issues affecting this plan. However, towards the end of the initiative it is clear that this process changed as the MainCo board lost confidence in the implementation process.

Relationships

What was the relationship between these three different processes? Initially, it must have seemed quite simple: The pilots provided each business with at least one working process and the skills needed to replicate this process across their business; the propaganda was aimed at convincing managers to invest resources in implementing VBM (at least in learning from the consultants and then replicating the process); and the reporting process was just that, letting the MainCo board know what was happening.

Technologies

The Power of Spreadsheets

The financial model, which is itself inevitably implemented as a spreadsheet, stands at the centre of any VBM programme. It connects up the key business processes that inform management decision making into a coherent whole: accounting processes that represent past performance, planning processes that forecast future performance, budgeting processes that allocate immediate resources and monitoring processes that set targets for the coming period. But it also decouples from these processes, freezing their inputs into orderly regulated sets of numbers. For example, modelling value involves comparing future cash-flows with the value of risk-free investments. This is usually determined from studying the rates of return offered by long-term government bonds for the country in which the business operates. These rates of return are based on actual auctions of government bonds and the prices that people were prepared to pay for bonds offering different returns. In other words, this process sums up all of these actual events into one little number (such as 2.6%) that can then be replicated into any number of spreadsheets to mean "the best return you could hope to get from a long-term investment that involves taking no risks". The number does not actually mean this. It simply technologizes the processes that it seeks to represent into something durable and mobile, enabling other processes (such as VBM) to access the potentiality created by these prior actualisations.

The spreadsheet makes VBM tangible and therefore durable, mobile and replicable. Anyone can buy the McKinsey Book[1] with its accompanying spreadsheets and convert their accounts into a model and therefore into a number that purports to represent the value of the business. Hence the nickname for VBM: Value Based Modelling. But what this model does so well masks what

[1]Ref

it does so poorly. It sums up the interests in all these contributory processes but it deletes their uncertainties. A company's business plan is not really a set of numbers representing the sales it will achieve and the costs it will incur, it is an estimate that quickly becomes a guess from year two onwards. And its numbers are not hard facts but negotiations that can be flexed according to disposition and mood.

But this is why VBM uses sensitivity analysis to identify the key drivers of value in a business. In other words, we acknowledge that the absolute value produced by these models is too uncertain and therefore use them to explore relative value. Sensitivity analysis varies each of the parameters used in the model and tests its impact on the value of the business. The consultants then filter these down to remove those factors over which managers have no control and they are left with the key drivers or key performance indicators. The problem is that when you reduce all of this complexity to a few observations about what is important to your business, they are very often easily dismissed: "I didn't need a team of accountants and a model to tell me something I already know!"[2]

Herein lies a problem with good technology – it can be used to capture the potentiality of so many other processes into something durable, but the decoupling that is necessary to achieve this durability alienates it from those processes. The same criticisms can be levelled at the processes of accountancy. The difference is that accounting processes are supported by an infrastructure that tries to ensure they are constructed using reliable methods, that they are updated regularly, and independently audited.

Cash: the intangible asset?

"Cash is the pulse, the vital sign of life in a company"[3] but it is also mysteriously absent from most organisations.

In a small business, cash has a strong presence: the milkman collecting money from his customers each week so that he can pay the dairy, his electricity bills to charge the cart, and every now and then so he can get his milk cart serviced or even buy a new one. But in a large business cash disappears from everyday life – walk on to any shop floor and you can see lots of activity but no cash. The common determinant of value and arbitrator of trust has vanished. Instead it has been replaced with a diffused mix of processes that obscure it with ever more complex sets of numbers. At the heart of these numbers lies the accounting process pulling all of the separate strands into more and more abstract tables of account. The result is that as staff enact the processes involved in carrying on the business they are not directly aware of the cash

[2]This response in various forms was mentioned by several interviewees. At SubCo it was claimed that the head of the business unit that piloted VBM made exactly this statement during the process.

[3]See quote in Chapter 12.

flows that result from or are required by these activities. VBM attempts to solve this problem by introducing the "time value of money", and its mathematical equivalent: Discounted Cash Flows. The problem with DCF is that although it is a pleasing mathematical device it is intuitively difficult to grasp. A simple example of a risk-free versus a risky investment can be grasped but how does that help to understand the value impact of having more or less stock for longer or shorter periods?

This is a problem that has been solved in an entirely different way by another relatively common industrial "idea": that of Lean Thinking. The concept behind Lean Thinking is to visualise the opposite of value: waste. It is still an idea that takes some grasping, but once you understand the basic concept it is easy to apply. And perhaps this is the key difference. Lean Thinking is something that is situated on the shop floor. Its a constant process of refinement in which business processes are examined for waste and steps taken to reduce that waste. There are two types of change process used in lean thinking: kaikaku, which involves large scale alterations to processes and typically occurs infrequently; and kaizen, which involves small scale improvements and is meant to occur regularly, such as once a week. Teams working on a process identify sources of waste and how they might be reduced and decide to either implement them immediately or wait until the next big change. Its an intuitive and immediate process that does not involve any complex modelling or quantifications.

By comparison, a typical VBM episode requires a team of consultants to dissect the operational processes and financial records in order to construct a value model (spreadsheet). This is a complex task that usually does not involve the team carrying out the process. The outcome of this task is a list of those factors or process parameters that have the greatest impact on value. The team then have to translate these value drivers into operational activities that they have control over. They can then suggest and implement improvements. But as the process they operate changes the model becomes out of date and requires further intervention to be useful to them again. Its effectively a black box that the team don't understand and that has to be re-calibrated each time the team changes the process. And should the contents of the black box be wrong for any reason, then the team are not going to know.

This, then, is the irony of VBM: processes involving cash and money are much more tangible than waste, but processes based on the elimination of waste are more intuitive and accessible than those based on the optimisation of value. Its not the obvious grounded nature of the Things that matters but the ease with which the corresponding processes can be engaged. The MainCo board of directors probably believed that they had understood the problems facing the company and selected a solution aimed at addressing these problems. But as this understanding was based on descriptive processes that were largely financial, and very remote from the real business,

then it is perhaps not surprising that individual business units would find its imposition unhelpful. How did they react and what was the effect of these reactions on the overall process of implementation?

Of Management and Triangles: impoverished technology

With cash and value being difficult to visualise in a typical working environment, it is not surprising that people proposing the use of VBM should spend more time talking about the benefits on offer than the challenges of implementation. This is a discourse of common-sense centred on images of cash-flows, value creation and solid management principles. But the implications of this discourse are not so comforting: if value is something this obvious, how-come it is this difficult to understand how to create it?

These processes of propaganda were directed at everyone: to encourage believers, as represented by the VBM forum attendees; motivate those who ought to know (accounting professionals), and convince managers who were assumed to be too busy doing the business to spare time to understand the intricacies of something this complicated. These processes were easily replicated and quickly spread across the organisation. Copying a few slides and re-purposing some of the pictures for local needs are easy activities in the digital age. The reassuring image of the hierarchical triangle, for example, recurs in many of the presentations. The effect is soon impressive, with VBM being discussed across the business. But the potentiality that this impoverished technology offers to virtually non-existent. It does not tell anyone how to implement VBM, nor does it tell them what to do. Its aim seems only to tell them why. This is less about "sensemaking" and more about having "sense made for you".

The VBM propaganda process[4] demonstrates a phenomenon that could be called "slippage"[5]. Certain descriptive processes are more readily distributable than others. A gap opens up as these "slip" away from the less distributable detailed descriptions to which they are linked. For examples, look at the differences between the motifs and messages offered by the VBM consultants and the simpler ones that circulated through the corporate documentation. This slippage creates a form of vortex: a descriptive process that has no means of being performed because it lacks the necessary detail. All that happens is the same messages go round and round until people lose interest. MainCo brought in outside consultants to break free from these vortices by bringing in people who knew how to get VBM to perform.

[4]see Chapter 12, section 12.4 for examples of common images that formed part of this process

[5]The term "slippage" also appears to be used by Weick to mean something similar.

Connections and Disconnections: stories of resistance

Introducing VBM is about connecting up: processes of accounting, business planning, budgeting and performance reporting are all connected together and summed up through the value model into one all-powerful number: the business' net present value. But the process only works if the connections can be made and sustained. Opposition to this process of change can be seen as an attack on and resistance to these connections.

The direct approach

At SubCo there was a rational argument against implementing VBM put forward by the Managing Director and the Finance Director: we are at a point of crisis where the priority is saving money and that means losing jobs; introducing a concept such as VBM would not achieve this in the short term; therefore it is not appropriate to do so at this time; come back later when we are ready. This argument, however, reveals something of a *non sequitor*: the intended outcome of VBM is to deliver improved shareholder value, i.e. more effective working and better performance. These are the same ends that SubCo was seeking. The issue must have been timing. SubCo's board regarded VBM as being about long-term value, so it wouldn't help them deliver savings *this year*.

That their group directors accepted this argument suggests they shared this view. Perhaps if they had discussed this with the newly appointed consultants they would have seen that their version of VBM was concerned more with short term than long term savings. A case in point was provided by another pilot programme. They identified a massive £12M of *annual* savings through 6 basic improvements including rough-cutting forgings closer the finished shape and regrinding tool tips more often[6]. Similarly, at a training school pilot they had demonstrated how class size and course frequency were key drivers of value, and smaller but more frequent courses allowed greater throughput with better staff and asset utilisation[7]. Both of these pilots demonstrated the immediate benefits that VBM offered, both were known to senior managers at SubCo and their group, but neither appeared to convince them of the relevance of VBM to their particular problems.

The board of SubCo were concerned about the costs of implementing VBM and in implementing their own get-well solutions they had avoided expensive consultants. Through most of 1997 the change programmes at SubCo were either home grown (Project CREAM, World Class Cell leaders and the Task Force) or unavoidable (the new ERP system was desperately needed). In 1998 MainCo mandated the use of their “expensive” consultants on all pilots making these costs unavoidable. But with a major change programme and consequent

[6]VBM Case Doc 22

[7]VBM Case Doc 10

redundancies under way it can't have been too difficult for SubCo's directors to resist VBM for most of that year. When the consultants did arrive in September it was obvious to everyone that the company still wasn't ready, being on the brink of introducing a radical organisational change. So they compromised by piloting VBM at the remote satellite business unit, and because of its remoteness SubCo couldn't find people who could effectively shuttle between the two. In effect it was no more than yet another delaying tactic.

The ongoing processes of negotiation between MainCo and SubCo boards acknowledges that despite the rational appeal of VBM, as bought into by MainCo, its implementation is not without significant risks. In allowing SubCo to opt-out of implementing a process that could specifically address the problems they claimed to be tackling their own way, MainCo demonstrated their own uncertainties in contradiction to the messages they were promoting through the wider processes of propaganda.

Sabotage: the indirect approach

When, in 1999, the company finally allowed the consultants on site they made an odd choice for the pilot. It was the one Value Chain that had survived the reorganisation with very little change. The new Head of Business was the incumbent manager (much to many people's dismay). He was openly sceptical of the new order and the new World Class values it brought. His business was largely defined by a legacy one-contract system and despite various attempts to grow through product innovations, this one programme remained the central monolith of the Value Chain. The Value Chain's new Finance Manager was enthusiastic about VBM but inexperienced – not the best choice when partnered with a resistant and experienced head. Perhaps that is why they appointed David as the Change Agent for the pilot. Although his own experience of financial modelling was limited he was not afraid to challenge the Head of Business.

Given this combination, however, it is not surprising that the pilot was unsuccessful. There were a number of reasons for this. The business was project based rather than production based and everyone was struggling to apply VBM in a project environment. The consultants' analysis of the pilot had been difficult. They concluded the business behaved more like banking than industry: creating value out of advanced payments from its customers. The Head of Business remained unconverted throughout and without his support the pilot was never going to infect the rest of his team with any enthusiasm. By the end he concluded he didn't need VBM to manage his Value Chain. Finally, David, the pilot's change, was busy appropriating VBM for his own ends.

Whether or not SubCo really intended to sabotage the pilot is difficult to know, but that was the effect. They chose an area of the business where it presented least risk to short-term performance and took no account of the value chain manager's total scepticism towards VBM.

Appropriation: Resistance by diversion

Another form of resisting an idea is to effectively turn it into something else. David supported VBM but was reticent about placing too much emphasis on financial results. His support was more positive in the pilot because he saw a way of achieving his own ends: re-focusing the board on long-term value decisions rather than short-term financial ones. David was appropriating VBM, as his colleagues noticed:

> *"Dave was trying to work at too high a level; he was trying to change the [management committee]. Discretionary spend was a key sub-plot with him."*[8]

In the end David's diversion yielded little but only because events overtook him. It wasn't until late 1999 that we allowed VBM on site by which time the merger had already completed. As 2000 emerged David's attempts to gain traction with SubCo's directors were scuppered by the uncertainties of another re-organisation. By mid-2000 most of the director's had left together with David.

The opportunity to appropriate control over the VBM process appears to have been exploited at several sites. At one, for example, the management decided to conduct an Internal Audit of the pilot project, raising a number of formal audit observations that were openly critical of the consultants' approach while providing a platform for the site to do it "their way". At another site they conducted a "lessons learned" workshop which was similarly critical of the consultants and produced a Management Plan to guide the rest of the implementation. The plan was given the full managerial treatment, with signatures pages, distribution lists, configuration control and copyright notices. The message was clear: we are taking over this project to manage it properly.

The actualisation of VBM: an Excess of Potential?

SubCo had not been alone in struggling to apply VBM to a business consisting largely of one-off projects rather than repetitive manufacture of products. It was relatively easy to construct a forecast business plan and convert this into a model that could calculate Net Present Value. These models were well established as a means of deciding whether or not to pursue a new investment. Someone in finance promoted the idea that during bid negotiations such a model would be useful to avoid agreeing a deal that was going to "destroy value" even if conventional accounting made it look profitable. However, neither of these approaches could provide

[8]VBM Case Doc 34

anything to help manage a project on a day-to-day basis. They were too top-down and did not reflect any of detail in the project plan itself.

This problem was apparently solved at another site where the consultants and an internal team devised a method that they called Project Harvest, with the obvious implication of harvesting value[9]. Harvest involved transforming a project plan into a very detailed cash flow model and then outputting the results into another tool used to assess time-scale risks. The model enabled the team to identify which tasks would have the greatest impact on value if they were late. It also provided a probability density curve for the overall value created by the project. By comparing this to the original plan it was possible to see how "realistic" it was, or not. In the case of the pilot it appeared that the plan had less than 5% chance of realising the originally estimated value.

While this approach was clearly demonstrated by the pilot, the process required to achieve these results was costly in time and resources. Project Managers already have to produce detailed plans of the tasks to be done, the resources required including people and materials, and the outputs created. They also have to use these plans to feed planning information into a "risk model" that would help them to better understand the expected duration of the plan's various activities. This new VBM process required them take the original plans and transform them into a cash flow model. Using this cash flow model they could now test the plan to find those activities that had the greatest impact on value. From this, they could create additional data to include in the risk modelling that would not only tell them when to expect the plan to complete, but also how much they were likely to make.

The first level of resistance was therefore based on time and effort[10]: how can I be expected to do all this additional work when I haven't got a budget for it. But this argument would not counter the obvious benefits that the approach seemed to offer: if you can increase the chances of delivering the project on time and within budget then the effort has to be worthwhile. What was underlying this resistance was a deeper concern: that project planning involved a degree of guess work and therefore constructing complex financial edifices on top of this guess work obscures the weaknesses of a plan. Plans are only tools used by project managers to help them to organise resources, allocate tasks and control spending as much as possible. They are not accurate representations of what is most likely to happen. Transforming them into complex financial models potentially misses the point of planning and increases the false expectation that projects are rational and deterministic.

[9]Section 12.5 describes my involvement with this project based VBM. A project Harvest promotion poster is included in section 12.4 above.

[10]See interview with Jane in section 12.5 above.

This concern may also reveal a still deeper resistance to the use of VBM in project management: that the complex process through which the VBM model was constructed essentially alienated it from its users. Management decision making is often a blend of rational thinking and reflexive intuition. Conventional plans may become very extensive but in essence they are still representations of what needs to be done by whom, when and for how much. Transforming these into, first, financial models and then risk models makes it very difficult for managers to reflect and intuit. It over-rationalises the plan and fails to reflect the project management process and the project managers role as the dynamic co-ordinator between what needs to be done and what is actually happening. As one of the directors at this trial site exclaimed: "I don't need a ******* model to tell me which way I need to turn when coming to work every morning!"

Embedding an idea like VBM depends not so much on getting managers to use different sets of tools as getting them to adjust the way they gather and assess information. Picking up a tool and using it for a given task is relatively easy. Getting comfortable with new types and sources of information and achieving confidence that this information is reliable and useful is a greater challenge. In the contingent practices of everyday project management it is easy to make sure you are seen to be using the tools while continuing to practice management as you always have done, without having to rely on these unproven novelties.

No Accounting for Accountants

The management process was not the only one that VBM threatened to disrupt. It may seem perverse that the most resistance to VBM seemed to come from accountants when these were the people best equipped to understand the idea and its benefits. However, accountancy is a very constrained process surrounded with professional bodies and their qualifications, rules, regulations, together with countless mathematical processes through which management, financial and tax accounts are regularly produced. Although VBM was couched in the same representational terms as accounts, it challenged the profession as obscuring the true underlying value of a business in favour of more easily manipulated concepts such as profit. VBM wanted to decentre traditional financial models of sales and profit in favour of cash flow models that could be understood by and used by managers in the business. It therefore probably threatened the role of accountants both as interpreters of these sacred texts and as masters of the darks arts whereby these sacred texts could be manipulated to meet managerial ends.

Despite VBM being promoted as central to the future financial management of the company, there was evidence, at SubCo at least, that the finance team were actively resisting the idea. Roger, SubCo's financial controller was too busy doing his "day job" to attend VBM training, admitting he never gave the idea "quality time". He felt he failed to engage with the pilot

programme, allowing himself to be carried along by the team. He tried reading Rappaport[11] but found it "awful", admitting that he never really understood the detail. He felt that the finance director at SubCo was not a convert; a view that was later confirmed by the finance director himself: VBM was "something done by accountants for accountants".

This attitude was partly because of the changes being brought about in SubCo by the Finance department: the new ERP system and the changes this brought to the way accounting was done. People no longer completed time sheets or allocated costs to individual items they were making. Something called Standard Costing was used instead, where each product had a standard cost against which the productivity of the whole team could be measured. These changes were challenging to both accountants and managers and had nothing to do with VBM. What time did they have left to concern themselves with this other idea?

The Chief Financial Officer at MainCo bore some of the responsibility for these attitudes. He had set all business units the task of agreeing a plan for VBM roll-out by the 30th June 1999. That date came and went without any reprisals on those who failed, including SubCo. In fact, at no time during the three year implementation did the CFO change the way the business units reported their results, continuing to use the traditional measures of Orders, Sales, and Profit. It is also significant that the CFO never attended the VBM forum that met 16 times over this period.

One of the roles of institutions, such as the institution of accounting, is to give body to descriptive processes that might otherwise be blown away by the imperatives of everyday business life. They give these processes the means to become performances in their own right and consequently they structure these performances to counter the insubstantial nature of their materiality. To change these processes, even subtly, requires institutions to protect and replicate these changes. To think that you can reform the way accountants account for cash without reforming accountancy itself is potentially short-sighted?

13.3 Interpretations

This section attempts to refer back to the model of processes developed in Chapter 8 and interprets the case study in line with this model. These interpretations start with the essential kinaesthetics of VBM and end with the challenges of establishing a VBM infrastructure to make this otherwise fragile process durable and replicable in the way that mainstream accountancy process have become.

[11]Rappaport 1998

The Kinaesthetics of VBM

Compare the kinaesthetics of VBM with those of Lean Thinking. Lean thinking consultants work with managers and staff on the shop floor: moving furniture, re-arranging the production line, throwing out storage shelves. At the end of their work, they have demonstrated the meaning of waste through the physical dynamics of business. The people involved have learned by doing with their bodies.

Most of the action in VBM takes place in a conference room. The walls are lined with diagrams and the desks strewn with reports and printouts. The consultants work feverishly to translate all these documents into spreadsheets. When they have finished the result is a presentation. The business continues unchanged, the real work still to be done, the changes still negotiable. The intellectually-intensive processes that took place in that room are difficult to reproduce once the consultants have left. Actualising the integration of accounts, plans and budgets is a complex, time-consuming and highly skilled process with little formalisation, hence the need to employ consultants! How you turn the outputs from this process into a "changed business" is left unsaid.

The Importance of Infrastructure

And yet despite these obvious kinaesthetic differences, neither VBM nor lean thinking has achieved universal adoption in the way that say accounting has. Accounting has many similarities to VBM, being a highly intellectual practice that has no direct impact on the operations of a business. The difference could be its connectivity. While VBM is conveniently decoupled from the processes that it attempts to integrate, accounting is vitally coupled. Without accounting the company could not pay its bills or claim money from its customers; it could not borrow from the bank or from the shareholders; it could not pay its employees or dividends. These vital links place demands on the process that cannot be ignored. Therefore the inherent weaknesses of this intellectually-intensive process have to be countered and this is achieved through a supporting infrastructure. Accountants have to be trained and qualified by a regulating body. Standards have to be defined and adhered to. Auditors have to be employed to check on the quality of their work. When intellectually-intensive processes are vital to business, they are made durable and replicable by the evolution of what might be labelled institutions – processes that define and protect that which cannot be encoded into hard technology. When I think of institutions I think of grand buildings. What I should think of are the perpetual kinaesthetics needed to support otherwise-frail processes of intellection.

Accounting or Management practice?

When MainCo decided to implement VBM they made a conscious decision not to allow it become "an accountancy thing"[12]. They wanted it to be seen as a management tool. For that reason, the finance community took a relatively low profile in the implementation programme. At SubCo the VBM forum representative and the VBM champion were engineers. The Finance director did not become involved and his financial controller acknowledged that he let the VBM champion run the pilot while he got on with his day-job.

Unfortunately this decision ignored the unavoidable fact that VBM is intensively accounting based and that VBM was developed because of short-comings that were perceived in existing accountancy practices. While MainCo, SubCo and the rest struggled to implement VBM as a management practice, the process of accountancy continued unaltered. At no time was it ever suggested that MainCo should change the way businesses reported their performance to include measures of value.

By comparison, in MergeCo they had implemented VBM as an accounting process and they had sent all of their accountants on VBM training courses at considerable expense. In MergeCo, VBM was not negotiable, it was a mandated extension to existing accountancy processes. Unfortunately, this failed to acknowledge the inherent uncertainties that hid behind every VBM model: the management dimension. This left managers with a window of opportunity. By manipulating their inputs within these uncertainties, they could achieve the outputs they thought were expected. Accountancy processes had developed to reduce this latitude of interpretation in mainstream accounting, but it could have no affect over the veracity of business forecasts. The outcome was yet another number to measure the business by, but one that soon became meaningless and was dropped altogether.

Top-down fails to connect-up?

Perhaps the greatest weakness in MainCo's implementation of VBM was its lack of sympathy to local predicaments. VBM in the board room has an entirely different potentiality to VBM on the shop-floor. SubCo's directors were already engaged in their own process to change their business. Project Managers were similarly engaged in adopting a range of new tools that were specifically aimed at improving their processes and technologising some of the more intangible aspects of these processes, such as managing risk. For VBM to be at all useful it had to find ways of connecting into these existing processes – of harnessing their potentiality and then enhancing it with its own. But the process being enacted by the consultants was never this sensitive. They took a snapshot of the businesses financials, worked it into a model and then

[12]Interviewee quote

tried to feed back the learning they had obtained to the managers of the business. These connections were never made durable. The effort involved to create the model was too great to repeat and the vufoils that had been left behind were easily ignored.

VBM needed to be assessed and implemented on a case-by-case basis, if at all. It was never going to be a universal panacea that could simply be dropped into a business from afar and would instantly yield benefits.

Summary

MainCo failed to develop any infrastructure around VBM, needed to make this intellectually-intensive process durable and replicable across its businesses. They purposefully avoided developing VBM as a part of the existing accounting infrastructure because they wanted to directly engage managers in the process. But there is plenty of evidence that they failed to integrate VBM into existing management processes:

- although VBM was frequently presented as a management device (recall the focus on the triangle, for example) there was no attempt to force change into the way managers worked.
- VBM pilots were silent on how to implement any changes that the model suggested and managers were able to resist VBM, claiming, for example, that it told them nothing new and would otherwise require lots of additional cost and time for no real benefit.
- Reporting processes remained focused on conventional accounting measures, sending mixed messages about the real value of VBM.

The inherent rationality and durability of VBM-the-spreadsheet was deceptive. Lots of effort could be invested in developing models that seemed to articulate important messages about the business, but the process of integrating existing accounts and business plans into this model effectively masked the uncertainties in businesses that managers were typically striving to manage.

Conclusions

While VBM connects up a number of key business processes it fails to properly engage with these processes. Perhaps MainCo were aware of these problems and knew that while they could afford to invest in an expensive and extensive top-down programme they could not afford to risk the root and branch reforms required to bring about real change? Perhaps they believed their own plans at the beginning, but as the implementation program progressed they came to realise that these problems were insurmountable?

Accountancy is a process held up by a complex infrastructure that permeates through all business and the institutions that exist alongside them. It is this infrastructure that makes accountancy durable and replicable. Computers, reports, metrics, scorecards etc have all had their impact on these processes, but they have not really seen a shift in potentiality from the intellectual to the technological, in the way that many other aspects of business life have shifted. While VBM looks like it offers to achieve this shift – plug in your accounts and your business plans and out comes the value of your business – it does not overcome the inherent uncertainties that characterise these plans nor does it offer to change the business itself in the way that, for example, lean-thinking does. If the concept of value is going to deliver on its potential, then it has to be through the evolution of this protective infrastructure, a task that, due to its complex and extended nature, will inevitably require a concerted effort by all business and considerable investment.

13.4 Reflections

Methodological Reflections

Chapter 9 identifies a number of principles that are intended to guide the process researcher and help them to reduce the effects of the unavoidable substantive world-view within which research episodes are framed. How well were these principles applied and where they useful?

In one sense, the case study was complete: involving the attempt at implementing a corporate change programme and covering this programme from inception to completion. As researcher and employee I was involved directly in the change itself. However, the research that I carried out was entirely disconnected from the change programme and therefore I failed to overtly connect the research to any tangible outcomes. In my defence I can point out that the research itself was conducted prior to establishing the principle and that the purpose of the case study was to experiment on the concepts being developed in the research programme rather than to explore the implementation of Value Based Management itself.

Value Based Management is a very abstract concept that connects with other abstractions such as business reports, plans, and devices such as risk. In order to avoid reifying these abstractions into Things, I have experimented with methods to trace back these abstractions to concrete actions. For example, Chapter 11 explores the processes that connect the individual actions of shareholders to the routinely updated number that represents its “share-price”. This articulates the concept of Share price not as a thing but as an extended process that links together existing and would-be shareholders.

The third principle can be summarised as the need to study what people do rather than what they say they do. This is tested in the case study analysis, for example, where I have compared

MainCo's public commitment to Value Based Management against its continued use of conventional accounting processes to measure business unit performance. It is also explored in the examples of disconnectedness – of ways in which businesses were allowed to resist the implementation without openly criticising the programme itself.

The final principle was to remain focused on the central role of human action. I hope to have achieved this through many different devices, such as unpacking the concept of share-price into the individual actions of shareholders in buying and selling shares. In particular I have used the comparison with Lean Thinking in this chapter to demonstrate the completely different nature of these two broadly similar concepts. Lean thinking is enacted directly through the body's actions on the fabric of the business while VBM involves people getting together to read bits of paper and write other bits of paper, leaving the fabric of the business untouched.

So, there is some broad sympathy between these principles, the case study presentation and my analysis, but the flaws within the case study (as outlined in Chapter 10) make this comparison relatively impoverished.

It is difficult to arrive at any overall conclusions about the methodological approach employed in the case study. The lack of coherent planning probably contributes much the disjointed and somewhat fragmented feel, although this must also be due to the experimental approach that tries out different tools from the proposed tool-kit. Chapter 12 is generally disappointing because it is seems too much like a conventional narrative. Perhaps this reflects the overall lack of processual thinking during "data collection". Finally, because the research case is disconnected from its subject, there is no critical feedback – no asking questions that might be suggested by the research.

If I could Start Over ...

When I started collecting data and conducting interviews for this case study I had not determined what methodology I was going to use. In fact my theoretical position was still embryonic, although I was not particularly aware that this was the case. Therefore, in terms of data collection at least, the case study is far from perfect for illustrating how to approach a process-based research project. It now seems appropriate to outline how I might approach the same study if I was starting now:

Inception

The first major task is to scope the project differently. My aim would be two-fold: to resist the temptation and pressures to assume a particular perspective at the outset; and to balance this with a route map that would give potential participants (including funding stakeholders) some sense of purpose if they were to join me on this journey.

When I started I wanted to study the "fate" of the idea of VBM, having in mind an ecological metaphor for ideas and organisations. I now think that this perspective was too narrow because it effectively precluded or at least eclipsed many of the other initiatives that the organisation was implementing at the same time, and that interacted with and overlapped VBM. It seems more appropriate to approach the case with an ethnographic openness: to live amongst the native and get a sense of processes that are shaping this native in order to begin to focus in on what matters and what needs to be studied in more detail. This, however, would have the disadvantage of providing stakeholders with little idea about a proposed project, making it unattractive for their support.

Archaeology may (again) provide a solution. There is often some presented or given problem that justifies and initiates an excavation but, with a suitably open mind from the outset, method quickly takes over. Whatever preconceptions archaeologists may have had at the beginning are soon revised as a more general picture of the site is established. This is not without its problems as a single site may reveal several quite different features, requiring resources to be focused on only a subset.

I would start, therefore with a loosely defined problem statement and some themes that seem to present themselves for examination, and balance this with a clearly defined methodology and process for reviewing progress and making decisions about further investigations. I would place emphasis on an iterative approach with an active steering committee making decisions about next steps between iterations. I would also ensure that the steering committee included representatives from the subject space as well as appropriate experts and financial stakeholders. If all this seems rather daunting I would want to ensure that there was a small executive team empowered to arbitrate and keep the process moving.

The first iteration in the project would be a wider inception programme presenting the scope and purpose of the project to a mixed audience and across potential participants in the subject space to solicit views and refine the initial plan. This would cover the detail of the next iteration as well as outline a backlog of issues to be addressed in later iterations. It would also lay out an overall framework, identifying the key events in the project's life-cycle (e.g. The exhibitions and analytical workshops described earlier in this chapter) and final outcomes.

Covering the Ground and Engaging with Expertise

There are two areas where my case study is particularly weak in relation to process research. The first is the lack of coverage. The extent of the processes that shaped the research subject were very widespread. I could have increased my coverage by enrolling others into the project at an earlier stage. Although I could not have expected them to become members of my research

team, I could have asked them to engage in mini-projects, such as maintaining a diary of their own VBM experiences or collecting documents and other evidence from their places of work, or just preparing a chronology of significant events. This would have increased the amount of information being funnelled into the project but this increase could be dealt with in several ways: for example, by involving the same people in an early analysis to use their information to help prepare the exhibition I have imagined would precede any detailed analytical events.

The other problem that I think affected the conduct of the case study was a lack of outside expertise. I would see myself as moving from a sort of processual Jack of all trades to an intelligent field-worker leading the process but able to call in appropriate expertise as and when it is justified.

A Case for Multimedia

One of the changes that I would like to have made is to have developed a multimedia interface to the case study, something akin to the Catalhoyuk website mentioned in Chapter 9.

Two alternative structures come to mind: a node based network where nodes represent events or replicable processes that are then interconnected to each other; or a connection based network where connections represent processes and nodes are simply used to connect processes together.

In the first approach, each node acts like a room that can be used to view various exhibits and has doors that lead to other rooms. The exhibits could be accessed in different ways depending on the needs or interests of the reader. There could be a narratival thread linking them together in a sequence that the author felt was meaningful. Alternatively they could be accessed by type, or in time order, etc.

This is probably the approach that most resembles the Catalhoyuk example. It is, however, largely a spatial arrangement that groups collections of material (documents, interview notes, recordings, images, videos, etc) around some sort of central theme. In the second approach, the focus shifts away from the spatial metaphor of rooms to connections and attempts to give more meaning to the materiality by showing how that material provides connectedness.

For example, the board meeting in MainCo that made the decision to implement VBM provides a key node into which several processes flowed and from which the implementation programme flowed. One of the connections into this node could be represented as MainCo's share price. The connection itself could be illustrated with examples of how the share price was made public. The connection would be between the meeting and another node representing the stock markets.

One of the main advantages of developing this interface is to enable some level of ongoing participation. Anyone involved in the research study would be able to review the emerging

processes and make contributions, for example, by providing each entry with a comment facility as demonstrated by many websites today. But this ambition highlights another problem: how to develop this "model" of processes as the research episode proceeds. It may be possible to start with an outline, similar to that shown in figure 9, but this runs the risks of restricting the whole project around these initial conceptions. Alternatively the various links or connections could be revised and elaborated as the project progressed, although this might create confusion for readers returning to review the database only to find everything has changed.

This consideration serves to highlight a significant shortfall in the archaeological metaphor used in chapter 9. Here the structure of the case emerges from the spatial and temporal relationships that already existed and are more or less indicated by the material being excavated. In studying organisational processes there is much greater emphasis on intellectually-intensive processes, where connectivity is more negotiable. The spatial dimensions of the network that is being created as each process is identified and connected up are undermining the sense of process itself. The case is being fixed into a structure – it is becoming a Thing in its own right.

There are two possible directions that could alleviate this tendency. The first is to avoid creating a static structure. This could be achieved in a similar manner to the connectivity in media such as Wikipedia. For example, where one process description contains a reference to share-price, this is automatically linked into the process that generates share-prices. Although this would be an effective way of managing dynamic connectivity, it relegates connections to being no more than an effect.

An alternative, admittedly with very little thought behind it, might be to develop a more functional or programmatic scheme. Each process would be defined by one or more functions that would involve certain materiality and connect to other functions, where these could be "stubs" if they have not been researched yet or may never be researched. As areas of the model were developed they could be made available as individual animations to be tested by other researchers and contributors. Testing would involving walking through the process model as it "executed", being able to follow different paths where these are presented as choices. Eventually all of the functionality would be integrated into one or a few finished animations. The result would be to present the material in a near-experiential mode. How this could be achieved in a user friendly manner is not obvious. However, the raw technology very much exists in most software Integrated Development Environments[13].

[13]See, for example www.netbeans.org

Chapter 14
Summary and Conclusions

14.1 Introduction

This chapter is divided into a detailed analysis that reviews specific aspects of the research project and a final analysis that reviews the overall contribution of the project and especially the model developed in chapter 8.

14.2 Detailed Analysis

A Sense of Process

This research intersects with three distinct flows: my own "journey" through the process of research and writing up; the multitude of other "research" or academic processes with which I have interacted; and finally the process whereby I have tried to apply the ideas emerging from the interaction of these two streams to my chose case study. Considering these in reverse:

The Case Study

I have excused why the case study was less than ideal as an example of process-research, but I think the descriptions in chapters 11 and 12 still do justice to the concept. The introductory chapter (11) is somewhat disjointed but this is because it is comprised of so many different pieces intended to provide an "openness" that a more conventional introductory narrative lacks. What do I mean by this openness? Conventional research tends to be based on a defined research episode or period of interaction, and therefore the role of the introduction is to contextualise. Because this "context" lies outside the research itself it is usually provided as a way of closing the otherwise loose ends: making sense of and tidying up the threads that pass through the research. Process research, on the other hand has to be concerned with understanding processes regardless of whether they lie inside or outside or across any particular research episode. The threads that pass through this episode need to be picked up and explored wherever that may lead. In a sense, then there is no contextualising function permissible, no context even; just open-ended process threads. And these threads are not to be given a closed meaning by me, the author, but left as open opportunities for you, the reader. For example, my supervisor wanted to know why I had made reference to Blur in the collage. I wanted to give an impression of the early 90's. I choose Blur because they reflected the mood and concerns of people at the time. For some readers it might mean nothing while for others it could work well.

That is the risk of such an approach. This, then, is my justification for the disjointedness or fragmentation in chapter 11.

I found the section in chapter 12 on Field-walking awkward. Process is not about splitting into materiality and behaviour, structure and action, but about maintaining a sense of whole, of connectedness. So how could I justify separating out fragments of description to be analysed alone? My aim in using this method was to force a little de-interpretation – to create a little distance between the native materiality and the descriptive we constantly overlay it with. It is easy to go along with a certain developing narrative, particularly one that is being set out by the very processes you are studying, and overlook some of the incongruities that this narrative is generating. If we stop listening to the descriptive and instead take a look at some of the evidence about the native we may surface these incongruities and therefore try to resolve them. This is exemplified in the case of the triangle (12.4), which seems only to signify the organisational hierarchy and deletes the other actors in the value adding process, particularly the flow of value creation from suppliers through to customers.

I see these two issues (fragmenting the context and interrupting our narrating) as reflecting one of the challenges of process research: that of breaking through the descriptive envelope that we draw around our subject, opening it up and challenging it. The flows created by research should be turbulent or else it simply seeks to reinforce the hegemony of existing descriptions? In assessing the sense of flow that I have created then this is clearly a challenge: the sense is more one of disruption than flow. But there is no proof of this notion offered in this flat, static text. The proof would only have been tested if I had got MainCo's senior managers to engage with the results of my research.

The material in chapters 11 and 12 could be given a stronger sense of flow in any number of alternative media. I have described the idea of exhibiting the material to make it more accessible and to allow limited interactions. I would like to have created a virtual space, as suggested in Chapter 9, where participants could structure their own experience and where I could provide a greater sense of connectedness than is possible in a linear text. Finally, I think that the whole case could be better animated either as a novel or film. Whether these could be injected with enough interest to make them viable propositions is, unfortunately, another matter.

Research Flows

I think the sense of flow through the theoretical background for this thesis (chapters 4 through to 7) is reasonable strong and coherent. Perhaps it is too much of a neat narrative, crafted to support my own objectives rather than providing the openness I valued so much in the case study? But openness has its limits and following such deep threads as are considered in these

chapters could open us to the entire history of human thought. I wanted openness before because it promoted participation and recognised that, for example, the audience of a case study has a view as well. But if a thread dives of into territory unknown and remote I can not expect my audience to participate in quite the same way. The role of the research has to change from facilitator to guide. The issue is whether or not the guide should have relied more on local experts to help him find a way? But this is an issue for the next section.

Capturing a sense of flow through the story of Process (chapters 6 and 7) was more challenging. There are numerous threads involving process-like concepts without being overtly processual, and there is no obvious linear narrative but there are distinct stretches of coherency. Whitehead provides one and Elias another. With Whitehead, the concept of process as something other than substance is given clarity and authority. His works legitimises process, founding a school of philosophy in its name. Unfortunately, it seems Whitehead's momentum became dissipated except perhaps where his ontotheological synthesis retained a significance. Otherwise his ideas have become mixed into the greater flow that is the "post-modern".

This greater flow is like the delta of a large river; meandering, diverging, reforming, moving slowly across the shallows or rushing through deep channels. We seem to live along the edges of this delta, foraying into it to plunder whatever bits and pieces suit our particular needs at the time, leaving behind whatever inconvenient histories we may have transected. "Bergson", for example, is relocated to the spatial in the concept of Rhizome despite his total rejection of the spatial in favour of the temporal. "Whitehead" justifies "becoming" without worrying about the ontotheological upon which this "becoming" rests. Does it matter though? For me, the answer has to be yes, not because there is anything inherently wrong with finding utility where you can, but more because it demonstrates a lack of foundations or at least roots. Without these foundations is it really possible to build something on any scale?

This lack of foundation has caused me considerable concern and I have wasted (literally) much time in exploring it and attempting to provide some form of remedy. In the end I have had to compromise, if only because this particular research process cannot justify the "diversion". Chapter 8 is therefore a truncation – a work incomplete. I wanted to build my own foundations but I have to acknowledge that this is a much larger project and one that I am not qualified to take on alone. Here is a flow that I phantasize could open onto new stretches of water but that has to be left hanging for the time being.

Those flows stemming from the works of Elias, on the other hand, appear to be in the ascendant at the moment. It seems that there is more coherence around these with perhaps less mixing up in the post-modern sense. Perhaps this is because Elias always set out his ideas as sociological

rather than philosophical? I am not sure, however, whether I have really connected with these flows in my own work? I find these ideas difficult to employ because they seem to me (at least) to be couched in terms of culture, power and the like, which I tend to regard as abstractions – descriptions that are difficult to pin down to native processes. This scepticism could have blinded me to the real value of Eliasian concepts so maybe this is another thread that could merit some more work. Along with Merleau-Ponty, whom I know (intuitively) represents a flow that I really should have tapped; and Dewey, Peirce and Bergson.

I have plundered Bergson like others, tuning into his concept of Duration as yet another antidote to substance while warming to his notion of intuition as a means of imagining process – of breaking through the rational descriptive envelop that we throw around the world. I have found a lot of support in his approach to intelligence and to human society and tool-usage. In some ways it is possible to see the model set out in chapter 8 as a reworking of Bergson's theories with the benefit of recent understanding: molecular biology, chaos theory etc.

Personal Flows

As far as my own process is concerned I may have spent too much time recounting my story, but hopefully it has helped to see how the ideas I have written about came together in the way I have portrayed. My background in the biological sciences and then in engineering and finally business management has had a significant impact on my ideas.

I cannot comment on any sense of forward momentum in these processes. This is an unfinished work and I believe there is much more that can be done both in developing the theoretical foundations and methodological framework. Whether this will just be another truncation or will lead to successful performances, eventually becoming embedded as a native research tool is very much outside my control.

Discontinuities

Problems with Describing

This is a statement of the obvious. It is implicit in the framework I have outline in chapter 8 that the descriptive separates us from the native and that therefore there will *always* be problems with describing. This is *the* problem that the process researcher has to try to overcome, and failing that (as he or she will) must at least alleviate its impact.

One aspects of Bergson's work that I found particularly useful was his dislike or distrust of language. Intuition is a useful tool for tuning into a language-less concept of problems: for imagining the sense of flow that characterises a given situation. This is my antidote – a continual movement against interpretation: a checking back against what must or could have

been actually going on to counter the growing power of description to take over. But eventually there has to be capitulation to language if the process researcher wants to communicate. Ideally people should be able to experience the research rather than reading about it in conceptual terms, but that takes us into the domain of performance, which is dealt with below.

Another challenge for the process researcher is scope. The native is always distributed through time and space, unlike the researcher's single location. How can we properly describe this distributedness? How can we even get ourselves around it? I have suggested certain methods that could help, loosely employing the concept of surveying, for example, but I suspect there is no proper answer. I have also suggested how, as facilitators of research rather than the sole perpetrators, we should look to enrol those engaged in the native as part of the research process, thereby bringing their distributed experiences to bear on the problem. Unfortunately I have not had the opportunity to try this and cannot claim its merits. Yet another loose end hanging out of this project.

Whether it is to overcome the limitations of language or maintain our connectedness with the processes we seek to understand, one solution to these problems of description is to hurry on to the next stage – to perform what we describe...

Problems with performing

What is it to perform as a researcher? Performing an idea like “The Tango” is easy to imagine, performance in a research project is harder. Could “imagination” be the solution? Imagination is a way to build up a sense of process. Recalling the image in chapter 7 from Lean Thinking, imagine standing in the aisle of a supermarket and think about all the processes that put the tin of beans or bottle of wine in your hand. It seems a very unreal (or unscientific?) practice, but there has to be an underlying reality. After all, there it is, in your hand and how did it get there other than through the collective energies of all those processes delivering it to you.

Imagination animates the descriptive and gets it to perform. It is a form of simulation. While simulation can afford to short cut details in order to produce appropriate effects, these details can reveal incongruities that require attention. Therefore, the openness of imagination has to be tempered with detailed analyses that ground these intuitive flows in the real world of human-material interaction. It is like experimental archaeology: taking an artefact and trying to see how it could have been made or used. Its a lot of little performances that demonstrate how the imagined could fit together.

What of the big performances, the sweeping vistas, the extended process chains? There are plenty of options in the methodological tool box, even if only a few have been tried out here. For example, the narrative seems particularly useful though more closed than other approaches.

Bruno Latour's Scientifiction is an example of this type of narrative. He transgresses the boundaries of conventional research and uses imagination to bring life to the native processes he describes. He disrupts this narrative by injecting different voices that dislocate and question. However, Latour is not concerned with process itself and may be tends towards a neater story with fewer loose ends.

Narrative, film, and the lens of imagination are all closed in a sense that experience is not. The camera tracks past a open road to the left, suggesting some possible alternative to the journey it is taking. But whether there really is a road or just some painted backdrop doesn't matter because it can never be explored. Experience, however, allows you to see the possibility and to take it. For that reason, the whole research process needs to be iterative, grounded and responsive. This is about having ideas, getting them to perform, testing them out and seeing what the result is. Its about being wired into the native so that feedback loops are short and response times low. Which brings me to the final section: issues with embedding.

Problems with embedding

Specific research processes can embed at two different levels: within the native processes that constitute the wider process of researching; and within the native processes that include, but are not limited to, the researched itself. Research processes are largely descriptive and carried on within a limited community of participants. Combined with the post-modern turn towards eclecticism, plurality, fragmentation etcetera and the result is a highly diversified world resembling the jungle. Embedding seems relatively easy. A well written, well published paper injects some new concept, metaphor or word and it is taken up and circulated within the cycle time of a refereed journal.

How do the processes of research affect the researched? How do ideas that thrive within the process of research survive in the world beyond, if at all? Could it be that knowledge itself is one of the obstacles to embedding research. It sanctifies a separation of concerns: researchers can concern themselves with the accretion of knowledge while practitioners are left to draw from this body as and when. Its a convenient split that allows the two to co-exist and possibly even suits their different dispositions, but is it really effective?

Lines of Susceptance

What is it that makes it easier for the idea of process to develop and replicate? Where are the open doors and well worn tracks? What has made any of my little achievements possible?

I raised Bergson in the previous section. The current interest in and development of his work[1] provides momentum for the concept of intuition and duration and his anti-linguistic turn, although the anti-linguistic turn may not contribute to his current popularity.

Another flow that indirectly supports process research is Actor Network Theory. Although the term currently seems to induce a variety of anxieties, the general sense of what Latour, Law, Callon and others have achieved and continue to achieve is a great help in carrying forward the processual project. The need to follow the network wherever this may lead (e.g. Latour on Joliot); the material grounding of ANT research (e.g. The transport system explored in Latour's Aramis[2]); the importance of history (e.g. Latour on Pasteur, Law on Portuguese Navies).

One of my concerns is that I have not managed to add anything that is not somewhere covered by ANT. I find some re-assurance in its lack of any explicit processual character and some from its decidedly substantial ontology. But then if ANT is primarily methodological, as Latour would claim[3], perhaps these issues are not very important? Re-reading Latour's account of his field trip to the Amazon re-assures me that they are. His concern is with how the team of scientists gradually construct the correspondence between the reality they are visiting and their representations of it through a chain of mediations between matter and form. This is an epistemological enquiry, is it not? I would rather bypass epistemology than ontology, and ask not about the correspondence between reality and representation but rather the full cycle. Where do these descriptive processes lead? What performances do they enable? This is not just an issue of scope though. Given that history tells us science is always inaccurate, science is as much a performance in credulity as anything else. The fact that statement X corresponds to reality Y is less important than the fact that we believe it does, a belief that is itself established around certain methodological performances that have themselves developed over time. It is this belief that enables us to attempt to turn these descriptions into practical performances. It is the actual (and ultimately always unknown) correspondence that determines whether these performances will be successful or not.

I have only recently discovered the works of Tor Hernes which have provided me with a focus on what I have been able to contribute to process theorising as well as an invaluable assessment of and framework for endogenous processual studies.

I have already admitted how much I have struggled with post-modernism, but nevertheless it provides significant impetus for the progress of process related works everywhere. My concern is the pix'n'mix style that pervades what I might call the more casual waters of post-modernism.

[1]See Chapter 6
[2]Latour 1998
[3]See Latour 2004

This promotes the use of the idea of process without requiring a processual world-view. Process becomes reduced to a metaphor and, as such, is just one among so many others. The problem that I suspect may underpin this is the fear that addressing something as large as a "world-view" is itself a movement contrary to the very nature of the post-modern.

Setbacks and lost opportunities

Ontology has been a field in which I have toiled for too long and made little progress, but one that I have repeatedly concluded to be unavoidable. If processism is a world-view opposed to substantivity, then applying processism depends on working within that world-view. If such a world-view fundamentally keeps switching back to the substantive then process reduces to nothing more than a metaphor – a device to be used as and when convenient. But tackling the ontology of process appears to be a massive project and my attempts in Chapter 8 probably do it an injustice.

This project has tried to embrace a wide range of works from Descartes to Czarniawska, but it still fails to cover enough. In particular, what I have read of Merleau-Ponty's work I find very interesting but I came upon it too late and took too long to get even a slight understanding. This is again another project but one that can be joined by Dewey, who just does not get the attention his work deserves, Peirce and so on – all missed opportunities. I put these failures down to a combination of the sheer scope of work that a processual approach brings with it, and my own lack of a scholarly background in these works.

Lines of Reactance

There is a large amount of social capital bound up in the substantive world-view and a reaction against a position that fundamentally refutes it should be expected. However, there does not need to be a contradiction: it is not that a process world-view is "better" than a substantive one. After all, to do so would be a move towards correspondence. Process offers a different perspective, it is not a replacement. The substance world view has been hugely valuable both in practical terms and for the development of our technological society. Yet however much I try to convince myself that the two are different I accept that there always is a criticism of substance in the processual: that the fixed world of Things fails to take sufficient account of dynamics, connections, movement, flows, even time. For this reason there will always be reactance against process.

Another obstacle to processism has to be the constraining manner in which research is communicated. Despite the development of technologies such as the Internet and multimedia there are very few examples of academic channels that are not tightly bound to the textual. Even Internet based journals, such as *Ephemera* are almost exclusively textual, using the Internet only

as a means of publishing words without paper. I have already covered this issue in Chapter 9 but I wonder if the problem runs deeper. Searching EBSCO for papers on YouTube or FaceBook reveals 4 articles each, only one of which is sociological. On-line social phenomena such as "World of Warcraft" or "Second Life" in which millions people interact together in virtual worlds appears to be unnoticed. On EBSCO, Second Life merited two papers: one on Intellectual Property and the other, bizarrely perhaps, on Library studies. Sociological disciplines seem to be paying little attention to these new media. As a result their potential for opening up the way we present social research is not being considered.

Perhaps there is a simple reason for this lack of interest? The process of publication is deeply embedded in the institutions of research. Like Latour's Scientists, it involves a performance of credulity: a process of refereeing that is deeply embedded in the textual. Papers are reviewed anonymously and through a distributed process that revolves around reading and editing. There are alternative models, such as theatre critics who have to experience what they review, but they have presumably been discounted as inappropriate or impractical.

Fortunately, there are a few authors who have transcended the publication machine and are able to experiment with new modes of communicating. Once again I praise Latour for some of his work. But it is noticeable that many of his innovative works, from the Berlin Key, to Aramis, to Paris exist outside conventional research channels. A sign of things to come perhaps?

Finally I anticipate a mixed reaction to a proposition that research is always part of a cycle of change and therefore the researcher's role is one of facilitator within that process of change. The inference is that the Epistemological project of knowledge generation is an unnecessary splitting of this process into separate parts: researchers concerned with the generation of knowledge while someone else has to worry about its application and utility. The division between research and practice is well rehearsed[4], but I think that this point goes further. It is not that the processes of knowledge generation and knowledge consumption are poorly connected (vertically separated, as it were). It is that to separate knowledge at all is to split the process laterally, with the consequent risk that these knowledge generation processes become vortices that have no interest in their own performance. In chapter 9 I have recognised that researchers cannot take on the role of facilitating the whole process of change, but there is an implication that they should be more focused on the how their ideas perform as well as how well they are described.

14.3 Final Analysis

This thesis reflects a journey that started by exploring organisations as ecosystems of ideas and ended with a model of social processes as the complex-conjugate of technology- and language-

[4]For example, see Wood and Ferlie, 2003.

mediated processes ultimately articulated through the actions of the human body. From the moment I first floundered on the concept of ideas as something that could be both within and outside the mind I have been struggling to find a way out. It is regretful that this route has only recently become clear to me. It lies in understanding that neither technology nor language are either central or peripheral to social processes; that *the social* is only really expressed through the creative interaction of these components as one, whole process. This means that even as I write these reflections I am playing catch-up with the ideas I have created. What do they mean? Are they really different? Are they really significant? How can they be used to good effect?

I can not know the answers to these questions, but I have started to experiment with them none-the-less. The model integrates existing concepts of durability, replicability and mobility and emphasizes the role that technology has in providing social processes with these qualities. In particular, I have tried to demonstrate how the durability of the technological enables it to store more or less potentiality that is then actualised through subsequent human action. I have added a simple framework that describes processes as being more or less intellectually or technologically intensive, local or extended, inter-dependent or independent, and coupled or de-coupled. Into this space I have described abstract notions such as processes of consumption and production, service processes and infrastructure processes. I want these to be patterns, illustrative of real processes in the real world.

In analysing the case study in chapter 13, I have tried to show how intellectually-intensive processes can be described and understood using these concepts and therefore showing a balance between intellection and technology. The case study is admittedly less than perfect but it goes some way towards demonstrating their applicability. In particular, it compares the processes that constitute Value Based Management with those of accountancy and identifies how the latter's infrastructural nature lends it a durability and replicability that VBM failed to achieve. It also identifies how the technology of spreadsheets, so central to the workings of VBM, can mislead implementers through its decoupling from the processes that it professes to integrate (planning, budgeting etc) and its masking of the uncertainties that managers need focus on.

A different aspect of this project is the model of process genesis: that the universe is defined as causally related sets of processes and that very rarely conditions in these processes are such that a new set of processes is able to emerge and achieve some level of autonomy from its predecessors. This model of genesis is used to speculate about how social processes may have emerged from the biological, and this process of genesis is used to speculate on the basic principles that define all social processes.

There are elements of the model that are clearly drawn from the works of Bergson. The concept of intellection and its substantivity and the importance of tool usage, for example. There is much in Bergson's writings that acknowledges the importance of the human body: the kinaesthetic. But Bergson seeks the ultimate cause of social processes by backing out of the intellectual into the instinctive, his fascination with psychology and neuroscience leading him to look for answer within and beyond the brain – an inter-penetrating collective consciousness that exists within pure memory that is itself interfaced through the brain. By comparison, the model in chapter 8 positions this inter-penetrating collective outside, in the world of technologically-mediated experience. I would like to think that if Bergson was as familiar with contemporary scientific notions as he was with those of his own time then he might have at least given thought to these possibilities?

The other major contribution to this project has to be seen in the works of Bruno Latour, and other authors engaged in the field of Actor-Network theory. What I have tried to do here is to absorb the technical elements of social processes, made explicit in ANT, into a tighter relationship with humans. I am asserting the kinaesthetic over the technological while still granting it equal status with the intellectual.

Tor Hernes has enabled me to bring this work into context with many of the other writings that come under the banner of process. I have been able to use his writings in my own process of sensemaking, and through this I have determined that the most important aspect of this project has to be an insistence of the materiality of social processes. However, it is very clear that there are many connections that need to be explored and better developed. Luhmann's autopoiesis, for example, is glanced at in the text above and needs to be more fully explored and integrated. The same is true for Weick's sensemaking. Similarly, although Actor-Network Theory is more fully addressed, there is still work to be done cycling back from the proposals in chapter 8 to revisit and retest. Moreover, the speculative model that is the subject of chapter 8 requires much more work.

This is, therefore, a tentative step forward. At its heart it is an integrative model that combines movement *and* materiality; intellection and technology, into a single process articulated through the human body. The social is not enacted by *Homo sapiens*, the biological, no *Homo loquax*, the intellectual, nor *Homo faber*, the technological, but rather *Homo ordinare*, the organizer.

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