

**TOWARDS A CRITICAL APPROACH TO
KNOWLEDGE MANAGEMENT**

FRAMING A NEW PARADIGM

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Towards a Critical Approach to Knowledge Management: Framing a New Paradigm

Abstract of Thesis

This thesis seeks to make a contribution to the critical literature on management, and, particularly, to the critique of knowledge management (KM). It suggests that the mainstream understanding of KM has some important problems, but we cannot see them as a disease curable by new managerial techniques. Rather, it is argued that management to a certain extent may be part of the problem of which it is purported to be the solution.

The mainstream approach to KM has its roots in the predominant view of knowledge which assumes that the application of knowledge contributes to societal progress, within the context of the common social good. This view may be in some sense axiomatic and universal, but it might pose a problem insofar as it relies on a human-centred belief that knowledge endows man with the superior ability to dominate his environment. This belief is further strengthened by a neo-classical economic understanding of the world which presumes that we can see knowledge as a resource to serve our economic interest. However, from some poststructuralist perspectives, knowledge is inseparable from power, and this means that knowledge may contain uncontrollable dimensions and may generate unwarranted consequences beyond economic concerns. Moreover, from a deep ecological view, our industrial activity has become one of the major causes of environmental crisis, and the process is itself accelerated by the efficient application of knowledge in the production system. The limits of the application of knowledge are illustrated through a consideration of issues raised in mainstream KM because it seems to be an epitome of the predominant understanding of both knowledge and management.

Via a theoretical excursion, it is suggested that the orthodox concept of KM has some intrinsic problems. On the one hand it embraces the age-old belief that, with modern techniques, we have ultimate control over our environment, and on the other it assumes that knowledge can be used to meet a sectional requirement - economic efficiency, while ignoring the dark side of economic growth in relation to non-monetary social and ecological costs. An additional element is the view that sees management as a (conceptual or practical) tool to serve the purpose of managing knowledge. However, it is not our business to discuss these problems except insofar as the current state of KM offers a weak response to them.

One of the main reasons is that mainstream KM is often mired in a framework in which economic values have attained the highest regard and economic goals have somewhat displaced other social objectives. Nevertheless, the dilemma is that knowledge is too powerful and too indispensable for modern society; that is, we cannot simply abandon the concept of KM, because the application of knowledge has already become an integral part of modern life, and business organisations are becoming more demanding in terms of the use of functionally specialised knowledge. Faced with these difficulties, it is argued that we need to articulate an alternative understanding of KM, and this work suggests that such a project can be grounded on what can be termed 'ecological consciousness'. However, this requires two major things. First, we suggest that since mainstream KM has its roots in the predominant, economic understanding of knowledge and management, we need to re-examine these two components and the relationships between them. Second, we shall illustrate an alternative set of worldviews and decision criteria for KM which escapes the eco-systematic problems and is emancipatory in essence. That is to say, the ultimate intention is to construct some alternative, thought tentative, possibilities of KM.

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Chapter One

Introduction

There are a number of dangers that pose a combined threat to the continued existence of our world, ranging from harmful food additives to pollution and global warming. It has been recognised that some of these problems, such as ecological degradation, have an enduring quality because they may lead to irreversible disastrous consequences. As David Bohm (1980: 2) suggests, mankind 'has brought about pollution, destruction of the balance of nature, over-population' that is 'neither physically nor mentally healthy for most of the people who live in it'. For Bohm, this crisis is not the result of Nature, but is, in fact, derived from organised human activity. He understands it as a product of the modern condition of 'fragmentation', which has a double sense. In the first sense, it is characteristic of a period in which the world is organised by different institutions such as government and corporations, and organised human activity plays a central role in our everyday life. In the second sense, it indicates that the application of different forms of knowledge has become an integral part of modern society; that is, as modern society becomes more complex, its parts become more dependent on functionally specialised knowledge that suits systematic requirements. However, the application of knowledge propels modern society into the tunnels of specialised disciplines and ultimately leads to a regrettable outcome: the more our society advances in knowledge, the less clearly can we see ourselves as an integral part of the environment. The world crisis seems to Bohm so profound that he argues that it has become a major threat to our world.

The contemporary state of being is very much determined by our exposure to various forms of organisation, and many believe that the advance of knowledge largely contributes to the advancement of the human species. However, in the name of progress, humanity seems to have wittingly embarked on an experiment. But we should note that this 'experiment of progress' is, rather than being value-neutral as it is assumed, often governed by a set of particular interests – that is, economic and industrial purposes, which form part of a system in which the expectation of constant economic growth becomes a necessary condition. Within this framework, economic goals have even been represented as 'universal', and any interests incompatible with economic progress are usually considered as 'impractical', 'irrational' or against 'progress' itself. It is very possible that our environmental crisis is a product of this framework. At a macro-level, governments are failing to deal with the problem of

greenhouse-gas emissions¹; at a micro-level, industrial organisations are the target of escalating criticism from environmentalists. While industry has indeed faced a media backlash that is raising public concern over toxic wastes, ozone depletion and pollution, industrial misdeeds continue to appear on the scene, and organisations are still a big part of our modern problems:

Our organizations are killing us!....Every day industrial organizations spew millions of tons of toxic waste into our waterways or the atmosphere.....human health is adversely affected by corporate practices that place profits before human welfare. Working in many organizations can be dangerous too. Each year hundreds of thousands of workers throughout the world die of work-related accidents and illness. (Morgan, 1986: 273-274)

In a similar vein, Korten (1999: 76) suggested that corporations are, to large extent, profiting from different types of ‘depletion’: (1) depletion of natural capital such as by strip-mining forests and dumping hazardous wastes; (2) depletion of human capital such as by maintaining substandard working conditions in the Third World countries; (3) depletion of social capital such as by treating employees as expendable commodities; (4) depletion of institutional capital such as by paying out millions in campaigns to fight environmental groups. To the extent that organisations are part of modern problems, managers, who are entitled to run them, are deeply implicated in this process. Some may argue that our organisations are not ‘knowledgeable’ enough to tackle or to apprehend our problems because, since the Enlightenment, there has been a predominant view that the use of knowledge can provide solutions to various social problems. However, such a conclusion seems untenable in an epoch in which many have claimed that our organisations are becoming ‘knowledge organisations’ and some even believe that we are so awash with knowledge that our society is becoming the ‘knowledge society’. Thus the question arises: if they are so knowledgeable, why are they still creating problems? I suggest that this question cannot be overemphasised as it is directly associated with our outlook upon both knowledge and organisation, and the idea of Knowledge Management (KM) epitomises the predominant understanding of them.

¹ In the 1980s, the problem of global warming came to prominence in field of politics in some major industrialised countries (America in particular; see Hobsbawm, 1994: 552), and the Kyoto Protocol (adopted in 1997, which requires developed countries to reduce their collective emissions of six greenhouse gases in the period 2008-2012 by at least 5% compared to 1990 levels; see Victor, 2001: 3) has been signed by 128 nations since the last ratification by the Russian Federation in late 2004 (WHO, 2005). Nevertheless, it is not proved to be an easy task. The fossil fuel industry, as well as many oil producing nations and developing countries, have attempted to interfere with and obstruct its progress (e.g. Victor, 2001; 33; 34). The greatest single source of global pollution, the United States, also withdrew from the Kyoto Protocol in 2001, as the Bush administration claimed that the Protocol would be incompatible with the goal of economic growth.

The use of knowledge and intellectual assets in organisations is generally understood as the management of knowledge, or more precisely, KM. Broadly speaking, the mainstream understanding of KM reflects the prevailing view of knowledge, organisation and management. That is, mainstream KM originates in an environment wherein knowledge is seen as the major productive determinant of the success or failure of companies within the context of the social good, and the role of KM is to strengthen this part of the productive process. However, it is not necessary to discuss the theory and practice of KM except insofar as the current state of KM is misleading and overlooks some important dimensions of knowledge and management, and, more importantly, it neglects the possibility that the application of knowledge and management may have wider-reaching effects than their users purport to take responsibility for.

The central theme of this thesis is KM. This work stems from an emancipatory interest by examining ways in which orthodox views of KM have developed, and exploring ideologies that underlie the assumptions about it. In other words, this work attempts to develop theories and knowledge that disprove the current understanding of knowledge in relation to management. Yet, given that most KM scholars are seeking to make new models about KM and that literature on KM is extensive, it can then be asked: what is the ultimate purpose of this work?

Of course, management theorists, a notably contentious group, are constantly producing new ideas, trying to disprove other models and theories. As certain theories or models gain currency, some at times are represented as the authoritative voices. However, critics would soon appear on the scene, and try to disprove the validity of the antecedent theories, as they have with regard to KM. Managerial interest in this area can be traced back to the 1960s, though it has been ascribed increasing importance since the 1990s. KM, as a sub-field of management, also shares major characteristics of management in general. Indeed, KM consists of theoretical claims and counterclaims, but their explanatory power seems unable to be maintained permanently, and they are soon superseded or challenged by consequent theories. Thus, one might conclude, at this point, that there has not yet appeared a competent critique of the theory and practice of KM. Nevertheless, such an assertion would be somewhat untenable, because evidence shows that there are indeed some competent critiques of KM and many management gurus and theorists have also asserted that they have indeed identified revolutionary models of KM. However, I suggest that there are certain common problems associated with the current state of KM, but it offers a

weak response to them. The first purpose of this thesis is therefore to formulate a critique of what can be termed mainstream KM.

Knowledge Management as the Problem

One of the major problems with the current state of KM is that it is governed by an economic understanding of the world. To get a grip of this, we need, first of all, to recognise that the concept of KM is a construction created to deal with the practical issues left by economics. In the field of management, Peter Drucker (1993: 29-41) is one of the founders of KM, and, for him, we are already in what he called the 'knowledge society'. His idea is that knowledge is always good for society, because it facilitates progress at every level. His analysis of knowledge implies that its application and development of knowledge encouraged a 'productivity revolution', which in turn engendered a 'management revolution', and both have largely improved the efficiency of our production and market system. For him, knowledge is obviously an economic resource, and the function of knowledge should be to serve this economic purpose, within the context of the common social good. Drucker's idea is of importance to the mainstream understanding of KM, because many have believed that he created a conceptual skeleton for KM, in which knowledge was to be defined and managed, or allocated by management. But, upon closer examination, Drucker's thesis is actually derived from the neo-classical economic logic that knowledge is the 'engine' of economic progress, and neo-classical economics often holds an unquestionable assumption that sees economic (or material) progress as identical to societal progress. This economic 'logic of progress' can be expressed by the equation: economic growth = material progress = societal progress, and it presumes that knowledge is the momentum behind those components. Although this neo-classical economic logic plays an important role in contemporary KM, it lacks a practical means of sustaining its framework. At this point, KM provides a supplement. While Drucker (and his followers) believed that the goal of managing knowledge could be achieved through purely scientific techniques, this scientific approach has been widely challenged because many argue that KM should involve sociological, psychological and even political processes. These theoretical positions do not require further exposition here, because they will be explored in later chapters. However, we should note that, to the extent that some assumptions about KM have indeed been challenged, the neo-classical economic logic of progress has an enduring quality that it has even become an axiom in mainstream KM.

With this in mind, we should recognise that the predominant understanding of KM seems to reflect a managerial attempt to establish a set of economic ‘relationships’ – between knowledge and management, between knowledge and organisation. It is necessary here to identify two attitudes. The first (or the orthodox) approach to KM assumes that there is, or should be, a ‘predictable’ relationship between knowledge and organisation. This approach implies that knowledge can be used as a tool to serve organisational purposes, usually measured in terms of economic value, and that what is required is no more than some technical adjustment in managerial methods and practices. What is also implied is an unquestionable assumption that sees management as a necessary social process, always within the context of the ‘social good’, as management improves the efficiency of the production of goods and services. This, then, leads to the view that the function of KM should be to contribute to a manageable relationship between knowledge, management and organisation, and this view is highly governed by an economic understanding of the world. The second approach to KM sees knowledge and management as highly problematic terms, and the relationship between knowledge and management (and organisation) is both ambiguous and power-laden. This approach was derived from a scepticism regarding orthodox language and assumptions commonly used to describe KM and sees it as a socially constructed entity. While some KM theorists nowadays accept a Foucauldian view that sees knowledge not as a neutral process but a process of power, some others are even influenced by some versions of Postmodernism². This approach implies that management is always within relations of power, and, thus, whether management is capable of managing knowledge may be dubious (e.g. Knights et al., 1993). But, upon closer examination, this approach appears to be more complex because it may lead to two distinct possibilities.

The first possibility is that some theorists now assume that KM should not be understood as a rational process, but as an analytical tool for our understanding of the relationship between knowledge, management and organisation. Generally speaking, this is a theoretical shift which is centred on the issue of the new ‘expression’. However, it still implies that there exist some meaningful relationships between knowledge, management and organisation, but management needs to develop a different (psychological, sociological, etc.) understanding of KM in order to make use of knowledge for organisational purposes. Yet the organisational purposes are not seriously discussed, that is, they are seen as ‘pre-given’, and this means that economic usefulness is usually presumed to be an important criterion (though it may be hidden)

² Postmodernism includes a great variety of positions. Much Postmodernism implies a scepticism regarding rationality, Reason, and objective Truth, while some Postmodernism denotes a denial of judgemental criteria, or even the possibility of such criteria.

that should inform the theory and practice of KM. In this regard, we can possibly see this as a theoretical variation of the mainstream approach to KM. The other possibility, however, has an emancipatory tendency because it rejects the pre-given goals that are usually proposed by mainstream KM. This approach assumes that the application of knowledge involves complex processes which always have some unmanageable dimensions, while it rejects the notion that we can simply retain the concept of KM as a (either conceptual or practical) tool to manage the process of knowledge in order to serve our economic purposes. Namely, it sees mainstream KM as not so much a rational as an ideological and chaotic process. As we will see in subsequent chapters, to the extent that the managerial goal of establishing some relationships between knowledge, management and organisation might indeed be actualised, the desired 'economic' or 'controllable' relationship between those components remains as a problem centred around management. However, this approach does not assume that the problem can be technically resolved, but sees it as an intrinsic problem associated with both knowledge and management. That is to say, the second possibility implies that mainstream theorists often fail to recognise the non-rational nature of KM. It also reveals that the predominant, economic, understanding of both knowledge and management is problematic. This view, to date, had little impact on what is described as the mainstream understanding of KM. This is because such a view may not only challenge the fundamental assumptions on which the conventional discourse of KM rests, but also undermine the legitimate basis of mainstream KM. Another reason is, perhaps, that this view could lead to the conclusion that we should discard the whole concept of KM.

However, if we were to accept the view that the application of knowledge and management has unmanageable dimensions or reject the (neo-classical) economic logic of progress, should we simply discard the concept of KM or even the use of knowledge? This seems to be a dilemma for us. People in the 1900s could have been engaged in their daily activities as if modern techniques had not existed. But, in an age when scientific advances are applied into technology with little understanding by its users, it becomes far harder for us to live without the application of knowledge. Moreover, when society becomes more sophisticated, it must rely on a more detailed, and more specialised body of knowledge. While we have noted that our industrialisation is within a conceptual framework in which economic issues have generally attained the highest regard, it is also possible that business organisation has played a more and more important role. Business organisation, in this context, is also more demanding in terms of access to, and the capability of utilising knowledge. This all implies that the idea of KM cannot simply be abandoned. However, while the

mainstream approaches to KM are informed by a common meta-theory – the economic understanding of the world, the sceptical approach to KM seems to be in need of a different legitimate basis – at least, there are grounds for totally abandoning the concept of KM, and, more importantly, it has not yet seriously taken into account the possibility that the application of knowledge within organisations might pose (unintended) problems at a societal level. But, for the moment, let us leave this issue aside and focus on the mainstream approaches to KM.

The mainstream approaches to KM are unable to legitimate alternative possibilities to the economic models of knowledge in relation to management. This is because the predominant idea of KM is, as we have contended, a product of an economics-related notion of ‘knowledge society’ wherein the ultimate purpose of knowledge is to serve our economic interests, allegedly for the benefit of all. An additional element is a set of worldviews and perceptions, which presume that with advanced technologies man wields ultimate control over his environment and that the use of knowledge leads to progress and social betterment. In sum, mainstream KM is sustained by two related views. On the one hand, it is declared that KM has become a necessary process, as management now has to meet the challenge of ‘knowledge society’. On the other, what is also implied is an unquestionable belief that managers, through adequate managerial knowledge and techniques, are capable of managing the crucial resource, knowledge. Both views are sectional and economic, and imply that KM practitioners and KM theorists merely need to concern themselves with the issue of knowledge for the organisational purpose, as KM is created in a conceptual framework in which knowledge is taken as an economic resource that should be ‘managed’. This may also imply a mainstream outlook upon management and KM – management theorists (or managers) are not responsible for the things which they do not intend to ‘manage’, and, unsurprisingly, virtually none of mainstream KM literature is concerned with things that are often taken as outside the organisational domain. However, it is, obviously, not the path to the solutions to environmental problems, simply because our industrial activity is one of the major causes of environmental crisis. Evidently, if business organisation and its use of knowledge indeed have potential impacts beyond their original domain; that is, if the use of knowledge is so powerful that it may produce effects outside organisational boundaries and economic concerns, it would be an important task for us to offer the concept of management some ‘alternative’ value, especially when we take our environmental crisis into consideration. Our argument here is that if KM, as a type of organised human activity, has potential for causing unwarranted harm to some other entity, we must be mindful of it. Nevertheless, if KM were to be of other social value, how or where could we start? To answer this, we

need to briefly discuss Felix Guattari's (2000; and some of his writings with Gilles Deleuze) project.

The Necessity of Alternative

In 1989, three years before his death, Guattari published a short work *The Three Ecologies* (Guattari, 2000). One of his goals was to identify the crisis of what he calls Integrated World Capitalism (IWC) that, through a series of techno-scientific transformations, has brought us to the brink of ecological disaster, causing a disequilibrium of the world's natural environment from which the Earth might not recover. For Guattari, IWC is now, above all, a fourth-stage of capitalism, no longer oriented to producing primary (agricultural), secondary (manufacturing), or tertiary (services), but now oriented to the production of signs, syntax, and, in particular, subjectivity (ibid: 47). Part of Guattari's thesis is that the expansion in technology has served to shape a new type of passive subjectivity, saturating the unconscious in conformity with global market forces. IWC, as well as our economic activities, thus poses a direct threat to our environment in ways that might be all too familiar to us: pollution of all forms, extinction, or depletion of species with the consequent reduction of biodiversity. However, what is not often recognised, if at all, is what Guattari would call 'mental ecology': both how the structures of human subjectivity to which it refers, like a rare species, are also under threat of extinction and how they underpin an understanding of environmental and social ecology.

This all-encompassing global crisis, for Guattari, has apprehended the world (the world as a whole), and it seemed to be so profound that he wondered how the world was able to survive it. Yet I suggest it would be too naïve to see Guattari's vision as a mere condemnation of capitalism³ or even IWC. Guattari's (e.g. 2000: 27) work is highly influenced by Bateson's thought. The importance of Bateson's argument here is in criticising the dominant 'epistemological fallacy' in Western thinking (if there

³ From an economic view, 'capitalism' can be defined as a socio-economic system in which markets and commodity production are pervasive. Under capitalism, most production takes place in (business) organisations. An organisation is an institution in which products are made for sale in the outside world, and workers are employed under the supervision of the management. Capitalism is generalised commodity production. It is generalised in a double sense, first because under capitalism most goods and services are commodities. Second, because under capitalism the capacity to work is itself a commodity. Thus, it is also possible to see capitalism as a market system but not all economies involving markets and private property are capitalist systems. A necessary feature of capitalism is the widespread use of the employment relationship, involving employer control over the manner and pattern of work, with 'management' playing a central role in this process. In subsequent chapters, we shall further discuss the meaning of capitalism in different senses, especially in relation to a poststructuralist position.

was such a thing) that the unit of survival, in the bio-taxonomy, is the individual, family line, subspecies or species, when the unit of survival is in fact organism plus environment (ibid: 70). The choice of the wrong unit leads to an 'epistemological' error that propagates itself, multiplying and mutating, as a basic characteristic of the value-system of which it is a part. Hence, what Guattari spoke of is actually a crisis that has its roots, not merely in capitalism itself, but also in Reason, in Descartes's idea of 'thinking self', in Descartes's 'dualistic' belief that 'man is master and proprietor of nature', in the one-sided nature of much modern science and knowledge, which has reduced the world and man to mere objects of technical and mechanical investigation and put the world beyond their horizon, since the beginning of the Modern era. However, having achieved spectacular successes in science and technology, this 'master' is now realising that he is, perhaps, master neither of nature (it is suffering from irreversible ecological problems), nor of himself (he may be led by 'irrational' forces). If this is the case, perhaps it is the deep ecological movement, or the ecosophy of Arnold Naess, which the great poststructuralist Guattari (2000) had not taken into consideration. However, to some extent, this unawareness does not weaken Guattari's thesis. In this context, it is useful to briefly review Naess's (e.g. 1973; 1989) theory of deep ecology.

In the eyes of Naess (1989), our current major problem is the ecological crisis, and he suggests that ecological disasters can never be understood as a technical issue. For him, the problem has its roots in the dominant 'paradigm' that legitimises our exploitation of the natural environment, and he believes that this problem can only be solved at an ethic-political level. At this point, he identified two potentially alternative norms: ecocentrism (biocentric equality) and self-realisation. While ecocentrism means adopting an ecocentric attitude against our predominant human-centred (or anthropocentric) worldview, the concept of self-realisation implies that humankind is inseparable from its (natural) environment. In brief, both norms imply that we need to recognise that all things in nature are equal and have their intrinsic values. As such, some have contended that Naess's position seems to celebrate a kind of Nature religion or a 'return to an alleged ancient symbiosis with Nature' (Hayden, 1997: 201). In this respect, is Guattari's (2000) ecological concern compatible with Naess's deep ecology? To answer this question, we need, first of all, to compare Guattari's ecological theory with Deleuze's (1986 [first published in 1977]) idea of 'naturalism', as Guattari's ecological theory seems to originate from it.

Deleuze's (1986) view of naturalism is that our ecological disasters result from the problematic predominant assumption about the relationships between humankind and

its environment. Deleuze suggests that we need to formulate 'active (eco-) political interventions aimed at transforming or overcoming those relationships in order to create new values and interactions that are beneficial to the diversity of life on Earth', while he also seeks a 'return to a state of nature' (see Hayden, 1997: 196; 197). This is roughly the position of Naess, but there is a difference between Naess's and Deleuze's argumentation. While Naess's notion of 'a back to nature' may imply 'Nature mysticism' or some kind of 'natural religion', Deleuze seems to be hesitant about inspiring any spirit of 'mysticism', or, at least, Deleuze might limit the re-tracing of some forms of alternative discourses. Deleuze's concept of naturalism is somewhat compatible with Guattari's (2000) ecological thinking, especially with regard to their use of ecological notions, such as (bio-) diversity, symbiosis, and complexity. However, what is Guattari's (2000) attitude to the spirit of mysticism? In a sense, Guattari adopts a somewhat different attitude to alternative discourses, particularly when he proposed the idea of 'mental ecology'. This is because Guattari's mental ecology suggests that IWC has created its 'majoritarian' discourse by regulating our subjectivity, while translating different voices into its own, with a homogenising effect. Guattari's solution to this problem is the creation of new forms of subjectivity, based on alternative interests, while resisting being translated into any majoritarian languages. In this respect, we see that Guattari seems to have a more open attitude to spirit, alternative or utopian thinking, and action that have potentialities and possibilities of transformation of our society. However, despite the nuance between these thinkers, I suggest that their similarities are of more importance to our understanding of ecological thinking.

Generally speaking, Deleuze, Guattari, and Naess all show a relaxed attitude to the boundaries between different forms of knowledge, while rejecting binary ontology and dualism of all kinds. However, this attitude seems to be subversion in some senses. Some people desire a world where truth and falseness, or good and evil, can be distinguished. From this logic, our world can be divided into two: if A is true, then its opposite B must be false; or if C is unethical, its opposite D must be ethical. This either-or logic implies our strong desire for a world where we can see the objective truth and absolute goodness, and, more importantly, this dualistic logic has gone even further, that is, it may lead to the belief that humankind is separate to its environment. In retrospect, Science and religions have both functioned as the Supreme Judge, but religions have gradually given way to Science. However, it seems that Science still has some problems: for example, the heliocentric theory was once considered as Truth,

but it is now under suspicion⁴. Or, more likely, in the current industrial civilisation, it is market value that has replaced the role of the Supreme Judge (see Simmel, 1978). However, the question is, in absence of the clear boundary between truth and falseness, how can we comprehend our 'world'? And should we accept an un-resolvable relativism?

Certainly, the answer might be different to different people. But Deleuze, Guattari and Naess attempt to ground a judgemental criterion in their ecological concern, and Guattari (2000) further emphasised the importance of subjectivity. For Guattari, our problems today is not that we are irrational, or that knowledge is subjective; rather, Guattari's position would suggest that we are not subjective enough! This, of course, reflects a distinct attitude to knowledge. Since the Enlightenment, especially in the West, the intuitive/subjective form of knowledge has often been devalued in favour of scientific, rational knowledge. However, drawing on a Foucauldian view, Deleuze and Guattari believed that the distinction between these two forms of knowledge is not so much objective as ideological. This is because, for Foucault (1970: 35; 43-4), our modern (largely bourgeois) societies had been trying to arrive at scientific/objective truth by gripping tightly on the 'production of truth', sustained by the relations of power. But Deleuze and Guattari develop this in a somewhat different sense. On the one hand, Deleuze and Guattari believe that by now we have passed on to a new type of society – societies of control – which not merely employs the disciplinary institutionalised systems of control and normalisation to produce its truth claims, but also resorts to the control of conduct as present everywhere, permeating the whole texture of social practices, appearing in the name of the 'majoritarian' interests (see Deleuze and Guattari, 1987; Rose, 1999). On the other hand, Guattari (2000) went on

⁴ It might be worth noting that the relationship between objective reality and (scientific) truth claims could be a highly problematic one. For centuries, the geocentric model had been identified as Truth by the Catholic Church (partly for scriptural reasons). Yet, after Galileo (who followed the Copernican theory), many believed that the heliocentric universe was the more scientifically accurate truth. In 1992, the Catholic Church finally admitted that Galileo was correct in asserting that the Earth moves around the Sun. However the problem is that, in some current views, it could be possible that the Church and Galileo are neither 'incorrect' nor are they 'correct'! This is because, from Einstein's theory of general relativity, for example, it is impossible for a human observer to determine whether any material body is in a state of absolute rest (i.e. immobile in space). It claims that only motion of two material bodies relative to one another can be physically detected. According to this theory, the geocentric and heliocentric viewpoints are equally valid 'representations' of reality, and it makes no sense whatsoever scientifically to speak of one as being true and the other false. The well-known astronomer, Fred Hoyle (1973: 78), thus argued that geo-centricity and heliocentricity could be both proved and disproved by Einstein's theory of relativity. The fuller study of these scientific debates, of course, lies outside the scope of this thesis. However, what is at issue is that even 'scientific' Truth, or the claim that has been represented as 'obviously true', could be problematic and might be sustainable only in certain periods of time, within a specific paradigm. Some theoretical issues relating to Science and physics will be discussed in the next chapter.

to argue that industrialised society was trying to produce its own truth claims by regulating our ‘subjectivity’.

Although it is necessary to further evaluate these different ecological concerns, there are good reasons for summarising them. First, Deleuze, Guattari and deep ecology have all identified an anti-emancipatory problem associated with capitalism. To some extent, in many industrialised societies we have achieved some personal and social liberation. However, with regard to the production and consumption world, as our industrialisation has become more sophisticated, its parts have become increasingly interdependent, and the industrial system has been more demanding in terms of its controlling mechanisms, which have become institutionalised and normalised. The whole has led to the formation of certain predominant worldviews together with a conceptual framework in which our thought and actions have often been appraised in terms of economic values, while economic goals have more or less displaced other societal and spiritual interests. In such a context, Deleuze, Guattari and many deep ecologists (such as Naess) have suggested that ongoing ecological crises are predictable and ineluctable. Nevertheless, these thinkers were not merely endeavouring to provide an analytical tool for our understanding of current society, nor did they simply set out to formulate a critique of industrialisation or capitalism. Rather, Guattari seems to warn us that our problem has its roots in another level, i.e., to borrow Einstein’s words, ‘the world we have made as a result of the level of thinking we have done thus far creates problems we cannot solve at the same level at which we created them’ (Oppermann, 2003: 7). The general message here is that what is required is a shift - at the level of thinking, perception and subjectivity – and they recognise the inevitability of politics.

Second, if we are to accept such a view – the view that Truth always contains subjectivity, and that claims to truth may be in some senses scientific, objective or axiomatic, but they are always attributable to power, often to serve certain interests (in this case, capitalism) – it is then possible that knowledge may contain bias, intuition, or even nonsense. However, these thinkers do not merely seek to expose human bias embodied in the social system, or in the discourses that are represented as objective or scientific, but rather to re-trace the silenced thought, or what might be termed the ‘unreason’ in the current industrial environment. But, why ‘unreason’? We have seen that we are now in a framework in which economic interests have gained a higher regard, and the interest of economic growth or economic efficiency is often represented as universal or ‘majoritarian’ (in Deleuze and Guattari’s (e.g. 1987) phrase). Hence, for Deleuze (e.g. 1990), in our current industrial civilisation, it has

become important for us to re-trace thought and actions that have been considered as illogical, irrational or utopian, because they may provide potential for alternatives. All these thinkers believed that truth and falseness, or logic and illogic are always inseparable – just as humankind is an inseparable part of its environment. While Deleuze and Guattari attempted to frame a reaction to the thought and action that have become established and institutionalised, they did not reject the possibility of building an alternative set of values and decision criteria (they would refer to this as ‘minor’; as discussed below) against our predominant worldviews. Yet, for Deleuze and Guattari, as well as many deep ecologists, our task is not to find out the absolute moral criteria, but rather to offer some situational goods: the ‘goods’ that dare not speak their name within the majoritarian theory. Nevertheless, in their view, this project is unthinkable without an ethic-political process, and this means that all of them would have rejected a relativist attitude when they took the problems associated with capitalism into account.

It has become clear that our eco-systemic problems are recurring with potentially disastrous consequences, and, for the theorists we discussed above, this is not so much a technical issue as a philosophical one, which has its roots in our problematic perceptions, and, perhaps, in Adam Smith’s influential idea that our civilisation or the welfare of all societies depends on our accumulation of ‘capital’⁵. It would appear that the flawed assumptions about the world, together with our economic and industrial activities, have become the major source of modern environmental crises. However, it is not our business here to discuss the environmental problem except insofar as it may be associated with our major theme, ‘knowledge’ and ‘management’. The argument here is that organisation and its use, or ‘abuse’, of knowledge may play an important role in the current eco-systemic problem. From a deep ecological perspective, the predominant, yet flawed, assumption about the world is key to many modern diseases, and some theorists thus argue that a shift, or a revolution at the level of thinking is

⁵ Adam Smith’s view of ‘capital’ is complex and somewhat controversial. In *The Theory of Moral Sentiments*, he (1984: 215; first published in 1759) commented sarcastically on those who spent their life on luxury ‘baubles and trinkets’. As a moral philosopher, he seemed to admit that ‘capital’ itself has no intrinsic value, as he (ibid: 214) argued: riches leave a man ‘always as much and sometimes more exposed than before to anxiety, to fear and to sorrow’. Nevertheless, he showed gratitude to people who were merely concerned with the pursuit of their own economic interest, as he believed that our desire for wealth prompted men to ‘cultivate the ground, to build houses, to found cities and commonwealths and to invent all the sciences and arts, which ennoble and embellish human life...’ (Smith, 1984: 214-5). This then leads to his famous, though passing, passage of capitalistic economics: ‘...in spite of their natural selfishness and rapacity....They are led by an invisible hand to make nearly the same distribution of the necessities of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus....without knowing it, advance the interest of society...’ (ibid: 215; see also Smith, 1937: 432; first published in 1776). Although his model of ‘invisible hand or ‘market’ has been challenged, Adam Smith’s ‘moral sentiments’ have convinced many political thinkers and economists of the 18th century and beyond.

necessary. Nonetheless, it could be possible to start by re-evaluating our understanding of knowledge as it relates to both management and organisation.

Rethinking Knowledge Management

Management is, as is often claimed, a body of knowledge created to deal with the problem associated with business organisation, and many even hold the faith that management can be seen as a solution to various social problems. KM is born of this framework. While Drucker (e.g. 1993) contended that modern society is characterised by knowledge, in the realm of business administration, different models, theories and managerial techniques have been developed in order to meet the challenges of the supposed 'knowledge society'. Even if some may disagree on Drucker's assumption that knowledge society would soon become a universal phenomenon, few would disagree that knowledge has become so indispensable that nowadays one can hardly live without it. It is also no surprise to be told that, in such a context, modern organisation is increasingly in need of addressing the issue of knowledge. An additional element is that many governments have aided this process through governmental policies that favour corporate interests over other social interests. However, with regard to our environmental crisis, it appears that our 'knowledge society' is unable to alleviate the eco-systematic problems. Moreover, while business organisation has become an integral part of our daily life, it becomes clear that business organisation is a big part of the problem, because our economic activities seem to be the major cause of the eco-systematic crisis. Paradoxically, while it is often claimed that KM is created to solve the problem between organisation and knowledge, virtually all (mainstream) KM theorists fail to recognise that the application of knowledge in organisations may produce (unintended) problems at a societal level. This simply suggests that the current state of KM is highly subject to an economic understanding of the world, and it is therefore unable to offer a solution to our eco-systematic problems.

Yet there is also a problem particularly associated with the current state of management. Although managers may not be a homogenous social group, many managers nowadays have taken KM as a pre-given issue that business practitioners need to address. This is because, with the rise of business education, some management theories have been adopted by business practitioners on a global level, and it is possible that some of these management models have been seen as axiomatic principles for managers. KM seems to also have such an 'objective' sense, because

we can find that some KM models have been, de facto, taught in business schools and applied by management practitioners across the world. However, if work and managerial activities are so important to modern society that they have indeed become an integral part of our daily life – just as the application of knowledge has become an important issue in organisational life, how can we construct an alternative approach to KM?

Towards a 'Minor' Approach to Knowledge Management

Alternative is a complex issue, of course. In this thesis, I adopt the idea of ecological consciousness, as a possible (moral and theoretical) ground for a radical project of KM, and we refer to this as a minor approach to KM. This is not only because the eco-systemic problem is obviously occurring with potentially disastrous consequences for both the human and nonhuman world, but also because our industrial system and consumer world have been strengthened by a proliferation of homogenising 'norms' that have modified our subjectivity; that is, these norms have potential for unifying different forms of thought and voices which may have their roots in the idea that we have superior ability to alter our environment, in the unswerving faith in progress, or, perhaps, in the anti-emancipatory nature of 'capitalism'. Deleuze and Guattari (e.g. 1986; 1987) would refer to this as 'majoritarian'. Majoritarian thinking is firmly grounded in the increasing satisfaction of needs, and technological and mental co-ordination, which has potential for transforming opposite voices into a well-functioning predominant social system. For Deleuze and Guattari (1987), majoritarian thinking has an orientation towards marginalizing what they termed 'minor thinking', especially if the latter shows potential for subversion of the pre-established, majoritarian system. Majoritarian thinking, in current industrial civilisation, is usually economic, while appearing in the name of rationality. The whole seems to invade and marginalize the world's accessibility to what might be termed 'irrational', or intuitional, understanding of environment.

We set out to argue that, in terms of the current eco-systematic crisis, the 'Problem' associated with the current state of KM is not a simple absence of new techniques, a disease curable by the predominant concept of progress. Our mainstream understanding of progress may be, in some sense, universal and axiomatic, and it is often in connection with the unswerving belief that material/economic progress is identical to societal progress. However, given current environmental problems, it appears that our environmental crisis has not yet been alleviated by the current state of

progress; rather, the eco-systematic problem follows a parallel course. Mainstream KM is born in such a context, while assuming that knowledge can be, or should be, managed via managerial devices, supposedly for the benefit of all. This truth claim is also economic, and may also appear to be universal, but we nevertheless suggest that it may be part of the problem of which it is purported to be the cure. Our intention is, however, to identify some possible solutions. We argue that ecological consciousness may offer some possible, though subjective, criteria to inform our action, while it may give KM a different sense – emancipation at an ecological level, or what we may term ‘minor’ possibilities. An additional element of this approach is a radical view of knowledge, which rejects the mainstream assumption that it is always good for society, suggesting instead that knowledge might lead to potentially disastrous consequences. That is, we adopt a minor approach to protect KM against the predominant, economic understanding of knowledge, management, and Nature. We seek to extend the predominant understanding of KM into an eco-centred understanding of KM, which should include the interests of both the human world and non-human world. To this end, two major things are required. First, via a theoretical excursion of ‘mainstream’ KM literature, we suggest that KM has its roots in the predominant views of both ‘knowledge’ and ‘management’. Second, we shall illustrate an alternative set of worldviews and decision criteria for KM which escapes the eco-systematic problems and is emancipatory in essence. That is to say, our ultimate intention is to construct alternative possibilities of KM: what KM would look like upon removal of majoritarian components and application of the ‘minor’ elements to it.

However, it should be noted that I would not attempt to make a balanced argumentation on these subjective criteria of ecological concern. This is because, from a ‘minor’ position, our task is not to prove the practicability of any possibility that can be termed ‘minor’. Minor thinking may be in a sense unreason, but it has ‘intrinsic’ value that lies in its potential for ‘becoming’ – to use Deleuze and Guattari’s words. In this regard, we attempt to propose an alternative paradigm in which our activities must ultimately exist in a symbiotic relationship with Nature, and environmental interests should attain the highest regard. We refer to this as ‘minor paradigm’. The minor paradigm assumes that knowledge has its intrinsic value; yet its value is not bestowed by man, but by Nature. From this perspective, the function of knowledge and KM would be to serve environmental purposes. That is, they should be in harmony with Nature.

A Guide to the Text

Chapter Two is taken as the starting point for our understanding of the concept of 'minor'. To achieve this goal, I paraphrase Deleuze and Guattari's notion of minor philosophy, and identify two opposite patterns of thought: the majoritarian and the minor. Majoritarian thought is often represented as the norm, which is often claimed to be universal or objective, and its function is to sustain the dominant social presuppositions. However, minor thought represents the silenced and marginalized modes of thought and practices, which are often repressed by majoritarian thought. Majoritarian thought reflects a set of worldviews and mindset, which are part of a predominant conceptual framework in which economic values have been often represented as 'objective' criteria, and it is often assumed that humankind, with its advanced technology and superior knowledge, is able to control its environment. Nevertheless, while some have believed that our pursuit of maximum economic interest may be at the expense of our eco-systematic equilibrium, some think that the predominant worldview that we have ultimate control over our environment is itself flawed. At this point, I shall construct a minor paradigm. The minor paradigm has its roots in Deleuze and Guattari's poststructuralist thinking, and this means that the minor paradigm assumes that our social world can be changed by human agency. Instead of searching for objective criteria or external natural law, the minor paradigm implies that what is required is a set of 'subjective' criteria, which, under current majoritarian presuppositions, may be regarded as non-rational, intuitional, or illogical. Here, I adopt Derrida's 'deconstruction' as the major strategy to sustain our minor paradigm. The function of this minor paradigm is twofold. First, it provides a conceptual framework for the critique of the majoritarian theory and practice. Second, it offers alternative thinking, criteria and principles to inform our action, and here I introduce two traditions: Deep Ecology and Taoism. While the former suggests that our eco-problems are not so much a technical issue as a philosophical and political one, the latter expounds a holistic, and ethical view of knowledge: we need to be mindful about knowledge and the application of any knowledge, because knowledge is always powerful but may have potentially dangerous consequences. These two views of knowledge are in polar opposition to the mainstream understanding of knowledge in which knowledge is always good for us. However, it should be noted that the ultimate goal of the minor paradigm is not 'becoming-majoritarian', but rather 'becoming-minor', to borrow Deleuze and Guattari's phrase.

Chapter Three sets out to review our major theme: Knowledge Management (KM); however, it is based on a deconstructive approach. I suggest that mainstream KM

discourse can be broadly categorised into four divisions, and each represents distinct assumptions and has different focuses, but instead of it being value-free, as is often postulated, I argue that much mainstream KM is, in essence, governed by a neo-classical economic skeleton, which presumes human activities should be measured in terms of their economic values, while seeing knowledge as an economic resource that can be manipulated by humankind. At this point, Structural Functionalism plays an important role in mainstream KM, because it is often used as a means of ‘managing knowledge’, supposedly for the benefit of organisations. In order to formulate a critique of this, I further identify some deeply rooted meta-theories beyond mainstream theory and practice of KM. I suggest that KM may be in some senses new, but the mainstream understanding of KM reflects an age-old belief in rationality, and a strong interest in manipulating knowledge. The expectation of effectively and efficiently managing knowledge may result in theoretical variations of KM; however, insofar as mainstream KM does not seriously discuss its meta-theoretical purpose, it is still part of the majoritarian mode of thought. Nevertheless, while it seems to be the case that mainstream models have not yet challenged the fundamental assumptions on which KM rests, critical models do exist. These critical models are analytical and ‘non-performative’ intent, and they have indeed provided a theoretical reaction to what would be referred to as mainstream KM. But, from our minor perspective, if KM were to be of social value other than economic usefulness, what is also required is, perhaps, to identify an alternative set of values, assumptions and decision criteria for KM. To this end, I suggest that we need to turn to the concept of knowledge.

While in Chapter Three I argue that mainstream approaches to KM usually imply an unquestionable assumption that our use of knowledge may lead to ‘progress’, within the context of the social good, in Chapter Four I attempt to explore the origin of such an assumption. I argue that our understanding of knowledge, in relation to mainstream KM, has its roots in representationalism, which sees knowledge as the reflection of ‘reality’. At the core of representationalism is still a strong faith in rationality. An additional element is a Baconian-type assumption that knowledge can be used as a tool to serve our interests, within the context of social betterment. However, in the field of KM, some KM theorists do recognise that the explanatory power of representationalism may be constrained by its rationalist belief. But I shall argue that mainstream KM theorists have not challenged the underlying assumption; that is, they virtually agree that what we need is a more effective model – in order to manage knowledge. The whole seems to imply a self-evident belief that we should have ultimate control of knowledge. However, I argue that two points are overlooked here.

First, from some poststructuralist (especially Deleuze, Guattari and Foucault) positions, knowledge is by no means a value-neutral entity. By this I mean that knowledge usually contains some 'unmanageable' dimensions such as power, which may be shaped and conditioned by our predominant social system and its presuppositions. But, in Deleuze and Guattari's mind, whether knowledge is power-laden and thus we should abandon the use of knowledge is beside the point. For them, the function of knowledge should be the 'becoming'. This altogether denotes a different view of knowledge: knowledge has its 'intrinsic' value, whose purpose should be the creation of alternative possibilities, while it must be free from languages that are already appropriated by the dominant paradigm. Second, while I seek to argue that knowledge should have potential for alternative possibilities, I propose some 'subjective' criteria and different views of knowledge, that is, knowledge should serve the eco-systematic betterment. Yet, with regard to management, there arises another question: can we simply use the concept of management in order to manage knowledge?

Chapter Five is therefore concerned with the mainstream understanding of management. In many industrial societies, it is widely believed that management is an important social force, and the concept of management is often linked to impartial expertise or profession. It is also no surprise to be told that management can be used as a means of solving our social problems. However, I contend that the notion of management originated in an epoch when scientific methods achieved many of their spectacular triumphs, and management has been conventionally concerned with the (economic) efficiency of converting processes: raw materials into final products, unskilled labour into skilled labour, and so forth. While the conventional authority of scientific management has been replaced or improved by subsequent theories (such as human relations and consensus theories, etc.), 'economic efficiency' remains an embedded moral criterion of management. In the business domain, management may reflect a set of assumptions and beliefs – or managerialism for short, but its conceptual system is still economic and human-centred. By this, we can possibly see our (market-driven) managerialism as part of a majoritarian framework in which economic objectives have somewhat displaced other social goals, while human activities are increasingly measured in terms of their economic values. An additional element of this predominant conceptual framework is a human-centred mindset: 'man controlling his environment', or, to put it another way, an anthropocentric belief that sees man as separate to nature and presumes that man has superior ability to dominate his environment. Our intention, however, is not to merely formulate a critique of the mainstream concept of management, but also to articulate alternatives. This means

that I attempt to blend the concept of 'minor' with 'management', and this also implies that we need to go beyond the dominant conceptual system which is largely constructed by neo-classical economics.

Having illuminated the problem associated with the current state of management and KM, in the remainder of this work I return to the central theme, KM. Chapter Six focuses on alternatives and betterment. I firstly review some critical models of KM, and I suggest that some of them have offered a reaction to mainstream KM. However, while it seems to be the case that some critical models have more or less challenged the fundamental assumptions of mainstream KM, I further propose that a minor KM discourse may serve our environmental interests. Drawing on the notion of the minor paradigm, I identify some subjective criteria and principles in order to articulate some potential possibilities, which, of course, include a radical understanding of both knowledge and management. A more important intention, notwithstanding, is to illuminate some ideal, better KM practices, in the name of the 'minor'.

In sum, this work not only seeks to offer a radical understanding of KM, but also to make a general, though tentative, principle for an alternative approach to KM. While the mainstream KM theorists and some counter-arguments often imply that the problem with KM is the wrong application of managerial techniques, that the function of KM is to address the problem between efficiency and the process of managing knowledge, they seem to also hold an unquestioning assumption that the process of KM can be improved through more effective managerial techniques or knowledge, in the service of the goal of economic efficiency. However I contend that if we do not seriously discuss KM at a meta-theoretical level, KM may be itself problematic. This implies that the major problem associated with current mainstream KM is not so much technical as meta-theoretical. Our purpose is, therefore, not to discard the concept of KM, but rather to frame a reaction to the meta-theory and the fundamental assumptions about KM, in order to propose that KM could also be of ecological value.

Chapter Two

Minor Paradigm

This chapter I take as the starting point for a critique of some predominant worldviews and reconstruction of different possibilities. I construct a ‘minor paradigm’ as the basis of such a project. This chapter falls into two parts. In the first part, I articulate Deleuze and Guattari’s concept of ‘minor’. In opposition to majoritarian thought, the task of minor philosophy is to inspire liberation. Drawing on their minor theory, I suggest that the value of minor philosophy is emancipatory in essence. However, minor philosophy should also include ‘becoming’, which means that minor thinking should not just deconstruct, but also reconstruct. In the second part, I outline some compatible modes of thinking. Derrida provides a powerful strategy to this end, because his deconstruction implies both deconstruction and reconstruction – the deconstruction of established norms, values or deeply rooted meta-theories, alongside the reconstruction of a provisional hegemony. In addition, I discuss two compatible strands of thought, deep ecology and Taoism, as the foundation for our understanding of minor paradigm.

Part I. A Minor Approach

In *A Thousand Plateaus*, Deleuze and Guattari (1987: 361-74) discussed two kinds of philosophy. The first is that of the ‘majority’¹, the other being that of the ‘minority’. By the philosophy of majority: ‘one is given a perspective, together with a set of categories and presuppositions, by the historical, social, cultural, and economic site one occupies, a perspective expressing preconscious interests’ (see Goodchild, 1996: 54). In other words, this philosophy usually appears in the name of the majoritarian perspective – or the norm, whose purpose is to support the dominant social presuppositions and which then functions as a process of cultural reproduction: ‘one has little choice but to accept the majoritarian perspective’ (ibid: 54). However, the

¹ In Deleuze and Guattari’s view, ‘majority’ is defined not by number, but by a constant mode of existence that transcends its conscious plane of theoretical analysis. By the same token, minority is defined not by small number, but by the variation of the collective assemblage of enunciation (Deleuze and Guattari, 1988: 105-6; 469-71).

adoption of this majoritarian perspective inevitably results in a predicament of desire, because one's thought will operate in the service of interests other than one's own:

Desire can never be deceived. Interests can be deceived, recognised, or betrayed, but not desire...It happens that one desires against one's own interests: capitalism profits from this, but so does socialism...(Deleuze and Guattari, 1984: 257)

In their view, this form of theory cannot be even termed 'philosophy', for, just as the current social system usually produces and reproduces itself economically on higher and higher levels, the majoritarian philosophy often transfers our desire to serve interests other than our own. Hence, drawing on the implication of Nietzsche, Deleuze suggests that the function of philosophy should be to 'sadden' – here he uses the term sadden in a positive manner, as something desirable. According to Deleuze (1983: 106):

When someone asks 'what is the use of philosophy?' the reply must be aggressive, since the question tries to be ironic and caustic. Philosophy does not serve the State or the Church, who have other concerns. It serves no established power. The use of philosophy is to sadden. A philosophy which saddens no one, that annoys no one, is not a philosophy. It is useful for harming stupidity.....Creating free men, that is to say men who do not confuse the aims of culture with the benefit of the State, morality or religion....Philosophy is at its most positive as a critique, as an enterprise of demystification.

For Deleuze, philosophy has an important role to play in framing critique, in undermining or emancipating us from predominant social presuppositions. Consequently, Deleuze and Guattari proposed an alternative, the 'minor' philosophy: 'one's perspective is determined by one's site in the social assemblage, together with its preconscious interests' (Goodchild, 1996: 54). That is to say, the minoritarian philosophy is subversive in essence, it asks 'the reflexive theoretical question, and aims to make its own mode of existence into the deterritorialised plane of desire' (ibid: 58); it liberates our interests from the 'territorial machine'. With regard to the minor philosophy, there are three important characteristics (Goodchild, 1994: 56-9). **Firstly**, the concept of a minor philosophy is not confined to absolute deterritorialisation. This means that the minor philosophy is not based on a binary assertion, and it is not defined merely in terms of its opposition. A minor philosophy has no stable boundaries/meanings: it is a continuous process of enquiring for new possibilities. **Secondly**, from the perspective of the minor philosophy, 'everything takes a collective value: concepts are presuppositions that shape meaning, and the event of creation of a

concept is a collective event in thought that changes presuppositions and meaning' (ibid: 57). In sum, these two characteristics imply that a minor philosophy is not based on a stable dualism – it traverses different domains and is reflexive, and it is always shifting, while continuously creating alternatives:

..... 'deterritorialisation' is an absolute, self-positing concept because it deterritorialises itself in the moment in which it is created – it gives itself its own meaning. This is the only power of a minor philosophy.....although concepts are absolute, they are not eternal: their meaning can be changed through the exploration of new problems, new images of thought, and new conceptual personage. (Goodchild, 1996: 58)

However, although one of the main purposes of the minor philosophy is to problematise all established social presuppositions, values, and meta-theories, it is not to suggest that the minor philosophy is free from power relations, because the **third** characteristic of a minor philosophy is that it is also politically charged: 'its concepts do not exist in a private and apolitical world but are shot through with power relations that affect everyday life' (ibid: 57). In other words, the function of a minor philosophy is not to liberate people from the relations of power, but to inspire liberation at the level of thinking. However, this seems to represent a paradox: if the minor philosophy is still within the structure of power relations, can one develop a minor philosophy that does not serve the interests of power/domination? Furthermore, it seems that since people obviously have their own interests, it should be asked whether the task of minor philosophy is to heroically represent the common interest of all. But, Deleuze and Guattari did not seek to offer direct answers to questions such as these when they propose their idea of minor philosophy. At this point, I suggest that we need to examine the term 'Poststructuralism', because it offers a foundation for the understanding of our 'minor project'.

The Development of Poststructuralism

Poststructuralism can be characterised as a mode of thinking, and a style of philosophising. But, it is difficult to offer any clear definition of its meaning, because Poststructuralism itself denies the possibility of stable definition, and rejects to convey a sense of homogeneity, singularity and unity (as seen below). Hence, I will define the term by situating Poststructuralism in relation to that which it comes after, Structuralism – while Postmodernism takes as its theoretical object 'Modernism', Poststructuralism takes as its theoretical object 'Structuralism':

.....anyone who hopes to understand Post-structuralism and its difficult methods requires a grounding in Structuralism.....Post-structuralism is a derivation, corrective of certain tendencies within Structuralism but certainly not dismissive of its insights as a whole. Post-structuralism is, however, a mode of thought significantly harder to define than its parent....(Sturrock, 2003: 18)

Structuralism

Structuralism is a method of analysis particularly associated with the work of the linguists Ferdinand de Saussure, and the anthropologist Claude Levi-Strauss. Methodologically, Structuralism analyses large-scale systems by examining the relations and functions of the smallest constituent elements of such systems, ranging from human languages and social/cultural practices to folktales and literary texts. In the field of linguistics, Saussure's (linguistic) inquiry was centred not on speech itself but on the underlying rules and conventions enabling language to operate. In analysing the social or collective dimension of language rather than individual speech, he pioneered and promoted study of grammar rather than usage, rules rather than expressions, models rather than data, language rather than speech. Namely, his inquiry was concerned with deep structures rather than surface phenomena.

Saussure's structuralist principles were further strengthened by Levi-Strauss (e.g. 1977). Following the ideas of Saussure and of the Slavic linguists N. S. Trubetzkoy and Roman Jakobson, Levi-Strauss identified some procedures basic to Structuralism, particularly in relation to social sciences (see Sturrock, 2003: 52-66). Firstly, structural analysis examines unconscious infrastructures of cultural phenomena; secondly, it regards the elements of infrastructures as 'relational', not as independent entities; thirdly, it attends single-mindedly to system; and fourthly, it propounds general laws accounting for the underlying organising patterns of phenomena (ibid). Generally, Saussure and Levi-Strauss' works served as models and inspiration for the structuralist analysis of signs, which are composed of the signifiers (sound-images, or their graphic equivalents) and the signifieds (the meaning).

For structuralists, meaning is not a private experience, but the product of a shared system of meaning. A text is to be understood as a construct to be studied and explained in terms of the 'structure' of the whole system. For structuralists, a **structure** is, in its broadest sense, 'an abstract model of organisation, including a set of elements and the law of their composition' (Sturrock, 2003: 6). Here, it is possible

to identify two forms of Structuralism, i.e. the positivist Structuralism and the conceptual Structuralism (Willmott, 1998: 87-90). While the positivist structuralists believe that scientific knowledge can reflect the reality of social structures, the conceptual structuralists consider that structure is a 'heuristic for rendering the world intelligible, rather than a description of the empirical world' (ibid: 88). For example, for the positivist Durkheim, the function of empirical knowledge of structures would be to 'yield an objective basis for intervening in society to reduce anomie and to establish normative order' (ibid: 88). However, in conceptual Structuralism, the concept of structure should be conceived as a tool for interpreting and explaining empirical observations. In Saussure's linguistics, a text or utterance has a meaning, but the meaning is determined not by the psychological state or 'intention' of the speaker, but by the structure of the language system in which it occurs. In this way, the subject (individual) is effectively replaced by language itself functioning as an autonomous system of symbols. In its different guises, Structuralism has also been characterised as anti-humanist in essence because it is based on the claim that meaning is not the reflection of inner psychological experience of the speaker (Sturrock, 2003: 145). It removes the human subject from its central position in the production of meaning much as Copernicus removed (de-centred) the Earth from its position at the centre of the solar system. In Lévi-Strauss's mind, human ability to change the world is always limited by general structures, and he believed that we were unable to remove these structures (Willmott, 1998: 88). In any case, Structuralism suggests that there are structures governing human behaviour which operate behind our backs to shape, if not to determine, our actions (ibid: 88).

Poststructuralism

From the mid to the late 1960s, Structuralism was called into question by the work of a number of theorists, and this provided fertile soil for the emergence of Poststructuralism. Yet, the very term 'Poststructuralism' is not uncontested. At one extreme, Poster (e.g. 1989) believes that the term Poststructuralism is American in origin and that 'poststructuralist theory' names a uniquely American practice, which is based upon an assimilation of the work of a diverse range of theorists. However, it is more generally agreed that Poststructuralism is a distinctively European philosophical response to the Structuralism that characterises the work of Claude Lévi-Strauss (anthropology), Louis Althusser (Marxism), Jacques Lacan (psychoanalysis), and Roland Barthes (literature) (Sturrock, 2003). While many focus on the differences between the two philosophical traditions, some theorists emphasise the importance of

their continuity and connection. For example, Frank (1988) uses the term 'neo-Structuralism', and Sturrock (2003: 122-3) concentrates on the insight of the 'Post-Structuralist' Derrida ('the weightiest and most acute critic Structuralism has had') and discusses the 'post' in 'post-Structuralism' in terms of 'coming after and of seeking to extend Structuralism in its rightful direction'. As Sturrock (ibid: 123) argues: 'Post-Structuralism is a critique of Structuralism conducted from within; that is, it turns certain of Structuralism's arguments against itself and points to certain fundamental inconsistencies in their method which Structuralists have ignored'.

For scholars generally held to be 'poststructuralists', there might be nothing like a common set of works to which they all refer as shared doctrine. However, the occasional designation of post-structuralism as a 'movement' can be tied to the fact that mounting criticism of structuralism became evident during the 1960s. Many consider that Derrida's lecture at the conference 'Structure, Sign, and Play in the Human Sciences' at Johns Hopkins University in 1966 appeared as a manifesto against Structuralism (Jones, 2004: 38). Derrida's essay was also one of the earliest to designate some theoretical limitations to Structuralism and, while giving it due credit, attempt to theorise on terms that were clearly no longer structuralist. While many structuralists attempted to find a level of generalizable and self-sufficient 'meta-language' capable of describing configurations of elements variably anthropological, literary, linguistic, historical, or psychoanalytic and analyse their relations without becoming mired in the identity of these elements as such, Poststructuralism is said to share a concern for identifying and challenging hierarchies implicit in identification of binary oppositions which generally characterise not only Structuralism, but also much 'Western' metaphysics. Re-evaluation of the structuralist interpretation of Saussure's distinction between the diachronic and the synchronic is the most that can be credited as a common point of critique which generally led many poststructuralists to assert that structural analyses are generally synchronic and thereby suppress historical or diachronic analyses.

Poststructuralism, Deconstruction and Ethics

Outwardly, the poststructuralist's response to Structuralism would seem to be aimed remedying its weakness, and Poststructuralism therefore can be interpreted as a philosophical response to the alleged scientific status of Structuralism, and as a movement which sought to 'decentre' the 'structures' of Structuralism. In other words, Poststructuralism deconstructs the underlying metaphysics inherent in Structuralism

and much 'Western' epistemology. For example, in Saussure's structuralist theory, the meaning of a term does not begin and end with the speaker's experience or intention. The act of speaking and intending presupposes a language already in place and upon which the speaker must rely in order to say anything at all. In other words, the meaning of a particular term in a language is due to its relative difference from all other terms in the language. A signified, i.e. a concept or idea, is therefore properly understood in terms of its position relative to the differences among a range of other signifiers. However, poststructuralists view the distinction between signifier and signified as problematic. According to poststructuralists, concepts are nothing more than words, and, therefore, signifiers are words that refer to other words and never reach out to material objects and their interrelations.

To indicate this shift in theory, Derrida introduces the word 'différance' to indicate the relation between signifiers and signified (meaning). If a word's meaning is solely the result of its difference from other words, then the meaning (or the signified) is not an additional thing 'present' in the sign itself. On the contrary, 'meaning' is the ever-moving play of difference from signifier to signifier; a slipping from word to word in which each word retains relations to the words that differ from it. For Derrida (1978), the specification of meaning is an infinite and endless process. Meaning, to some extent, always escapes one's grasp - it is always just out of reach, ungrounded, with no origin in the intention of the speaker. In other words, when a speaker uses certain words, he/she does not have a non-linguistic object or concept in mind - there is no additional thing or 'object' outside of the language (i.e. no 'meaning') that could be transmitted or made 'present to the listener or reader. There is nothing there in his/her speech but language, i.e. a network of signification.

But, upon closer examination, the poststructuralists' ambition is not merely to frame a critique of Structuralism, but indeed to dismantle the whole system of 'Western' thought since the time of Plato (Sturrock, 2003: 123). From a poststructuralist's view, Structuralism, as well as mainstream Western philosophies, is rooted in a transcendental meta-theory of rationality. In order to expose this meta-theory, some poststructuralists adopt a strategy: deconstruction.

Philosophically, deconstruction is the term that has been particularly used to describe Derrida's approach. At the outset, deconstruction has two implications. **Firstly**, the purpose of deconstruction is to 'elucidate how superficial are the normative structures of the social world' (Hassard, 1993: 10). Derrida's goal here is to 'show how processes of rationality serve to obscure the logical undecidability which resides at the

core of social action' (Hassard, 1993: 10; Cooper and Burrell, 1988). In other words, deconstruction is an approach that 'deconstructs' the totalitarian projects of metaphysics or ideologies rooted in the Enlightenment, which have formed the meta-theory beyond our social action. Deconstruction thus names the impossibility of setting up 'perfect' or 'ideal' structures or systems. The second implication is that deconstruction is an approach that exposes 'the inherent contradictions which reside in any text' (Hassard, 1993: 10). Here, 'text refers both to the interplay of discourses – political, social, and philosophical – and the stage upon which deconstruction is enacted' (Hassard, 1993: 10; see Cooper, 1989). For Derrida, the common, however mistaken, view is that 'texts reflect the notion of language as a medium for the communication of thoughts, i.e. thoughts hold primacy and language is merely the vehicle of their transmission' (Hassard, 1993: 10). In Derrida's view, this is a mental strategy of 'logo-centrism', 'for it pivots social action upon the notion of original logos, or prefixed metaphysical structure which validates social action' (ibid: 10). Logo-centrism is a term used by Derrida to describe the bias or ideology of much Western thought toward a metaphysics of presence, an order of being, meaning, truth, reference, reason, or logic conceived as independent of language or the signified (e.g. Chia, 1996: 176; see also Simon, 1999).

The above implications denote that the major task of Poststructuralism is to 'decentre' the structure. For Derrida (e.g. 1978: 278), structure is unthinkable without the conception of the 'centre'. By centre, he means a normative principle, or the 'structurality' of the structure. In this regard, deconstruction is a process of demolition, i.e. to undo, or to criticise, the systems of thought and the norm (cf. Simon, 1999: 21). But, upon a closer examination, deconstruction implies a different sense, i.e. reconstruction. As Derrida argued, deconstruction means:

.....the undoing, decomposing, and desedimenting [sic] of structures, in a certain sense more historical than the structuralist movement it called into question, was not a negative operation. Rather than destroying it was also necessary to understand how an 'ensemble' was constituted and to reconstruct it to this end. (Derrida, 1985: 3)

For Derrida, deconstruction does not simply mean deconstructing, because it allows different possibilities to happen. It allows different events and institutions to be established, and invites new conditions for things to change. Deconstruction never ends up at the point of destructiveness, because it involves an endless process of creating alternatives. In Derrida's view, deconstruction seems to be a strategy of 'alterity', i.e. the strategy of difference, otherness and diversity. It makes established

systems to be changed, not by means of demolishing them, but by means of legitimating their alternatives. Here, Derrida is also influenced by Emmanuel Levinas, who tries to think the limits of the Hegelian tradition by showing the point at which it encounters the violence of an ethical outside, of an alterity that is ethical in its exclusion and singularity. Levinas tries to transcend Western philosophy, to rupture it by confronting it with the Other, the point of irreducibility which will not fit into its structures. Deconstruction may be seen, therefore, as an 'ethical' strategy which opens philosophy to the other. It tries to step, if only for an instant, beyond the confines of reason and historical necessity, and this 'stepping beyond', this momentary transgression, constitutes an ethical dimension – an ethics of alterity. As Derrida states:

To 'deconstruct' philosophy, thus, would be to think – in a most faithful, interior way – the structured genealogy of philosophy's concepts, but at the same time to determine – from a certain exterior that is unqualifiable [sic] or unnameable by philosophy – what this history has been able to dissimulate or forbid, making itself into a history by means of this somewhere motivated repression. (Derrida, 1981: 15-16)

This questioning of philosophy, in this regard, does not lead to the moral nihilism or relativism (see Jones, 2004; as seen later) that deconstruction has often been accused of. As Caputo (e.g. 1988) argues, deconstruction is a strategy of responsibility to the excluded other. Unlike hermeneutics, which tries to assimilate difference into the order of the same, of Being, deconstruction tries to open a space for difference. Derrida's thinking is, therefore, a responsible anarchy, not an irresponsible anarchy as some have claimed. Deconstruction, then, is by no means a rejection of ethics, even when it questions moral philosophy. Rather, it is a re-evaluation of ethics (Kearney, 1993: 30). It shows us that moral principles cannot be absolute or pure: they are always contaminated by what they try to exclude. Good is always contaminated by evil, reason by unreason. What Derrida questions is the ethics of morality: if morality becomes an absolute discourse, then can it still be considered moral or ethical? Deconstruction allows us to open the realm of ethics to reinterpretation and difference, and this opening is itself ethical. It is an ethics of impurity. If morality is always contaminated by its other – if it is never pure – then every moral judgement or decision is necessarily 'undecidable'². Moral judgement must always be self-questioning and cautious because its foundations are not absolute. Unlike much moral philosophy grounded on the firm foundations of human essence, deconstructive ethics has no such privileged place and, therefore, enjoys no such self-assurance.

² The difference between ethics and morality will be further discussed in chapter four.

Deconstruction makes and allows things to happen. At this point, deconstruction can be characterised as ‘involving a commitment to a mood of restlessness’ which tends to problematise all ‘authoritative and stable meaning, for instance, by locating the reproduction of knowledge within relations of power’ (Weiskopf and Willmott, 1997; Willmott, 1998: 90). For Derrida, deconstruction itself is indissociable from ethics – an instable, and shifting ethics (e.g. Simon, 1999). As Derrida suggests:

.....a deconstructive point of view tries to show is that since convention, institutions and consensus are stabilisation (sometimes stabilisation of great duration, sometimes micro-stabilisation), this means that they are stabilisations of something essentially unstable and chaotic....this chaos and instability, which is fundamental, founding and irreducible, is at once naturally the worst against which we struggle with laws, rules, conventions, politics and provisional hegemony, but at the same time it is a chance to change, to destabilise. If there were continual stability, there would be no need for politics, and it is to the extent that stability is not natural, essential or substantial, that politics exists and ethics is possible (Derrida, 1996: 83; 84; quoted in Willmott, 1998: 92).

Clearly, deconstruction is not merely a destructive method, but also an approach to reconstructing ethics. This ethics is concerned with the justification of any ethical claims, while denying any objective, and value-free account of the content of ethical codes. It exposes, or criticises, the meta-theory beyond any ethical assertions, including its own ethics. Foucault (e.g. 1986) thus suggests that we should frame our own ethical practices. Poststructuralism tends to ‘invite a letting go habit of thought and action which have become so established and institutionalised that their authenticity and good sense appear entirely self-evident’ (Willmott, 1998: 93), whereas it does not discard the possibilities of offering its own ethic-judgement, or its ‘provisional hegemony’ (Derrida, 1996: 84). However, if our task is to propose and identify provisional, though tentative, foundations for judgement, then the immediate questions are – on what basis could we start? And how should we proceed?

Part II. Towards a Radical Paradigm

It has been suggested that a minor philosophy should be reflexive, and, from Derrida’s perspective, the philosophy should be able to offer its own provisional hegemony. The function of the minor philosophy is to disinvest ‘desire from its previous social assemblages, so that desire can begin to operate as a liberated and spontaneous plane’

(Goodchild, 1996: 58). From the perspective of deconstruction, there indeed exists the possibility of a minor philosophy, but this requires not only deconstruction, but also reconstruction. In order to build **alternative possibility**, I firstly paraphrase the concept of paradigm.

The term 'paradigm' comes from the Greek word 'paradigma', meaning pattern or example. The modern usage of paradigm is associated with the work of Thomas Kuhn, who proposed the concept of knowledge paradigm in *The Structure of Scientific Revolution*, published in 1962. However, the definition of paradigm is somewhat obscure, for Kuhn himself used the term in no less than twenty-one different ways (see Guba, 1990: 17). The lack of a clear definition leads to a fairly wide interpretation of its meaning. At one extreme is a very narrow interpretation according to which a paradigm consists of a set of exemplars, where an exemplar can be a famous solved problem, a textbook, or a famous experiment. In the second sense a paradigm consists of an entire set of theoretical preconceptions, represented by a system of laws, a list of methodological prescriptions, and a set of fundamental values for knowledge. According to a third reading, or a wider sense, a paradigm refers to 'a constellation of concepts, values, perceptions and practices shared by a community, which forms a particular vision of reality that is the basis of the way a community organises itself' (Capra, 1996: 6-7). In Capra's account, a paradigm not only refers to a conceptual framework within which knowledge or theory is produced; it also encompasses worldviews; even lifestyle. The concept of paradigm has also developed in different fields. For example, in organisation studies, the term paradigm was first developed by Burrell and Morgan (1979), who modified Kuhnian-type scientific, diachronic, paradigms, conceptualising the multiple paradigms of the social sciences in terms of the relationship amongst four different meta-theoretical assumptions of social sciences and views on society (see Firestone, 1990: 126). In Burrell and Morgan's sociological paradigms, each paradigm represents a distinct belief system and worldview, and paradigms are synchronic and incommensurable – this means that all paradigms exist simultaneously, and no paradigm can be demonstrated to be wrong by other paradigms. However, for the present purposes, I shall start with Capra's account of paradigm, because it is then possible develop our understanding of paradigm in a wider sense, in a more radical way.

A Minor Paradigm

For Capra (e.g. 1996: 6), our current dominant paradigms involve a number of

entrenched values and notions, such as the view of the universe as a mechanical system composed of elementary building blocks, the view of the human body as machine, the belief in unlimited material progress to be achieved through economic and technological growth, the scientific complacency about man's ability to control the power of nature, or the view that our social good can be measured in terms of economic efficiency. The dominant paradigms denote a series of meta-theories rooted in an epoch which has been labelled Modernist. As we will see, the formation of these meta-theories by no means represents a great leap: they are the product of a long-lasting process stretching back to the Enlightenment, a process which in turn has led to current epistemological and other concrete predicaments, especially with regard to ecological catastrophes. For many theorists, it is these problematic meta-theories that need to be seriously re-examined. To construct alternative ways of thinking, I propose the idea of 'minor paradigm'.

It was already suggested that the task of minor thinking should be to enquire into alternative possibilities. To this end, I particularly identify two potential possibilities – or two forms of thinking, as the foundation for our understanding of 'minor paradigm'. The first is the contemporary philosophical and moral question from deep-green activists and philosophers. Their central concern is with current ecological disasters, and they insist that under much of industrial civilisation 'nature becomes irrelevant unless it serves a commercial end' – nature's resources are there to be consumed, and its wildness even becomes something to be packaged for consumer pleasure, such as in safari parks and animal hunts (see Fineman, 1998: 238). Yet, deep-green activists and philosophers do not consider that the environmental problems can be solved via scientific/technical methods, because they argue that our predicaments stem from problematic values and worldviews inherent in Modernism, including anthropocentrism, Newtonian mechanistic worldviews, scientism, managerialism and so forth. This movement, then, has given rise to a burgeoning interest in some ancient Eastern traditions, such as Zen, Buddhism, and Taoism. Generally, at the heart of these ancient sources of wisdom is the belief that natural entities have to be valued in themselves, for what they are, rather than what they deliver to humans. As such, these traditions seem to convey a particular type of ethics, or more precisely, environmental ethics. While some contemporary emancipatory interest is focused on the psychological aspect of 'oppression', these alternatives are concerned with the notion of oppression in a broader sense, i.e. the oppressed environment. For our purposes here, I shall draw from an ancient Chinese philosophy, Taoism, because on the one hand it involves some important poststructuralist/New Physics implications (Capra, 1989: 458), while on the other it supplements deep ecology, and at its heart is an

anti-anthropocentric view which is diametrically opposed to some versions of managerialism (i.e. 'man' commands his environment – a secular version of the Judeo-Christian anthropocentrism; as discussed in detail in chapter five).

Deep Ecology's Possibility

The concept of ecosophy, which is central to deep ecology, originated in relation to the work of Arne Naess, a Norwegian philosopher and mountaineer, who proposed the concept of 'deep ecology'. Deep ecology, at its birth, was driven by practical interests, because its major purpose was to prompt a political and social movement³, or, more precisely, a certain kind of eco-activism in order to deal with contemporary ecological crises. However, the concept of deep ecology should not be restricted to the level of 'method', because central to deep ecology is the formation of a new understanding of the place of human beings in the world (see Katz et al., 2000: xi). This new understanding not only involves a new description of reality, but also implies an attempt to radically transform the predominant thought system (Naess, 1989: 32). Thus, from Naess's viewpoint, deep ecology should not be merely understood in terms of a concrete social activity, but as a branch of philosophy: ecophilosophy. At the core of ecophilosophy is its wisdom - 'ecosophy' (e.g. Naess, 1989). To understand this wisdom, it is useful to position ecosophy in relation to that which it comes from: ecology.

The word 'ecology' (Greek 'oikos': household or living-space) was first used by Ernst Haeckel in 1873 for the branch of biology that dealt with the interrelationships of organisms and their environment (K. Mellanby cited in *The New Fontana Dictionary of Modern Thought*, 1999: 247). In the 20th century, the term ecology gained its quasi-political meaning:

Ecology....is also the main intellectual discipline and tool which enables us to hope that human evolution can be mutated, can be shifted on to a new course, so that man will cease to knock hell out of the environment on which his own future depends (Hobsbawm, 1994: 552).

For the past few decades, the global ecological crises, largely caused by our 'economic super-boom' (ibid: 552), have led to an increasing interest in this old term.

³ In 1984, Arne Naess and George Sessions, the American philosopher, started the project 'the Platform of Deep ecology', and one of its major goals was: to encourage people from different religious and philosophical backgrounds to forge a consensus concerning political activity in concrete situations regarding the environment (e.g. Katz et al., 2000: x).

However, opinion concerning the relationship between man and nature is divided. While some theorists hold belief in scientific ways to deal with these ecological problems, another group of people, usually philosophers and some environmentalists, have attempted to discover the mindset behind man's domination over nature. In Naess's (1973) view, shallow ecology is the product of the first group of people; deep ecology belongs to the latter. Yet, for Naess, the two different approaches are, in a sense, **not necessarily incompatible**, because the word 'deep' here refers to the level of questioning of our purposes and values when arguing in environmental problems. Hence, at a technical level, deep ecology can adopt a variety of means of solving ecological problems. However, at the philosophical level, deep ecology is different from shallow ecology. Philosophically, deep ecology can be understood in terms of what it is not – the 'deep' movement requires deep and radical questioning, right down to fundamentals, whilst the 'shallow' stops before the ultimate level (e.g. Drengson, 1997). As such, the term 'deep ecology' registers an attempt to ground the seemingly scientific issue of environmental crisis in a deeper philosophical, ethical, and 'spiritual' sphere, thus it is evident that shallow ecology and deep ecology are from different philosophical beliefs. As Capra (1995: 21) defines it, the new (ecological) awareness in deep ecology is 'spiritual in its deepest sense', and 'grounded in spirituality'. Unlike shallow ecologists, the major concern of the champions of deep ecology is not simply to bring about a shift in methods within the field of ecology, but to initiate a philosophical, thinking, and paradigmatic shift: in spirituality, perception, value, and ethics. This fundamental and 'spiritual' shift, then, denotes, as Naess put it, a 'total view'.

Deep Ecology's Critique of Anthropocentrism

The deep ecologist's total view – or what philosophers traditionally have termed a worldview - is a critique of some dominant worldviews, as well as the prevailing view on knowledge. Many deep ecologists argue that our ecological crisis is rooted in a dominant worldview, a melange of two different, though somewhat contradictory beliefs (cf. Sessions, 1995a: x). The first belief can be traced back to the Newtonian mechanistic model of the universe (as a world of stable objects in uniform motion). According to Sterling (1990: 78), the Newtonian mechanistic worldview, which is both secular and mechanistic, has its roots in Cartesian dualism:

Cartesian logic laid the foundation for the scientific paradigm by differentiating mind and body, subject and object, value, fact, spirit and matter.....the schism implied between these opposites is

now at the heart of our contemporary crises. Cartesian duality set human beings apart from and over nature, thus opening the way for a relationship that is explosive and manipulative. We have faithfully enacted Descartes' belief that humans should be 'the masters and possessors of Nature'. (ibid: 78)

The separation of mind and matter, or of man and nature, in turn led to the assumption that human beings had ultimate control and domination over machine-like nature, and consequently the natural world, including other living beings, is evaluated in terms of its utility for humans, i.e. its instrumental or economic values. This worldview was also adapted by the political philosopher Hobbes, who, drawing on the Newtonian mechanical order of nature, introduced a mechanistic model of society and related its implications to individuals, social structures and political order (e.g. Oppermann, 2003). The mechanistic worldview was further strengthened by nineteenth-century science, especially physics (see Bohm, 1987: 2), which has continued to shape our understanding of reality into what Lyotard (1984) might call a 'meta-discourse', which 'makes an explicit appeal to some grand narrative, such as the dialects of Spirit, the hermeneutics of meaning, the emancipation of the rational or working subject, or the creation of wealth' (Lyotard, 1984: xxiii).

While the Newtonian worldview is 'secular', based on the belief that science/rationality endows human beings with the ability to dominate the world, the second belief inherent in our ruling worldview is sacred, stemming from a Judeo-Christian tradition. The discussion of Judeo-Christianity in relation to our ecological crises first appeared in 1967, owing to the paper put forward by the medieval historian Lynn White (cf. Sessions, 1995b: 156). In *The Historical Roots of Our Ecological Crisis*, White points out that our civilisation has almost turned human beings into an endangered species. Looking into the history of ideas for the explanation, he argues that the creation story of the Judeo-Christian tradition posits a dichotomy between humanity and nature, making humans superior to other forms of life and making them masters instead members of the natural world:

God planned all of this explicitly for man's benefit and rule; no item in the physical creation had any purpose save to serve man's purpose.....Christianity is the most anthropocentric religion the world has seen.(White, 1967: 1205)

Drawing on Lynn White's critique on Judeo-Christian anthropocentrism, Nash (1989) went further by arguing that, within the all-pervading hierarchy of the Christian system of beliefs, natural objects are deemed lower than people because they do not

possess souls or spirits⁴. He also points out that the traditional Christian view of wilderness as cursed land contributes to the lack of respect for non-human landscape. Moreover, the attitude of otherworldliness is common amongst Christians and it makes them regard Earth not as mother but as 'a kind of halfway trial and testing from which one was released at death' (ibid: 90-1). It should be noted that although both authors identified the ecologically destructive elements associated with Christianity, it was not their intention to subvert the religion. Instead, they believe that the major problem is the anthropocentric view inherent in Christianity!

As I have noted, for deep ecologists, this problematic worldview stems from two different origins. While the first origin, the Newtonian mechanistic worldview, assumes that the dominance of human beings is derived from their application of science, the second origin, Judeo-Christian anthropocentrism, is responsible for the belief that it is God that gives humans superior ability to govern the world. But, to understand how these completely contradictory beliefs are integrated, we have to, first of all, review the development of a particular belief system – humanism. During the period of the Renaissance, Judeo-Christian anthropocentrism was itself developed, and later absorbed, by a secular, and scientific belief. The belief was embodied in what can be termed Renaissance humanism (e.g. Tarnas, 1991: 213). The founders of humanism, such as Desiderius Erasmus (1460-1536) and Thomas More (1478-1535), exemplify the important, yet contradictory feature of Renaissance humanism. On the one hand, Erasmus and More, as with many Renaissance thinkers, were orthodox believers in an age of encompassing Christianity, but, on the other hand, they translated and commented upon the great literature of Aristotle, Plato, and other ancient classical, pagan writers, thus developing and applying secular ethical principles and codes (ibid: 224). As Carroll (1993: 3) points out, Erasmus had the understanding that:

'Man can do all things if he will'...man is all-powerful, if his will is strong enough. He can create himself. He can choose to be courageous, honourable, just, rich, influential, or not. He is creator and creature in one. Out of his own individual will he can move the earth. The great individual stands alone; under his feet the earth does not move. (emphasis in original)

This strong belief in human superiority clearly stemmed from a Judeo-Christian mode of anthropocentrism; however, there was also an implication that human beings may

⁴ As I will illustrate later, this idea was inherited by Descartes. For Descartes, human beings are inevitably superior to other species, not because they are 'less' rational than us, but because they have no rationality, i.e. the rational soul (see Russell, 1993: 542-51).

be more powerful than God. This ambivalence, indeed, reflected that the Renaissance was an age of transition. However, the apparent contradiction was resolved in the wake of the Scientific Revolution – the final expression of the Renaissance, and the birth of the modern era (see Tarnas, 1991: 248; 278). During this period, the new scientific insight promoted by Copernicus, Galileo, Kepler, and Newton, signalled the rise of a scientific worldview and the fall of the Judeo-Christian ethics, but this by no means signalled the fate of anthropocentrism. Instead, anthropocentric thinking was embodied in a new form of humanism – modern (or scientific) humanism (cf. Willmott, 1998: 96-7). Frederick Edwards (e.g. 1993), the Executive Director of the American Humanist Association, described modern humanism in this way:

....a naturalistic philosophy that rejects all supernaturalism and relies primarily upon reason and science, democracy and human compassion. Modern Humanism has a dual origin, both secular and religious....

But, although this dual origin has indeed led to some confusion, one of the basic ideas is still held by most modern humanists:

Humanism is a philosophy of reason and science in the pursuit of knowledge. Therefore, when it comes to the question of the most valid means for acquiring knowledge of the world, humanists reject arbitrary faith, authority, revelation, and altered states of consciousness(ibid)

The strong faith in science/reason, or the idea that all human problems can be solved via scientific methods, is, obviously, not at odds with the Enlightenment belief, and, as such, when faced with moral dilemmas, modern humanists also attempt to seek for the most rational/scientific approach to developing moral codes. The modern humanists' rejection of human intuition, emotion, and even religious experience, in all decision-making processes, was also the central spirit of the Enlightenment; however, their belief in science/rationality is still based on the meta-theory of a human-oriented value system, i.e. Christian anthropocentrism. This inherent inconsistency is well illustrated by two Enlightenment thinkers, David Hume and Francis Bacon. Whilst Hume claimed that 'all questions of science are, at heart, questions about man' (quoted in Davis, 1997: 105), Bacon in the work *Great Instauration* enumerated some 'Idols', or 'false notions': the first of them is 'Idols of Tribe', by which he means that human beings tend to mistakenly devalue human significance in favour of (mysterious) natural phenomena (see Bacon, 1905: 263-4). But, this human-centred logic has gone even further.

The belief that human beings can use our superior ability to dominate the world, and that rationality, or the 'rational soul' – to use Descartes' phrase, makes us different from other species is by no means a scientific, global truth, but a religious dogma from the pre-modern world. The situation is parallel with humanism. Modern or scientific humanism has indeed built a 'law of ethics', in the name of Science and progress, which has seemingly liberated humankind from the Christian moral hegemony, and, as such, the modern attachment to scientific humanism remains strong (cf. Bauman, 1993: 9-14). However, with our seemingly insurmountable problems – at least environmental crises – the humanist moral codes are increasingly being problematised (see Giddens, 1994). From the perspective of orthodox Marxism, (scientific) humanism is easily integrated with capitalist, secular values and practices, and leads to the effect that:

.....no other nexus between man and man than naked self-interest, that callous cash payment. It has drowned the most heavenly ecstasies of religious fervour, of chivalrous enthusiasm, of philistine, sentimentalism, in the ice water of egotistical calculation. (Marx and Engels, 1967: 82)

However, from the perspective of a postmodern sensibility, the coherence, feasibility, and morality of humanism are also untenable, for the supposed 'scientific' base of humanism is, in effect, a religious form of powers that appears in the guise of ethical authority (Bauman, 1993: 14; as seen later). From a deep ecological standpoint, the central problem of humanism is its anthropocentric ethos, which has led to our current man-made ecological predicaments. Hence, for deep ecologists, it is not possible to overcome these problems in terms of a modification of humanism – what is required is a radical shift in paradigms.

Critical Theory's Critique of Anthropocentrism

Deep ecology, plainly, can be seen as a direct reaction to anthropocentrism. But, we have to recognise that even before contemporary deep ecologists, some philosophers had discussed this problem, though it was understood somewhat differently. For example, some Critical Theorists have also attempted to address the issue regarding the relationship between man and environment. However, before exploring this, it is necessary to briefly discuss the development of Critical Theory.

It should be stated at the outset that Critical Theory is neither a unified nor an unambiguous body of thought. The very term 'Critical Theory' itself lacks precise

referents, though it is associated with the works of Frankfurt School. Nevertheless, Critical Theory is generally understood as a body of social thought both emerging from and responding to Marxism, though it has also made significant contributions to the study of cultural phenomena, an area not usually attended to by more orthodox Marxist approaches. Critical Theory has a strong practical intent that seeks not only to understand the world but also to transform it. The practical intent of such theory - its orientation to changing the world – is the expression of an emancipatory vision. Such a vision contains some important elements. First, it entails a conception of a better world, an image of what the world could, or should, be. The realisation of this better world is the aim of theory with practical intent. And second, it involves a claim concerning how such a world can be realised; one predicated on a belief that the intentional actions of social actors can play a role in determining the dynamics and direction of change. Key authors include Adorno, Horkheimer, Fromm, Benjamin, Marcuse, and Habermas. Amongst others, Adorno and Horkheimer (1997; first published in 1944) raised the issue of modern environmental problems. They considered that our industrial civilisation mistakenly defines the relationship between man and Nature, and, in their view, the problem can be traced back to the Enlightenment.

In *Dialectic Of Enlightenment*, Adorno and Horkheimer (1997: 4) argued that Enlightenment has its roots in anthropocentrism, and since the Enlightenment, ‘what we want to learn from nature is how to use it in order wholly to dominate it and other men’. One of Adorno and Horkheimer’s objects in *Dialectic of Enlightenment* is to answer the question of why the Enlightenment project failed. This is achieved by a historical-philosophical study of the mythic world-view of animism and anthropomorphism and the Enlightenment attempt to dissolve myth through objectification and instrumental reason. *Dialectic of Enlightenment* uses Homer’s *Odyssey* as a metaphorical interpretation of this historical change, where Odysseus is the prototype of the bourgeois man. This study reveals for Adorno and Horkheimer the failure of the Enlightenment project.

Enlightenment has no claim to being less a myth than the mythology it failed to escape. This new myth is defined for them by man’s drive to dominate nature at the expense of alienating himself from it as well as from his own inner nature. They follow the appearance of the subject as it is objectified alongside nature, and is dominated with it. The subject becomes an object and his intellect becomes instrumental, thus all instinct and sensory experience that fails to be productive in the pursuit of domination is repressed, and man becomes mechanised. They also assert

that class domination is a direct and inevitable consequence of the attempt to dominate nature, and is therefore inescapable. For them, the negative aspects of the Enlightenment are threefold: the alienation of man from nature, the objectification, and repression of the self and the domination of men over men. In ancient times the gulf between subject and object was not finely distinguished, as already stated man's subjectivity extended itself to nature through animism. For the two thinkers, ancient man understood nature in the same intimate way as he understood his own mind. However, in Enlightenment the domination of nature has been paid for by alienation from nature. Only an 'objectified' world can be wholly dominated, so the object becomes separated from the subject. Hence, men pay for the increase of their power with alienation from that over which they exercise their power (ibid: 9).

As it becomes reified, all the subjective concepts of meaning and purpose are drained from nature with the consequence that the sensible manifold is reduced to mere quantity and formal rule. That which cannot be formalised is denied existence. On the road of modern science, men renounce any claim to meaning. They substitute formula for concept, rule and probability for cause and motive (ibid: 55). Man is faced with a reality in which he can see no meaning, as Honneth (1991: 42) puts it, in which formalisation of nature is paid for by the neutralisation of its sensible manifold and variety, that is, at the cost of the exclusion of living nature. Life becomes self-preservation, which is adaptation to a formalised reality. In the next section we will see how this adaptation entails the mechanisation of man, the reification of the self.

The move to enlightenment destroys the self: while animism spiritualises the object, industrialism, i.e., the later stage of enlightenment, objectifies the spirit of men (ibid: 28). In myth the self spreads itself on nature but in enlightenment the self must conform to nature. The result of this is twofold: thought becomes restricted by the laws it applies to nature and the instinctual and sensual parts of man are internalised and repressed. Adorno and Horkheimer write 'what appears to be the triumph of subjective rationality, the subjection of all reality to logical formalism, is paid for by the obedient subjection of reason to what is directly given' (ibid: 26). Since the sole aim of man in Enlightenment becomes the domination of nature, rationality becomes merely instrumental to this end. All thought which goes outside the formal laws of nature is condemned as meaningless, hence, thought must conform to nature, it is the servant that the master cannot check as he wishes (ibid: 37). Our control over the self diminishes as enlightenment progresses, until it becomes an automatic, self-activating process. In this process not only has man restricted the self to pure

instrumentality but also he has completed his alienation from nature. Thought projects itself onto nature in order to control it but the process is reflective. The formal rules it applies to nature, in order to control it, are reflected back onto thought thus restricting it. Thought becomes mere tautology (ibid: 27). Thought, and hence man, is totally alienated from nature and must give up the claim to know nature in any way other than in its manipulation (ibid: 18). The second result of the self's conforming to objectified nature is the repression of its inner nature, the instinctual and sensible aspects of the self, which are repressed in the focus of all rationality to instrumental ends. As Honneth summarises Adorno and Horkheimer's position: 'individuals must forcibly constrict their capacity for sensory experience as well as their organic instinctual potential in order to realize the discipline of instrumental control. As human subjects systematically increase their instrumental control over nature, they at the same time gradually forfeit their inner nature, since they must treat it the same way as external nature' (Honneth, 1992: 48). Our inner nature, that is, our instinctual drive and our capacity for sensual experience, is impoverished in the name of self-preservation, which has become the adaptation to a formalised reality. The Enlightenment process was supposed to be of service to the nature of man, our true human condition, but the process discarded that which it served and the means became the end. The absurdity of the enlightened man is that all the aims for which he keeps himself alive – social progress, the intensification of all his material and spiritual power, even consciousness itself – are nullified (Adorno and Horkheimer, 1997: 54) in the very process that is supposed to preserve them. Adorno and Horkheimer illustrate the destruction of the self by Odysseus's cunning escape from the powerful song of the Siren.

The Siren song is of such beauty that any man who hears it loses himself in it and throws himself into the sea. So that Odysseus's ship can pass the Siren, and he can hear their song unharmed, he orders his men to bind him to the mast and to block their own ears with beeswax. Through his cunning Odysseus succeeded in passing the Siren and satisfying his curiosity but at the cost of restricting himself, since he is bound to his desire for the song and his instincts to react to it are repressed (see ibid: 32 and 58-60). He has repressed his inner nature for an instrumental end. Domination of nature leads to the domination of men over men. The third disastrous result of enlightenment Adorno and Horkheimer consider is a political one. They believe class society is an inevitable consequence of man's attempt to dominate nature. This is a result of the need for intensive labour in domination of nature and the reification of man. Man's bias towards instrumental rationality to the end of the domination of nature has, as discussed above, repressed any consideration of quality, meaning and

inner nature. This bias encourages men to treat men as objects that can be used as means towards the end of the domination of nature. The labourer becomes the object the dominant class uses as a means to the domination of nature. This requires the division of labour, as the means to the domination of nature, at the industrial stage of enlightenment (ibid: 22). The labourer's conformism to the instrumental means of domination (the labourer must be fresh and concentrated as he look ahead, and must ignore whatever lies to one side, ibid: 34), is complete dedication to labour and his ignorance of the workings of all but his own task means he cannot concern himself with his own preservation but must rely on a dominant other. This requires a class of administrators and enforcers to ensure no deviation. Any behaviour not conducive to domination of nature suffers the force of the collective, which monitors it from the classroom to the trade union (ibid: 28). Deviation from the direction of the collective is seen as an act of madness. This is also illustrated by the myth of the Siren. To escape the Siren song Odysseus has one solution for himself and another for the men he masters. They must concentrate on their labour to keep the ship under control with their ears are blocked with wax so they cannot hear the Siren's sensuous song, while Odysseus, the proto-bourgeois man, abstains from labour and may listen to their song unharmed.

However, Horkheimer and Adorno's critique seems to bear some contradictions, especially with regard to the belief in 'reason'. In Habermas's work *The Entwinement of Myth and Enlightenment: Re-Reading Dialectic of Enlightenment* he poses a problem of the 'irrational', such as in Adorno and Horkheimer's *Dialectic of Enlightenment*. Habermas (1982: 22) notes:

Critique becomes total: it turns against the reason as the foundation of its own analysis. The fact that suspicion of ideology becomes total means that it opposes not only the ideological function of the bourgeois ideals, but rationality as such, thereby extending critique to the very foundations of an immanent critique of ideology

Nevertheless, although Habermas believed that Horkheimer and Adorno's critique turns against reason itself, it seems that Horkheimer and Adorno in fact did not reject all versions of reason explicitly. Horkheimer (1947) viewed the rise of instrumental rationality and the eclipse of objective rationality as being partly responsible for the problem of the 20th century. For him, instrumental rationality is used by the individual as a means to certain ends, often self-preservation, and instrumental rationality strips the world it encounters of any intrinsic meaning and reduces everything to a tool or means for its own use. However, objective rationality, for Horkheimer, is inherent in

the world and enables the reconciliation of human wants with the larger order or environment. It theorises ultimate ends and views the world and nature as having worth outside of the needs, desires, and goals of humanity (see Berger, 1980: 13). Here, the term 'objective reason' deserves some explanation. Apparently, it carries overtones of objectivity, that crucial but contested belief that the Frankfurt School has attempted to criticise. For Horkheimer, objective reason points to reason that exceeds the bounds of humanity, that is inherent in the world. This implies that Horkheimer rejects a version of the world that exalts humanity as knowing subject acting upon nature as a passive, inert object existing to be appropriated for human purposes. For him, it is this eclipse of reason that reduces everything in the world to the status of object, but Horkheimer nevertheless believed that there exists purely objective reason. What he implied was not a removal of the belief in all reason, but a balance between objective reason and instrumental reason. For him, the task of Critical Theory should be to reconcile reason with nature (Horkheimer, 1947: 97; 126). As he noted:

If one were to speak of a disease affecting reason, this disease should be understood not as having stricken reason at some historical moment, but as being inseparable from the nature of reason in civilisation as we have known it so far. The disease of reason is that reason was born from man's urge to dominate nature, and the 'recovery' depends on insight into the nature of the original disease, not on the cure of the latest symptoms. The true critique of reason will necessarily uncover the deepest layers of civilisation and explore its earliest history. From the time when reason became the instrument for domination of human and extra-human nature by man – that is to say, from its very beginnings – it has been frustrated in its own intention of discovering the truth. This is due to the very fact that it made nature a mere object, and that it failed to discover the trace of itself in such objectification, in the concepts of matter and things not less in those of gods and spirits. One might say that the collective madness that ranges today...was already present in germ in primitive objectivisation.... (Horkheimer, 1947: 176)

However, from the above statement, it seems that Horkheimer did not make a clear distinction between instrumental reason and objective reason. For him, all reason has objectified the world, thereby reducing it to a means; all reason has had the characteristics of instrumental reason; all reason is born for the purpose of dominating nature. But, if domination of nature and instrumental reason have been central to all reason – or all reason and our civilisation are 'tainted' by the disease of instrumental reason, does there exist untainted reason, and could we uncover this kind of reason? There seems to be no clear explanation as to where the reversal of the Enlightenment might take us, but this could lead to two possibilities. **On the one hand**, Habermas, for example, would suggest that the critique of (any versions of) reason would run the

risk of lapsing into the 'irrational'. Habermas's philosophical project was to resolve this problem by the possibility of a different version of rationality, thus saving the project of the Enlightenment (the result is a theory of open communication that is aimed at an ideal speech situation). **On the other hand**, one might credit the presence of untainted reason to religion (as some cultures do) or to something else, but this seems to be less important in Horkheimer's (and Adorno) critique of anthropocentrism. For Horkheimer, what is at issue is 'the true critique' (as seen above) - a critique that removes the cancer of our flawed belief in reason. Yet, if our 'flawed' faith (in instrumental reason) is indeed removed, it is still dubious whether a reconciliation of reason and nature will appear automatically. In this regard, it seems that Horkheimer and Adorno's approach does not go far enough, and this, perhaps, also denotes the limit of pure critique. Nevertheless, Horkheimer and Adorno's analysis is significant as they succeed in showing the problematic nature of anthropocentrism, and their emancipatory vision has also provided fertile soil for latter-day critical perspectives. In quest of an alternative to anthropocentrism, then do deep ecology and its related worldviews provide a different basis for our understanding of minor paradigm?

Eco-centrism and Deep Ecology

Deep ecologists tend to refer to deep ecological consciousness, or 'eco-centrism', as an alternative to anthropocentrism. As I have discussed, some of our current dominant worldviews reflect our long-lasting belief in rationality and science, and this, then, has resulted in what Roszak (e.g. 1970: 217) termed 'objective consciousness', whose three major components are: (1) the alienative dichotomy (of nature and man); (2) the invidious hierarchy; (3) the mechanistic imperative. When objective consciousness is at work, our understanding of the relationship of man to nature will inevitably result in unbridled assertions of human hubris – 'is there anything we can't do better?' (ibid: 226). For Roszak, this consciousness has also shaped dominant epistemologies since the Enlightenment, and, consequently, the intuitive type of knowledge is seen as uncivilised and is often devalued in favour of scientific/rational forms of knowledge.

By contrast, deep ecological consciousness is derived from some different origins, which somewhat reflect an ancient and primitive view of knowledge, particularly with regard to humanity and its relationship to the environment. These traditions, in common, emphasise the importance of the spiritual, or the intuitive part of human beings, especially in relation to nature. Nevertheless, from the perspective of the Enlightenment project, knowledge that involves intuition or spirituality is usually

labelled as irrational, and, accordingly, this kind of knowledge is often taken as the subjective form of knowledge, or even 'nonsense' (see Zukav, 1997 [1979]: 140-1). On the contrary, the deep ecological worldview is by no means based on such dualist logic, but a holistic, dynamic, and organic one. To understand how this can reshape our worldviews, I shall briefly outline the two dimensions, the intuitive/religious and scientific aspects, of deep ecology.

The Intuitive Dimension of Ecocentrism

As we shall also see later, while Guattari emphasises the importance of ecological subjectivity, deep ecologists tend to highlight our 'intuition'. The intuitive dimension of deep ecology is mainly based on what can be termed 'nature religions'. According to DiZerega (1996), the nature religions involve

...spiritual traditions which focus on the spiritual truths and symbols revealed by natural cycles, such as the turning of the seasons and phases of the moon.....these religions focus to a substantial degree on spirit realms and phenomena that are not immediately transcendent in character.....They all emphasise that 'the most appropriate task for human beings is to live in respectful harmony with these forces' rather than, as with many of the major world religions of today, viewing earthly existence as a way station, place of trial and testing, problem to be overcome, or otherwise a condition which is not ultimately satisfying. (emphasis added)

The defining characteristics of nature religions are that they generally tend to accept the plurality of different modes of thinking, and different religious paths, for they by no means claim to have the sole answer for the problem that is human existence. In other words, nature religions do not rely on a binary logic – they are not engaged in annihilation of opposite voices⁵. The worldview provided by nature religions, which is, in essence, based on eco-centric ethics, is in contrast to the dominant anthropocentric orientation of the current, dominant thinking. The modern eco-centric worldview/consciousness is closely associated with Henry D. Thoreau's *Walden* (1968; first published in 1854), which is considered to be one of the most important contributions to early environmental thought (see Sessions, 1995; Cridland, 1997).

⁵ Since the philosophical traditions related to nature religions and management are an important theme of this work, I shall discuss the issue at some length later.

Thoreau, as an ecocentric philosopher, attempted to launch a thinking shift in nineteenth-century America. While the essence of deep ecology, according to Naess (1973), is to ask 'deep' questions, the message of *Walden* is that Thoreau hopes to revive our deep, ecocentric consciousness: 'I do not propose to write an ode to dejection, but to brag as lustily as Chanticleer in the morning, standing on his roof, if only to wake my neighbours up' (Thoreau, 1968: 94). Here, Thoreau at once rejects the values and institutions of materialism and industrialism, and argues that we human beings have a strong desire for fellowship with all things, including nature. At this point, Thoreau's idea somewhat captures Freud's principle of constancy – the 'tendency towards stability' (Freud, 1984: 277), which Freud adopted the term 'Nirvana principle'⁶, meaning that we human beings have the instinct that drives us to restore an earlier, nonhuman, state, i.e. to return to Nature (ibid: 414).

Nevertheless, Thoreau argued that under capitalist civilisation, our desire for Nature is suppressed. To Thoreau, 'capitalism' is an activity of entrapment and moral entropy, which misleads us to treat consumption and accumulation as measures of wealth. Accordingly, capitalism inspires our obsession with ownership, but the price of ownership, to Thoreau's mind, is our soul, for the pursuit of ownership usually impairs our self-development, introspection, or good life (cf. Cridland, 1997). In other words, for Thoreau, our desire for ownership, or material enjoyment is indeed an illusion, based on a false premise of self-interest, and this illusion inescapably results in our departure from nature. In order to avoid such a predicament of self-slavery, Thoreau proposed a different possibility: 'simplicity' (Thoreau, 1968: 6-8; 57-58). This simplicity, as Paul (1971: 305) points out, involves a 'simplification from society, a withdrawal from its larval state to nature'. Namely, Thoreau claims that our materialistic lifestyles and values inherent in capitalism stem from our confusion between what is and what is not meaningful in life, and, accordingly, he suggests that we should recognise the 'necessaries of life', which 'man obtains by his own exertions, has been from the first....so important to human life that few.....ever attempt to do without it' (Thoreau, 1968: 13)⁷.

This early ecocentric worldview, as well as Thoreau's attitude towards nature, is further strengthened by two contemporary writers, Leopold (1968; first published in

⁶ In the work *Beyond the Pleasure Principle*, Freud (1984: 277, first published in 1920) stated: 'the mental apparatus endeavours to keep the quantity of excitation present in it as low as possible or at least to keep it constant'. For Freud, this mental apparatus is the 'compulsion to repeat', which derives from the most intimate nature of our instinct, and he declared that this instinct (the Nirvana principle) is powerful enough to discard the pleasure principle, and, as such, this instinct should be situated beyond the pleasure principle (ibid: 272).

⁷ For Thoreau, the necessaries of life include food, shelter, clothing and fuel (Thoreau, 1968: 13).

1949) and Carson (1962), who both challenge the dominant anthropocentric orientation since the Enlightenment. In the work *A Sand County Almanac*, Leopold advocated a 'land ethic', the extensions of ethical consideration against anthropocentrism:

There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it.....The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.....A land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it (Leopold, 1968: 238-40).

Leopold's rationale for this extension is bio-centric in essence, regarding human beings as part and parcel of Nature, dependent on the whole fabric for their very existence. This view was then inherited by Rachel Carson, who brought the issue of ecological crisis to the fore (cf. Devall and Sessions, 1985: 260). In the book *Silent Spring*, Carson indicted the widespread use of pesticides, and she disclosed the serious and increasing threats to human health caused by our polluted environment. Notwithstanding, her concerns went far beyond the anthropocentric mode of thinking, for she expressed a deep reverence for the health of the earth as a whole and she also challenged the conventional manipulative attitudes towards nature:

....the 'control of nature' is a phrase conceived in arrogance, born of Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man. The concepts and practices of applied entomology for the most part date from that Stone Age of Science. It is our alarming misfortune that so primitive a science has alarmed itself with the most modern terrible weapons, and that in turning them against the insects it has also turned them against the earth (Carson, 1962: 297).

Clearly, for Thoreau, Leopold, and Carson, deep ecology is more than a scientific discipline. The ecological consciousness embedded in their works, in fact, constitutes a holistic and intuitive worldview that awakens people to the understanding that the world we live in is organic, and to 'a recognition of the worth of the flourishing of all of nature' (McLaughlin, 1993: 90). As such, in its religious/intuitive dimensions, deep ecology is concerned with the integration of humans and nature. It does not treat humans as above or outside of nature, as the source of all values, but simply as one particular strand in the web of life (see also Capra, 1996). Holistic non-anthropocentric and humble conceptions of the world set against narrow-sighted, arrogant anthropocentrism form the intuitive/religious dimension of deep ecology.

However, if deep ecology were not incompatible with scientific advance, then what would be its scientific dimension?

The Scientific Dimension of Ecocentrism

The second dimension, the scientific part, of deep ecology is highly relevant to contemporary New Physics, and the two largely complement one another conceptually and have finally converged towards a new philosophical framework (e.g. Fox, 1984; Callicott, 1989; Oppermann, 2003). Ecology, as a science created in the 19th century, was an improvement over the Hobbesean picture of nature as a chaotic free-for-all, but the term ecology was usually represented in the concept of an 'economy of nature' (Callicott, 1989: 55). The concept of an economy of nature is still based on a mechanistic view - 'Like a planet in its orbit or a gear in its box, each species exists to perform some function in the grand apparatus' (White, 1842; quoted in Callicott, 1989: 55). In 1935, the Oxford ecologist Arthur Tansley gave the science of ecology a somewhat different sense, i.e. ecosystem (see Tansley, 1935). The concept of ecosystem was intended to bring the so-called 'new' ecology out of a qualitative, descriptive stage, with anthropomorphic and mystic overtones, and transform it into a more quantitative, objective science. This new sense involved some physical theories, such as thermodynamic and biophysical models. However, this new hallmark of ecology led to an unpromising situation, for ecology was immediately turned to economic advantages as a powerful new weapon in mankind's age-old campaign to conquer nature: with the quantitative precision of which Tansley's energy circuit model was capable, ecosystem could be made more productive and efficient so as to yield a higher caloric 'crop' (Worster, 1979: 332). Indeed, as Hobsbawm (e.g. 1994: 548; as seen earlier) suggested, in modern society, we may possibly see economics as the 'secular theology'; on the one hand, much modern economics (especially neo-classical economics) is a theoretical transformation of the Newtonian-Cartesian physical concepts which tends to reduce complex human behaviours into measurable stimulus-response actions, and treats economic phenomena as independent from the whole social and ecological fabric (Capra, 1989: 194-6; see also Boulding, 1978; 1981: 17); on the other hand, as I shall also illustrate later, the economic concept of efficiency/productivity has somewhat become a meta-theoretical element in current society.

Nevertheless, at the middle of the twentieth century, there was a fundamental shift in the concept of ecology. This development was led by Thoreau, Leopold, and Carson,

and they advocated a new ecological awareness which took the concept of ecology far beyond the traditional scientific discipline. This improvement is interestingly in accordance with the development of New Physics, particularly with regard to the metaphysical implications. While the mechanistic model of nature has deeply shaped our modern society, the development of New Physics has certainly drawn a different picture of nature. Einstein, at the beginning of the twentieth century, proposed his General Theory of Relativity, which shows an interaction between matter and energy. As he wrote in 1913:

Since Maxwell's time, Physical Reality has been thought of as represented by continuous fields.....This change in the conception of Reality is the most profound and the most fruitful that physics has experienced since the time of Newton (quoted in Plotnitsky, 1994: 141).

In Einstein's view, space and time are not separate things, but part of a large whole which he called the 'space-time continuum' (e.g. Zukav, 1997: 189-91). Einstein's Relativity theory, and the transformation of atomic theory that followed on from the discovery of radioactivity in the 1890s have indeed undermined the foundation of Newtonian physics (ibid: 74-5). This foundation, as Hobsbawm (1994: 536) described:

.....was objective, i.e. it could be adequately observed, subject to technical limitations in the observing apparatus (e.g. the telescope or optical microscope). It was unambiguous: an object or phenomenon was either one thing or something else, and the distinction between these was clear. Its laws were universal, equally valid at the cosmic and the microcosmic level. The mechanism linking phenomena were understandable (i.e. capable of being expressed as 'cause' and 'effect'). Consequently, the entire system was in principle determinist, and the purpose of laboratory experiment was to demonstrate this determinacy by eliminating....the complex muddle of ordinary life which concealed it.....*Scientists know quite well that there were 'non-scientific' statements, but these were not their concern....(emphasis added)*

All these characteristics were summarily called into question around the 1900s. In 1911 Ernest Rutherford created the model of atom, and thereafter the atom was no longer seen as the smallest possible, and hence indivisible, unit of matter, as its original Greek name implied (Prigogine and Stengers, 1984: 3). After that time, physicists thought that atoms were constructed in the following way (Zukav, 1997: 38):

At the centre of an atom is a nucleus, just as the sun is at the centre of our solar system. In the

nucleus is located almost all of the mass of the atom in the form of positively charge particles (protons) and particles about the same size as protons but without a charge.....Orbiting about the nucleus, as the planets orbit the sun, are electrons, which have almost no mass, compared with the nucleus. Each electron has one negative charge, and the number of electrons is always the same as that of protons.....

Notwithstanding, when the structure of individual atoms was investigated, notably that of hydrogen by Niels Bohr in 1913, the results appeared to be different. As Bohr observed, the spectrum of hydrogen, the simplest of the atoms, even contains over one hundred lines, and this means that we cannot 'accurately' describe the structure of atoms (ibid: 38-41). From the viewpoint of Newtonian mechanics, at least at an atomic level, Bohr's model is, and must be, 'quite irrational and absurd', for the model disclaimed any idea of what actually happened inside the atom (e.g. Holton, 1995; Hobsbawm, 1994: 536). The implication of Bohr's discovery is that there is no way of expressing the wholeness of nature in a single description, and there is no single directly comprehensive model.

This conception was further strengthened by the construction of quantum mechanics, devised in many different countries during the 1920s. From the perspective of quantum mechanics, the true reality within the atom is not wave or particle, but the indivisible 'action of quantum' which is potentially manifested as either or both. It is pointless to regard it as continuous or discontinuous movement, in that we can never follow the path of the electron step by step (Bohm, 1980: 128-9). Classical physical concepts such as position, velocity or momentum simply do not apply beyond certain points, marked out by Heisenberg's 'uncertainty principle' (e.g. ibid: 69-70). In addition, some more recent research (in the 1980s) shows that if quantum mechanics works, it then implies that, under certain circumstances, electrons would instantaneously communicate with each other regardless of the distance separating them, and as such, the communication occurs faster than the speed of light, breaking the conventional sense of space-time barriers (cf. Selleri, 1989: 279-332). Yet, at a philosophical level, Heisenberg's uncertainty principle has a different and metaphysical implication. In the period of classical physics, i.e. from the 17th century to the late 19th century, the mathematics available to scientists, such as Newton, was preponderantly quantitative, and this led classical physicists to believing that distance, matter, time, and energy should be measured in terms of absolute accuracy (e.g. Bateson, 1987: xxii). However, from the perspective of New Physics, this classical view is no longer tenable. Heisenberg's principle indeed shows that the boundaries of an object, or of the atom itself, can never be determined through better

instrumentation, because observers cannot make determination of the position of an atom without disturbing the atom so violently that its whereabouts an instant later will be completely unknown (Jones, 1983: 20). As such, Heisenberg's uncertainty principle is not a statement about the limits of measuring devices, but rather about the limits to human knowledge (see *ibid*: 20-1). For, as the principle shows, even in the allegedly 'accurate' and 'objective' realm of physical experiments, intrinsic inaccuracies in the decision-making process are unavoidable for scientists. This then denotes a metaphysical implication, i.e. that reality can never be described accurately, because reality always involves more than one sense. Hence, in Jones's (e.g. *ibid*: 3; 20) view, physics should be understood as 'metaphor': when describing reality, we can rationalise the measurement, but there is always a non-removable, subjective, and arbitrary element in this process.

In the 1970s and 1980s, the mathematical sub-field 'chaos theory' also put a new spin, as it were, on classical physical causality. The development of chaos theory has something in common with the rise of a romantic school of science, mainly centred in Germany (i.e. Naturphilosophie; see Hobsbawm, 1994: 541) in reaction against the classical mainstream, centred in France and Britain. Although, for some scientists⁸, it can be argued whether chaos theory is still partly based on the Newtonian mechanics, and that chaos theory has by no means shown the inherent limits of science (Sokal and Bricmont, 1998: 140; 144), Feigenbum and Libchaber, the two founders of chaos theory, were in fact inspired by Goethe's anti-Newtonian hypothesis of colours, and his monograph *On the Transformation of Plants* (Gleick, 1988: 164; 197). Clearly, from the perspective of many new physicist, chaos theory breaks the links between physical causality and predictability, for its essence is not that events are fortuitous but that effects which follow specifiable causes can be predicted (cf. *ibid*: 213-7; Hobsbawm, 1994: 541). At this point, chaos theory has also fed back into contemporary ecology, because it has a strong implication of Goethe's holistic view, which was anti-Newtonian reductionist in essence (Gleick, 1988: 165). In brief, the development of New Physics has several important metaphysical implications in relation to deep ecology.

Firstly, New Physics is by no means a reaction against all scientific theories in favour

⁸ According to Zukav (1997: 34-37), there are two kinds of scientist: masters and technicians. The former means the scientists who are able to discover the unknown 'essence', or metaphysical part, of scientific theories, rather than merely focus on the application of known theories, or 're-present' the reality. Technicians are just the opposite. Yet, for Zukav, today most scientists belong to the latter, because, on the one hand, they tend to ignore the philosophical implication behind scientific theories; and, on the other hand they usually deal with the known, i.e. their 'discoveries' are merely the extensions/applications of known theory, created by masters such as Einstein and Bohr.

of seeking out things which 'science cannot explain'. Rather, the implication of New Physics here is that scientific 'masters' – to borrow Zukav's (1997: 34) phrase – know well that there are different ways of perceiving reality, sometimes non-comparable or even contradictory, but all are needed to grasp in its totality (see Weinberg, 1979: 43), and there are always some things scientifically uncontrollable. Indeed, a person in the 1900s could have been engaged in his/her daily activities as if physics or chemistry had not existed, for no significant problems in his/her life could be attributed to technology. However, in an age when new scientific advances are applied, with ever-diminishing time-lags, into technology which is little understood by its customers, it is becoming far harder for any layman to overlook the potential consequences of sciences (e.g. Giddens, 1990). Nevertheless, one could argue that the problems originating from science, such as the explosion of the atom bomb, are never scientifically intended effects, for most of our man-made catastrophes are made by non-scientists - usually politicians (Hobsbawm, 1994: 534; as discussed below). For some, it seems that since the intention of scientists is merely to seek for Truth, like engineers' attempt to build a perfect machine, scientists have no responsibility for what non-scientists do. However, from a more holistic perspective, arguments of whether scientists should seek for external, pre-given Truth are beside the point (see also Fox, 1984; Naess, 1984). This was well-illustrated by the biologist David Baltimore (1978), who proposed a scientific, but more macro view on the relationships between ideology, scientific truth, and society.

From the outset, the difference between ideology and science is clear, for the former presumes/invents answers while the latter asks questions and, supposedly, searches for transcendental Truth. Clearly, as most scientists would agree, science should not be the servant of ideology (ibid: 41). However, in reality, in the modern epoch the outcome of certain scientific research has indeed been put to the service of particular ideologies. For example, the eugenics movement that developed in Germany and Russia in the 1920s (ibid: 41), when a politicised science reached its greatest triumphs; for Hobsbawm (1994: 545), the period of the nuclear warfare during the Second World War II period was itself the child of anti-fascism. Although the political temperature of science dropped after the Second World War (ibid: 546), in much current industrialisation, science has itself become commodities for society (e.g. Lyotard, 1984: 23). In the eyes of Baltimore, under current circumstances basic scientific research should be free from overt restrictions, but some of the applications of science should be restricted. From a more pragmatic perspective, however, it is naïve to assume that scientific research and its applications can be separated, in the sense that both are inevitably subject to sectional interest, if only in that they require

huge, but limited, resources (e.g. Lewontin, 1992: 37-8). Hence, for deep ecologists, the pursuit of truth is not at issue: **science and technologies are too powerful, too dangerous, and too indispensable to be left to a certain group of people to serve their own interests.**

Secondly, in the ‘organic (i.e. living)’ concept of nature implied by deep ecology, as in that implied by the New Physics, energy seems to be a more fundamental and primitive reality than material objects or discrete entities – elementary particles and organisms, respectively. An individual organism, like an elementary particle is, as it were, a momentary configuration, in an energy ‘flux’, and this concept has been particularly associated with relativity theory, and then further articulated by quantum theory (Callicott, 1989: 59). Relativity has had a profound influence on our concept of matter by modifying our picture of a particle in an essential way. In classical physics, the mass of an object had always been considered as an indestructible material substance, with some stuff of which all things were thought to be made; however, relativity theory shows that mass has nothing to do with any substance, but is just a form of ‘energy’ (Capra, 1992: 88). Energy, thus, is a dynamic quantity associated with activity, or with processes. This then denotes a basic interconnection of matter, showing that energy of motion can be transformed into mass, and suggesting that particles are **processes** rather than objects (ibid: 315).

From the view of quantum mechanics⁹, if particles contain energy, it can be argued that they are no longer inorganic, but ‘organic’ (Zukav, 1997: 72-90). If particles are organic, it then implies that they can respond to processed information. Hence, the classical (physical) sense of the distinction between organic and inorganic is itself dissolved¹⁰. At this point, deep ecology captures the metaphysical implication of quantum mechanics. On the one hand, deep ecology assumes that all of the things in our universe that appear to exist independently are actually parts of one all-encompassing organic pattern and that no parts of that pattern are ever really separate from it or from each other (cf. ibid: 73). On the other, it emphasises that all organisms are, in their entire structure: from subatomic microcosm to ecosystem – patterns, perturbation, or the configurations of organic energy (Callicott, 1989: 59).

⁹ There are many different interpretations of quantum physics, for quantum mechanical experiments have generated conceptual and interpretive problems. Herbert (1985: 16-29) paraphrased six interpretations: 1. the Copenhagen interpretation; 2. Bohm’s theory of Undivided Wholeness of reality; 3. the Many-Worlds interpretation: reality consists of a steadily increasing number of parallel universes; 4. neorealism; 5. consciousness creates reality; and 6. the duplex world of Heisenberg: the world is twofold, consisting of potentials and actualities.

¹⁰ From the standpoint of classical physics, physics is about things that are not living. Yet, new physicists have found themselves dealing with patterns of organic energy (Zukav, 1997: 90).

Thirdly, and following from the previous two implications, New Physics and deep ecology both imply a holistic metaphysics. Since this holistic vision is an important theme of this thesis, I shall illustrate it in some detail. In the field of New Physics, the concept of holism is particularly associated with the works of the physicist David Bohm, whose theory is one of the most influential interpretations of quantum phenomena, first called ‘hidden variable’ and then revised into what he termed the ‘undivided wholeness and the implicate order’ (Bohm, 1957; cf. Oppermann, 2003). For Bohm, the faster-than-light connection between subatomic particles posits a deeper level of reality which is undivided and intimately interconnected (Oppermann, 2003). Hence, Bohm believes that the subatomic particles in the human body are connected with subatomic particles that consist in every other living organism and non-living matter. His message here is: everything exists interdependently. In the book *Unfolding Meaning*, Bohm went further by arguing that ‘the universe is one whole, as it were, and is in some senses unbroken (see Bohm, 1987: 7). According to Bohm and Hiley’s (1993: 6) explanation:

The key feature here is that of the undivided wholeness of the measuring instrument and the observed object, which is a special case of the wholeness to which we have alluded in connection with quantum processes in general.....it is no longer appropriate, in measurements to a quantum level of accuracy, to say that we are simply ‘measuring’ an intrinsic property of the observed system. Rather what actually happens is that the process of interaction reveals a property involving the whole context in an inseparable way. Indeed it may be said that the measuring apparatus and that which is observed participate irreducibly in each other, so that the ordinary classical and common sense idea of measurement is no longer relevant.

The physical implication of Bohm’s theory of wholeness is that everything in the world is part of a single wholeness – ‘continuum’ (see Bohm and Peat, 1989). As we shall see, in order to analyse the reality, conventional scientists tend to disassemble the object into smaller pieces, or fragments. For Bohm, this attitude reflects a Newtonian-type ‘reductionist’ approach to dealing with scientific problems, but the problem is that this has resulted in a popular belief that we could use the same strategy to deal with complex human issues (e.g. Boulding, 1978: 20). At the core of such reductionism is the assumption that matter is the basis of all existence and that the material world is composed of a multitude of separate objects assembled into a huge machine. Consequently, it is assumed by this Newtonian-type reductionism that complex phenomena can best be understood by reducing them to their basic building blocks and by looking for the mechanisms through which these interact. However,

Bohm's concept of the continuum is anti-fragmented in essence, seeing everything in the world as an extension of everything else, and as such the explicate order is also part of the deeper 'implicate order'. The implicate order, as Bohm (1987: 12) indicates, means to 'enfold'. For Bohm, our tendency to fragment the world into separate entities is the cause of many of our social and environmental problems. As he (1980: 1) argues

.....fragmentation is now very widespread, not only throughout society, but also in each individual; and this is leading to a kind of general confusion of the mind, which creates an endless series of problems and interferes with our clarity of perception.....Men's natural environment has correspondingly been seen as an aggregate of separately existent parts, to be exploited by different group of people.....

For Bohm, the idea that our world can be dissected and that fragments are separately existent is indeed an illusion, and yet it has led to pollution, destruction of balance of nature, world-wide economic and political disorder, and created 'an overall environment that is neither physically nor mentally healthy for most of the people who have to live in it', because the process of division is indeed a way of thinking about things that is 'convenient' and 'useful' mainly in the domain of practical, technical and functional activities, such as to divide up an area of land into different fields where various crops are to be grown (Bohm, 1980: 1-2). Nevertheless, Bohm believes that this is not the true state of human nature and consciousness, for 'man has always been seeking wholeness: mental, physical, social, individual' (ibid: 3). The implication of Bohm's theory here is twofold. Firstly, it denotes an ancient philosophical paradox, i.e. the Aristotelian paradox of holism: a single whole thing is always different from, or more important than, the assembly of its parts. Secondly, it is a direct challenge to the dominant worldview inherent in the Enlightenment - Bohm's thinking suggests that wholeness/integrity should be 'an absolute necessity to make life worth living' (ibid: 3).

As we have seen, modern/scientific humanism and the strong belief in scientific methods, or what Feyerabend (e.g. 1993: 37) termed the 'scientific chauvinism', are two important legacies of the Enlightenment/Renaissance. While modern humanism represents the belief that, with scientific tools and methods, human beings can replace the role of God, and that humans can be free from otherworldly forces, it has by no means proved that humanism has made people greater. As Foucault reminded us, 'The Humanism of the Renaissance was not an enlargement, but rather a diminution of man' (Foucault, 1988: 38). Bohm seems to provide an explanation for this. In Bohm's

view, the essence of scientific methods is a man-made fragmentation, for scientific methods are conventionally based on the presupposition that the process of thought is sufficiently separate from and independent of its content (of knowledge), to allow us generally to carry out clear, orderly, rational thinking, which can properly judge this content as correct or incorrect, rational or irrational, fragmentary or whole (Bohm, 1980: 18). Namely, the faith in scientific methods usually leads to a belief that humans have the ability to separate themselves from their environment (including other human beings) and thus to divide and apportion things. This attitude has had negative and destructive results – people have lost awareness of what they are doing and thus extended the process of division beyond the limits within which it works properly (ibid: 2). For Bohm, such fragmented thought brings about ‘a thoroughgoing confusion that tends to permeate every phase of life’, which, in turn, breaks up the ‘true unity’, i.e. the whole of reality, in the individual, between man and nature, and even between man and man (ibid: 27). Here, Bohm also underlines Korzybski's (1950) admonition: whatever we say a thing is, it is not that; it is both different from that, and more than that (see Keepin, 2001).

In Bohm's mind, the artificial separation of process and content in knowledge becomes problematic in systems of thought that seek to encompass the totality of existence (e.g. as do grand unified theories in physics). He (1980: 62) notes:

It is thus quite easy, through inadequate attention to the actual process of one's thought, to ‘slip into’ a form of conditioned response of memory, in which one is not alert to the fact that is still only a form of thought, a form that aims to give a view of ‘the whole of reality’.....From this point on, one will see, in the whole field accessible to one, no room for change in the overall order, as given by one's notions of totality, which indeed must now seem to encompass all that is possible or even thinkable. . . To adopt such an attitude will evidently tend to prevent that free movement of the mind needed for clarity of perception, and so will contribute to a pervasive distortion and confusion, extending into every aspect of experience.

In order to overcome our fragmentary habit of thought, or what Bohm termed ‘illusion’, he suggests that we need to create a new insight not only into the world as a whole, but also into how the instrument of thought is working (ibid: 25). In this regard, Bohm proposes the concept – ‘holomovement’, which has two senses. In the first sense, ‘holomovement’ refers to two basic elements of physical reality. The ‘movement’ component means that reality is always changing and shifting, while ‘holo’ denotes that every part of an object, or the entire universe, contains the information of the whole (see Bohm, 1987: 10-11). As Bohm (1980: 172) noted, the concept of holomovement implies that the whole reality is always an undivided

flowing, changing movement which has no borders. In the second sense, holomovement consists of two fundamental, but more metaphysical, aspects: the explicate order and the implicate order. This explicate order is the appearance of any physical reality. Yet, in Bohm's view, this is merely the surface of a much greater enfolded, or implicate order, most of which is hidden. Conventionally, much science tends to deal with explicate orders and structures, which is why science has encountered such great difficulty in explaining a variety of phenomena that arise from what Bohm termed the implicate order. From the Newtonian-Cartesian paradigm of classical physics, it is assumed that the implicate order refers to a subtle level of reality that is secondary and subordinate to the primary explicate order. Nevertheless, for Bohm, precisely the opposite is the case: the implicate order is the fundamental and primary reality, albeit invisible. As he points out:

.....in the implicate order the totality of existence is enfolded within each region of space (and time). So, whatever part, element, or aspect we may abstract in thought, this still enfolds the whole and is therefore intrinsically related to the totality from which it has been abstracted. Thus, wholeness permeates all that is being discussed, from the very outset (ibid: 172).

Bohm's physical/scientific holistic view that we are essentially interconnected in a web of life is largely shared by deep ecologists, and this is also a central theme in the discourse of ecosophy. As Naess (1980: 50) stated:

.....understanding the world as a collection of things with constant or changing qualities breaks down when one attempts to render it very precise and apply it in natural scientific or historical research. We must strive for greater familiarity with an understanding closer to that of Heraclitus: everything flows. We must abandon fixed, solid points, retaining the relatively straightforward, persistent relations of interdependence.

Apparently, Naess's holistic view of the inter-relational order of nature within a dynamic flow is in line with Bohm's interpretation of quantum mechanics. Moreover, while Bohm's theory of undivided wholeness assumes that the world should be seen as an undivided whole, in which all parts of the universe – humans, fauna, flora, subatomic particles, the observer and his/her instruments – exist in a flowing movement and all stem from a unified totality, Naess's ecosophy similarly highlights the importance of the internal relations of all things (including living and non-living beings), implying that our entire system, or ecosystem, is implicated in principle. Here, the philosophical implication of deep ecology in relation to holism is somewhat associated with nineteenth-and early twentieth-century German and English Idealism,

with the philosophies of Hegel, Fichte, Bradley, and Royce (Callicott, 1989: 60). These philosophers commonly consider that a thing's essence is completely determined by its relationships, and that it cannot be conceived apart from its relationships with other things. At this point, Bateson (1979: 19; cf. Capra, 1989: 70) went even further by arguing that 'relationships' are always more important than objects, and thus he suggests that anything should be defined not by what it is in itself, but by **its relations to other things**.

While Bohm's physical theory constitutes the conceptual framework of the holism of ecosophy, deep ecology offers this holism a more concrete sense, which was embedded in Naess's (1973) original formulation proposed in 1972. Naess then used seven 'movements' to characterise this formulation, and two of them are particularly related to the concept of (ecological) holism. The first movement, he stated, is the 'rejection of the man-in-environment image' in favour of the relational, total-field image, in which organisms would be knots in the field of intrinsic relations (ibid: 95). This places emphasis on a holistic relation between man and nature, and appeals to our respect for the **intrinsic** values of all natural life and of non-living natural systems. This is what Bateson (1987: 432-45) termed systemic mind/wisdom: this wisdom is based on a profound respect for the wisdom of nature, which is characteristic of traditional, non-literate cultures but has been neglected in our over-rational society (cf. Capra, 1989: 433).

The second movement is: 'principles of diversity and of symbiosis'. By this, Naess suggests that our destruction of ecological diversity will first jeopardise other species, and then put ourselves in danger. As he states:

Diversity enhances the potentialities of survival, the chance of new modes of life, the richness of forms. And the so-called struggle for life, and survival of the fittest, should be interpreted in the sense of the ability to coexist and cooperate in complex relationships, rather than the ability to kill, to exploit, and suppress. 'Live and let live' is a more powerful ecological principle than 'Either you or me' (ibid: 96).

As the Swedish cancer researcher Karl-Henrik Robert argued, our current industrial system is, in fact, an 'evolution in reverse' (Robert, 1992: 1; see also Korten, 1999: 66). He points out that billions of years ago our earth consisted of a toxic primeval atmosphere, toxic liquids, and a desolate surface. The transformation of the toxic inorganic compounds into the wealth of mineral deposits, soil, breathable air, and drinkable water began with green plant cells, which have the ability to capture surplus

solar energy beyond their own growth and maintenance needs (Robert, 1992: 1). Conversely, animals have no capacity to transform solar radiation into energy, and thus all activities of animals have to rely on natural order created by green plants. Nevertheless, when humans began to make use of concentrated energy sources – first coal, then petroleum, and finally nuclear – we also started to turn organic matters into visible as well as molecular rubbish far faster than the earth's remaining green cells could reprocess it (ibid: 1). In other words, earth's evolutionary process has been reversed by human activities.

For Korten (1999: 68), our industrial progress seems to be an 'extractive development'. Although some neo-classical economists (such as Thurow, 1999) assure us that such realities represent merely temporary sacrifices on the road to universal prosperity or development, this view is based on a problematic economic premise: the increase in material goods is the same as the increase in the well-being of society (cf. Capra, 1989: 248-81). In order to maintain the value-free objectivity of this premise, some economists, as conventional scientists, are obsessed with objective measurement – such as market prices, which often excludes intangible goods, such as spirituality, and 'living capital' – the sum total of the self-renewing human, social and natural capital that serves as the foundations of civilisation (Korton, 1999: 71). However, the neglect of living capital might result in some modern Midas curses, with industrial 'progress' essentially consisting an evolution in reverse, while we are exterminating other species at an alarming rate. For example, nowadays we are faced with the ecological problem that the world's fish stocks are crashing dramatically below the minimum level of natural recuperation (see Helvarg, 2003).

For those deep ecologists and new physicists discussed above, our present system of industry-dominated management, based on an economic interest and some forms of anthropocentrism, inevitably results in a man-made predicament. At the core of this predicament are some problematic predominant and prevailing worldviews, and the ensuing ecological crisis was predictable:

Our failure is that of the Western World and lies in prevailing values. Show me a man-oriented society in which it is believed that reality exists only because man can perceive it, that the cosmos is a structure erected to support man on its pinnacle, that man exclusively is divine and given dominion over all things, indeed that God is made in the image of man, and I will predict the nature of its cities and their landscapes. I need not look far for we have seen them – the hot-dog stands, the neon shill, the ticky-tacky houses, dysgenic city and mined landscapes. This is the image of

anthropomorphic, anthropocentric man; he seeks not unity with nature but conquest (McHarg, 1969: 24).

It follows, then, that our ecological predicament is not just a problem with our rational techniques, but inherent in some problematic meta-theories. To solve our problems, what we need is, first of all, to abandon an anthropocentric assumption about the world.

Taoism's Possibility

Since our current problems are laid at the door of the Enlightenment worldview and value premises, some thinkers have leapt to the conclusion that, by contrast, some Eastern traditions could provide a remedy for these 'Western' ills, for these somewhat 'intuitive' traditions seem to be able to realise the alleged primitive symbiosis between man and nature (cf. Callicott and Ames, 1989: 7). Jung here exemplifies such an approach:

I wish to challenge those Western writers who refuse to accept Zen (and indeed Eastern ideas in general) as an answer to the global problem.....And if.....it needs a Copernican revolution of the mind to avert the impending ecological catastrophe, I suggest Zen could be the fountainhead of that revolution....(Jung, 1972: 1153)

In the realm of ecosophy, Lynn White (1967) is one of the first thinkers who raised the issue of adopting some Eastern thought to reshape our dominant worldview, but he soon doubted the feasibility of such a project. If our ecological predicament is at the level of thinking, these Eastern traditions (in relation to nature) can do little to help, for they can merely provide an abstract framework which has little to do with current practice. However, it can be argued that the metaphysical implication of these ancient traditions may offer spiritual inspiration, which could possibly contribute to a paradigmatic revolution. Devall and Sessions (1985: 100) defined the essence of the Taoist classic, the *Tao Te Ching*, which has provided so much inspiration for deep ecologists:

The Eastern Taoist image, the organic self....tells us there is a way of unfolding which is inherent in all things. In the natural social order, people refrain from dominating others. Indeed, the inorganic truth is that the more one attempts to control other people and control non-human Nature, the more

disorder results, and the greater the degree of chaos. For the Taoist, spontaneity is not the opposite of order but identical with it because it flows from the unfolding of the inherent order. (ibid: 11)

This Taoist 'order' is fundamentally different from the Enlightenment 'order'. The former emphasises the importance of the natural order, whilst the latter implies the technical order, via use of 'techno-scientific' rationality (Cooper in Chia and Kallinikos, 1998: 153). At this point, Callicott (1993: 36) suggests: 'Eastern philosophy has historically shaped the gradually emerging environmental consciousness in the West', and he puts forward the idea that Taoism is particularly relevant in relation to an environmental ethics:

.....the attention of Western environmental philosophers has gravitated more to Taoism. The concept of living in accordance with the Tao of nature complements the evolutionary and ecological axiom that human beings are part of nature and must conform human ways of living to natural processes and cycles. Especially in the Taoist concept of *wu-wei* [non-action], Western environmental ethicists have found a traditional Eastern analogue of what they call appropriate technologies – technologies that resist any attempt to dominate and recognise nature (ibid: 36).

Similarly, Nash suggests that Taoism has some moral implications which are absent from many current worldviews:

.....the man-nature relationship was marked by respect, bordering on love, absent in the West....Chinese Taoists postulated an infinite and benign force in the natural world. Wilderness was not excluded. Far from avoiding wild places, the ancient Chinese sought them out in the hope of sensing more clearly something of the unity and rhythm that they believed pervaded the universe....In linking God and the wilderness, instead of contrasting them as did the Western faiths....Taoism fostered love of wilderness rather than hatred. (Nash, 1989: 20-1)

As discussed above, it is clear that deep ecological consciousness and Taoism conceptually complement one another, and have similar metaphysical implications. Yet, if some Eastern philosophies have indeed offered some possible and radical alternatives, they have, paradoxically, also provided sources which non-critical scholars can draw upon, especially within management discourses. Thus, in recent years some leading business-school management gurus and authors of management manuals have started to scan Eastern philosophies as if these ancient, untouched traditions can reveal the secrets of entrepreneurial success. For instance, Zen's oneness of humanity and nature is represented as the fuel for the 'knowledge-creating company' (e.g. Nonaka and Takouchi, 1995). Hence, Hargrove (1989: vii) argues that

little appropriate attention has so far been paid to the potential role of Eastern attitudes toward nature and the man-nature relationship. It is, therefore, an important task to articulate these Eastern worldviews in their original, uncorrupted forms.

Taoism, Worldviews, and Knowledge

The Taoist worldview was especially associated with the works *Tao Te Chin* and *Chuang Tzu*. While the former was written by Lao-Tzu (the 5th century B.C.E?), the reputed founder of Taoism, the latter was written by Chuang-Tzu (369-286 B.C.E), who reinterpreted and developed this ancient 'nameless' tradition of nature worship and divination. Lao Tzu and Chung Chou, at a time of social disorder and great religious scepticism, developed the notion of the Tao¹¹ (i.e. the reason, the way, and the other way, etc.) as the origin of all creation and the force – unknowable in its essence – that lies behind the changes in the natural world. Although Taoism offered a range of alternatives to the Confucian worldviews, these two strands of thought, at a metaphysical level, were not completely mutually exclusive. Taoism has coexisted alongside the Confucian tradition throughout Chinese history. However, historically, most Chinese empires were officially in favour of Confucianism, and the Confucian tradition was therefore the dominant philosophy before communist China. It is possible to identify two reasons for this.

Firstly, Taoism was radical, and somewhat 'subversive' in essence. It implied a path of liberation from this world, and was, in this respect, comparable to Buddhism. In the Chinese cultural context, this liberation meant, more specifically, a liberation from the strict (social) rules of convention (Capra, 1992: 125), and therefore it encouraged a 'classless' society, whereas Confucianism was meant just the opposite. Secondly, from a Confucian perspective, the Taoist view of knowledge was mystically oriented, for Taoists acknowledged the limitations and the relativity of all knowledge, or, more precisely, they challenged the possibility of 'logical reasoning'. Taoists believed that knowledge (the Tao; as seen below) could never be learned. As Chuang-Tzu (1968: 239) argued¹²:

Breadth of learning does not necessarily mean knowledge; reasoning does not necessarily mean wisdom – therefore the sage rids himself of these things.

¹¹ The term Tao can be interpreted very differently. Since the definition of Tao is central to Taoism, it will be discussed at some length.

¹² References to *Chuang-Tzu* in this thesis are from two sources: Burton Weston's translation (Chuang-Tzu, 1968) and Cale Waltham's translation (Chuang-Tzu, 1971).

Logical reasoning and learning were considered by Taoists as part of the artificial world of man, along with etiquette and moral codes, and these were what Taoists mistrusted. As such, the Taoist approach to action, or to knowledge, is what they called *wu-wei* (i.e. non-action). While the Confucian sage was wise - learned and a moral paragon, Taoist sages were usually lowly artisans such as butchers and woodcarvers. For ancient Taoists, only the artisans understood the secret of art and the art of living. To be skilful and creative, they had to have inner spiritual concentration and put aside concern with externals, such as monetary rewards, fame, and praise. Art, like life, followed the creative path of nature, not the values of human society. While the Confucian scholars attempted to maintain a static, paternalist norm based on aristocratic blood, knowledge, and etiquette¹³, Taoism offered a potential transformation, unaffected by artificial norms, for Taoists recognised that nature itself comprises change and transformation. In the words of Chuang-Tzu:

Spring and summer precede, autumn and winter follows – such as the sequence of the four seasons. The ten thousand things change and grow, their roots and buds, each with its distinctive form, flourishing and decaying by degree, a constant flow of change and transformation. (ibid: 146)

For Taoists, since our world is in essence a process of transformation, any social hierarchy is unnatural, and therefore unnecessary. Clearly, from the perspective of the dominant discourse, this is unacceptable. Nevertheless, this minor ancient tradition and contemporary deep ecology, conceptually, complement one another, and tend towards the same metaphysical notions. Repudiating human arrogance and domination over nature, the deep ecologist Naess (e.g. 1973: 95-6) proposes the ‘anti-class posture’ and calls for a humble attitude towards nature. In this regard, *Tao Te Ching* (which means the ‘book of ethics’ in Chinese) and *Chuang-Tzu* provide powerful sources of support. Contrary to the dominant man/nature dualism inherent in the Enlightenment worldview, Taoism provides a holistic worldview that is exemplified, particularly, in the notion of Tao, though the meaning of Tao is always shifting. For instance, Needham (1956: 36-7) thinks that Tao means the way in which the universe works, or in other words, Tao is the ‘Order of Nature’. Ames (1986: 321-23) defines Tao as an ‘aesthetic cosmology’ which is directly in contrast to a ‘logical’ one. Here, it is useful to review Lao-Tzu’s understanding of Tao. In the beginning of *Tao Te Chin*, Lao-Tzu described:

¹³ The ideal Confucian social system consisted of four social classes (from the top to the bottom): the aristocracy (sometimes including intellectuals), farmers, artisans, and traders.

The Way/Tao that can be told is not an Unvarying Way/Tao; the names that can be named are not unvarying names.....(translated in Waley, 1977: 141)

Here, Lao-Tzu is referring to his first meaning of Tao, which means **ethics**. Nonetheless, this ethics is totally different from the Confucian understanding of ethics. The Taoist ethics is anti-realist in essence, for it can never be described in words, and its meaning is always shifting. In chapter twenty-five, he further emphasised:

There was something formless yet complete, that existed before the earth; without sound, without substance, dependent on nothing, unchanging, all pervading, unfailing.....Its true name we do not know; way/Tao is the by-name that we give it. (ibid: 174)

This chapter is on cosmology, and here Tao is delineated as the origin of all beings, a fertile ground that evolves to give rise to all forms. Transcendent and immanent, Tao is unnameable, ineffable, but present in all things, underlying the **change and transformation of all things**. It is the spontaneous process regulating the natural cycle of the universe. It is in this process that the world as we see it, the creation of which we are an integral part, finds its unity. Thus, Lao-Tzu stated:

Tao gives birth to one; the one gives birth successfully to two things, three things, up to ten thousand/everything. These ten thousand creatures cannot turn their backs to the shade without having the sun on their bellies, and it is on this blending.....that harmony depends. (ibid: 195)

From this passage, it can be concluded that, for Lao-Tzu, Tao means **the origin of the universe, and the way the universe works**. Yet, this origin is far from the Newtonian physical sense, because Tao is 'nothingness' in essence, from which everything comes. However, in Lao-Tzu's view, Tao is both significant and powerless. Tao can be as powerful and pervasive as the ocean, and it is the creative fertility flooding over to pour out a world of ten thousand beings. Tao can be deemed to be small and insignificant, for it is always without desire and has no name. It nourishes all beings, but it does not lord over them (see ibid: 143). Tao is great by virtue of its giving rise to the world, but Tao itself is characterised by its non-being – it does not create as for some honour, nor does it claim to be master over the world (ibid: 185). Name and power belong to the realm of being. Yet, Tao, as the supporter and the origin of all beings, has no name or power. This thinking clearly differs from some Judeo-Christian traditions that view God as the all-powerful creator who can claim credit for his creations as Lord and have humans bend down on their knees; the implication of Tao is that Tao is pervasive, but non-domineering, and its major

purpose is to create the model of humanity for humans. This notion also implies the third sense of Tao: it is identified with 'sage'.

The Taoist view of sage, which is an important theme in Taoism, is also relevant to the notion of '*wu-wei*'. The Taoist concept of sage highlights not the power of humankind, but the intrinsic limits of it, as well as the transient nature of everything (Lao-Tzu, 1989: 113):

Nature speaks little.....A rainstorm continues not a whole day. What causes this? Heaven and earth [i.e. Nature; cf. Waley, 1977: 172]. Even [the actions of] heaven and earth do not last long, how much less [the works] of humans?

At this point, Taoist Chuang-Tzu went further by arguing that human beings can possess nothing – even their bodies, because everything in the world belongs to Nature:

It is a form lent you by Heaven and earth. You do not have possession of life – it is a harmony lent by Heaven and earth. You do not have possession of your inborn nature and fate – they are contingencies lent by Heaven and earth.....So it is best to walk without knowing where you are going, stay at home without knowing what you are guarding.....(Chuang-Tzu, 1968: 238)

For Chuang-Tzu, humankind has nothing to be arrogant about, for he was aware of the fact that if the sun stops rising or the wind stops blowing, all living beings will cease to exist. Thus, he believed that no one could survive alone. As such, Chuang-Tzu considered that sages should be well aware of the smallness of humans:

I take my place within heaven and earth and receive breath from the *yin* and *yang*. I sit here between heaven and earth as a little stone or as a little tree sits on a huge mountain. Since I can see my own smallness, what reason would I have to pride myself?.....When we refer to things of creation, we speak of them as numbering ten thousand – and man is only one of them. We talk of the Nine Provinces where men are most numerous, and yet of the whole area where the grain and foods are grown and carts pass back and forth, man occupies only one fraction. Compared to the ten thousand things, is he not like one little hair on the body of a horse? (ibid: 176-7)

Plainly, this Taoist worldview involves a mode of thought that is both egalitarian and ecocentric in essence. From this perspective, the greatness of humankind is not derived from its control over nature, but from harmony with it. Thus Lao-Tzu claimed:

Thus just as Tao has its greatness and as earth has it and as heaven has it, so may the ruler also have it.....The ways of man are conditioned by those of earth. The ways of earth, by those of heaven. The ways of heaven by those of Tao, and the ways of Tao by the self-so [or self-becoming]. (Waley, 1977: 175)

For Taoists, all changes and actions are not seen as occurring as a consequence of artificial 'force', but rather as a natural phenomenon that is innate in all things and situations (Capra, 1992: 129). The movements of Tao are not forced upon it, but occur naturally and spontaneously. Spontaneity is thus the Tao's principle of action. From a Taoist perspective, acting in harmony with nature means acting spontaneously and accordingly to one's true nature, or intuition. In this logic, the actions of the Taoist sage arise out of his/her intuitive wisdom, spontaneously and in harmony with his/her environment. Such a way of acting constitutes the central ethics of Taoism, or the so-called *wu-wei*. Nevertheless, the concept of non-action here does not mean 'inaction'; instead, it should be understood as 'responding with an awareness that enables one to maximise the creative possibilities of himself in his environment' (Ames, 1986: 347), or, in Needham's (1956: 68-9) words, 'refraining from activity contrary to nature':

Non-action does not mean doing nothing and keeping silent. Let everything be allowed to do what it naturally does, so that its nature will be satisfied.

In some senses, the concept of *wu-wei* is a puzzle. In the Enlightenment mind, the logic of *wu-wei* cannot easily be accepted, because, for Lao-Tzu, everything can be done by 'non-action' (Lao-Tzu, 1989b; translated by John C. H. Wu):

The softest of all things overrides the hardest of all things. Only Nothing can enter into non-space. Hence I know the advantages of 'Non-ado' [sic]¹⁴. Few things under heaven are as instructive as the lessons of Silence.....(ibid: 89)

He further asserted:

Learning consists in daily accumulating; the practice of Tao consists in daily diminishing. Keep on diminishing and diminishing, until you reach the state of non-ado [sic]..... yet nothing is left undone. (ibid: 99)

¹⁴ 'Ado' here can be understood as 'action'. While J. C. H. Wu translated *wu-wei* as 'non-ado' (Lao-Tzu, 1989b), E. M. Chen translated *wu-wei* as 'non-action' (Lao-Tzu, 1989a).

The notion of *wu-wei* indeed mirrors Lao-Tzu's ideal of the sage. For him, all conflicts and problems in the world stem from the idea of 'the self': 'the only reason that we suffer hurt is that we have bodies; if we had no bodies, how could we suffer?' (in Waley, 1977: 157). For Taoists, since our bodies are limited, our languages are inevitably problematic. Therefore, Lao-Tzu emphasised the 'de-centred self' – a self that can transcend its limits and its 'logocentrism':

The sage manages his affairs without 'ado' [sic], and spreads his teaching without talking. He denies nothing to the teeming things. He rears them, but lays no claims to them.....He accomplishes his task, but does not dwell upon it. And yet it is just because he does not dwell on it that nobody can ever take it away from him. (ibid: 5)

And moreover,

The sage embraces the One [Tao].....He does not make a show of himself, hence he shines; Does not justify himself, hence he becomes known.....Does not brandish his success, hence he endures; Does not compete with anyone, hence no one can compete with him. (ibid: 110)

Although it has become clear that Lao-Tzu urged people to practice *wu-wei* and follow the way of sage, he did not mean that people could not have desires, just fewer desires. In other words, he exalted a simple life – in his view, knowledge, morality, and profit are symbolic, and they can never improve our spiritual happiness (see Waley, 1977: 166). At this point, some think that Taoism appears to be very impractical, for Taoists seemingly attempt to regain an ancient, lost, utopia (e.g. Wilber, 1995). Notwithstanding, upon closer examination, things look quite different.

The Taoist doctrine of Tao (and *wu-wei*), in effect, denotes an epistemology¹⁵. This epistemology is fundamentally at odds with our dominant dualistic epistemology. For Taoists, knowledge can never be described by languages, because all languages involve dualistic consciousness:

It is because everyone under Heaven recognises beauty as beauty, that the idea of ugliness exists. And equally if one recognises virtue as virtue, this would merely create fresh conceptions of wickedness. For truly 'Being and Not-being' grow out of one another; Difficult and easy complete one another.....(ibid: 143)

¹⁵ In the next chapter, I shall discuss the term 'epistemology' in some detail.

In other words, to say that something is beautiful is to mean that it is not ugly; to say that something is a beast is to mean that it is not human. This is the essence of a binary logic. For Taoists, whenever we use language, we have inevitably discriminated between things, in the sense that human languages consist of mutual exclusiveness and dualism. However, this is not to suggest that Taoists believe that we can never use languages/symbols to represent knowledge; rather, their intention is to point out the intrinsic imperfection of knowledge and symbols. Here, the Taoist Chuang-Tzu proposed a possible way to overcome the problem. For him, the major problem with our view on knowledge is that we tend to replace the 'relative' with the 'absolute'. In this regard, he attempted to 'jolt the mind into awareness of a truth outside the pale of ordinary logic' (Watson, in the Introduction of *Chuang-Tzu*, 1968: 5) by recognising the relativity of knowledge, our perception and judgement. His purpose here was to liberate people from their belief in dualism and symbols:

To use an attribute to show that attributes are not attributes is not as good as using a non-attribute to show that attributes are not attributes. To use a horse to show that a horse is not a horse is not as good as using a non-horse to show a horse is not a horse. (Chuang-Tzu, 1968: 40)

Here, Chung-Tzu used 'horse' as a metaphor. A horse is a signifier which signifies an animal, which is called a 'horse' by humans. But, whether it be named a horse or not does not mean anything to the horse itself nor does the name change the nature of the horse. Plainly, this also captures the spirit of Poststructuralism – there is no absolute relationship between signifiers and signifieds – symbols are always sliding and circulating, and this is the first implication of the Taoist epistemology. The second implication is that the Taoist epistemology foreshadows the ecological problems, especially with regard to our anthropocentric thinking. As Chuang-Tzu (*ibid*: 112-3) described:

As long as men in high places covet knowledge and are without the Way [i.e. Tao, or ethics], the world will be in great confusion. How do I know this is so? Knowledge enables men to fashion bows, crossbows, nets, stringed arrows....but when this happens the birds flee in confusion to the sky. Knowledge enables men to fashion fishhooks, lures, seinesbut when this happens the fish flee in confusion to the death of the water.....This is how the great confusion come about, blotting out the brightness of sun and moon above, searching the vigour of hills and streams below, overturning the round of the seasons in between. There is no insect that creeps and crawls; no creature that flutters and flies that has not lost its inborn nature.

In the above paragraph, Chuang-Tzu depicted the world as he most feared it might

be – a chaotic world created by humans and their knowledge. Yet, his insight seems to portend our contemporary ecological predicaments – pollutions of various sorts, extinction of many species, deforestation and so on. For the Taoist founders, to understand our environment is not to learn how to measure its instrumental value, but to learn how to live in harmony with nature, and this is indeed the major, if not the only, purpose of knowledge. To their mind, knowledge without Tao cannot be termed knowledge, because knowledge can never be free from ethics – or, from a Taoist perspective, environmental ethics.

A Minor Possibility?

If, as we have seen, much industrial civilisation has its roots in a tradition of seeing ‘man’ as separate from nature, it is possible that this tradition offers a weak response to current ecological problems. In this case, what might be the value of a minor paradigm? I suggest that the minor paradigm consists of certain different views, but at this stage we can cautiously understand them as a form of wisdom, a different way of thinking about ‘environment’, i.e. the non-anthropocentric and holistic approach. If Nature has intrinsic value, it should not be broken down into a cost-benefit analysis, even if this entails just consideration of the costs and benefits from the points of view of all human parties affected, and future human generations too. However, to develop such a counterclaim is by no means an easy task. While Descartes understood the ‘thinking self’ as the basis of everything, the task of minor philosophy is not to deal with a single absolute truth but a welter of contradictory truths. Some might understand the thinking self as the basis of wisdom, but the wisdom of minor philosophy is the wisdom of ‘uncertainty’. That is to say, minor philosophy does not attempt to deal with a world where good and evil can be objectively distinguished. This means that what minor philosophy (in relation to ethics) offers is a potential possibility for ‘alternatives’, and here I sum up some pertaining principles.

Firstly, from a Deleuzian perspective, the project of minor is that of ‘becoming’. It is a concept best understood as engaging in a practice that, while remaining within the social network of practices and thus not transgressing that network, occupies a place that disrupts dominant practices by showing creative ‘possibilities’ within those practices which can escape the political oppressions associated with them. However, the ethics of a minor paradigm are always shifting. It attempts to build ethics, but never stops at a specific provisional hegemony – once the minor philosophy becomes

the majoritarian philosophy, the philosophy will be challenged by itself – this is also the implication, or the power, of Tao.

Secondly, the minor paradigm does not attempt to offer, or to strengthen, any dominant norms, values, or order; rather, it engages in problematising them. Moreover, it also attempts to inspire silenced and marginalized goods, the goods that dare not speak their name within the theory (or practice) of the majoritarian paradigm. In this regard, the task of minor paradigm is similar to that of Derrida's deconstruction: both attempt to deconstruct dominant language, but they do not stop at this point. As such, deconstruction here would be used as a tool to open alternative possibilities.

Thirdly, to engage in a minor theory (or practice) is, namely, a task of 'becoming-minor' (to use Deleuze and Guattari's phrase), meaning to construct a line of flight within the social network by constructing, or following, one of the stems of the social 'rhizome'¹⁶ that in the same gesture entangles dominant stems and is a positive possibility for practice. Minor language must be revolutionary, and, by using a number of minority elements, by connecting and conjugating them, one invents a specific, unforeseen, autonomous becoming. Becoming-minor could be aesthetic (e.g. Deleuze and Guattari, 1987: 106), racial, cultural, feminist, or ethic-political. All of these routes form possibilities for experimenting with practices whose effects may be liberating for the members of a society. They are routes based on practices, and they must be utilised only in order to become politically effective. This utilisation, notwithstanding, must remain as a 'minor' one: the task of becoming-minor is precisely that; it does not mean making the minor dominant (i.e. 'becoming-majoritarian'), but problematising all practices that are already privileged, while attempting to construct some 'provisional hegemony'.

Fourthly, the minor paradigm consists of some embedded ethics – the ethics of 'becoming-minor', 'alterity', or the ethics of 'Tao'. From a Taoist perspective, ethics can never be defined in terms of any language or symbols, as Taoists regard ethics as something which is always shifting and ambiguous. However, this is not to suggest that we are engaging in an ineluctable relativism, because at the core of Taoism is not just a 'shifting' and 'negation'. What Taoism also implies is an attempt to speak for the silenced – in this case, Nature. In other words, Nature provides us judgemental criteria. But, in any case, these criteria are not pre-given, and this means that Nature only provides a way to understand our environment and to develop our thought and

¹⁶ Deleuze and Guattari's implications of 'rhizome' and 'becoming' are of importance to our understanding of our minor project, and I will discuss them in some detail in chapter four.

knowledge. Therefore, as Guattari (2000) would suggest, understanding Nature is not a scientific task, but rather a **subjective** one.

Finally, Deleuze and Guattari (1994) believed that philosophy should have an explicitly political vocation, and, consequently, any philosophy worthy of being called political must **take account of the nature and evolution of capitalist civilisation**. Here, I borrow Derrida's strategy – deconstruction, because it both seek to disclose the totalitarian projects of metaphysics or ideological components rooted in the dominant discourse, and expose the meta-theoretical ideas of the mainstream Knowledge Management (KM) discourse. But, how can a 'deconstructive' approach to organisation studies in practice be developed?

Critique and Deconstruction

Campbell Jones (2004) is one of the scholars who introduced deconstruction into the field of organisation studies. Through his analysis of current use of deconstruction, we can find some different possibilities. As he argues, in organisation studies, there are three (problematic) possibilities of deconstruction (ibid: 38-47): deconstruction is used as a method; deconstruction is seen as a pure critique; deconstruction results in relativism or indeterminacy. The three possibilities, for him, denote three problems associated with deconstruction, because these are possibilities that Derrida would try to avoid. As Derrida's notion of deconstruction is founded on the concept of 'undecidability, it is thus implied that it would be a difficult task to define a 'correct' deconstructive approach. However, it is still possible to situate Derrida's deconstruction, however in terms of what it is **not**.

One use of the concept of deconstruction concerns some organisation theorists who tend to treat deconstruction as a tool whose mere purpose is to deconstruct the ambivalences of the text or logocentrism, while evading its epistemological, ontological, political and ethical aspects. Namely, this means that deconstruction is sometimes reduced to a mere method rather than a philosophical approach. Another possibility refers to an extreme result of deconstruction, i.e. relativism, and this is one of the most serious problems that Derrida would avoid. While Derrida's deconstruction heavily relies on the notion of 'undecidability', Jones (2004: 45) argues that some theorists and commentators believe 'deconstruction shows that the meaning of text is totally open to interpretation and hence indeterminacy'. This is, perhaps, due to the fact that Derrida, as well as many other poststructuralists, is

usually in a position that tries to break up dualism of all kinds. While poststructuralists tend to reject the clear distinction between objectivism and subjectivism, or between good and evil, some organisation theorists have also introduced a relativist attitude into deconstruction. However, from Derrida's deconstructive perspective, this attitude is totally untenable:

I am shocked by the debate around this question of relativism....Relativism....states that there are only cultures and that there is no pure science or truth. I have never said such a thing. Neither have I ever used the word relativism. (Derrida, 1999: 78)

In Derrida's own view, the concept of deconstruction rejects totalitarian Truth, but this rejection by no means entails an 'indeterminacy': deconstruction is undecidable, but this undecidability does not mean an 'obscurantism', because undecidability discloses how ambiguous our world is, and shows that our reality is always multidimensional:

If I say that there are two zero points here and there, and that you cannot reduce the difference, and if this is interpreted as being relativism then I am a relativist, and who is not? This, of course, does not mean that I deny scientificity [sic].....how is it possible that from perception we constitute ideal objects and a community of truth? So this charge against me amounts to obscurantism, and is issued by people who don't read....In the same way, I never said that there is indeterminacy of meaning. I think there are interpretations which determine the meaning, and there are some undecidabilities, but undecidability is not indeterminacy. Undecidability is the competition between two determined possibilities or options, two determined duties. There is no indeterminacy at all; a word in a text is always determined..... I would say that a text is complicated, there are many meanings struggling with one another, there are tensions, there are over-determinations, there are equivocations; but this doesn't mean that there is indeterminacy. (ibid: 79)

The third possibility of deconstruction refers to the phenomenon that many organisation theorists tend to use deconstruction and (ideology) critique interchangeably, while some believe that these are two distinct, incompatible concepts. Alvesson and Deetz (e.g. 2000: 24), for example, regard deconstruction as an approach fundamentally different from conventional forms of critique, such as Marxist-inspired ideology critique. Yet Jones returns to Derrida's original argumentation, and asserts that both views have serious problems. As Jones explains, Derrida 'insists that deconstruction is **not** opposed to traditional forms of critique'; however, he also insists that deconstruction is a 'divided duty, which involves cultivating the virtue of such critique, of the critical idea, of the critical tradition, but also submitting it beyond critique' (Jones, 2004: 44). The divided duty, for Derrida,

means that deconstruction is a tool that is able to both deconstruct texts and reconstruct possibilities. This also suggests that Derrida rejects that idea that deconstruction is merely an endless oppositional project. Outside the realm of organisation studies, Simons and Billing (e.g. 1994: 2-6) retained a similar argument – in pure critique, all established knowledge, ideas, and values should be placed under suspicion, but critical voice per se is usually terminated at the point of endless destructiveness. At this point, it has become clear that, for Derrida, deconstruction to some extent should be compatible with Marxist-inspired critique. But, while deconstruction decomposes the totalitarian understanding of Truth into myriad relative truths, Derrida is still committed to the classical (Marxist) emancipatory ideal of radical change (Jones, 2004: 52). As such, to Derrida, deconstruction has a **political** vocation, but at the same time it is implied that the ultimate purpose of deconstruction is to open up new possibilities of politics (ibid: 52). In any case, for Derrida, a relativist attitude to texts or to ethics is unacceptable.

From what we have discussed above, we see that the operation of deconstruction may lead to different possibilities. Derrida, however, does not offer a clear definition of the deconstructive process and its implications, nor does he suggest a simple programme of deconstruction, and it seems that those who use a deconstructive approach have to ‘rely on their own understanding of the gestures of deconstruction as practiced by Derrida’ (Kilduff, 1994). Plainly, Derrida’s deconstruction is founded on the concept of ‘undecidability’, but, in any case, we need to recognise that Derrida’s notion of deconstruction should **not** be used as a method that merely deconstructs texts, nor should it be used as a ‘pure’ critique. And, more importantly, if deconstruction has a political vocation of radical change, it seems clear, at this point, that the ultimate purpose of Deleuze and Guattari’s minor philosophy is not at odds with Derrida’s version of deconstruction (as will be further discussed in chapter four).

Summary

So far we have articulated what can be termed ‘minor paradigm’, as opposed to majoritarian paradigm. From a minor position, we suggest that the majoritarian ideas are in some senses axiomatic, in some senses objective or universal, which may even inform our action. However, we argue that the majoritarian ideas are, in fact, not the outgrowth of any external natural laws, but the result of power relations. The majoritarian thinking may be represented as the norm, based on the universal interest, but we argue that it is merely to serve some sectional interests, that is, that

majoritarian thought is still subjective. The majoritarian paradigm implies a belief system, which contains a set of beliefs and assumptions about our world. Amongst others, we identified that there is an embedded Enlightenment belief that Nature can be seen as a resource to be managed, or even to be exploited, by man. An additional element of this paradigm is a conceptual framework, largely formed by neo-classical economics, in which human activities are usually measured in terms of economic values, in which economic goals have attained a higher regard. This altogether leads to formidable eco-disasters. I shall argue that implicated in this process is the mainstream understanding of KM, as mainstream KM implicitly or explicitly assumes that the value of knowledge is to be measured in terms of its economic values, or even in terms of its ability to alter environment (the broader sense of environment, which includes the human and non-human world).

Our intention is, nevertheless, not to seek for some more 'objective' criteria that inform our action, but rather to propose some different criteria in an alternative framework, that is, to construct a minor paradigm. The minor paradigm is, in essence, a different model of nature that assumes an ideal world, in which human activity should take place in a symbiotic relation with Nature. The minor paradigm also allows us to understand the physics of eco-problems and the ideology beyond these problems, and it allows us to understand what conditions for their solutions should be. Deep ecology and Taoism are seen as the foundation for our understanding of an alternative set of assumptions and worldviews, as these two traditions also include an alternative view of knowledge, that is, the 'intrinsic' value of knowledge. However, to construct such a paradigm does not mean that we seek to practically prove this alternative set of assumptions, because we start from a Deleuzian-type view that the function of minor theory should be 'creation' and 'becoming-minor', which means that the ultimate purpose of our minor paradigm is subjective, and, in some senses, utopian. But, to achieve this goal, I have suggested that we need firstly to problematise our majoritarian paradigm, and therefore I adopt a poststructuralist strategy, deconstruction. Derrida's notion of deconstruction implies two components, deconstruction and reconstruction. To some extent, this position is in line with the assumption of our minor paradigm. Overall, the minor paradigm has two functions: to problematise the majoritarian thinking, and to articulate a minor theory.

The next chapter is focused on the notion of what can be termed mainstream Knowledge Management (KM). I start with a historical excursion in order to identify some of the origins of KM, and I argue that mainstream KM rests mainly upon a neo-classical economic framework in which knowledge is seen as an economic

resource that should be allocated and 'managed'. Although KM has different variations, I will show that at the core of mainstream KM is a structural functionalist assumption.

Chapter Three

A Deconstructive Analysis of Knowledge Management

This chapter I take as a starting point for an understanding of what is referred to as mainstream Knowledge Management (KM). Mainstream KM exists in a context in which business organisations have been declared more dependent on access to, and the capability of using, various resources and knowledge. A variety of techniques, concepts, and managerial devices have been contrived in order to develop a managerial regime capably of meeting the new challenges of what is called the 'knowledge society', but how can we understand the very term KM? And what are the meta-theories beyond it? To answer these key questions, I categorise mainstream KM literature into four divisions. Although each has its own assertions and is, supposedly, based on distinct assumptions, I argue that they all have their roots in Structural Functionalism, which is highly governed by the managerial interest in economic efficiency. In order to articulate a critical perspective, I have adopted a poststructuralist strategy, deconstruction, and then articulate the embedded logic of KM.

The famous aphorism '*scientia potestas est*' (knowledge is power; coined by Francis Bacon in 1597) denotes that the importance of knowledge has been recognised for centuries. Since the late 20th century, the idea of 'managing' knowledge has become a new focus of interest, particularly in management literature (e.g. Lam, 2000: 487). There are many reasons for this. One of the reasons is the emergence of the so-called knowledge economy or the rise of the new-age organisations (cf. Parker, 2002: 52), and, as such, managing knowledge workers seems to be a new challenge to managers. In the management discourse, Peter Drucker was amongst the first management gurus to emphasise the importance of knowledge in society around the 1960s. As Drucker (1993: 5-7) pointed out, in the 'knowledge society', the basic economic resource is no longer capital, natural resources, or labour, but knowledge, and 'knowledge workers'¹ will be the protagonists. Since the 1990s, there has been an increasing interest in the

¹ In Drucker's (1993) view, knowledge workers are individuals who have high levels of education and specialist skills combined with the ability to apply these skills to identify and solve problems.

discourse of Knowledge Management (KM), and many prominent authors such as Quinn (1992), Reich (1991), and Toffler (1990) have made significant contributions to the concept of KM. From the perspective of the 'knowledge society', knowledge is not just another resource; rather, it is the only meaningful resource. Nowadays, this idea is dominant in orthodox management literature. It is widely believed that knowledge is the most crucial resource for sustaining high (organisational) performance, and management of its knowledge base has emerged as a major challenge for a firm maintaining its competitive edge. Not surprisingly, KM has been considered as an 'emerging paradigm' (e.g. McAdam and McCreedy, 1999). However, in more recent years, KM discourse seems to have been through some theoretical shifts, which appear to denote the intrinsic problem with 'explanatory power'. On the one hand, some KM theorists focus on a 'functionalist' understanding of KM, but they recognise that knowledge is a dynamic, intangible resource rather than a static entity (see Swan and Scarbrough, 2001: 916). These theorists tend to suggest that the problem with KM is that we need to develop more effective models or managerial techniques to manage such a dynamic resource – knowledge. On the other hand, some KM theorists have incorporated certain critical views of knowledge, while others have gone even further by arguing that the very idea that knowledge can be 'managed' is highly problematic. This chapter is structured as follows: first, I examine what we term 'mainstream' KM, and then articulate and compare some major KM models. Next, via a deconstructive analysis, I suggest that the mainstream approach to KM is in fact informed by a neo-classical economic understanding of the world, and an additional element is a structural-functionalist strategy. Third, I examine some theoretical reactions to the current state of KM, because some of them have somewhat changed the appearance of KM.

Part I. Mainstream Knowledge Management: An Overview

Neoclassical Economics

Mainstream KM stems mainly from the 1960s, and has become full-fledged since the 1990s. Although it is usually identified with the realm of management, the idea of KM, in fact, started purely as an economic notion, or more precisely, as a neo-classical economic concept. The importance of neo-classic economics is that it provides a conceptual framework for KM, and much today's KM literature more or less shares some economic beliefs. The Chicago School economist Lester Thurow has offered a

starting point for our understanding of this. Thurow's main idea is that the role of knowledge has changed in contemporary societies, and he believes that it will provide a crucial source for economic 'success' - thus he (1999: xv) puts forward the idea of the 'knowledge economy':

....technologies provided opportunities to re-invent old industries....For the first time in human history the world's wealthiest man owns only knowledge.... In the past when capitalists talked about their wealth they were talking about their ownership of plant and equipment and natural resources. In the future when capitalists talk about their wealth they are going to be talking about their control of knowledge....The human beings who possess knowledge cannot be made into slaves.

Although Thurow seemingly believes that he has discovered a 'new' economic phenomenon, I suggest that his discovery is not new. From an orthodox economic view, economic efficiency is always limited, for in microeconomics the 'law of diminishing returns' will inevitably result in a decrease in economic returns in the future². This seemed to be a formidable problem for economists because, according to the law of diminishing returns, there would be an irresolvable conflict between investment returns and the accumulation of capital. But, in the 19th century, the founder of neoclassical economics Marshall (e.g. 1965 [1890]) seemed to provide a self-evident solution to this conflict: **innovation**. Marshall's conception of innovation introduced a nineteenth-century economic belief that the application of science/knowledge provides the stimulates for economic growth that can conquer the economic law of diminishing returns. The logic, in brief, was that innovation, or the innovative process, would maintain the investment returns of each productive factor in industry. At this point, we should note that while Adam Smith believed that wealth might lead to power (of the nation), Marshall seems to be the first economist to link knowledge to economic power. Marshall's belief in innovation is largely inherited by the contemporary economist Thurow, who then developed this neoclassic belief in a practical sense in the late 20th century. Thurow suggested that any innovation is, and must be, supported by knowledge. Moreover, he formulated the new economic principle that it is knowledge that overcomes the law of diminishing returns, thus creating 'disequilibrium', i.e. high economic growth with high investment returns. Thurow's idea is based on a simple logic; that is, while our natural resources are limited, knowledge, as a productive factor is, at least in theory, unlimited – because

² The law of diminishing returns is a basic law of economics, relating to the combining of factors in varying proportions. The idea of this law is that if in the production of a commodity one factor of production is increased by stages while the other factors are kept unchanged, the stage will sooner or later be reached where each further addition to the increasing factor will produce a smaller and smaller increase in output.

knowledge is created by man. According to his logic, knowledge is the not only an important resource in current society, but also the crucial factor in current and future society, and, here, Thurow proposed his idea of the 'knowledge economy' (see Thurow, 1996). However, we have to note that the whole of neo-classical economics seems to be founded on a **hidden logic**: economic progress equates with societal progress and they are sustained by, and in turn fuel material/technological progress (e.g. Marshall, 1965: book iv, i2). Although Thurow's idea of innovation is more or less different from Marshall's concept of innovation, we can find that this hidden logic remains intact in Thurow's work. We will further argue that it has even become an implicit axiom held by many current KM theorists.

Some other contemporary economists (e.g. Penrose, 1959; Nelson and Winter, 1977; 1982; Winter, 1988) have also played an important role in the field of KM. For example, Nelson and Winter (1982: 14-8) claimed that organisational knowledge can be stored in terms of 'regular and predictable behaviour patterns', whilst innovation is an 'evolutionary' mutation of routines. They also concluded that the momentum behind innovation is knowledge. It is necessary to indicate that they not only emphasised the importance of existing knowledge, but also suggested that organisations can create organisational knowledge. Furthermore, they also imply that organisational knowledge involves dynamic processes. This notion both plays a significant role in the contemporary KM, and reflects the neo-classical economic interest in 'innovation'. However, when discussing organisational knowledge per se, opinion concerning the essence of knowledge is somewhat divided. Some neo-classical economists tend to treat the term knowledge as belonging to objective science (e.g. Fransman, 1993), and highlight the importance of technological innovation. This is because the concept of innovation is often associated with the period of Industrial Revolution, when people tended to see technology as the application of purely scientific knowledge. Hence, many neo-classical economists seem to treat organisational knowledge and technology as identical, and view organisational knowledge as the application of objective, scientific knowledge.

Nevertheless, some economists also highlight the importance of non-scientific forms of knowledge. For instance, Hayek (1945), the early Chicago School economist, argued that knowledge should be classified into scientific knowledge and knowledge of particular circumstances of time and places. Hayek was aware of the significance of non-scientific knowledge, such as experiences, but this is not to suggest that he recognised the 'implicit' and 'tacit' forms of knowledge. Rather, Hayek, as a champion of laissez-faire, claimed that both scientific knowledge and non-scientific

knowledge can be acquired through an 'efficient' market exchange system. This simply denotes a typical economic view: all knowledges are explicit and concrete. However, traditionally, the economic view of the role of organisation and management stem from 'the theory of firm', and it assumes that all commodities have their market price (Jackson and Carter, 2000: 117). Consequently, we can find that many economists still have a strong orientation towards 'scientification' of all business activities and knowledge through market mechanism. With regard to these economic concepts, it is possible to identify two important points. **First**, economics implies that knowledge, as well as information, is a concrete entity, and organisations, or 'firms' – in economics, can utilise them both to pursue organisational goals. Since knowledge is concrete and explicit, all knowledge, like material goods, can be exchanged in the market (e.g. Ring, 1998; Child and Faulkner, 1998). As such, economics focuses on explicit and stable knowledge. **Secondly**, with regard to technology and innovation, economics tends to suggest that knowledge supports technological innovation, and usually sees innovation as a dynamic process. However, economic theories have neither explained how firms could adapt technology and knowledge practically to their own purposes, nor have they linked the creation of knowledge to broader organisational processes (Nonaka and Takeuchi, 1995: 33-5). In this regard, economics usually treats organisational knowledge, as well as technology, as a 'black box' (e.g. Hatch, 1997).

The importance of these economic views of knowledge is that they seem to provide a 'conceptual framework' for the predominant understanding of KM. Later we shall see that economics and mainstream KM, to some extent, complement one another, and finally converge towards the same belief system.

Managerial Perspectives

Although economics provides a framework for KM, this framework is conceptual and abstract. Managerial techniques offer this abstract framework a concrete sense. In the realm of management, broadly speaking, the term KM usually denotes a practice that helps business organisations to make full use of their accumulated knowledge and experiences, and it is possible to identify two broad views of KM at this stage. The **first** view sees KM as the management of a specific 'resource', or asset, and treats knowledge as objectively definable commodities. The logic is that knowledge can be directly used to create competitive advantages for companies. From this perspective, an organisation is characterised on the basis of its inner processes and its capacity to

adopt or utilise external resources (Foss, 1996). The other view sees KM as a kind of 'process', and assumes that it is socially constructed, and from this view, KM is not so much an issue of managing 'knowledge' as an issue of managing 'people'. The second view is, perhaps, a renewed version of the first, because the latter implies that knowledge is less tangible but more dynamic. However, despite the difference, both tend to assume that the goal of KM is to effectively manage or disseminate organisational knowledge, and to solve 'problems', without any attempt to define what its ultimate purpose is. Table 3.1 is based on a theoretical division of current KM literature. It shows some important streams in the field of KM. However, it should also be noted that these works are selective, because KM literature is extremely extensive. Nevertheless, some seminal writings might well exemplify a general tendency and some deeply rooted meta-theories beyond mainstream KM.

Streams	Authors (e.g.)
The knowledge society	Drucker (1993)
Information management	Salopek and Dixon (2000)
	Cross and Baird (2000)
	Afuah (1998)
	Ackerman et al. (2003)
Organisational learning	Pappas (1984)
	Argyris and Schon (1974, 1978, 1996)
	McElroy (2003)
Knowledge-based theory	Senge (1990)
	Nonaka and Takeuchi (1995)
	Spender (1996); Grant (1996)
	De la Mothe and Foray (2001)

Table 3.1 Some Key Authors of KM

Knowledge Society

Drucker, as mentioned earlier, is one of the earliest KM ideologues. While Thurow proposed the idea of knowledge economy, the importance of Drucker is that he proposed the term 'knowledge society', and many contemporary KM theories are founded on this idea. As Drucker (1993: 176) points out, in *Post-Capitalist Society*:

The productivity of knowledge is increasingly going to be the determining factor in the competitive

position of a company, an industry, and an entire country. In respect to knowledge, no country, no company has any 'natural' advantage or disadvantage. The only advantage it can possess is in respect to how much it obtains from universally available knowledge. The only thing that will increasingly matter.....is management's performance in making knowledge productive.

However, the term 'knowledge society' seems to be a mysterious one, since Drucker simply sees 'knowledge society' as a pre-given condition. Here, it is possible to suggest that Drucker's concept of knowledge society is, in fact, a melange of two different views. The first is in Galbraith's (1958) *Affluent Society*. In this work Galbraith showed a bright optimism about capitalism, which seemed to reflect a popular attitude during the post-World War II period. This was because during the 1950s – an economic boom period, many people optimistically believed that we had entered an affluent era, and some even believed that unemployment and material scarcity would no longer be a problem, at least in most industrial societies. Galbraith (1958) therefore suggested that capitalism had fundamentally changed its way to organise production and distribution of material goods and services, which in turn would produce universal progress and affluence. This view is further developed in Bell's (1973) *The Coming of the Post-industrial Society*. For Bell, we had entered what he called the 'post-industrial' society – a society in which only a small number of people would work in the manufacturing industries. He assumed that the greater part of the workforce would be employed in the service and 'knowledge' sectors. For him, knowledge is 'a set of organised statements of facts or ideas, presenting a reasoned judgement or an experimental result, which is transmitted to others through some communication medium in some systematic form' (Bell, 1973: 175). Bell's definition seems to be somewhat ambiguous, as it does not make a distinction between 'fact' and 'ideas', and between 'experimental result' and 'reasoned judgement'. Nevertheless, the importance of Bell's idea is that he indeed drew a clear boundary between 'industrial' and 'post-industrial' society. In his view, post-industrial society implies the primacy of theoretical knowledge and the pre-eminence of a managerial, professional, and technical class that produce and apply their expertise to direct the course and outcome of social change (Reed, 1992: 23). Drucker's concept of knowledge society (and knowledge workers) seems to be a synthesis of these two ideas.

Here, we need to review the hidden axiom in neo-classical economics, as it plays a crucial role in many KM theories. We have suggested that much neo-classical economics seems to be founded on the hidden logic which can be expressed by an equation: economic growth = material progress = societal progress. While many

neo-classical economists are at pains to resolve the problems between 'economic growth' and 'limited resources', they tend to assume that knowledge is a tangible, unlimited resource that functions as the 'engine' of social progress. If this is the case, it seems that Drucker gives neo-classical economics a pragmatic sense. For Drucker, the use of knowledge is of importance to organisation, but here Drucker focused on the creation and application of 'new' knowledge. According to his definition, new knowledge means knowledge that has not been used before to offer the product or service. From this viewpoint, the use of new knowledge also refers to the adaptation of technology – a form of organisational knowledge. Moreover, he seems to recognise the contribution of individual skills to organisational knowledge. As he (ibid: 24) pointed out, a 'techne (skill)' could not be explained in words. This seems to be a concept borrowed from Fredrick W. Taylor's principles of scientific management³. Yet, for Drucker, the key to learning a 'techne' is through experience, as he (ibid: 42) suggests – scientific and quantitative methods can convert specific experience into system, information, or something (explicit knowledge) that can be taught and learned in language. In other words, Drucker suggests that scientific methods can transfer employees' experience into organisational knowledge, but he tends to ignore the role of human interaction in the process of its creation.

Drucker's idea of 'knowledge society' has a strong orientation towards the 'scientification' of KM, and, amongst other KM theorists, it holds the position most compatible with neo-classical economics regarding assumptions about knowledge. Although Drucker's theory has been widely challenged today, especially with regard to his scientification of KM, his thought still plays an important role in today's KM discourses⁴.

Information Management

Information management is a 'less' scientific approach to KM, though it is still close to Drucker's thinking. With the development of information technology and the Internet, today information management and KM are sometimes seen as

³ Theoretical issues relating to Taylor's (1911) work are discussed in chapter five, as his thought has played an important role in our understanding of 'managerialism'.

⁴ Drucker's concept of knowledge workers is also highly influential in mainstream KM. From an orthodox Marxist perspective, only the ruling class, i.e. capitalists, has access to the means of production: capital, land and labour, in a capitalist system. Yet, for Drucker, in the 'post-capitalist' society, since the most meaningful resource is no longer among those tangible resources, but knowledge, it is thus implied that capitalists have no control of the means of production. It follows that our ruling class are no longer capitalists, but knowledge workers. In Drucker's (e.g. 1993) view, knowledge workers are fundamentally different from others.

interchangeable terms. Authors in this field tend to treat organisational knowledge as information. From some current views of information knowledge, KM may perhaps come to mean 'the management of content through taxonomy, construction and use', but its main interest is still in utilising information and communication technology (McElroy, 2003: ix). Opinions in information management can be broadly divided into two. The first group of theorists focuses on knowledge transfer systems, i.e. information systems or information technology (IS/IT). Interest in knowledge-transfer systems has soared since 1993, and much of it appears in practitioner-oriented journals (see Scarbrough et al., 1999: 21). It is clear that the emergence of knowledge-transfer discourses have mirrored the surge of IT/IS in the business world. The main idea of knowledge transfer systems is that IT can carry out the effective transfer of knowledge, thereby eliminating the traditional organisational boundaries, and replacing the function of middle management (ibid: 21-5). It is worth noting that this thinking also reflects the trend of Business Process Re-engineering (BPR), which is driven by some IT specialists, consultants and technology gurus (ibid: 21; see Davenport and Prusak, 1997).

While some KM literature (e.g. that which concerns knowledge-based and organisational learning; as discussed below) explores ways in which knowledge is acquired through developing self-motivated individuals, the discourse of knowledge transfer systems focuses on how knowledge may be captured, codified and exploited for competitive advantages. It follows that proper and adequate design of IT/IS is the key component of KM, and IT/IS are inevitably related to individual cognitive skills, organisational structures, employment systems, and organisational characteristics (see Hedlund, 1994). For example, some scholars think that firms are a kind of 'knowledge repositories'. By the same token, IT/IS are useful tools that enable construction of organisational 'memory' (information repositories), such as online communities (e.g. Cross and Baird, 2000). In addition, IT not only provides effective information repositories, but also offers employees interaction and communication. Thus, the role of management is to determine what knowledge or experiences are worth putting into the information repositories.

The second group, which focuses on technological management, highlights the transfer of new technology (e.g. Afuah, 1998), and treats technology as the core resource in organisations. It is worth noting that this group has a strong orientation towards hi-tech companies, and believes that managing knowledge workers is totally different from managing non-knowledge workers. In addition, it is assumed that management in hi-tech companies differs from that in low-tech companies in that

their resources are different (human resource and technological resource). In technological management, information and communication technology (ICT) is often seen as an enabler of the transfer of technological information, and as a means of reducing the 'transaction cost' of information (e.g. Williamson, 1986). Beazley et al. (2000) suggest that the main purpose of KM is to get the right operational knowledge to the right person at the right time in order to enhance decision-making: '....operational knowledge – built day by day, employee by employee – so that an organisation utilises its tangible factors of production to create competitive advantage' (ibid: 19). For them, ICT seems to be an important tool that directly contributes to organisational performance. It is interesting to note that Beazley et al. (2000) seem not to make a clear distinction between operational knowledge and technology.

Technological management prefers the use of a resource-based approach, and treats technology as the most valuable resource which can be applied in all management functions. Authors in this field, generally, hesitate to use the term KM, and they usually define technology as scientific knowledge or know-how. Since the resource-based view directly derives from organisational economics, this approach, as such, also attempts to rationally optimise the allocation of resources. Thus, technological management is close to neoclassical economists' 'technological innovation'. Notwithstanding, there are two slight differences in their assumptions. Firstly, in terms of technological innovation, the innovation strategy is to adapt firms' resources to meet the requirements of their competitive environment, whilst technological management tends to use a resource-based view, revealing a heightened emphasis on the importance of a proactive quest for environments that allow the exploitation of all resources. Secondly, neoclassical economics assumes that firms are essentially identical, while technological management suggests that firms' resources and capabilities can be heterogeneously distributed over time, and that heterogeneity can last because of the essential attributes of some of the firms' resources and capabilities (Barney and Hesterly, 1996: 133-4). In a similar vein, technological management suggests that management should attempt to search all external information, transferring it into organisation's internal information (MacDonald, 1998: 262-8). The idea thus leads to the notion of Technology Strategy. In addition, technological management suggests that management should adopt technologies to cope with all management functions, and engage in developing a 'learning culture'.

Organisational Learning

The idea of organisational learning is that organisations, just like individuals, have to develop the ability to 'learn', which, to a certain extent, is based on a renewed view of knowledge. Contemporary theories on organisational learning mainly focus on how organisations design their systems to build learning organisations, thus developing the capability to learn. The discourse of organisational learning can be traced back to the work of Polanyi (1962), which seeks to understand the nature of knowledge and organisational learning from a 'pluralistic epistemological perspective' (Lam, 2000: 488). The managerial idea of organisational learning is strongly associated with the work of Argyris and Schon (e.g. 1978: 86-139), who proposed 'learning I and learning II' models, which were followed by 'single-loop and double-loop learning' models (see also Roos et al., 1997). The notion of organisational learning is based on two fundamental questions, as Argyris and Schon (1996) note: (1) what kinds of learning are desirable? (2) how can organisations develop their capability for desirable kinds of learning?

To answer these questions, they suggest that organisational learning should be divided into two kinds of activities, and these two activities are the key factors in achieving a 'learning organisation'. The first kind of activity is to absorb knowledge in order to solve specific problems based on existing premises (single-loop learning). The second kind of activity is to build new premises to override the existing ones (double-loop learning). In their opinion, organisational knowledge is 'theory-in-use', and they emphasise that this is not a 'given', but is created through interaction amongst individuals. Like some economists, they tend to treat firms as knowledge repositories. However, Argyris and Schon recognise that organisational knowledge includes tacit dimensions such as know-how, and they do not treat it as a concrete entity. What is more, they indicate that organisational knowledge is not the sum of employees' knowledge. Clearly, this, to some extent, differs from the common economic view on knowledge.

However, current organisational learning literature is more in tune with Senge's (1990) work *The Fifth Discipline: The Art and Practice of the Learning Organisation* (Scarborough et al., 1999: 18). Here, Senge offered an important working definition of the 'learning organisation':

.....where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where

people are continually learning how to learn together. (ibid: 3)

Following Argyris and Schon's theory, Senge set out to provide a theory to fill the gap in double-loop learning: how can organisations develop ability to rebuild and examine existing perspectives, interpretation frameworks, or decision premises? Senge places strong emphasis on the idea that organisations should build an environment in which individuals and collective creativity can be encouraged, by managing employees' values, attitudes, collective beliefs, and languages. By the same token, Senge (1990) suggests that managers should follow five disciplines: (1) encourage 'personal mastery'; (2) create 'mental models'; (3) build 'a shared vision'; (4) facilitate 'team learning'; (5) shift to 'system thinking'. Amongst these disciplines, the fifth provides the conceptual framework, a body of knowledge and tools that includes all of the other disciplines, thus helping 'people see how to change effectively' (Senge, 1990: 6-11; see also Flood, 1998; Tonges and McMadden, 1993). It follows that, in order to create a learning environment, the application of some behavioural science is helpful.

The idea of organisational learning is heavily based on a systems approach, and organisational learning theories in general encourage the concepts of management of change, organisational re-engineering and organisational development. For example, organisational learning theorists (e.g. Kofman and Senge, 1993: 14; Schein, 1993: 28) tend to suggest that designing an appropriate organisational structure can inspire flexibility, 'group dynamics', or 'a peer learning-based community'. These elements are strategically helpful because individual learning is embedded in group learning, which in turn is embodied in organisational learning. Hence, training and development and human resource management are seen as the most important factors in a learning organisation that continuously transforms itself by developing the skills of all its members.

Knowledge-based Theory – or Knowledge Creation Theory

Knowledge-based theory has played a very important role in recent KM. At the heart of knowledge-based theory is the notion that the main function of management is to encourage the **creation of knowledge**⁵ (Spender, 1996; Grant, 1996; Nonaka and Takeuchi, 1995). Drawing on Penrose (1959), knowledge-based theorists tend to

⁵ Here, knowledge-based theorists seem to share Drucker's (1993: 174) belief that the major function of management is to make knowledge 'productive'; however, there is a fundamental difference. While knowledge-based theorists believe that knowledge is socially constructed, Drucker considers knowledge as a pre-given resource.

regard the firm as having a body of knowledge residing in its structures of coordination, which, in turn, defines the social context for cooperation, communication and learning (Lam, 2000: 488; see Nelson and Winter 1982; Fransman, 1993). An important aspect of the knowledge-based view of KM is that knowledge assets are something 'intangible' and 'dynamic'.

Coming from this angle, Nonaka and Takeuchi (1995; also Nonaka et al., 2001) offered the pre-eminent model for knowledge-based theory. They start their model by arguing that the systems approach to organisational behaviour is based on a static assumption of knowledge, and it tends to treat knowledge as a given. They (1995: 8-11) suggest that 'Western' companies usually focus on information-processing of formal, codified knowledge, while Japanese companies are better at 'creating' organisational knowledge in that they understand the importance of tacit and subjective knowledge. It is their idea, organisations do not merely process input (knowledge, information and raw materials) into outputs, and they use Japanese thinking to challenge the Western view. They believe that the core competitive activity of organisations is knowledge creation – an organic, fluid and socially constructed process in which different streams of knowledge are integrated to produce innovation. In addition, they postulate that organisational knowledge should be divided into tacit and explicit knowledge, and knowledge creation is the integration of these two types of knowledge through processes of socialisation (tacit to tacit), externalisation (tacit to explicit), internalisation (explicit to tacit), and combination (explicit to explicit).

Nonaka and Takeuchi conclude that the adequate organisational structure can facilitate knowledge creation, and indicate that the 'hypertext' (in their phrase) is the best structure for knowledge-creating companies (e.g. *ibid*: 160). Until now Nonaka and Takeuchi's idea has played a significant part in contemporary KM discourse. They highlight that the transfer of knowledge is performed by individuals, and emphasise the importance of tacit knowledge (e.g. Brown and Duguid, 1991). Moreover, they recognise that the transfer of knowledge is interactive and non-linear, and suggest that management should build appropriate organisational structures to assist this complex activity. Nonaka and Takeuchi share many notions with organisational learning theorists. They all stress the importance of human behaviour in knowledge management, and suggest that management should design organisational structure to create commitment amongst employees. However, it should be noted that there are some major dissimilarities. First, Nonaka and Takeuchi do not think that behavioural science should be applied in organisations, and they do not suppose that the change of

organisational culture is necessary. Secondly, organisational learning theories focus on how to re-engineer organisations, whilst knowledge-based approaches concentrate on how to assimilate all kinds of knowledge into organisational knowledge. From their point of view, tacit knowledge can only be acquired through practical experience in the relevant context, i.e. 'learning-by-doing'.

Nonaka and Takeuchi's theory has somewhat altered the face of today's KM. With the inspiration of the knowledge creation model, there have appeared two theoretical variations. Some KM authors are shifting from information management to the conversion of tacit knowledge to explicit knowledge via group learning processes. In general, they tend to reject the conventional scientific view of knowledge in favour of a somewhat different field: organisational learning. For example, Ackerman et al. (2003: 29) believe that knowledge management should be seen as an activity that supports learning within the organisation. Through this learning process, as Rowden (2001: 11) goes on, people and businesses construct 'arks comprised of their inherent capacity to adapt to unforeseen situations, to learn from their own experiences, to shift their shared mindsets....'.

The other variation of Nonaka and Takeuchi's model still follows the conventional knowledge-creation path; however, the concept of innovation is emphasised. De la Mothe and Foray (2001: 100), for example, attempt to absorb chaos theory and complexity theory, while seeing innovation as a social, dynamic, self-organising, but complex process. It seems that they try to offer the conventional concept of innovation a new sense, and they no longer see innovation as a technological process but an **interpersonal** process. As McElroy (2003: 138) argued, De la Mothe and Foray believe that creating new knowledge is an unpredictable process, because it can only be 'inspired' through KM. In their view, the function of KM is only to inspire the passions of employees, not to command them, and therefore, the role of management is to build learning communities that encourage self-organising learning activities. This development seems to reflect a shift in the prevailing assumption about 'knowledge'.

Discussion

A review of typologies of orthodox KM reveals certain variations in theoretical emphasis on specific characteristics of organisational knowledge, and it also reveals different approaches to developing frameworks to support research into KM. As many

have believed that management is increasingly in need of new techniques to meet the challenges of what can be termed the 'knowledge economy or ' knowledge society', it is possible that mainstream KM is a construction created to serve this purpose. Although the theoretical diversity of KM suggests that mainstream theorists disagree on how this goal can be achieved, our intention here is not to explore and map the full territory of mainstream KM, simply because KM is still ongoing and new models are still appearing on the scene. In this respect, it should be pointed out that there seems to be a consensus between mainstream KM theorists. In other words, KM theorists may disagree on which managerial techniques best serve the interest of managing knowledge, but virtually all of them seem to agree that 'knowledge can be and should be managed', and this pre-given task is the focus of mainstream KM. However, where does this consensus come from? Since this question has important implications for our understanding of mainstream KM, we need to discuss it in some detail.

First of all, we should recognise that this consensus in fact consists of two ideas: that 'knowledge should be managed', and that 'knowledge can be managed'. The first part is directly derived from neo-classical economics. As we have indicated, neo-classical economics has offered the conceptual framework for KM in which knowledge is seen as a crucial economic resource. This idea is grounded on an axiom: economic growth = material progress = societal progress, and knowledge is taken as the momentum behind it. The belief that 'knowledge should be managed' follows the neo-classical economic presumption that knowledge is the engine of societal progress, and this seems to be an unquestionable assumption on which the idea of knowledge society rests. However, we should note, at this point, that neo-classical economics may emphasise the significance of knowledge at a societal level, but it does not suggest that 'it can be managed'. That is to say, while neo-classical economics denotes a hidden 'relationship' between knowledge and societal progress, it has not yet explained how we can establish such a relationship. Here, management seems to hold the consensus that, with managerial techniques, knowledge can be managed. Indeed, in the realm of KM, this seems to be an unquestionable assumption, because KM theorists may have different views regarding which managerial techniques best serve the interest of managing knowledge, but they have not seriously discussed why management can simply be used as a means to this end. If mainstream KM has indeed legitimatised the use of managerial techniques, important questions then arise as to why mainstream KM theorists simply assume that knowledge can be managed. And why managerial techniques can be used to serve this interest. We suggest that this issue cannot be overemphasised.

As was already suggested in the previous chapter, our use of knowledge has become an integral part of industrial civilisation, but the combined application of some knowledge and technologies may be one of the major causes of our modern crises. A notable example is the use of nuclear power, which has caused problems such as the Chernobyl disaster. Furthermore, many also believe that our current industrial activity, which is to a large extent dependent on the application of knowledge, has become a major threat to our environment. All this seems to imply that the use of knowledge or technology may have unintended effects or even disastrous consequences, and this may shake the unswerving assumption that 'knowledge can be managed'. That is, the relationship between knowledge and organisation is not always under control, and, as such, our attempt to establish such a relationship may produce unexpected outcomes. However, to the extent that mainstream KM theorists have attempted to provide a solution to the problem associated with the application of knowledge within organisations, they have not yet seriously discussed the possibility that the use of knowledge may generate (unintended) disastrous outcomes beyond organisational boundaries.

Nevertheless, why do mainstream KM theorists overlook such a possibility? There might be many reasons, but the most likely explanation is, perhaps, that mainstream management stems from an unquestionable assumption that with modern techniques we have the 'ability to manage'. Yet it is not our business to discuss this except insofar as it constitutes one of the major meta-theories that informs mainstream KM. However, to explore this area, we need, first of all, to review mainstream KM from a somewhat different angle.

Two Dimensions

In terms of mainstream KM theories, it is possible to classify them into two dimensions. The first dimension represents the basic beliefs and the knowledge base of management theories, which comprise the Scientific Management and Human Relations Schools. Conventionally, management theories derive from two lines of thought. The first line is Taylor's Scientific Management, and this line, like much economics, has a strong orientation towards the 'scientification' of management. The other is Mayo's (1933) humanistic line, which developed the Human Relations School and emphasised the importance of the relationships between employees. However, the Human Relations School was itself superseded by Neo-Maslovian Theory. The latter incorporates both sociological and psychological aspects that, it is claimed, solve the

problem of the relationship between efficiency and motivation (Jackson and Carter, 1995: 201). Both lines of thought have informed the theory and practice of KM. The scientific line suggests that the role of management is to formalise workers' experiences and skills into objective and scientific knowledge (Nonaka and Takeuchi, 1995: 35-6). However, from the perspective of the humanistic line, the application of employees' personal knowledge is the main factor in improving productivity. With regard to organisational knowledge per se, Scientific Management theorists, in common with neo-classical economists, treat organisational knowledge as a scarce resource, and thus focus on finding ways to exploit this resource as much as possible. On the other hand, the humanistic line also recognises that organisational knowledge is a very valuable resource, but focuses instead on how to create new knowledge through human interactions. When reviewing contemporary KM discourses, we can find that both lines have their supporters, who attempt to propose their distinct assertions.

The second dimension of KM comprises two different concepts. To understand this dimension, it is useful to illustrate the culture and system debate amongst KM theorists. The arguments derive from a chicken-and-egg conundrum (Salopek and Dixon, 2000: 1-4): does a learning culture come first, or a knowledge-management system? Some theorists believe that KM can be successful only if cultural considerations are dealt with properly. They assert that, when there is a learning culture, such as a collaborative and open culture, learning behaviour will occur within organisations. Accordingly, management should remove the cultural barriers that may hinder the acceptance of KM and collaboration (Greengard, 1998: 92), and encourage a 'learning culture'. By contrast, other theorists, especially the Scientific Management-oriented gurus, tend to contend that building a concrete knowledge-management system is much more important than creating an intangible organisational culture. They believe that if employees start sharing ideas about issues they see as really important, the sharing itself creates a learning culture. As such, these theorists highlight the importance of a proper management 'system', claiming that the transfer of knowledge relies on the technical system, such as IT or IS.

Four Approaches

As discussed above, these key assumptions characterise different approaches to KM, and can be classified into two dimensions. Taken together, the two dimensions constitute a four-cell matrix which defines four approaches to the analysis of KM

literature, as can be seen from table 3.2.

	Culture		
Human Relations Management	(I)	(II)	Scientific Management
	(III)	(IV)	
	System		

Table 3.2 Four Cells/Four Approaches to KM

(I) The top left cell represents the Cultural-Humanistic approach. KM theorists in this category share the view of Cultural-Scientific theorists of the role of learning cultures, but they claim that a learning culture can only be established through managing human relations. For Cultural-Scientific theorists, the major issue of KM is to develop commitments amongst all members within an organisation. Unlike the Cultural-Scientific approach, this approach does not merely treat organisational knowledge as the use of scientific knowledge, but as a product of human interaction. Moreover, they recognise that it is not possible to convert all knowledge into scientific knowledge. In their opinion, to be successful in KM, management should provide leadership, visions, and a clear learning strategy to encourage employees to share and create organisational knowledge. Therefore, Cultural-Humanistic theorists emphasise the significance of human resource management and organisational development. Organisational learning theory belongs to this category.

(II) The top right cell represents the Cultural-Scientific approach. This approach is concerned with issues of how to create a learning culture through adopting appropriate technologies. Theorists in this category share ideas with proponents of Scientific Management, seeing technologies as useful tools for exploiting information and absorbing knowledge. Furthermore, they treat organisational knowledge as the use of scientific knowledge. For Cultural-Scientific theorists, it is necessary for management to apply technologies in all management disciplines, and they believe that a learning culture can be established through the help of technological tools, for instance, by using IT to change or improve the environment (workplace). In their idea, technologies have tremendous impact on organisation behaviour in that technologies can help management to manage employees more rationally and make employees

more satisfied, thus creating a learning culture. This cell includes Technological Management theories and resource-based approaches to KM.

(III) The bottom left cell represents the System-Humanistic approach. This approach is concerned with how to design an adequate organisational structure to support KM. As with Cultural Humanistic theorists, System-Humanistic theorists think that managing human relations is the key factor in KM and underscore the importance of tacit knowledge. However, the Cultural-Humanistic approach suggests that a learning system should be supported by a learning culture, whilst supposing that a suitable system itself will create a learning culture. By the same token, advocates of this approach think that the design of knowledge-management system should be in accordance with different types of organisational knowledge, such as tacit or explicit knowledge. Thus, management must know the nature of organisational knowledge before determining the best type of the knowledge-management system (Salopek and Dixon, 2000). Knowledge-based theory can be classified within this approach.

(IV) The bottom-right cell represents the System-Scientific approach. KM theories in this cell suggest that organisational knowledge is technology, and claim that scientific and quantitative methods can convert information and employees' 'personal' skills into scientific knowledge. What is more, they do not pay much attention to the creation of organisational cultures, and consider that the role of management is to adopt scientific methods to transfer employees' knowledge into explicit knowledge. Their main attitude to knowledge is that organisational knowledge is in essence a 'pre-given', just as a scientific truth. Thus, they suggest that the adoption of some technologies, such as IT/IS, is a helpful way to improve communication which can transfer employees' personal experience into organisational (scientific) knowledge. This cell contains Drucker's model and knowledge-transfer-system theories. It is clear that Drucker's line of thinking generates a strong enthusiasm for Scientific Management (see also Jackson and Carter, 1995). In line with Drucker's idea, knowledge-transfer-system theorists also share this feature, emphasising the importance of management systems, and seeing KM as an issue of designing management disciplines through the use of technologies.

The four above approaches construct our mainstream KM literature. Each represents distinct assumptions, and each provides its ultimate users with satisfaction. The champions of each group have also attempted to prove themselves as the most authoritative voices. However, recently we have also seen strong interest in a theoretical synthesis – while some have tried to incorporate System with Culture

approaches (e.g. Verespej, 1999), we can sometimes see a confusion between Human Relations and Scientific Management traditions (as discussed later). This perplexity is a reflection of the current state of affairs wherein theories have become more fragmented, and no single branch of theory preponderates. Internally, this implies that management knowledge, as it were, always needs more robust legitimate bases (cf. Anthony, 1977: 219), and today's management chic highlights the fact that management seems to need a more 'eclectic' knowledge base. Externally, we see that mainstream KM has become somewhat 'analytical'; that is, unlike some earlier Scientific Management school thinkers, mainstream management theorists today often seek to provide an analytical tool for our understanding of the concept of KM, rather than seek to offer the universal solution to the process of managing knowledge.

However, does this then suggest that the knowledge base of mainstream KM has essentially changed? No. This is because mainstream KM contains different approaches, but, as we will discuss later, they are in fact informed by a set of common meta-theories. One of them is the economics-related faith that knowledge is the engine of progress, the other being the belief that we have the ability to 'manage'. In the second part of this chapter, I shall review some meta-theories beyond management from a 'deconstructive' approach, and argue that orthodox management simply reflects some age-old interests, which can even be traced back to ancient Greece.

Part II. Beyond Knowledge Management

'Possibility' is central to our minor paradigm, and the central concern of this work is how to develop alternative possibilities. Before developing these possibilities, however, I suggest that we need to 'deconstruct' the established discourse – mainstream KM, and Derrida's notion of deconstruction will be used as a means to this end.

As we have argued, Derrida's deconstruction is an 'approach' whose purpose is, on inverting the notion of construction, to illustrate how superficial are the normative structures of the social world. Deconstruction, *prima facie*, is a form of destruction, of taking apart, perhaps, of undoing the established construction. From a radical standpoint, deconstruction is necessary, for, conceptually, deconstruction is a means of revealing the contradictions inherent within 'texts', a means of exposing their reliance on the metaphysics of presence (see Linstead, 1993: 57; cf. Hassard, 1993). From our

'minor' perspective, these contradictions were reified in the modernist projects of Enlightenment metaphysics, and the ethical, or epistemological projects of post-Enlightenment science, and all of these 'structures' have a totalitarian effect which still influences our thinking and practice.

This section is focused on the deconstruction of what has been termed mainstream KM. The mainstream approaches to KM are not completely homogenous, but they nevertheless reflect certain hidden assumptions and meta-theories about both knowledge and management. My intention here is to provide an analysis of these hidden components and, thereby, to enable us to 'rethink' KM - not by providing unequivocal solutions, but by 'problematizing' its knowledge base. To this end, we need to briefly examine two major philosophical traditions - rationalism and empiricism. Central to these two traditions is the question: 'what is knowledge'. While rationalism implies that knowledge should be obtained deductively by reasoning, empiricism suggests that knowledge should be attained inductively from sensory experiences.

Rationalism

Rationalist theory of knowledge, such as Descartes' (1596-1650) philosophy, implies that knowledge can be discovered by employing certain procedures of reason alone. This concept can be traced back to Plato's belief that 'idea' is a 'form' seen through the pure mental eye. He believed that our physical, or visible, world is the illusion of the world of pure 'reason'. For him, humankind is able to acquire the eternal and perfect ideas not through our sensory perception but only through our rational thinking. This idea was then inherited by Descartes. As Descartes said, 'the commonest of errors is to think that my ideas are like outside things' (Russell, 1993: 549). To avoid confusing subjective ideas with objective ideas, Descartes proposes four general rules for rational thinking (Descartes, 1911: 92):

The first of these was to accept nothing as true which I did not clearly recognise to be so: that is to say, carefully to avoid perception and prejudice in judgements, and to accept in them nothing more than what was presented to my mind so clearly and distinctly that I could have no occasion to doubt it. The second was to divide up each of the difficulties which I examined into as many parts as possible, and as seemed requisite in order that it might be resolved in the best manner possible. The third was to carry on my reflections in due order, commencing with objects that were the most simple and easy to understand, in order to rise little by little, or by degrees, to knowledge of the

most complex, assuming an order, even if a fictitious one, among those which do not follow a natural sequence relatively to one another. The last was in all cases to make enumerations so completely and reviews so general that I should be certain of having omitted nothing.

In 17th and 18th century Europe, Descartes inaugurated a new school of rational philosophy by showing how our reason alone could lay out the workings of the universe through the clear and distinct ideas which we know innately and through our own certain knowledge. Descartes's philosophy has its roots in Platonic metaphysics, and reveals a strong faith in Science (Clarke, 1992: 259). Descartes believed that ultimate Truth could be deduced from the real existence of the rational thinking self, which seeks Truth/knowledge by isolating itself from the rest of the world and other human beings (Russell, 1993: 547). For him, the 'thinking self' transcends body or matter, in that mind and body are separate and distinct substances, i.e. the Cartesian dualism of mind/body: mind is conscious, subjective and non-spatial, and body is objective, spatial but not conscious. Therefore, Descartes affirms that through the process of **rational thinking** (the rational soul, or rational self: in Descartes' words, e.g. Russell, 1993: 546) man can be free from the inner prison of subjective cognition, thus obtaining the reliable knowledge of objective reality (Cottingham, 1992: 252-3). From Descartes' viewpoint, living organisms, as well as the material world, are like machines, because they are all governed by the laws of physics, or the laws of mechanics (see Russell, 1993: 551; Roszak, 1972). Hence, he believes that all mental and physical actions are determined by natural laws, and treats human behaviour as stimulus-response actions. Descartes's thinking was inherited by rationalism. Rationalism suggests that only Science can interpret the world, asserting that the world can be quantifiably measured by scientific methods. In addition, rationalist theories claim that knowledge cannot be found in sense-experience but only in the realm of mind (Popkin and Stoll, 1994: 213-19).

Empiricism

While rationalists have sought a definition foundation of knowledge, empiricists have endeavoured to find a basis for knowledge in 'sense experience' (Costello, 1996: section 2: 3). Empiricist theorists such as John Locke (1632-1704) and David Hume (1711-1776) believed that all knowledge is derived from sense experience (based on experiment and observation, or 'OED'). This thinking can be traced back to Plato's student, Aristotle, who asserted that 'idea' is not an eternal and super-sensible object. For Aristotle, idea cannot be isolated from a physical object, nor does it have an

existence independent from sensory perception. In addition, he emphasised the importance of observation and sense-experience. According to Aristotle (quoted in Moser and Nat, 1987: 59):

.....sense-experience comes to be what we call memory, and out of frequently repeated memories of the same thing develop experience; for a number of memories constitute a single experience. From experience.....originate(s) the skill of the craftsman and the knowledge of the man of science, skill in the sphere of coming to be and science of being. We conclude that these stages of knowledge are neither innate in a deterministic form, nor developed from other higher stages of knowledge, but from sense-perception.

Philosophically, empiricism was in polar opposition to rationalism. For John Locke (1632-1704), the British founder of empiricism, things existing in the real world are objective in nature. Even if the sensory perception of a thing is illusory, it is undoubtedly evident that something can be perceived. He rejects the rationalist thinking that the human mind is already furnished with innate rational thinking, and affirms that only our experience can provide the mind with logical ideas which originate from two sources: 'sensation' and 'internal sense' (i.e. perception of the operation of our own mind; see Russell, 1993: 589). In this regard, Locke considered that sensation provides sensory perception, which is the 'great source of most of our ideas' (Moser and Nat, 1987: 133). Internal sense, or perception, derives from our environment, and is 'the first step and degree towards knowledge, and the inlet of all materials of it' (Locke, quoted in Russell, 1993: 589). In the 17th century, Locke's idea was somewhat innovative and revolutionary, for he provided a new way to understand the acquisition of knowledge.

Locke's empiricist assumptions were further developed by the Scottish philosopher David Hume (1711-76). Hume asserted that knowledge can be acquired through 'sensation' and 'association/perception' (ibid: 641). Sensation includes impressions and ideas. Association, John Locke proposed, means that meaning can be acquired through certain methods: 'similarity', 'contiguity in space and time', 'contrast', and 'causality'. Hume shares this view, while adding that there are two different patterns of idea: 'memory' and 'imagination' (Costello, 1996, section 2: 3). Memory is ordered ideas, whilst imagination is ideas in whatever order. Imagination is constructed through 'resemblance', 'contiguity in time and space', 'cause and effect'. At this point, Hume's theory treats knowledge as ordered information created from the inspection of two or more ideas (ibid: section 2: 3-4). Nevertheless, for Hume, causality does not merely rely on the logical induction of different ideas, but also on our perception –

experience, memory, or human interactions (Russell, 1993: 641).

Discussion

As we have seen, the two philosophical traditions, rationalism and empiricism, are derived from different epistemological assumptions. However, their major goal, as with that of most Western philosophical traditions, is to discover the global truth – knowledge. In other words, the mission of the two branches of philosophers is to disclose the **justified true belief** (Nonaka and Takouchi, 1995: 58). Beliefs could be either true or false, because beliefs imply not knowing for certain. The pursuit of knowledge in the two philosophical traditions can be treated as the process of searching for the method to ‘justify’ Truth. Accordingly, the ‘justified true belief’ should not be identified with certain information, but with the process of thinking. In Polanyi's (1962) view, knowledge is an activity which would be described as a process of knowing (see Costello, 1996: section 2: 5). To this end, rationalists focus on axiomatic reasoning grounded in areas such as mathematics, affirming that knowledge should be obtained deductively by appealing theories, or physical laws. Empiricists, however, concentrate on human experiences, considering that knowledge should be obtained through particular sensory experiences or human interaction. Yet this does **not** suggest that empiricism assumes that this process can depart from scientific methods. As Russell (1948: 516-27) argues, the empiricist believes that all knowledge is based on experience, and questions in what circumstances do scientific methods, such as those applied in mathematics or deductive logic, enable us to discover something which is hitherto unknown. Clearly, at this point, empiricism and rationalism embrace the view that science is the only approach that eliminates human bias so that we may acquire global Truth and knowledge.

Another similarity between rationalism and empiricism is that both of them rely on a **binary logic** – the Cartesian dualism of mind/body or subject/object. As I have argued, Cartesian dualism, one of the rationalist fundamental presumptions, followed from the assumption that humankind has a ‘rational thinking self’. Although empiricism differs with rationalism in its insistence that only sensory experiences can provide the minds with ideas, it does not forsake the assumption of Cartesian dualism. This binary ontology is embodied in the empiricist claim that its knowledge base relies on ‘the independent’. Holmes (1990: 203-4) points out that the empiricist primacy of the independent has three senses: (1) empiricism asserts that the facts that were observed must be independent of one another; (2) empiricism insists on the total and final

exclusion of (i.e. separation from) the knower from the known – the known must speak with its own voice and be in no way a reflection of the person who knows - thus, empiricism asserts that the knower must be separate from, and does not contaminate, the known; (3) empiricism depends, in the ordering of its data, on criteria that stand outside the content of discourse and adjudicate upon that content, and these criteria allow the identification of facts, the attribution of objective reality and the use of logic. Clearly, then, the independence/objectivity is seen as a matter of rationality: only rationality enables people to be objective, free from their subjective bias, and stand outside their context.

In terms of these similarities, we can find that the two philosophical traditions have in common the belief in **Reason**. Although empiricism and rationalism entail different beliefs regarding the origins of knowledge, it is clear that empiricism, as well as rationalism, implies that it should exclude the subjective bias, and affirms that knowledge should be acquired through purely objective methods. At this point, both views seem to reflect a strong faith in Science and scientific methods. The strong belief in Science can be traced back to the Enlightenment. Since the 19th century, Science has achieved spectacular triumphs, and almost everything that distinguishes the modern age from earlier centuries is attributable to Science (Russell, 1993: 512). One of the major reasons is that Science has a supposed ‘objective’ manner, especially in connection with Truth. As Jackson and Carter (1995: 198) put it:

Science is a process for producing value-free knowledge. It achieves this by adherence to methods which eliminate the possibility of subjective bias entering into the process. The outputs of the process are facts. A fact is a statement of Truth, as opposed to a statement of belief or opinion, irrespective of how well-informed that belief or opinion may be. The power of Science rests in its ability to uncover Truth, such that its pronouncements are universal and equitable to all...

Indeed, Science is so powerful that it is widely believed that scientific advance has, de facto, influenced the life of all of us, especially in industrialised countries. It is also no surprise to be told that many have treated Science as the superior form of knowledge and some forms of knowledge, which are considered as unscientific, may even be excluded from branches of knowledge. Yet this scientific orthodoxy is not unchallenged. For instance, while some have recognised that our use of science may generate unintended outcomes, others have challenged that scientific methods are not totally free from subjective elements. Within the field of Science, certain New Physics also implies that, even in the allegedly ‘objective’ realm of physical experiments,

intrinsic inaccuracies in the decision-making process are unavoidable for scientists (as seen in the previous chapter).

However, it is not our business to explore the belief in Science and Reason except insofar as it is in connection with the assumption that, with modern techniques, we are able to 'manage'. By this we should recognise that the power of Science lies in its connection with Truth, and at the heart of Science implies a 'predictable' relationship between means and ends. If Science denotes that via rational techniques we are able to establish an absolute relationship between means and ends, we may possibly understand the modern obsession with Science as a long-lasting attempt to search for absolute causal relationships. In this regard, management seems to have followed a parallel course, because at the heart of mainstream management is the assumption that we are able to manage. Mainstream KM, as a sub-field of management, is no exception because it is also grounded on an unquestionable view that managerial techniques enable organisation to make use of knowledge for its own purposes. Implicated in this process is an assumption, or a consensus, that we have 'the ability to manage'; that is, via the application of managerial techniques, we are able to establish some relationships between knowledge, management, and organisations. Nevertheless, the current state of KM seems to suggest that this goal has not yet been achieved successfully, just because virtually none of them is unchallenged by subsequent KM theories. Certainly, some KM models have appeared to be more 'authoritative' at a given time or in a given context, but the explanatory power of these models seems unable to be maintained permanently. That is, the desired manageable relationships between knowledge and organisation remain as the unsolved puzzle in mainstream KM. Yet, as we will see, to the extent that certain mainstream KM theorists have attempted to frame a theoretical reaction to the current state of KM, they have indeed shifted it from a normative discourse to a somewhat analytical one. However, we should note that an unswerving belief remains intact in mainstream literature: 'knowledge can be managed'. The question here is: if the current state of KM implies that there has not yet appeared a universal model that successfully enables organisations to establish a 'predictable' relationship between knowledge and organisations, why does mainstream KM hold such an unquestionable assumption – knowledge can be managed? And there is a more important question: if the combined application of some knowledge and technologies may be one of the major causes of crises at a societal level, why does mainstream KM still assume that management is capable of managing knowledge? To answer these questions, we may usefully start with the historical development of some basic management models. Following this historical excursion, we will argue that the managerial belief in their

ability to manage is not a leap, but is part of the long-lasting attempt to establish 'authority to manage'.

Two Management Camps

The history of organisational thought and practice suggests that orthodox organisation studies are, to large extent, informed by two basic management models: Scientific Management and Human Relations Management (cf. Guillen, 1994a), and there are parallels between the two management models and the two philosophical streams: rationalism and empiricism. In the realm of KM, the two management models seem to have an enduring quality that they have directly formed an important dimension of mainstream KM.

Scientific Management

It was already suggested that Scientific Management plays an important role in mainstream KM, and we argued that Scientific Management is one of the major sources of the current state of KM. Scientific Management is, in brief, a set of theories and techniques conceived to deal with such problems as soldiering by workers, resource wastage, and disorder, as well as management's arbitrariness, greed and lack of control (Guillen, 1994a). Proponents of Scientific Management tend to assume that all employees are Rational Economic Men and that industrial conflict can be avoided because an increased surplus will benefit everyone involved in the industrial enterprise. If Fredrick W. Taylor, the founder of Scientific Management, held a neo-classical economics-like belief that industrial efficiency would 'promote material wealth and social harmony' and lead to universal progress (Bendix, 1974: 275), it is also possible that efficiency has become an unquestionable purpose of management. In order to achieve this goal, Scientific Management affirms that managers should specify every single detail of each worker's task, and believes that specific managerial techniques can lead to the best way of managing workers and organising tasks. Thus, the process of work is simplified, mechanised, de-skilled, and arranged in assembly-line fashion. Scientific Management theories treat all knowledge as objective scientific truth, and assert that knowledge can be seen as technology. At the organisational level, Scientific Management theorists often assume that management should focus on scientific knowledge, claiming that management can formalise workers' skills through scientific methods and reduce knowledge into rules which can

be formalised and applied in daily work (see Taylor, 1911). Thus, managers are taken as 'scientific managers' (c.f. Mant, 1979: 51-3), and they generally do not perceive workers' experiences and judgements as a source of knowledge.

Broadly speaking, the suppositions of Scientific Management are not at odds with rationalist thinking, and this can be understood in two senses. Firstly, while rationalists attempt to seek knowledge by isolating from human beings, thus ignoring the role of sense experiences, Scientific Management usually treats knowledge as a given, like scientific truth or technology, and attempts to apply knowledge to organisational tasks and managerial functions. At this point, we should also note that both of them seem to have an orientation towards 'scientification' of knowledge, and they hold the assumption that scientific methods can be used as a means to solve managerial problems. Secondly, rationalism is based on a belief that, via rational thinking, humankind can be free from the inner prison of subjective cognition, thus obtaining the knowledge of objective reality. If rationalism holds a simplistic assumption that human action is governed by physical laws, Scientific Management seems to share a similar view, but in a somewhat different sense. Scientific Management perceives that human behaviour is governed by a stimulus-response action, and determined by certain rules, such as laws of physics. That is, Scientific Management has an orientation towards simplifying human behaviour, and treating all employees as the same. This train of thinking is supported by rational-economic assumptions which presume that all workers are driven by rational-economic considerations and they always act to maximise their self-interests (e.g. Schein, 1988: 52). Since it treats all actors as rational, industrial conflict should not emerge because surplus will benefit everyone in organisations. However, this is not to suggest that Scientific Management's simplistic view on human nature implies that all human beings are essentially the same. Rather, this results in a binary assumption: managers, with scientific (managerial) techniques, are totally different from those who have no scientific skills, i.e. workers. Hence, for Taylor and those who come after him, it is scientific methods that give managers a transcendental, superior objectivity (Bendix, 1974: 275).

Human Relations Management

Human Relations Management, first formulated in the 1930s and early 1940s, deals with a different set of problems, including monotony of work, absenteeism, conflict, unrest, 'wrong' attitudes and low motivation, which, it is claimed, lead to restricted

productivity. At this point, we can see Human Relations Management as a theoretical reaction to Scientific Management, because the former was based on the claim that Scientific Management overlooked the importance of non-rational feelings amongst workers, the importance of interpersonal communication and the strength of group pressures in influencing individual behaviour and productivity. During the 1950s and 1960s, Human Relations Management was subsumed and enriched by subsequent waves of theorising, known as neo-Maslovian theories, such as in Herzberg's work (c.f. Jackson and Carter, 1995). The emergence of neo-Maslovian theories is also relevant to some social and technological changes. Since this set of theories still emphasises the importance of human interaction, it is possible to see it as a theoretical extension of Human Relations Management. As Guillen (1994a) argued, Human Relations Management has its roots in Durkheimian sociology, social psychology and social anthropology, and it assumes that the problem of the relationship between the individual and the organisation results from excessive mechanisation and industrial rationalisation achieved by Scientific Management.

In general, Human Relations Management challenges the rational-economic assumption, claiming that workers can be driven by some psychosocial norms and needs. Thus, it proposes different assumptions about human nature such as Self-Actualisation assumptions, Social assumptions, and Complex assumptions (Schein, 1988: 53-6). From these perspectives, people are seen not as self-interested individuals but as workers with group identifications and emotional dependencies. Managers are not essentially different from workers, but their managerial skill in dealing with human relationships allows them to exercise self-control (Guillen, 1994a). In addition, Human Relations theorists claim that management should build an environment that can improve efficiency in the organisation by understanding its social system, harmonising relationships, leading and integrating the workforce – even dealing with micro-politics in organisations (e.g. Buchanan and Badham, 1999; Knights and Willmott, 2000). In this regard, Human Relations would imply that management should function as 'leaders' rather than 'technicians' (Mant, 1979: 57).

The Marriage of the Two Camps

We have suggested that Scientific and Human Relations Management can be seen as two major traditions of orthodox organisation studies (see also Guillen, 1994a; 1994b). While some aspects of the two traditions may be more or less popular at any given time, the theoretical base of both traditions has been challenged by many management

theorists. Some contended that both traditions failed to provide cogent models that successfully solve the problem of efficiency in organisations, while some others believed that the two traditions are unable to meet the challenges of the present business environment. However, our intention here is 'not' show how the two camps compete with each other or how they are replaced by latter-day models. Rather, we seek to suggest that the two camps of Management have overlapping theoretical constructs. Moreover, if rationalism and empiricism are heavily dependent on the separation of subject (mind, knower, and self) from object (body, known, and other), we can find that the two Management camps have a similar feature.

First of all, we have to recognise that both camps of Management thought hold a Cartesian-like assumption of dualism. Scientific Management rests on the claim that its knowledge base transcends subjective senses, because it adopts scientific methods and procedures to operate and organise organisational tasks, thus avoiding human bias. Scientific Management, therefore, relies on this division which implies that its knowledge base (object) is objective and independent of subjective human cognition (subject). However, Human Relations Management affirms that its knowledge stems from human factors. Human Relations theorists seem not to treat workers as self-interested individuals but as people with group identifications and emotional dependencies, driven by psychosocial norms and needs, and, in this logic, managers are not essentially different from workers (Guillen, 1994a). However, there then arises a question here: if management is not totally different from workers, why do management have authority to manage others? Here, the knowledge base of Human Relations, like that of empiricism, ineluctably relies on the primacy of the independent – the observer must be independent of the observed; the knower must be separate from the known. For Human Relations theorists, this independent provides management with managerial authority and gives them the superior ability to stand 'outside' an organisation knowing how to deal with human relationships, or objectively diagnose organisational problems. The independent also allows managers to transform subjective human experiences (subject) into objective reality (object), thus enabling them to predict how workers will behave in varying circumstances. Whenever the subjective-objective distinction is caused, 'person' and 'role/identity' cease to hold – the person is subjective and is defined independently of his/her surrounding context, while the role/identity is objective and is defined in terms of its own context (Holmes, 1990: 205). This split provides both camps of theories with criteria which allow the use of managerial techniques, and the identification of Truth. Without the split, their knowledge base would be highly questionable.

As discussed above, the development of Scientific Management and Human Relations reflects the managerial attempt to develop 'authority to manage' in industry. The legitimate basis of this authority lies in the objective position of certain people – managers. If this is the case, it is possible that Scientific Management and Human Relations must rest on the claim that their knowledge base is scientific, because only on the basis of science will both camps be able to seek objectivity through an impartial, uninfluenced process. At this point, we find that both management schools ultimately embrace the spirit of rationalism and empiricism in terms of their strong belief in Reason; that is, knowledge should be value-free, unbiased and objective, as opposed to beliefs or opinions.

The two Management schools constitute a major dimension of mainstream KM, and they seem to have offered an important knowledge base for the current state of KM, that is, it is implied that the process of KM should be 'objective'. We shall see later that mainstream KM seems to move in recurrent cycles from one pure approach to another and some recent models are somewhat eclectic in the sense that they combine characters from the two Management schools, but objectivity still plays a significant role. Indeed, only on the basis of objectivity can mainstream KM assume that the interest in managing knowledge is not sectional, but universal. However, the current state of KM seems to have the other dimension. In brief, this dimension reflects a managerial faith in 'structure' which contains two related elements: system and culture. These two elements also have an objective sense. That is, they together offer a more robust legitimate basis for the managerial authority to manage knowledge, because they somewhat legitimise the belief that managerial techniques enable managers to function as objective agents within organisations.

Structure

Broadly, the managerial belief in 'structure' is the product of the proliferation of large, bureaucratised firms engaged in producing and distributing a variety of products and services around the 1970s. Some authors believed that business organisation needed to adopt new technologies or control devices in order to design optimal organisational 'structures' to meet the competitive environment. The managerial notion of structure

is associated with Weberian and structural-functionalist sociology⁶. However, it should be noticed that it shares some common assumptions with Scientific Management and Human Relations: organisational actors are rationally bounded; professional managers are assigned the responsibility for planning, setting goals, defining problems, seeking alternatives, and making decisions, based on their superior technical knowledge. Yet the current managerial belief in structure seems to contain some renewed views of organisation and of organisational members: workers are adaptable to their 'structural' situation, and the optimal organisational structure (e.g., decentralisation) may promote workers' motivation, initiative, responsibility and professional growth. Some control devices such as job specifications, operating programs, procedures, guidelines, classifications, and routines are also employed to monitor the performance of both workers and managers. It is possible to see the 'contingency model' as the methodological keystone: the principle that firms should of organisations are designed to determine the optimal degrees of differentiation and integration of functions (such as production, sales, marketing and so forth), of decentralised decision-making, and of centralised control.

In the field of KM, many authors also hold a strong belief in structure. For instance, some theorists suggest that, in order to manage organisational knowledge, management should build an appropriate (organisational) 'structure', which includes a learning culture and/or a suitable management system. These assertions reflect different concepts of how to manage people in organisations. Although the two approaches are somewhat intertwined, they are in fact derived from different sources. The following will focus on organisational culture and management system in turn, first outlining their meaning and then analysing their origins.

⁶ Structural Functionalism has different versions. Alfred Radcliffe-Brown (1952) and Talcott Parsons (1951) are important figures who developed the idea of Structural Functionalism in Britain and the United States respectively. Many believe that Structural Functionalism has its roots in Emile Durkheim's sociology. From Durkheim's perspective, society is deemed a huge system (or an 'organism') that consists of functionally specialised parts. Each part functions like a subtle gear (such as a social institution); all parts are relational and bounded, and work coherently in order to maintain the stability and the equilibrium of the whole system. In this regard, individuals are analysed in terms of how they suit systematic requirements and how they behave in accordance with their social status and social relations. Social and cultural phenomena are also seen as functional, and their ultimate purpose is seen as a pre-given. Although Structural Functionalism has been widely challenged, it has provided an important model for our understanding of social phenomena. For example, Burrell and Morgan (1979) suggested that Structural Functionalism belongs to what they termed the 'functionalist paradigm', which has played a significant role in contemporary organisation theory.

Culture

The notion of culture is of importance to the orthodox management discourse, because it is usually seen as a managerial tool, and the term 'organisational culture' precisely exemplifies such a mindset. To understand the meaning of organisational culture, it is useful to start with the concept of 'culture'. In the past, the definitions of culture were (according to Webster English Dictionary): (1) the cultivation of soil; (2) the raising, improvement, or development of some plant, animal or product. The use of this term has its roots in the ancient Latin word 'cultura', 'cultivation' or 'tending', and it had entered the English language by the year 1430 (Oxford English Dictionary). In recent times, however, another definition took precedence over the old Latin denotation: culture came to mean 'the training, development, and refinement of mind, tastes, and manners' (ibid.). Thus, when referring to a modern source, like the American Heritage English Dictionary, we can find a further shift in meaning to: 'The totality of socially transmitted behaviour patterns, arts, beliefs, institutions, and all other products of human work and thought'. This definition, derived from anthropology and sociology (Kroeber and Kluckhohn, 1952: 149), focuses on socially transmitted behavioural patterns, shared beliefs or a context of meaning.

Culture, as a modern concept, is frequently equated with 'civilisation' or 'social heritage' (Morgan, 1986; 110-119; 203-210), and learning is at the core of culture. From Durkheim's perspective, culture, as a body of learned behaviours common to a given human society, acts rather like a template (i.e. it has predictable form and content), shaping behaviour and consciousness within that society from generation to generation (e.g., Durkheim, 1964: 1-13; first published in 1895). Therefore, culture resides in all learned behaviour and in some shaping template or consciousness prior to behaviour (i.e. a cultural template can be in place prior to the birth of an individual person). The primary concept of a shaping template and body of learned behaviour can be further broken down into the following categories, each of which is an important element of cultural systems (cf. Sahlins, 1976): (1) systems of meaning, of which language is primary; (2) ways of organising society, from kinship groups to states and multinational organisations; (3) the distinctive techniques of a group and their characteristic products. If the process of learning is an essential characteristic of culture, it follows that teaching is also an important component. Generally speaking, learning and teaching behaviour consists of the process of 'reproduction'. This, as it applies to culture, is the process by which aspects of culture are passed on from person to person, which implies a learning experience whereby some people invite, induce, or guide other people to adopt certain ways of thinking and behaving.

The concept of reproduction is important in the study of organisational culture. For Durkheim, culture is both functional and coercive. According to Durkheim (1964: 3-5), the essential characteristic of culture is the force (or power) that exerts pressure on individual consciousnesses. This force, which is derived from associated individuals, may lead to collective representations, emotions and tendencies, and then become the source of all other social restrictions. In his idea, constraint is due to the fact that the individual finds himself in the presence of a force which is superior to him and before which he bows. Consequently, Durkheim affirms that this constraint is something like a natural, or transcendental force, and individuals will submit to it out of their free will.

Organisational Culture

Barry Turner's book, *Exploring the Industrial Subculture* (1971), displaced the concept of culture from its discourse of origin into a new field, organisation studies. In the 1980s, the use of organisational (or corporate) culture has burgeoned (Adams and Ingersoll, 1990: 16). When reviewing mainstream literature on organisational culture, we can find that organisational culture shares many features with the notion of culture. For example, Schein (1992: 12), one of the leading theorists of organisational culture, defines it as:

...a pattern of shared basic assumptions that the [organisation] learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Schein (ibid; see Young, 2000) also identified three levels of organisational culture: (1) assumptions: the invisible core elements. These might comprise the collective vision within an organisation, or attitudes within a society to timeliness; (2) values: preferences that guide behaviour. These might be attitudes towards dress codes and punctuality within an organisation or ethics within a society; (3) artifacts: tangible material elements of culture; language, procedures and acronyms of the organisation, and the spoken word and dialects of a society. Literature on organisational culture is extremely extensive; however, it is possible to clarify three linkages in organisation studies.

The first linkage is that organisational culture is in connection with subculture. Adams and Ingersoll (1990: 17) point out that there are three basic assumptions about organisational culture. Firstly, it is believed that each organisation has unique culture. Hence, organisational culture is particularised as something that occurs within each organisation. Secondly, certain people can examine a number of organisations' unique cultures, in order to identify some features that they have in common. Thirdly, many organisation theorists and management practitioners have believed that organisational culture is, or can be, 'independent' of the larger culture (e.g. national culture). Evidently, at this point, orthodox management theorists seem to confuse the organisational culture with the concept of subculture⁷ (see Guerreiro-Ramos, 1981).

The second linkage is that organisational culture is often linked to performance (Alvesson, 1993: 27-63; Alvesson and Berg, 1992). In mainstream management, organisational culture is treated as a strategic resource or a managerial tool in organisations. So that this resource can be utilised, contemporary organisation studies distinguish 'good' culture from 'bad' culture, and the former is usually equated with 'strong' culture. As Alvesson (1993: 27) suggests, this strong culture is characterised by norms beneficial to the company, to customers and mankind, as well as by 'good' performance in general. In other words, the strong culture should be conducive to the achievement of corporate goals as defined by management (see Baker, 1980: 10). It follows that organisational culture can also be used as a diagnostic instrument or a guide for action. The concept of organisational culture is, indeed, not at odds with the development of conventional Organisational Behaviour, whose major purpose is to deal with 'how' questions: it attempts to identify certain 'problems', and then seeks to find ways to solve those problems (Jackson and Carter, 2000: 47). In mainstream management discourse, organisational cultural theorists tend to see 'strong' culture as a managerial tool that can solve problems within organisations, such as problems with the integration of new technologies, diversifications, inter-group conflicts, the effectiveness of communication, socialisation, motivation, and, of course, efficiency.

Finally (and this point involves the first two linkages), organisational culture is linked to the managerial process, i.e. how to 'manage' organisational cultures. This idea reflects a realistic view (Jackson and Carter, 2000: 37), which sees organisational culture as an abstract 'structure', and believes that the structure can be used to shape behaviour at every level in organisations. From such a realistic position, 'structure' is defined in terms of supporting and relational properties, and has the qualities of

⁷ A subculture is a salient social or even antisocial group/movement that distinguishes itself from others in a normal society. It is often seen in opposition to the prevailing or existing culture.

creating order, of being purposeful, of variety and of providing opportunities and constraints (ibid: 35-6). It is assumed that, within organisation, structure fulfils a primary supportive role within the system: it supports the achievement of organisational goals. This realist assumption is directly inherited by structural-functionalist organisation theorists:

Structural Functionalism understands organisations as purposeful components of a total social system, whose purpose is to contribute to the viability of the social system. Organisations are seen as themselves microcosms of that total system, and likewise, have parts which contribute purposefully to the viability of organisations as a whole...(ibid: 38)

Structural Functionalism represents the last stages of a more general Functionalism, which exhibited concern for interpreting the significance of events and actions...(ibid: 40)

According to Alvesson and Berg (1992: 26-30), there are two main approaches to managing organisational culture in terms of current management literature. The **first** approach, known as corporate (organisational) culture engineering, in accordance with structural-functionalist thinking treats culture as a purposeful and supportive structure. Corporate culture management tends to focus on the contingencies between organisational culture and other aspects of organisational life, such as strategy, leadership and technology, and organisational culture is considered as a 'variable' that can be entirely managed or controlled like other organisational variables. In this regard, organisational culture is seen as an 'artifact', which consists of language and other man-made products. Concepts such as culture development, merging corporate culture, and how to create a strong organisational culture, all show a preoccupation with the purposive of the culture. Management of culture is also represented as cultural (re-)engineering (e.g. Berg, 1985), wherein the social system is designed in a strictly objective and scientific manner (e.g. Brissy, 1986). In addition, the cultural management perspective stresses the need for assessing or measuring an organisational culture, and suggests that management should develop certain techniques to create an appropriate subculture. In order to achieve these goals, organisational culture is usually reduced to some simple variables that are claimed to be easier to control, such as basic values, shared understanding, and norms (see Alvesson, 1993: 14).

The **second** approach to organisational culture is symbolic management, which focuses on manipulation of 'deeper' symbolic layers of organisations through artefacts, or symbols. This approach shares much with structuralist thinking, whose main concern is not with the 'prescription', but the 'description' of phenomena in work

organisations (Jackson and Carter, 2000: 39):

Structuralism pays little attention to events and actions, preferring to understand the operations of organisations in terms of relationships as a text to be read in order to understand organisational structure, and whose meaning is underlying what can be observed. (ibid: 40)

From Alvesson and Berg's (1992: 128; 155-73) point of view, symbolic management can be seen as 'management of meaning', i.e. a coding of corporate reality in a way that manipulates how the significance of particular activities and events will appear. Symbolic management also treats organisational culture as a structure. However, unlike corporate cultural management, symbolic management does not attempt to change cultures or structures, but is concerned with the issue of **expression**, that is, the mental or symbolic fabric that constitutes the reality of the organisation. In addition, symbolic management does not assume that culture is easily observed or objectively measurable; rather, it stresses the importance of translating or interpreting the experience of organisations. From this perspective, managers are seen as objective 'interpreters' whose function is to interpret our complex world, thus creating and conveying a powerful and uniting symbolic representation of the organisation, its mission and the context in which it exists. As Pfeffer's (1981: 21) follow-up study suggests, management plays an important role in creating the sentiments, beliefs, attitudes and commitment of the organisational participants, though he tends not to postulate an 'absolute' relationship between strong culture and organisational performance.

Overall, in mainstream management, the concept of structure, which is central to organisational culture, heavily relies on the assumptions of Structural Functionalism. Although Structural Functionalism may lead to different theoretical variations and distinct views on organisational reality, they nevertheless share one major feature: the tendency to treat 'structure' as something real and 'visible', which produces, or reproduces, certain human actions. In other words, they are in fact based on a realist position, seeing 'structures' as pre-given symbols which contain transcendental force that not only shapes our mind, but also our behaviour. In practice, this realistic approach also implies a binary logic: it indicates a subject/object dualism which assumes that certain people can objectively describe phenomena, as if they are able to be free from their 'structures'. Within orthodox management literature, the cultural re-engineering discourse of the 1960s ('Organisation Development' theory, such as Lewin's (see 1951) model of change which suggests three phases of cultural change: unfreezing, moving, and refreezing) promotes the dualist view that management have

a superior and objective position whence they can identify, or re-create, a perfect organisational culture. Interestingly, this discourse also captures a new managerial belief: that change not only means better, but is also the key to business success (cf. Toffler, 1971). Recently, however, with the emergence of the Foucauldian analysis of power relations, the re-engineering – or ‘organisational change’ – theorists have also learned that re-engineering/changing is by no means a rational, smooth process, but one that inevitably involves power relations. Unsurprisingly, management theorists seem to be gradually shifting their interest away from a ‘prescriptive’ discourse toward a more ‘descriptive’ discourse, particularly in relation to micro-politics. On the one hand, some believe that since ‘internal agents’ (i.e. managers) can never be free from the organisational context, the re-engineering process should be designed by ‘outside’, objective consultants (see e.g. Sauser and Sauser, 2002). On the other hand, some contend that managers should even develop their ‘political competence’, if not their Machiavellian ability, to manage and to ‘participate’ in the re-engineering/changing process (see Buchanan and Badham, 1999: 217; 223). In any case, re-engineering discourse simply reflects a dualist view: certain people (managers or management consultants) have a superior (objective) ability to identify, and diagnose the problems within, this ‘structure’ or organisational subculture.

Management System

Management system refers to the normal pattern of management, including organisational rules, and managerial functions, and this system constitutes the abstract architecture of organisations, i.e. organisational forms. The concept of organisational form was theorised in the study of organisational design (or re-design, development, etc.), which emerged in the 1960s with the proliferation of large, bureaucratised companies engaged in producing and distributing a variety of products and services. Literature on organisational design also suggests that technologies and competitive environments should guide the design of the organisation (e.g. the contingency approach). As Clark (2000: 38) suggests, the orthodox design rules of organisations can be understood in terms of twelve research programmes: (1) Simple system models (based on open system approach); (2) Codified, explicit knowledge for organisational design as blueprints; (3) The definition of the firm; (4) Uncertainty and rationality; (5) Prioritising structure over process; (6) Prioritising strategy before organisation design; (7) Contingency: mechanistic and organic systems; (8) Technology and social technology framework; (9) Organisation life cycle models; (10) Structuring and actors’ frame of reference; (11) Managed evolutionary change; (12) Political

coalitions and strategic choice. These programmes marked the inception of organisational designs. As discussed below, current studies in organisational design share many notions with these programmes, some of which, notably, were embodied in the concept of Business Process Reengineering (BPR) during the 1990s.

Since the early years of the 20th century, the Weberian idea of rational-legal authority has been held to characterise most organisational forms, i.e. bureaucracies (e.g. Weber, 1968). However, since the 1970s, owing to some social/economic changes, including low levels of unemployment, competition for labour, inflation and economic recession at this time, the conventional sense of rational-legal bureaucracy has been widely challenged (cf. Knights and Willmott, 2000: 2). In order to adapt to the current environment, mainstream management theorists have formed the new belief that bureaucracy has lost its authority – or failed to achieve efficiency. To eradicate bureaucracies, theorists claim that there must be a considerable change in the rules of organisation design, i.e. from ‘inflexible’ forms to more ‘flexible’ forms. Recently, the notion of flexibility has become central to (contemporary) discourse on organisational design, or what has been sometimes termed a ‘new management pattern’ (e.g. Clark and Clegg, 1998; Clegg et al., 1996). Before exploring the conceptual development of organisation design, it is useful to illustrate a highly relevant, though somewhat misinterpreted idea: productive restructuring.

Productive Restructuring

The notion of restructuring, which first appeared in Marxist writings on capitalism, concentrates on the conflicts between different social groups. Nevertheless, the concept has since spread beyond these confines to become a template for many analyses of social/economic changes in capitalist economy, such as the shifts in the organisational forms and changes in productive structure of a society (Kilminster, 2000: 253). Amongst others, post-Fordism and flexible specialisation are two major, and intertwined, approaches to productive restructuring. The concept of post-Fordism, emerging from attempts to rethink Left-wing analyses of industrial society, was popularised by Alain Lipietz, who took the term ‘Fordism’ from Gramsci (Hobsbawm, 1994: 303). Post-Fordism focuses on the break-up of Fordism, a style of production which rested on the assumption that Taylorist, mass production (beginning in the early years of the 20th century) was an effective way to achieve industrial efficiency (Coriat, 1992: 139-40).

In the post-World War Two period, mass production achieved its spectacular successes. According to Aglietta (e.g. 1979: 61), this post-war economic success (or the 'golden years of capitalism', in Hobsbawm's (1994: 257) words) was based on the high accumulation of surplus-value, in which high levels of production relied on ever-increasing productivity created by the assembly line, combined with high levels of consumption. In terms of work organisations, bureaucracy was claimed to be the typical organisational form for mass production. Then, mass production, with its accompanying social phenomena, was labelled Fordism. However, because of radical social/economic changes around the 1970s, which resulted in a so-called 'productivity slowdown', it was supposed that Fordist production methods failed to maintain high productivity, and another production style, post-Fordism, emerged (Coriat, 1992: 140). In contrast to the mass production model, post-Fordism is concerned with differentiated production to suit more 'demanding' and 'specialised' consumers. As with Fordism, post-Fordism is seen as a movement that has had a considerable impact on society, and has even formed a new way of life. Whilst Marxists see post-Fordism as a new capitalist mode of 'regulation' or 'exploitation' (Aglietta, 1979: 385), some orthodox theorists translate the concept into managerial terms; that is, they treat it as an 'innovative' way to business efficiency. As such, the new managerial consensus is that in our post-industrial age the mass production model, which relies highly on bureaucracies and assembly-line workers, needs to be revised, if not replaced, by 'innovative' organisational forms, highly skilled individuals (e.g. knowledge workers), and new relations with workers. This simply suggests that management needs a more sophisticated way to organise the production process, which in turn gives rise to the notion of 'flexible specialisation'.

Primarily proposed by Piore and Sabel (1984), flexible specialisation, the other major approach to productive restructuring, is a practical model of how production is organised. However, the relationship between post-Fordism and flexible specialisation is, perhaps, akin to the relationship between economics and management: while orthodox economics provides a conceptual but abstractive framework that rationalises the process of 'capital accumulation', management, as a set of techniques, offers a practical means of organising this process. Generally speaking, the notion of flexible specialisation is a supplement to the managerial view of post-Fordism, and it can be defined as 'the manufacture of a wide and changing array of products using flexible, general-purpose machinery and skilled, adaptable workers' (ibid: 71). In other words, flexible specialisation is concerned with developing a flexible production method to suit differentiated, specialised, and more 'demanding' customers. However, there is a significant difference between flexible specialisation and post-Fordism. While

post-Fordism embraces a Kuhnian-type of diachronic view, asserting that the new production paradigm (the post-Fordist mode of production) will inevitably replace mass production and affect the whole of society, flexible specialisation is seen as an alternative and synchronic model of production which can be adopted by particular industries or coexist with mass production methods. Although flexible specialisation primarily refers to a production method, its adoption does denote a shift in managerial views on social relationships in work organisations.

In brief, the concept of flexible specialisation emphasises the importance of flexibility in organisation and production, suggesting that flexible production is able to adapt to our highly dynamic and competitive business environment. However, this flexibility can hardly function alone. Indeed, flexibility refers, on the one hand, to a more flexible way to fit fast-changing markets, but on the other it implies that organisation needs a more flexible way to organise its production process. This then implies that management have to rely more on self-disciplined or self-managed workers in the 'post-bureaucratic', or empowered, workplace (see Knights and Willmott, 2000: 10; Gunge, 2000: 114).

When reviewing contemporary organisation discourses, we can find that post-Fordism and flexible specialisation have deeply influenced the contemporary discourse of organisational design. A variety of organisation/management theories seem to capture the spirit of post-Fordism, such as the lean production, BPR (Business Process Reengineering), and TQM (Total Quality Management) models (cf. Knights and Willmott, 2000: 3; Kelemen et al., 2000: 154; see also Guillen, 1994; Ackers and Smith, 1996), though there are many surrounding debates, particularly on the notion of flexibility. However, there will be no attempt here to review the content of all these models and their debates, because we may possibly see BPR as an eclectic model which exemplifies the notion of flexibility in a managerial sense. Many even believe that BPR, an important development in organisational design in recent years, is a compilation that synthesises orthodox literature on organisation design (Grint and Case, 2000: 26) while combining a set of new techniques and emerging concepts, especially in relation to IT and globalisation (Gunge, 2000: 114). More importantly, some KM theorists have suggested that BPR is a preliminary step in successful KM (see Davenport and Prusak, 1997). Not surprisingly, BPR was represented as the 'revolutionary' idea of management in the 1990s (for a critique, see Grey, 1996; Grey and Mitev, 1995). As Hammer and Champy, two of the founders of BPR, claimed:

For two hundred years people have founded and built companies around Adam Smith's brilliant discovery that industrial work should be broken into its simplest and most basic tasks. In the post-industrial age we are now entering, corporations will be founded and built around the idea of reunifying those tasks into coherent business processes.....We call the techniques they can use to accomplish this business reengineering, and it is to the next revolution of business what the specialization of labor was to the last. (Hammer and Champy, 1993: 2)

Similar to productive restructuring, BPR affirms that environmental changes have made conventional organisational forms, i.e. bureaucracies, redundant. For BPR gurus, current environmental changes are driven by the extensive use of IT, and the forces of globalisation. With regard to (re)designing new organisations, BPR captures the spirit of current design rules for work organisation, and concentrates on the reshaping process and its functions. Although BPR theorists, like many management gurus, tend to sell their own diverse staples, they have some major suggestions in common (q.v. Knights and Willmott, 2000: 3-9). **Firstly**, management should replace bureaucratic and functional divisions with units organised to deliver a customer-oriented system, thus enabling a market sensitive and flexible organisation. This vision reflects a recent managerial chic that low hierarchies, and team-based and self-managing systems of work provide better means of adapting to the highly competitive environment. **Secondly**, there is a strong belief in the free market mechanism and 'entrepreneurialism'. This thinking asserts that since the free markets, high competition, and flexibility are increasingly prevalent business conditions, products and services that are designed and delivered with the customer in mind are essential for company survival. In order to meet or even exceed customers' expectations, it is necessary to transform organisations so that everyone is driven by a competitive desire to provide the best and most profitable customer service. **Thirdly**, by harnessing the power of information and communication technologies (ICTs), organisations can be totally reshaped. It follows that ICTs enable employees to change their behaviours, for example, from hierarchical to collegial, or from self-interested to self-disciplined. Plainly, BPR foreshadowed the current managerial interest, and offers a seemingly new managerial means of organising the production process.

A New Consensus: Flexibility

The three forementioned suggestions imply that flexibility is central to contemporary organisation (re-)design. Such vision is associated not just with BPR, but also with a broad range of current design rules in organisation discourses. It also plays an

important role in the current state of KM because many now assert that successful KM requires flexibility. The first two suggestions affirm that when flexibility is achieved in an organisation, employee recalcitrance will disappear, and personal and sectional goals and interests will be automatically integrated into organisational goals. The third suggestion, however, simply reflects the strong belief in technology that has existed since the Industrial Revolution.

As Adams and Ingersoll (1990: 20) noted, the modern age is an age of technical rationality. Technical rationality is in accord with Mannheim's (1940; Adams and Ingersoll, 1990: 21) 'functional rationality'. In the discourse of organisation design, this thinking is embodied in the attempt, by both orthodox and some would-be critical theorists alike, to create a new structure over old, that is to say, to transform bureaucratic organisations into new organisational forms (Brown, 1994: 14; see also Clark and Clegg, 1998), i.e. to create functional flexibility (and trust relationships) within organisations. In practice, this flexibility is, conceptually, carried out by two managerial methods. The first is so-called empowerment, usually by means of teamworking. As the leading BPR ideologues Hammer and Champy (1993: 69) note:

.....work becomes more rewarding since people's jobs have a greater component of growth and learning. In a process team environment, personal development does not mean climbing up through the hierarchy but expanding one's breadth - learning more so that one can encompass a larger part of the process.

With regard to conventional bureaucratic surveillances, as Savage (1998: 67) points out, while (punitive) discipline is deigned to manage workers' bodies and actions, the career ladder is imposed to control workers' mind and soul, in that their hopes of career progress make them self-disciplined. This implies that career progress is seen as a gift which generates a trust relationship, or, in other words, it makes employees totally trustworthy. However, in light of some recent managerial views, hierarchies should be diminished, for in our 'post-industrial' epoch organisations should be flatter and more flexible. In this logic, the new managerial interest is in how to create team-based and process-oriented learning organisations (e.g. Senge, 1990), or, namely, how to shorten career ladders and reduce the bureaucratic division of labour in work organisations. However, this approach gives rise to a practical problem. In a Weberian ideal type of bureaucratic organisation, all jobs are, theoretically, organised and governed by strict regulations, bureaucratic rules and managerial control, even if employees have little commitment to organisational values. But, in a new flexible and flat form of organisation, the removal of certain career ladders means, in effect, the

removal of some levels of management, especially middle managers. This, in turn, implies that employment relations become more unruly – and the task of management then becomes how to extend the span of control. Clearly, this requires employees to have a strong commitment to organisational goals.

Here, some organisational change gurus proposed a self-evident solution (interestingly, BPR and TQM champions also have a commitment to this; see Keleman et al., 2000: 159-60): ‘empowerment’ is the key to change and flexibility. The idea is that employees can be motivated by non-fragmented work, and all employees are keen to take more responsibilities. Therefore, the conventional bureaucratic gift, the career ladder, is replaced by a new gift: empowerment now controls employees’ minds, and makes them trustworthy. The outlook upon empowerment also reflects the new managerial interest in a ‘functional humanism’ (Knights and Willmott, 2000: 11; Willmott, 1995), in which hierarchical/bureaucratic relations are replaced by a flexible, empowered, and family-like or clan-like environment, ‘as if’ this will create self-disciplined employees, and workers will automatically enjoy exerting greater efforts. The other approach in relation to flexibility is the idea of leadership, which is linked to the implementation or the strategy of the (re)designing process. However, opinion concerning the way to implement this process is divided. For example, TQM suggests that the process should be either a top-down or a bottom-up exercise⁸; BPR, nevertheless, affirms the process must be top-down. Amongst others, the KM theorists Nonaka and Takouchi (e.g. 1995: 49) highlight the importance of middle management, arguing that the reshaping process should be ‘middle-up-down’. Despite these differences, the leadership approach inevitably implies a dualism of subject/object – that is, some people have superior technical knowledge, objectively know how to make this process successful, and provide other employees’ with strong, transcendent, and determined vision. These people can be either top management, middle management, shop-floor employees or even the ‘external third party’, i.e. outside consultants. In any case, leadership in organisation design discourse is used as reinforcement, or namely as a structure, to produce (objective) commitment: the strong commitment of employees to organisational, if not managerial, values, norms,

⁸ The bottom-up implementation suggests that the changing process should stem from front-line employees. However, this does not mean that all shop-floor individuals are involved – only certain (management-appointed) individuals can be the drivers of change. Management, of course, usually decide who should be involved, and the chief executive or the managing director is more likely to be the major sponsor of the change programme. According to Keleman et al (e.g. 2000: 156-64), although both TQM and BPR are concerned with organisational change, they tend to adopt different managerial means to this end. While TQM theorists focus on a more humanistic approach, suggesting that managers should function as mentors to win the hearts and minds of employees (Knights and Willmott, 2000: 7), BPR recommends a mechanistic way of change: ‘autocratic’ leadership (Keleman et al, 2000: 156; 158). As such, TQM is more concerned with reengineering organisational culture, and BPR is a process that focuses more on the hard aspect of organisations: the redesign of organisation system.

and goals. Overall, both approaches imply that management have the ability to function as objective agents and see organisational structures as enablers to facilitate changing processes within organisations.

Discussion

In summary, although theorists have constructed pellucid divisions between organisational culture and organisational system, I argue that they in fact share a hidden meta-theory and finally converge towards the same conceptual framework. While (organisational) cultural theorists believe that organisational purpose can be achieved through reengineering the organisational culture, organisation system theorists tend to suggest that the management system is a more effective means to this end. In other words, their claim and counter-claim do, indeed, reveal their different views on how the organisational 'structure' is at work. Evidently, their meta-theoretical concern is about what guises of 'structure' are more real and have more substantial impacts on the human mind and body. It is the appearance of structure which is at issue, and from this point of view it can be concluded that both camps of theorists embrace the same belief system. However, the problem here is that, if there does 'not' exist an inner chasm between subject and object, and between mind and body, then the managerial attempt to establish any structure would be meaningless. It follows that the managerial belief in structure seems to have its roots in a subject/object dualism, and at the heart of this dualism is the faith that with rational tools we are able to 'manage'. Clearly, only on the basis of rationality can such a dualism be established.

Certainly, the evolution of mainstream KM appears to be a complex process because it involves different modes of thought and different approaches. But, at a macro level, the general assessment of a KM model is often shaped by the prevailing modes of thought in society: neo-classical economics provides the conceptual framework in which knowledge, which is presumed to be the engine of progress, is usually measured in terms of economic values. At a micro level, mainstream KM seems to be a construction created to deal with the process of managing knowledge, and the (managerial) authority to manage knowledge is directly sustained by three models: Scientific Management, Human Relations and the managerial idea of structure. These three models have directly constituted the unswerving belief that management is able to manage knowledge. While Scientific Management and Human Relations imply that management knowledge offers managers with an objective position, the managerial

understanding of structure suggests that the underlying structures of organisation have an objective function to guide the actions of organisational members. Yet the concern for structure is also mired in Cartesian-like dualism between object and subject: with rational techniques, certain organisational members (i.e. managers) may function as objective agents that are able to design an optimal organisational structure for the purpose of managing knowledge. In this regard, we can find that mainstream KM is highly governed by a structural-functionalist understanding of the world, and at its core is still a belief in rationality.

Nevertheless, in the realm of organisation studies (OS), the belief in rationality, as well as the structural-functional model, has been widely challenged since the late 1980s (Westwood and Clegg, 2001: 8), and OS has also undergone some 'internal' shifts and reorientations. One of the major shifts is that OS has become more 'eclectic', and mainstream KM seems to have followed a parallel course. It is possible to see the evolution of the resource-based approach to KM as a recent example.

A Recent Example: the Resource-based Approach and its Variation

The importance of the resource-based approach is twofold. First, it has already been suggested that the orthodox understanding of KM is to large extent governed by the conceptual framework created by neo-classical economics, which established the general principle that economic growth = material progress = societal progress. However, if neo-classical economics lacks a practical means to this end, mainstream KM seems to be a complement. The development of the resource-based approach simply shows how neo-classical economics and mainstream KM prop up one another. Second, the recent development of the resource-based approach also marks a theoretical shift in KM. This theoretical shift, nevertheless, implies that the current state of KM is symptomatic of a changing basis for authority

First of all, we have to recognise that the resource-based approach was, at its birth, a purely economic concept which is highly related to the 1975 (Leonid V. Kantorovich, and Tjalling C. Koopmans) and 1988 (Maurice Allais) Nobel prize economic models, and both are concerned with the optimal and efficient allocation of resources (see Nobel e-Museum, 2003). This resourced-based idea has been adopted by some (innovation-oriented) KM authors who are interested in how organisations can efficiently (or rationally) adapt and make use of their resources (e.g. Afuah, 1998). While economists tend to develop cold, mathematical equations to deal with the

allocation of resources, management theorists are more focused on the issue of how to deal with this process 'practically'. However, as with most management fads, the resource-based approach has itself been modified – if not superseded – by a subsequent fashion, the path-dependency theories. These theories, which are typified in Arthur's (1989; 1991) works, concentrate more on the 'humanistic' side of the previously cold economic concept⁹. In mainstream KM discourse, supporters include Barney (2001), Boerner et al. (2001), Fear (2001) and Minniti and Bygrave (2001).

The idea of path-dependency, in brief, is that we human beings inevitably suffer from problems of 'bounded rationality' in the decision-making process¹⁰. Path-dependency theorists argue that the antecedent resource-based approach has failed to deal with human factors and thus achieve efficiency, and path-dependency authors seem to have 'discovered' a possible explanation: we human beings are inevitably 'path-dependent', and influenced by our own preconceptions, or, namely, our biases. As such, path-dependency theory on the one hand recognises the impossibility of the resource-based assumption of perfectly 'rational agents', and on the other hand it suggests that managers (leaders) should learn to update their 'decisional algorithms', thus improving (organisational) performance (see Minniti and Bygrave, 2001). However, this does not mean that path-dependency in management has de-coupled with the orthodox economic framework.

In 2002, the Nobel prize in economics was given to Daniel Kahneman and Vernon Smith, who proposed 'foundations of behaviour and experimental economics', for their 'integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty...' (see Nobel e-Museum, 2003). Clearly, this suggests that our world-leading economists have somewhat shifted their focus from the alleged scientific, mathematics-oriented, discipline (Whitley, 1984: 342) to a more psychological and sociological discourse. This shift is, indeed, not at odds with the development of management: from a scientific tradition to a more humanistic and integrated discipline, where sociological and psychological aspects are stressed (Jackson and Carter, 1995: 200-1; see also

⁹ In a practical sense, the main problem with the resource-based approach is, perhaps, the same problem as with economics in general: both tend to treat resource as the supply of resource, and their major concern is with its allocation resource. Yet, as Rothschild (1997: 244) argued, this is a misunderstanding, for under the free market system, the supply of resource is, theoretically, unlimited; the only limited resource is in fact the demand of customers. Owing to this misunderstanding, the resource-based approach seldom concentrates on the demand side of market, and, as such, it is finally confined to the theoretical domain.

¹⁰ The concept of bounded rationality was first developed by Simon (1955), who suggested that perfect rational behaviour is not achieved because of our intrinsic cognitive limits on the ability to gather and process information.

Harrison, 1987: 215; 255), and the development of path-dependency theory within economics just reflects such a shift. Nonetheless, there are other important implications.

Management certainly is, as it were, a fashion industry. New theories and models keep emerging, and each provides its own basis of legitimacy only to be rapidly replaced by another theory (e.g. Anthony, 1977: 219). However, with the collapse of positivist orthodoxy, management theories have become more fragmented (e.g. Whitley, 1984: 331-2): new theories, stemming from economics, mathematics, sociology or psychology, along with their followers, constantly appear on the scene, but no single set of theories can achieve decisive triumphs. Hence, today, theorists propose their own assertions, attempting to provide some explanatory power or legitimate bases, but then are challenged or revised by others. Old theories still exist, but usually appear in different guises, while integrating or absorbing other theories. Here, path-dependency theory is, *prima facie*, a theoretical variation within economics, derived from the resource-based view, but, upon closer examination, path-dependency is an eclectic model which has also integrated Scientific Management and Human Relations models. On the one hand, it shares Scientific Management thinking, treating knowledge and information as interchangeable, focusing on innovation (e.g. Lockett and Thompson, 2001); on the other hand, it highlights the importance of psychological and sociological problems associated with decision-making processes, and asserts that knowledge involves human factors, such as experiences (e.g. Minniti and Bygrave, 2001). However, is this to suggest that path-dependency theorists have indeed discarded the meta-theory of rationality? Certainly not. For path-dependency theorists, although 'rational agents' do not exist, we human beings, via certain methods (experiences, training, and learning), can indeed improve our rational thinking and reduce the impact of subjectivity, thus building an absolute relationship between means and ends.

Re-conceptualising the Mainstream Approach to Knowledge Management

Having reviewed the orthodox literatures, we find that mainstream KM is imbued with a structural-functionalist purview. The mainstream approach to KM may lead to some theoretical variations, but at a meta-theoretical level it is informed by a neo-classical economic understanding of the world. However, it is necessary to re-conceptualise mainstream KM because of the considerable sophistication of its current state, and this will lead us into consideration of some other possibilities of

KM.

In brief, the mainstream approach to KM (in its different guises) denotes a set of 'relationships' – between knowledge and management and between knowledge and organisation, and we may possibly see the whole concept of KM as a managerial attempt to establish such relationships. Generally, the mainstream approach assumes that there is, or should be, a 'predictable' relationship between knowledge and organisation. This implies that knowledge can be used as a tool to serve organisational purposes, usually measured in terms of economic value, and that what is required is no more than some technical adjustment in managerial methods and approaches. What is also implied is an unquestionable assumption that sees management as a necessary social process, always within the context of the common 'social good', as management improves the efficiency of the production of goods and services. This then leads to the view that the function of KM should be to contribute to a 'manageable' relationship between knowledge and management, and between knowledge and organisation.

However, the mainstream approach to KM bears some irresolvable problems. The development of (mainstream) KM seems to show that there are different authorities struggling to carve out a place, each proffering some solutions to the problem of KM. Nevertheless, there is no evidence to show that any model to date provide a 'universal' solution to the problem of knowledge in relation to management and organisation. To the extent that the managerial goal of establishing some relationships between knowledge, management and organisation might indeed be actualised, the desired 'economic', or 'controllable', relationship between these components remains as a problem centred around KM. This seems to be a problem not only associated with mainstream KM, but also with the structural-functional approach to management. The outcome is that mainstream KM has somewhat shifted its theoretical basis. However, it is misleading to assume that this shift is coherent and homogeneous, and we may usefully identify two forms of theoretical reaction to the current state of KM.

The first form of reaction can be seen as an 'internal' challenge within mainstream KM, and the indication is that some current KM models are becoming more or less 'eclectic'. Indeed, recently we have seen a managerial interest in a theoretical synthesis – as the resource-based approach to KM has indicated. However, we have shown that such a shift does not lead to a fundamentally different KM discourse. The second form of reaction appears to be more complex, because it may lead to an 'alternative' possibility of KM. Since the concept of an alternative is an important

theme of this thesis, this second form of reaction deserves more than a cursory glance. Broadly speaking, this approach sees KM as a highly problematic term, and it assumes that the relationship between knowledge and management (and organisation) is always power-laden. It also assumes that management is always within relations of power, and, thus, whether management is capable of managing knowledge is dubious (e.g. Knights et al., 1993).

Upon closer examination, we should note that this approach leads to two different conclusions. The first is that some theorists now assume that KM should be understood not as a rational process, but as an 'analytical' tool for our understanding of the relationship between knowledge, management and organisation. However, this idea still rests on the predominant assumption about KM that there exist some meaningful 'relationships' between knowledge, management and organisation, but management has to develop a different (psychological, sociological, etc.) understanding of these relationships in order to make use of knowledge for organisational purposes. However, the ultimate purpose of organisation or KM is seen as pre-given. In this regard, we can possibly treat this line of thought as a theoretical extension of the mainstream approach, which belongs to the stream of internal reaction. The other possible conclusion, however, has an 'emancipatory' tendency inasmuch as it can be inferred that the attempt to establish such relationships is meaningless. This approach assumes that the application of knowledge (as well as knowledge production) involves a complex process which always has some unmanageable dimensions. This approach seems to be an 'external' reaction to the current state of KM, as it rejects the notion that we can simply retain the concept of KM as a tool to manage the process of knowledge and that the relationship between knowledge and organisation can be technically managed. Nevertheless, this view, to date, has had little impact on what is described as the mainstream understanding of KM, not only because it challenges the fundamental assumptions on which the conventional discourse rests, but also because it undermines the legitimate basis of mainstream KM.

So far, we have shown how the orthodox understanding of KM has developed, and how it informs the current state of KM. We have also illustrated that a theoretical synthesis of KM represents an 'internal' reaction to its current state. However, if there indeed exists a different form of reaction, what can we make of it? And what can we make of its possibilities in relation to KM?

Part III. Some Different Modalities

The mainstream approach to KM is unable to frame a critique of the underlying assumptions on which mainstream KM rests because the predominant idea of KM is, in fact, a product of an economics-related notion of 'knowledge society' wherein the ultimate purpose of knowledge is to serve our economic interests, allegedly for the benefit of all. At a practical level, mainstream KM is governed by the structural-functionalist understanding of the world. This structural-functionalist approach sees the business organisation as a functional part of society, which carries out its own tasks that must be consistent with the norms or the goals of the whole system. Once the systematic goals are defined they tend to be defended. At an organisational level, the managerial concern for structure is, in fact, a concern for the maintenance of the organisation as a 'system'. Hence, in the realm of mainstream KM, theorists may disagree on how to establish an optimal (organisational) structure, but the functional requirements of the organisation are presumed to be pre-given. If orthodox KM theories tend to be solely concerned with such pre-given goals, it is because they seem unable to formulate any external critique of KM. One might, at this point, argue that the process of industrialisation is so entrenched and dominant that there can be no rejection of the current state of KM, but such a conclusion would be untenable and the evidence suggests that theoretical reaction does exist. In recent years, we have indeed seen the proliferation of what can be dubbed 'critical management studies' (CMS), and there is also some 'critical' KM literature. Notwithstanding, it is not our business here to review these critical KM models except insofar as a few of them have indeed challenged the fundamental assumptions on which mainstream KM rests. We might usefully start by discussing the distinction between 'critical' and 'non-critical' in the realm of management, and then explore some critical KM models.

Fournier and Grey (2000: 17-9), through their analysis of current critical management literature in the UK, drew a line between the critical and the non-critical by articulating three theoretical criteria of CMS. The first boundary between uncritical work and critical work is (non-) performative intent. Performative intent is an important criterion of orthodox management studies, as it is related to meta-theoretical assumptions about management, such as economic efficiency, performance and so forth. As such, non-performative intent may represent alternative value systems. The second boundary is denaturalisation. Mainstream literature usually implies TINA – to borrow Margaret Thatcher's acronym for 'There Is No

Alternative' – to a series of taken for granted assumptions such as globalisation, competitiveness and performance. In other words, mainstream management tends to discuss the 'how' questions – e.g. how to improve performance etc., but critical literature is more concerned with the 'why' questions – e.g., why efficiency? The third boundary is reflexivity. This, perhaps, also denotes a boundary between representationalism and anti-representationalism. Critical theorists are aware of their own knowledge base. For Fournier and Grey (2000: 19), there is no explicit reflection on epistemology and ontology in mainstream management literature, but this is not to suggest that mainstream theorists are 'unaware' of some problematic areas such as certain 'objectivistic' claims in the mainstream discourse. Rather, mainstream management literature tends to restrict reflexive issues at the level of 'methods'. This is because the collapse of objectivist orthodoxy in social science has indeed pluralized research methods, though this does not necessarily lead to reflexivity on a meta-theoretical level.

However, these criteria also denote some difficulties with CMS (see Parker, 2002:119-20). Among these is that Management, as a pragmatic discipline, might hardly recognise critical languages – if we are to accept the belief that management is to improve efficiency for whatever purposes, a non-performative theory seems to be quite meaningless. This could well result in critical voices being excluded from business schools. Let us take the concept of economic growth as an example. It has already been suggested that our business world is ruled by the managerial understanding of efficiency, and the interest of economic growth appears to be at the forefront of the field of politics. Consequently, it is no surprise to find that economic values have often attained the highest regard and economic growth seems to be a moral criterion in many industrial societies. While economic growth has often been taken as a key indicator of societal, or even universal progress, reaction to the managerial understanding of efficiency and economic growth might be taken as irrational, because a negation of economic growth/efficiency seems to represent a protest against progress itself. Another difficulty is that much of mainstream management is rooted in what can be called market-driven 'managerialism' which is sustained by human-centred anthropocentric thought¹¹. To articulate a non-anthropocentric view seems to be a task that requires discovering the intrinsic value of things, and it also implies that we need to bestow non-human value upon them. However, as management is created to serve human purposes (in this case, economic interest), an anti-anthropocentric approach to management seems to be

¹¹ Theoretical issues related to managerialism and anthropocentrism are an important theme of this work, and will be discussed in detail in chapter six.

impractical in itself. These problems are observable in many purported critical works. By this, we could possibly see Ralph D. Stacey's (2001) *Complex Responsive Processes in Organisations* as an exemplar.

Stacey's work, which is mainly analytical, is largely based on some 'postmodern' thinking, and partly on chaos and complexity theory (drawing on Bohm, Prigogine and Stengers's New Physics). In the sense ascribed by Stacey, the term 'postmodern' seems to refer to the denial of any pre-established criteria of judgement, or even the possibility of such judgement. His work starts with a critique of 'mainstream' KM literature, arguing that it fails to recognise the unmanageable nature of knowledge as well as that of information and IT. Stacey suggests that mainstream KM has its roots in rationalism, and he contends that it usually overlooks the other dimension of knowledge, i.e. power (e.g. *ibid*: 26-7). Stacey borrowed some critical tools such as the Foucauldian concept of power relations, and he does not mention typical mainstream terms, such as efficiency, performance or profits. Part of his thesis is to identify an anti-binary logic within KM, such as the dualism between individuals and society (e.g. 194-217). Notwithstanding, is this to suggest that his work fits in with Fournier and Grey's (2000) three criteria? In a sense, it is. Stacey (2001), starting from a would-be critical position and adopting some critical components, eschews words hitherto associated with the concept of economic efficiency, and, more importantly, he seems to be aware of the problem of 'reflexivity' and 'positivism' associated with conventional organisation theory. But what is the meta-theoretical purpose of Stacey's work? For the most part, Stacey did not address this issue, but in the final part he articulated some strategies of 'evolution of knowledge' for companies – such as the importance of communication and routine, and the ordinary experience of workers (*ibid*: 230-5). Without doubt, Stacey's position is not so much normative as analytical, and his purpose is to provide a 'humbler kind of management' which our 'knowledge society requires' (*ibid*: 235). However, we have already seen that the concept of the knowledge society is a product of neo-classical economics (as seen in chapter three). While Stacey evades discussing the neo-classical economic framework, it is possible that his work is still based on a co-opted managerial view, which takes the managerial understanding of efficiency as an unquestionable axiom. Once again, we see that the hidden economic assumption – economic growth = material progress = societal progress – is at work. Moreover, inasmuch as Stacey assumes that knowledge can simply be used as a resource for human purposes, we also find some embedded 'anthropocentric' thinking in his work. Yet these problems are not unusual in current management literature.

With regard to KM, much of today's information management literature adopts Zuboff's (1989) views from her seminal work *In the Age of the Smart Machine*. Drawing on the Foucauldian notion of power and panopticon, Zuboff developed considerable attention to the social aspects of (information) technology and its power relationships, and her work is analytical rather than normative. Certainly, Zuboff's insight provides a fertile source for critical scholars to draw upon. For example, drawing on her analysis of information technology and Cooper's (1992; 1993) thesis of 'anti-representation', Lilley et al. (2004) went even further by arguing that technological representations constitute organisational practices and 'remote controls', and suggesting that information systems may produce 'simulacrum' (in Baudrillard's sense) that mainstream literature often fails to recognise. In brief, Lilley et al.'s work challenges the orthodox understanding of knowledge, technology and organisations, while understanding organisation as a controlling mechanism. But, equally, some mainstream information management theorists may also transfer Zuboff's analysis into co-opted management theories, simply because her analysis seems to provide some new outlooks on technology that managers have to draw upon, in order to serve the interest of organisational performance (e.g. Dawson et al., 2000). Perhaps, when positivist orthodoxy has gone, many innovation-related (and e-business) theorists realise that information technology is, as it were, never a neutral tool of representation.

As has already been suggested, while many believe that it has become difficult to build an absolute relationship between means and ends in the current age, the conventional approach to technology management seems to be unable to sustain a 'prescriptive' discourse or to permanently maintain its explanatory power. However, the question here is: why does Zuboff's view of technology provide a source for co-opted management literature? And what could be deemed 'real' critical KM literature? If we consider Fournier and Grey's (2000) three criteria, it seems that much of KM literature would fall outside the scope of the critical domain. Even if some KM theories seem to fit with Fournier and Grey's criteria, they still run the risk of assimilating co-opted theoretical sources. One of the reasons is that the mainstream understanding is derived from a practical interest in 'managing', and as such it might easily absorb different techniques in order to serve its own purpose – as usual, economic efficiency. The other problem is that many KM theorists believe that their purpose is to provide a 'toolbox' for organisation, and their pre-given task is to address the problems with the systemic application of knowledge in the industrial environment. It seems that critical components would not make much sense from a managerial viewpoint.

At a macro level, while Hobsbawm (1994: 548) suggested that modern economics is a secular 'theology', we have seen that our concept of 'progress' is conditioned and shaped by neo-classical economics, which usually treats economic growth as a core issue that constantly needs addressing. Conventional (neo-classical) economists are often concerned about the positive side of economic growth, and it might be true that, in their conceptual framework, economic growth is necessary, as any economic recession or depression inevitably leads to unemployment, deflation, or some other economic problems. In this context, proposals like a world of zero (or negative) growth, or a return to the primitive symbiosis between human beings and nature, may seem utopian, even though economic growth might be the root cause of the exploitation of the natural environment. However, since much of conventional economics fails to address the issue of progress in a non-economic context, it is only to be expected that conventional KM and management should not challenge the fundamental assumptions on which our economic system rests. Of course, our purpose here is not to propose a new economic model, but rather to suggest that reaction outside this 'majoritarian' framework is still possible – thus we intend to articulate a minor approach to KM in order to serve some social purposes other than economic interests. But if KM were to inspire alternative values, what would this form of KM look like? There are some different possibilities, but before exploring them, it will be useful to look at some existing KM models, based on Fournier and Grey's criteria of critical works.

Swan et al. (2003; first presented at the CMS conference in 2001) provide a starting point. In their paper, they argued that the whole KM discourse is structural-functionalist in nature. In analysing KM fashions in the 1990s, they indicated that such a discourse failed to discuss the very essence of KM, i.e. that it is socially constructed, which means it involves interests of different professional groups. Consequently, the construction of KM is a highly political process, which even involves the use of media and propaganda. In their view, IT/IS consultants and specialists first promoted, and 'colonized' the concept of KM during the 1990s, and their purpose has been to maintain or achieve their particular organisational or occupational roles. As Swan et al. noted:

.....in terms of 'KM' diffusion, it is highly likely that part of KM's success has been its colonisation by IT/IS professionals and its affiliation to tangible aspects of technology. This has perhaps been accelerated by proliferation of new technologies coupled with the rapid cycle time of publications and magazines in IT/IS, as well as those that more generally focus on these technologies.

However, the main problem, as we have already seen, is that IT/IS specialists or consultants tend to treat organisational knowledge as something tangible and regard knowledge and information as interchangeable, and their explanatory power seems unable to be maintained permanently (see Abrahamson, 1996). This in turn denotes that Information/Technology management has to give way to the domain of 'people management' – a group which, in general, emphasises the importance of improving communicative processes and developing social communities, rather than merely advocating the use IT or IS. Thus, Swan et al. (2003) have suggested that KM discourse indeed reflects a competition between at least two different professional groups. The latter group, however, have not achieved theoretical triumphs, just as most management theories are unable to provide a clear insight into our future. Faced with the common burden of limited explanatory power, both groups have to search for new legitimate bases to maintain their authoritative positions. Although Swan's et al.'s paper contains few references to the languages hitherto associated with 'critique', it has raised some important questions. As long as mainstream KM theorists fail to answer the ultimate question of what (organisational) knowledge is, they will inevitably be unable to recognise that KM is a highly political process. If KM itself involves power relations, then the question becomes: to what extent is knowledge manageable, or unmanageable? This seems to be another key reason for us to consider the meta-theoretical purpose of KM.

In fact, some critical- or would-be critical-KM theorists have already discussed this question. For example, Knights et al. (1993) have suggested that the term 'knowledge worker' is not so much practical as ideological, because management have failed to recognise the unmanageable nature of knowledge. This seems to shed new light on our understanding of KM. In 2001, *Journal of Management Studies* published a series of papers regarding the issue of the relation between 'critical' KM and the orthodox approach to KM. This series contains six articles (excluding Swan and Scarbrough's editorial paper), though it seems that none of them fits in with Fournier and Grey's three criteria, with the exception of Alvesson and Karreman (2001). Notwithstanding, these authors in general emphasise the uncertain nature of current society and knowledge, and are sceptical about the notions of knowledge workers and the knowledge society. Their general message (except Alvesson and Karreman's (2001) work) is that management are still capable of managing knowledge as long as they recognise the fact that knowledge is uncertain and complex, embedded in social interactions (e.g. Tsoukas and Vladimirou, 2001), within the relations of power, or that it is by no means the representation of reality (e.g. Lanzara and Patriotta 2001).

Also, these authors have attempted to develop some possible ‘strategies’ for management – for example, Becker (2001) has articulated five managerial strategies to deal with knowledge: developing interactions, creating tacit knowledge, designing new organisation structures, increasing sub-units in organisations, and making information available to all organisational members.

By contrast, Alvesson and Karreman (2001) have contended that knowledge management is an ‘odd couple’, because on the one hand KM champions fail to explore the very term ‘knowledge’, and on the other hand KM literature has its roots in the belief in efficiency, and reflects a typical managerial understanding of knowledge. For them, the whole of mainstream KM is in fact focused on the concept of managing people, but it either confuses knowledge with information, or presumes that KM means to construct a normative control over knowledge (ibid: 1006-8). The problem with the mainstream view is that it overlooks the multi-faceted nature of knowledge, which in turn leads to a ‘trivialisation of knowledge’ (ibid: 1012). In sum, their message is that the predominant understanding of knowledge and management is misleading and that the managerial endeavour to manage knowledge may lead to chaotic consequences. In a similar vein, Alvesson and Sveningsson (2003) have argued that, even in what is usually termed ‘knowledge-intensive’ industry, managers are still incapable of managing knowledge. This is because KM theorists in this field emphasise the importance of leadership. However, the problem is that leadership, which is also an ambiguous term, is often defined in a functional way, and mainstream KM literature in this field seems to presume that ‘good’ leadership will automatically lead to ‘good’ KM (ibid: 982). In a recent paper, Karreman and Alvesson (2004) went further by arguing that KM sometimes creates an ‘iron cage of subjectivity’, so even managerial rhetoric such as use of the word ‘flexibility’ has a repressive manner. In a sense, Karreman and Alvesson’s messages are closer to Knights et al.’s (1993) idea that we need to radically remark the very term ‘management’, and re-examine whether management is capable of managing knowledge (see also Alvesson, 2001). As we have seen, these works seem to fit in with Fournier and Grey’s criteria of what is ‘critical’, as they are reflexive and do not attempt to serve the managerial interest of efficiency, or to retain managerial meta-theoretical assumptions such as competition, performance and so forth. In general, they also tell us how ambiguous management is, while leading us to some meta-theoretical issues. Yet one might ask, what should be the meta-theoretical purpose of critical works?

For Alvesson and Willmott (1992), emancipation is, perhaps, the ultimate task of CMS. Some critical works in this field have indeed contributed to our understanding

of management and knowledge. Also, some critique of mainstream KM discloses that some KM has a normative and therefore a 'repressive' function. That is, some critical KM models have indeed framed a critique of the mainstream discourse, while implying that the problem associated with the current state of KM is not a technical issue, and not a problem associated with the wrong application of managerial techniques, but rather a problem with the deep-rooted assumptions on which KM rests. But this could lead to two different possibilities. **First**, if one accepts this radical position – that is, if one rejects some meta-theoretical assumptions about KM, s/he could assume that knowledge is unmanageable and therefore we need to abandon the whole concept of KM. **Second**, it could also lead to the idea that management is still manageable; however, management need to radically rethink their understanding of KM. The first possibility might be unattractive to these critical scholars, because what they attempt to do is to radically re-examine the concept of KM, rather than eliminate it. Indeed, in a broader sense, most of us today cannot live without knowledge, and its use or creation is an important dimension of current society. As such, for management today, there is no choice but to deal with the issue of knowledge. But if we are to accept the idea that knowledge should be manageable, then questions arise as to the conditions under which management is capable of managing it? Furthermore, if we were to displace the ultimate goal of economic efficiency that is embedded in mainstream KM, how might non-performative KM function? To put it another way, if knowledge and its application may have effects beyond the managerial domain, i.e., economic concerns, can we retain the very idea of KM? And what might be the emancipatory possibilities of such KM?

From our 'minor' perspective, perhaps it is the **possible alternative** that many critical scholars have not seriously taken into consideration in their critique of KM. Of course, some of those I discussed above are well aware of the problem of reflexivity, and, as such, they improve our understanding of our ambiguous world, the irresolvable ideological dimension of management, or the political dimension of knowledge. Moreover, they are not concerned with the issue of which managerial techniques best serve the interest of managing knowledge. However, at this point, I suggest that we need to review Deleuze and Guattari's minor project. In the next chapter, we shall see that, for Deleuze and Guattari, illogic and nonsense are equally, if not more, important than logic and sense. In other words, they would not reject the possibility of what can be termed illogical projects. If this is the case, it seems that they suggest a possibility of 'utopia'. 'Utopianism, *eutopianism*, is a systematic investigation of alternative principles of organisation' (Parker, 2002a: 217). In terms of the current state of KM, we suggest that some utopian and alternative modes of thought are both important and

necessary, if only because mainstream KM overlooks an important feature of knowledge: knowledge is so powerful that the managerial application of it may generate some 'unintended' effects outside organisational boundaries and economic concerns. Nevertheless, we should note that, in Deleuze and Guattari's view, utopia should be situational and provisional, which means that they would avoid a realistic view that sees perfection as achievable – that is to say, what Deleuze and Guattari would attempt to construct is always a 'becoming'. For the two thinkers, to prove the practicability of any minor theory is beside the point. However, when the nonsense or illogic becomes acceptable, or when minor thinking has become majoritarian, we need to think differently, for the purpose of the minor project is 'becoming-minor' – that is, to continuously inspire minor possibilities. Thus, what is at issue is not that the minoritarian project might become a majoritarian hegemony, but that we need to recognise that our project is always incomplete and should always be shifting, just as Nature is always changing. This awareness was, perhaps, more important for Guattari when he proposes his idea of ecosophy. The spirit of minor thinking is the spirit of complexity. This is, perhaps, the only eternal truth of minor thinking.

Summary

The idea of KM, driven by the so-called knowledge society, has been problematised, but the rise of the so-called knowledge society cannot be understood outside the scope of the economic interest. In such a context, mainstream KM often holds an unquestionable meta-theory that the ultimate goal of KM is to serve the managerial interest of economic efficiency. Mainstream KM theorists may disagree, however, on how to achieve this goal. Some KM theorists also contend that they have found effective models for understanding the very resource we are concerned with, knowledge. Nevertheless, from a deconstructive perspective, we have suggested that these models or different approaches to KM might be in some senses new, and in some senses revolutionary, even though they actually belong to the same belief system. On the one hand, mainstream KM theorists usually adopt a structural-functionalist strategy to deal with the issue of KM; on the other hand, at the core of much mainstream KM is a rationalist belief that knowledge can be, or should be, rationally managed in order to serve the managerial interest, usually within the context of economic betterment. This strong belief in the rational can even be traced back to the time of ancient Greece. However, the problem here is twofold.

Firstly, mainstream KM is informed by some common meta-theories. Certainly, some

theorists have recognised that managing knowledge should not be treated as a rational process, that is to say, knowledge production may contain some 'non-rational' aspects. Some, at this point, have attempted to find a different theoretical basis for managing the ultimate resource, knowledge. The consequence is that current KM is not merely a scientific discourse: sociological and psychological aspects of knowledge processes are also emphasised. While some mainstream management theorists today believe that the managerial process can be improved through new managerial techniques, the theoretical shifts in KM can be seen as symptoms of changing bases for managerial authority. Moreover, some theorists have even adopted some languages hitherto associated with radicalism, such as post-Fordism. Yet they may have somewhat altered the face of mainstream KM, but the problem is the belief that knowledge can be managed in order to serve our economic interests is not seriously challenged. This altogether seems to also imply that the mainstream discourse evades the meta-theoretical question of what the ultimate purpose of KM is. We can possibly see this as the other major problem associated with mainstream KM. In the field of mainstream management, for example, theorists nowadays often assert that conventional organisational forms, such as bureaucracy, should be replaced by flexible or team-based organisations. However, if management was born of the economic framework, it is probable that its ultimate purpose of management will continue to be measured in terms of economic usefulness. This is also the case with mainstream KM. If we do not seriously discuss its ultimate goal, it is possible that these different approaches to KM will remain at the level of 'methods', stuck in the quagmire of the economic framework. But I suggest that if KM is to serve a social function other than economic purposes, we need to re-examine the concept of KM at a meta-theoretical level.

I have contended, in this chapter, that mainstream KM is by no means value-free, but rather reflects a set of beliefs and sectional interests, usually within the conceptual skeleton of neo-classical economics. In terms of knowledge, this conceptual framework usually leads to a common managerial understanding of knowledge: knowledge is the engine of progress, and knowledge can be used as a resource to serve our interests, within the context of the social good. Notwithstanding, in the next chapter, I shall argue that although this mysterious assumption may be in a sense axiomatic, it actually reflects some problematic assumptions about knowledge. The intention is, however, not simply to rectify the managerial understanding of knowledge or to strengthen the legitimate basis of managerial authority in order to manage the resource, knowledge. Instead, I shall focus on knowledge itself, that is, I will outline a different angle for our understanding of knowledge, especially in

relation to Deleuze and Guattari's minor thinking. Also, I shall explore some related radical assumptions about knowledge, principally, that it might produce certain unintended consequences, at a societal or even an ecological level.

Chapter Four

The Concept of Knowledge

Capital consists in a great part of knowledge and organisation.....Knowledge is our most powerful engine of production (Alfred Marshall, 1965 [1890]: book iv, i2).

This quotation from the neoclassical economist Alfred Marshall shows that knowledge has been linked to economic power for centuries. However, in contemporary management discourse few theorists have clearly defined the term 'knowledge'. On the one hand, knowledge has mostly been taken as a decomposable and fuzzy concept (see Von Krogh and Roos, 1995), while on the other, it has usually been treated as a term interchangeable with data or technology, within the context of the economic goods (e.g. Cyert et al., 1993; Dierkes et al., 2001). In this chapter I attempt to explore some embedded implications in knowledge. In the first part of this chapter, I focus on knowledge, and attempt to expose some meta-theories beyond it, and suggest that the mainstream concept of knowledge has its roots in representationalism. In the second part, I articulate some radical concepts of knowledge, especially with regard to Deleuze and Guattari's environmental project, as they have shed new light on an alternative approach to our understanding of knowledge.

The concept of Knowledge Management (KM), as we have seen, originated from a neo-classical economic idea that defines knowledge as a crucial economic resource in current society. However, this economic framework of KM is unable to provide a direct, practical means either of allocating, or creating such a complex resource practically, in our production system. Here mainstream management provides a seemingly pragmatic solution to this end. However, at a technical level we suggest that the problem is that mainstream KM often mires us in a 'structural-functionalist' understanding, which simply sees managerial techniques as means of establishing a predictable relationship between knowledge, management and organisational purposes. Implicated in this process is a strong belief in Science and Reason. From some radical perspectives, perhaps the most problematic aspect of KM is that in

mainstream terms it does not adequately define 'knowledge'. In such a context, we can find two general features of knowledge. The first concerns the connection between knowledge and action. This connection in a sense is not very problematic, because the application of knowledge may indeed have some desired effects. However, I shall argue that we need to recognise that knowledge may also produce **unintended effects** outside the boundaries of utility and practical concerns. The other characteristic is that mainstream KM often holds the unquestionable assumption that knowledge simply ameliorates (established) business practices. As Alvesson and Karreman (2001: 999) put it: 'the logic [of KM] seems to be...we don't know what knowledge is but it seems to solve problems in a functional way, so let's use it anyway'. These two features show that mainstream KM is centred around a 'how' question – how to manage knowledge in order to make use of it. But can we simply manage knowledge via managerial techniques? And, more importantly, if the process of knowledge is always complex, it can be asked: is management capable of managing knowledge; that is, can we simply rely on management as a (conceptual or practical) tool to manage it? In any case, I suggest that we need to have a better understanding of the term 'knowledge', especially at a meta-theoretical level. To this end, let us start with philosophy.

Philosophy of Knowledge

Epistemology, the branch of philosophy dealing with knowledge, attempts to answer the basic question: what is knowledge? It is worth noting that epistemology is neither merely an issue for ivory-tower philosophers, nor one can be isolated from daily experience. As Goldman (1986: 13) suggests, it encompasses:

...the whole range of efforts to know and to understand the world, including unrefined, workday practices of the layman as well as the refined, specialised methods of the scientist or scholar. It (epistemology) includes the entire canvas of topics the mind can address: the nature of cosmos, the mathematics of set theory or tensors, the fabric of man-made symbols and culture, and even the simple layout of objects in the immediate environment. The ways that minds do or should deal with these topics, individually or in concert, comprise the province of epistemology.

In this regard, epistemology can be seen as the issue of how people come to know the world, and a broader definition would be this – a branch of philosophy which aims at: (1) understanding ourselves and the environment that surrounds us; (2) searching for the judgmental criteria that distinguish truth from falsehood (e.g. Russell, 1948:

109-18). In any case, Western epistemology, as its Greek origin [episteme (knowledge) and logo (theory)] suggests, is more concerned with the process of knowing, or how to justify true knowledge. As a result, scientific methods have, conceptually, become an integral part of many current epistemologies.

In the context of KM, we have seen that the mainstream knowledge base is founded on rationalism and empiricism. The former theory of knowledge stresses its absolute, permanent character, whereas the latter puts the emphasis on its relativity or situation-dependence, its continuous development or evolution, and its active interference in the world and its subjects and objects. Rationalism sees knowledge as the product of rational reflection; empiricism sees knowledge as the product of human sensory perception. From a diachronic perspective, we can find that mainstream KM has moved from a static, passive view of knowledge towards a more adaptive and active one. This, of course, reflects the fact that at a technical level some KM theorists have attempted to challenge the legitimate basis of their theories. However, we need to recognise that, in the mainstream discourse, the major purpose of KM is **not** to deal with its own knowledge base – what it seeks to address is the problem of managing something other than the assumptions on which the concept of KM rests – that is, the main purpose of mainstream KM is to deal with the process of managing knowledge – or the relationship between knowledge and organisation, for functional reasons. This seems to suggest that we need to have a different understanding of the term ‘knowledge’ in the context of KM, and, to this end, I articulate an epistemology, representationalism.

Part I. Conceptualisation of Knowledge in Mainstream Literature

For representationalists, representation is the means by which we generate images of the object out there, and they should be in correspondence to ‘fact’, ‘truth’, or ‘reality’. As such there is an important implication. Representationalism treats knowledge as a signifier, surrogate or substitute for something which is absent or unknowable. Representation here is considered a device for epitomising of the whole picture, thereby enabling us to see or to determine the order of things, or even to predict future phenomena. As Chia (1996: 2) defines it:

....representationalism.....the belief that theories are attempts by the intellectual elites of society to accurately describe and represent reality as it is in itself. When this accurate mirroring is achieved,

theories are then deemed to be true and hence carry the full weight of scientific authority along with them....we can see that what at one level appears to be the dispassionate presentation of an objective 'fact' of the world may, upon re-examination, be construed as the site of contestation in which the 'reason of the stronger' has prevailed.

Representationalism denotes the attempt to 'represent' the world. To objectively do so, representationalism must rely on an old Cartesian-like dualism, in that here is a supposed split between 'representation' and its 'object', and there should be a clear distinction between 'truth' and 'falsity' – and this is the second implication of representationalism (see Woolgar, 1988: 31). It is this so-called subject/object dualism that underpins the notion that knowledge should be objective and free from human bias. This, it is believed, provides Science with superior authority. Science transcends other forms of knowledge because science is a discipline which, by the use of objective methods, eliminates the possibility of subjective bias entering into the discipline, thus uncovering global Truth. Since the Enlightenment, the representationalist view of knowledge has been one of the dominant philosophical predispositions, and this leads to the outlook that grounds all our knowledge claims in scientific facts of the world. But, Woolgar (1988) points out, at a methodological level, representation is axiomatic not just to Science but also to many of our practices which trade upon an objectivist epistemology, i.e. 'to all activities which seek to capture some feature beyond the activity itself' (ibid: 30). From this point of view, the concept of representation also sustains the beliefs of many social scientists who maintain that representation should represent the pure and objective world, 'untainted by human factors which distort or divert it from uncovering the true nature of the physical world' (ibid: 103-4). This idea then legitimises the belief that the scientific method is the only approach to pure and unbiased knowledge. In Nietzsche's language, it is not the victory of Science which distinguished the 19th century from others, but the victory of the scientific method over Science (Chia, 1996: 15). It is the scientific method that makes scientific knowledge differ from unscientific knowledge and then encourages the idea that 'scientific' knowledge is superior to 'unscientific' forms of knowledge. In the mainstream KM discourse, the representationalist view of knowledge plays an important role, which is embodied in the cognitivist epistemology and the connectionist epistemology (Von Krogh and Roos, 1995: 12-33).

The Cognitivist Epistemology

The cognitivist epistemology is the product of cognitive science, the study of how the

mind works, using a computer metaphor. The discipline began in the 1950s, led by Noam Chomsky (see Gardner, 1985). Cognitive science consists of several disciplines, but at the heart is the study of artificial intelligence (AI). Others include computer science, cognitive psychology, brain science, linguistics, cognitive anthropology, philosophy, and organisation theory. Cognitivists are concerned with human brain, believing that human thought is a kind of information processing system which influences all behaviour. The main idea of cognitive epistemology is that the human mind (brain) can represent reality by creating inner representation that corresponds to its outer world. From this perspective, human brains are similar to computers. When the idea is applied in management discourses, cognitivist epistemology assumes organisations to be, like computers, open systems which develop knowledge by formulating increasingly accurate 'representations' of the environment. The more data and information organisations can gather, the closer the representation will be. Hence, for cognitivists, knowledge equals information and data, and organisation is an input-output device: it picks up information from and about its environment and processes it (e.g. Cyert et al., 1993). In addition, cognitivists see the organisation as a computer-like system – they assume that, with appropriate information, the organisation is competent at logical thinking and can make optimal decisions (see Cooper, 1992: 256-7).

This view of knowledge is embodied in KM discourses in three ways (von Krogh and Roos, 1995: 18-20). **Firstly**, it is assumed that management's knowledge can be represented in so-called cognitive maps, i.e. using a cartography of logic. This way of representing knowledge assumes that 'management is competent at logic, and the task of the researcher is to reveal the logic used by the manager' (ibid: 18). **Secondly**, it is assumed that organisations are problem-seekers and solvers, and that they can develop some task-specific knowledge. This perspective implies that information can be translated into resources, and suggests that management can use these resources to solve problems. In this regard, the major purpose of management is to make 'rational' decisions regarding allocation of resources. **Thirdly**, it is suggested that competence at logic and probability judgements gives organisations the ability to manage workers and eliminate uncertainty, thus enabling them to forecast and plan the future. The rise of the cognitive view also points to the recent managerial interest in learning and training in the workplaces (cf. Fox, 2000: 853). Clearly, this way of thinking is closer to Scientific Management belief which sees all knowledge as a pre-given, in the same way as data, or technology; that is, a pre-given and concrete resource.

The Connectionist Epistemology

In the 1970s cognitivist thinking, especially the computer metaphor for the brain, was heavily challenged by connectionists (see e.g. Maturana and Varela, 1980: 41-7; Varela, 1992). By exploring the brain more closely, Goldman (1986: 328) highlighted the major differences between computers and 'psychological realism': 'human brains have dynamic global properties in a network of simple components, referred to as neurons, and these simple components are active in the local environment and they are connected to other simple components' (Von Krogh and Roos, 1995: 22-8; Verela et al., 1992). Connectionists consider the brain as a network of components in developing their theory of learning behaviour. As such, there are two major differences between cognitivism and connectionism, especially with regard to the views on 'information'.

The first of these is that cognitivists believe that information processing depends only on stimuli from the environment, whilst connectionists posit that the brain itself also has impacts on the stimuli. Next, while cognitivists believe that human beings are transparent to information from the outside and see the human brain as merely an information machine, connectionists argue that human brains are more complex: a human brain consists of a number of units (nodes) that have different functions and they are connected and interact with the environment (Maturana and Varela, 1980: 56). For connectionists, the human mind and the world therefore are interactive. Thus, knowledge, in a connectionist's view, stems from interaction between different people, and between people and their environment, and therefore they assert that knowledge is in effect in an open state of interaction with environment.

Discussion

Cognitivists affirm that information can be taken in from the environment through our senses, asserting that the mind itself has the ability to represent the world, or reality, i.e. create inner representation that corresponds to the outer world. This simply shows that cognitivists embrace a Cartesian-like view of knowledge: knowledge stems from the human mind, and logical deduction. By contrast, connectionists declare that human interactions play a central role in representing the world. For connectionists, representations not only emerge from and reside in the mind of each individual, but can also be traced to the connections between individuals and between individuals and their environment. Moreover, they assume that representation is derived from human

experiences, in that representation has a historical feature – an empiricist view of knowledge is at work. As with rationalism and empiricism, the cognitivist and connectionist epistemologies have different views on knowledge; however, there is still much common ground which broadly supports both theories of knowledge – in essence the belief that knowledge corresponds to reality and objectively ‘represents’ its outside world, i.e. the belief in ‘representation’. In the context of management, it is possible to identify three major contributions of representationalism in relation to the orthodox understanding of knowledge.

Firstly, representationalists usually see the organisation as a value-free, real entity, and believe that it can represent its outer world, including its market, its customers, and its resources (Chia, 1996: 25-43). Yet representationalism seems to hold a passive view of knowledge, for it assumes that all knowledge only represents a pre-given, pre-defined, or pre-formulated world. In this regard, knowledge is permanent, and static, and, from such a position, the purpose of KM is to find this representation.

Secondly, representationalism is also associated with the understanding of learning behaviour in organisations. The assumption that learning and decision-making depend on the knowledge system is not new to psychological thought (Pawlowsky, 2001: 69). The cognitivist epistemology focuses on the individual level, suggesting that the capacity of human ‘information-processing’ relies on the characteristics of the individual knowledge system (the individual cognitive structures; *ibid*: 69). However, the connectionist epistemology concentrates on the organisational and group level, implying that organisational learning can be considered as a modification within the knowledge system that enables organisation to precisely interpret and understand its surroundings (e.g. Fiol and Lyles, 1985: 804). Here, the focus of representationalism is not ‘what’ organisational members think, but ‘how’ they think. In this regard, the function of KM should be to understand how people think, and thereby improve the effectiveness of learning in organisations, in groups or in teams, to serve the organisational purpose.

Thirdly – and most importantly, with regard to the decision-making process in organisations, the concept of ‘rational choice’ is an important assumption of representationalism, and here it should be noted that representationalism holds a notion of objective rationality which is highly associated with the idea of the rational choice model (e.g. Pawlowsky, 2001: 69; Boerner et al., 2001). The rational choice model is, from the outset, an economic concept which assumes that all decision-makers are predominantly rational, and when they make a decision of any

kind, they are able to gather all the information relevant to that decision, rank it in order of significance and make an objectively rational choice between alternatives (e.g. Jackson and Carter, 2000: 97-8). However, Simon's (e.g. 1955; 1976) famous criticism of the rational choice model shows that human beings have intrinsic problems as rational information processors, for our rationality is severely bounded. In the realm of representationalism, the cognitivist epistemology directly captures the spirit of the rational choice model, for it suggests that people, and the combination of people, i.e. organisation, are competent at logic and can make 'optimal' decisions, because it is assumed that the individual possesses the power of reason; that is, the mind itself can represent reality and the outer world. Yet the connectionist epistemology seems to hold a renewed version of rationality in its assumption that single actors are not able to apprehend all inputs unless they are organised in networks and have interactions (with other actors or with the environment). Notwithstanding, the connectionist epistemology does not imply that human beings are totally incompetent at information-processing. What is suggested is that we need some 'interactions' to apprehend and gather all the information from the outer world, and thus improve our rationality. For connectionists, although the single mind lacks the ability to perfectly represent reality, the 'collective mind' is still competent at presenting the world (see Weick and Roberts, 1993). As such, objective rationality exists in 'connections'. In mainstream management discourse, the concept of rational choice presumes that, in the organisation, certain people (i.e. managers) are capable of functioning as 'rational' agents and thereby they may rationally select the information, calculate possibilities, and rank them in order of significance, thus making an optimal choice. In addition, since this rationality is objective, there must be a consistent set of goals among members of an organisation. As for knowledge per se, it is inevitably linked to information, and it is implied that when people hold the same information, there must be a consistent agreement on what is/what is not knowledge. In terms of managing knowledge, the issue then becomes how to make information manageable.

However, although representationalism provides a powerful legitimate base for modern science, Woolgar (1988) suggested that representationalism is methodologically problematic and contradictory. Since representationalism holds the transcendental assumption that there is a clear-cut distinction between what is knowledge and what is not knowledge, and therein heavily relies on an epistemological dualism of representation/object or truth/falsity¹, this, in turn, has led to three methodological problems (or 'horrors'- to use Woolgar's phrase), and these horrors have also been recognised by representationalists (ibid: 31-33). **Firstly**, the

¹ Chia (1996) describes this dualism as the 'is/is not' couple.

link between representation and represented object is 'indexical'. As such, the underlying reality of a representation is not fixed but always able to change with occasion of use, i.e. with alternative versions or interpretations. Indeed, a representation is, as it were, always a signifier which signifies something unknowable at the moment. This means that signifiers can only indexically denote the signified, and when new information appears, the previous version of representation can be replaced by the new one. Consequently, the relationship between representation and its object is always unstable, which, in turn, leads to the **second** horror, 'inconcludability'. Inconcludability means that precisely defining the meaning of any one representation is in principle endless, in that it is always possible to ask for further clarification, elaboration, and elucidation. Since any attempt to define the meaning of a representation must involve meanings which remain unexplained, the task becomes an interminable process, and it is only when people collectively agree not to ask for more clarification, this endless process can be stopped. The **third** horror is 'reflexivity', which means that 'explanans' and 'explanandums' are highly intertwined, and thus it is impossible to conceive of component parts of any representation-object couple as straightforward and independent. As Woolgar (ibid: 33) pointed out:

...the intimate interdependence between representation and represented object is such that the sense of the former is elaborated by drawing on 'knowledge of' the latter, and knowledge of the latter is elaborated by what is known about the former. The character of the representation, as perceived by the actor, changes to accommodate the perceived nature of the underlying reality and the latter simultaneously changes to accommodate the former.

This underscores a problem of logic associated with representationalism, for representation is inevitably confined by its represented object, and vice versa. The three horrors constitute what Woolgar (1988: 31) dubbed 'the Problem'. When going to the heart of these horrors, we can find that representationalism has difficulties in making a clear distinction between what 'is' and what 'is not' in terms of knowledge, and Woolgar describes this as an irresolvable and general problem with its epistemology. Woolgar observed that representationalists have developed four sophisticated strategies to manage, or, more precisely, deny, evade, or minimise these horrors (ibid: 33-6): (1) appealing to a hierarchy of knowledge; (2) construing the Problem as a merely technical difficulty; (3) denying the significance of the Problem; (4) construing the Problem as a problem for others. Of these four strategies the first and the fourth are highly relevant to organisation studies, because they directly respond to the most crucial aspect of the representationalist problem, i.e. 'reflexivity', especially in relation to organisation studies (Chia, 1996: 79).

A hierarchy of knowledge means that certain forms of knowledge are held to be less dependable than others, i.e. some connections between representation and object are supposed to be more problematic than others (Woolgar, 1988: 33). That is to say, this strategy seeks to deny that the Problem applies equally to all kinds of interpretations. The idea of this relative reliability stems from natural science's assumed superiority in establishing correspondence. That is, the degree of reliability of knowledge depends on how scientific it is – when a form of knowledge is declared to be more scientific, it is deemed more reliable than other less scientific forms. The final representationalist strategy - 'construing the Problem as a problem for others' – assumes that although the horrors might arise in the work of others, they do not intrude upon one's own work. This strategy relies on a 'self-privileging', or an alleged objective, stance, for it suggests that 'the author (or researcher) proceeds as if he/she is acting at a more robust level of representational practice than the reader, and the subjects being studied' (ibid: 35). Since representationalism assumes that the reliability of knowledge depends on how 'scientific' it is, it follows that the authors (researchers) must be more 'scientific' than the readers. The aforementioned strategies are in fact intertwined. To the extent that the first strategy establishes a supposed distinction between truth and falsity, the fourth strategy splits subject and object, and thus privileges the authors, 'as if' they have superior ability of understanding of knowledge. As we have seen, both strategies have emerged in response to the problem of reflexivity.

In mainstream organisation studies, these strategies are widespread and have played an important role: management are supposed to have superior abilities to distinguish between what is and what is not knowledge, and, allegedly, this is where managerial authority comes from. Of course, some management theorist, for example, TQM theorists, would argue that managing knowledge is a bottom-up exercise, and, from such logic, it is workers that should identify knowledge. To some extent, it seems that they are aware of the problem of reflexivity, and have indeed attempted to overcome it. However, practically speaking, in current organisations only certain front-line workers are involved in the bottom-up exercise, because only management have the authority to select those individuals. At this point, Schied et al. (1998: 170) went on to argue that this bottom-up approach is merely a means to achieving 'total management of human thought and identity', or, more likely, an attempt to create a hostile environment for dissidents². In this regard, the superior position of managers is still underpinned by a self-privileging stance, stemming from a hierarchy of knowledge.

² This finding also parallels with conclusions of the educational researcher Benismon (1995) and organisation theorists Sewell and Wilkinson (1992).

As we have seen, the problem with reflexivity is, in essence, the age-old philosophical problem of subject/object dualism albeit in a different guise, for representationalism is based to a high degree on the claim that observers can objectively represent the reality. Indeed, without this asserted objectivity, nobody is able to claim that his/her representation is closer to the truth. In recent years, the problem of this dualist view of knowledge has been recognised by many theorists, including many KM theorists. These theorists, whom Chia (1996: 85) described as the 'second-order reflexivity' theorists, in general attempt to offer a more reflexive, or an anti-representationalist view of knowledge, and they have indeed made some important steps in reflexively addressing the epistemological status of knowledge. However, as we shall see, the contribution of second-order reflexivity theorists is still limited, because they finally fall into a reflexive paradox. Here, the corporate epistemology exemplifies the second-order reflexive view of knowledge.

Other Models of Knowledge: the Second-order Reflexive Views

The corporate epistemology is concerned with the interpretative process and the cognitive construction of reality in learning. In KM discourses, its emphasis is on the question of how organisations learn, develop, or create knowledge. The significance of this approach is that the corporate epistemology is supposed to have started with an 'anti-representationalist' project. In this purported anti-representationalist view, knowledge is not treated as an 'objective' mental reflection of reality but as a coexisting and conflicting interpretation of reality that is based on the history of each participating member of a joint knowledge system (Pawlowsky, 2001: 71). Also of importance of this approach is that it treats knowledge as a result of the self-productive process which is embodied in the individual, and sees 'language games' as means to prompting knowledge development and organisational learning (e.g. Vicari et al., 1996: 187). In any case, the second-order reflexive theory implies a somewhat renewed view of knowledge. Here, Nonaka and Takeuchi's (1995) knowledge creation (or development) theory provides one striking example.

When defining knowledge, knowledge creation theorists focus on the 'justified' aspect. To Nonaka and those who come after him, the knowledge-creation process must be fostered and shaped by the leadership. They propose a middle-up-down management system, highlighting the role of middle managers in bridging the skills of frontline workers and the vision of top management (see Nonaka and Takeuchi, 1995).

Moreover, they suggest that knowledge creation should be treated as a self-producing process which must be supported by a specific organisational structure, i.e. 'hypertext organisation'. In their idea, a hypertext organisation includes two types of structure: bureaucracy and task force. Although in practice those who (e.g. Zack, 1999) advocate the corporate epistemology might not adopt the middle-top-down exercise or the notion of 'hypertext organisation', two shared principles remain. The first is that management have the authority to justify knowledge and decide how to employ it. The second is that it is necessary to design a supportive organisational structure to facilitate knowledge-creation processes. Although theorists may have different beliefs in terms of who should (re)design the organisation, in practice, workers have limited power in this area. Therefore, both notions imply that this 'justified' aspect of knowledge ultimately relies on the managerial authority.

Plainly, for knowledge creation and development theorists, since knowledge is a justified true belief, it is neither passive nor static. However, this raises the immediate question of why management has the authority to justify true beliefs. These theorists do not seriously address this issue, although they have adopted two of the representationalist-related strategies: (1) a hierarchy of knowledge; (2) a self-privileging authorial stance. The former implies that management hold more universally 'true' knowledge than workers, and the latter suggests that that management are somehow less susceptible to the problem of justifying true belief than the managed. The hierarchy of knowledge, in other words, is the hierarchy of representation, or the hierarchy of rationality. Because of this presumed superior rationality, managers are supposed to be more rational than workers, and this in turn grants management the supposed authority to justify true beliefs (i.e. managing knowledge). However, the corporate epistemology is unable to avoid the problem of epistemological reflexivity, for in practice there is no mechanism that enables us to justify the 'true beliefs' (see below). As such, the supporters of corporate epistemology are driven to adopt representationalist strategies to deal with the same epistemological problem concerning the unquestionable assumption that a specific group of people, i.e. management, are more objective, thus more competent at identifying organisational 'Truth'. This is what Chia (1996: 85) referred to as the 'meta-reflexive' problem, which implies an inconsistency between theory and practice. However, to solve this problem, what is required is, perhaps, not a new (managerial) technique to deal with the relationship between knowledge and management, but rather a totally different understanding of knowledge and the concept of management! In any case, owing to this inconsistency, I suggest that the corporate epistemology does not provide a complete anti-representationalist view of knowledge.

Discussion

The purpose of KM is to provide explanatory power or solutions to the practice of managing the crucial resource, knowledge. Of course, theorists often disagree on how to manage such a complex resource. In recent years, some KM theorists, like Nonaka and Takeuchi (1995; see also Nonaka, 1994), have argued that ‘mainstream’ KM should be largely revised, because the mainstream approach often mires us in a scientific discourse, while some have contended that defining ‘knowledge’ is a difficult task and therefore we need to radically rethink the concept of knowledge in relation to KM (e.g. Spender, 1996; Grant, 1996). These theorists have set out to deal with some ‘non-scientific’ aspects of knowledge, and Nonaka and Takeuchi (1995) went even further by arguing that we should abandon the ‘Western’ belief in Reason and Science. Outwardly, this shift seems to indicate a ‘movement’ within the field of KM, and not surprisingly, Nonaka and Takeuchi’s (1995) work is sometimes represented as a revolutionary model of KM. However, I suggest that, although this movement implies a somewhat renewed view of knowledge, it by no means poses a direct challenge to the basic assumption about knowledge in the context of KM. As noted above, the problem associated with the second-order reflexive theories is that they are unable to avoid what Woolgar (e.g. 1988: 31) termed the ‘methodological horrors’ of representationalism. But is this to suggest that these methodological horrors have gone unrecognised? No. In fact, the problem with representation is centred around the relationship between ‘representation’ and ‘reality’. It seems that Nonaka and Takeuchi (1995) were aware of the fact that knowledge always has subjective and tacit dimensions, and they indicated that it did not directly reflect objective truth, but the ‘justified’ truth. Thus, they attempted to adopt a different ‘method’ to deal with the relationship between representation and reality – in this case, they highlighted the importance of middle managers; that is, they presented a ‘middle-up-down’ approach to management. Nevertheless, the question remains unresolved – do managers have superior the superior ability and greater authority to identify and manage knowledge?

Supposing a manager indeed uses a non-scientific method to identify knowledge, one might claim that this manager has avoided the problem of the representational mode of thinking. However, if knowledge is not the ‘representation’ of reality, then I suggest that there is, and must be, some unknowable aspects of knowledge. That is to say, if an absolute relationship between representation and reality does not exist, it is

possible that knowledge may have more unforeseeable or irrational aspects than is expected. In a sense, one may contend that managers do not necessarily need a superior legitimate base for identifying knowledge or dealing with these unforeseeable aspects, because the function of management is merely to 'facilitate' the use of knowledge within organisations. However, the problem here is that, from the perspective of our minor paradigm, knowledge and its potential consequences are always inseparable, and this implies that knowledge **cannot and should not** be completely controlled by man. This seems to destroy the basic assumption of KM that knowledge should be, or can be, 'managed' by managers. Alvesson and Kärreman (2001: 1000) have indicated that Nonaka did not make 'any serious attempt to theorise what management is about', as they hold an implicit assumption that management is a pre-given that is capable of identifying knowledge. I contend that this neglect is not merely a (scientific) methodological error or problem embedded in representationalism, but the problem associated with the unquestionable meta-theoretical assumption about knowledge in relation to management – that knowledge can be managed, and certain people (i.e. managers) have superior authority to deal with this process. Hence, while Nonaka and his followers provided a seemingly revolutionary view of knowledge, I argue that they by no means went far enough, and insofar as these meta-theoretical assumptions have not been sufficiently re-examined, the managerial authority of managing knowledge would be highly problematic.

The importance of knowledge has been recognised for centuries, but the concept of KM was not widespread in management until recent decades (e.g. Quintas, 2002: 1). We have contended that, in orthodox KM discourses, the concept of representation is usually used as a tool for managing a valuable, though complex, resource – knowledge. However, the representationalist and the second-order reflexive approaches have not yet provided a satisfactory answer to the question of how to manage knowledge. In any case, I suggest that the representationalist (and related) views of knowledge should be largely revised, if not abandoned, and this means that we need to challenge the fundamental assumptions of knowledge on which KM rests. To develop a complete anti-representational view, however, requires a radical understanding of knowledge. But, to this end, it is necessary to recognise that the representationalist approach to knowledge is **not** merely a historical oddity. In the next section, we shall examine a possibility of 'managing knowledge' outside the scope of management. I hope to show that the representationalist approach to knowledge seems to be a symptom of our desire to set the world in order. In this regard, the historical phenomenon of orthodox European documentation provides an

example of the role of representation, especially in relation to how knowledge is managed and organised.

An Example: Order as Representation

In the early 20th century, Paul Otlet led the first wave of European documentation. Otlet's metaphor – 'the world brain' – reflects his view on the roles of global documentation (Rayward, 1999). As Day (2001: 728) points out:

For Otlet, knowledge is an ideal essence that is representable through a physical body and is transmissible through a medium. Consequently, productive relations depend on storing and mining knowledge, and upon transmitting or expressing it through written, spoken, and visual documents. Because Otlet's vision of knowledge organization has a utopian goal ending in closure (i.e. the attainment of absolute knowledge or of 'science' throughout the world), it lacks the open flexibility and dynamics....

In Otlet's idea, knowledge should be a representation of the world, or facts; therefore, the purpose of documentation was to make true thought physically permanent and to atomically accumulate it until it formed an absolute totality that correctly represented the world. Clearly, Otlet had a strong orientation towards 'scientification' of knowledge. Suzanne Briet, who led the second wave of European documentation around the Second World War, envisaged a world bibliography that would be a large network consisting of smaller networks linked by standards. From Briet's standpoint, knowledge is not only contained in documents, but, more importantly, should be organised within 'dynamic', 'rapid', and 'precise' systems, grounded in standardisation and documentary organisation (ibid: 728). The importance of Briet's work is that she viewed documentation as a 'new cultural technique' and 'a need of our time', emphasising that the organisation of knowledge in systems of production is both a symptom and a requirement of social organisation within the cultural values of industrial modernity as a whole (Briet, 1951; see Day, 2001: 728). Three aspects of her thinking are notable for us here. Firstly, whereas Otlet treats knowledge as a resource for attaining social utopia, Briet views it as a resource for scientific, industrial production. In this regard, Briet's thinking implies that knowledge becomes an industrial tool. Secondly, Briet foreshadows the important role of information and communication technologies in a post-Fordist social environment. As she points out, knowledge becomes 'science', i.e. it becomes dynamic, rapid, and precise because of the assumed dynamic, rapid, and precise characteristics of those 'scientific'

techniques and technologies involved in such cultural processes as documentation (ibid: 728). Thirdly, while Otlet considered that knowledge is embodied in bibliographical forms, Briet affirmed that it is expressed through a particular reading of machine dynamics and tightly organised regimes of practice, i.e. 'technique' (ibid: 728). However, this is not to suggest that Briet discarded Otlet's positivism; rather, it was embodied in a rhetorical understanding of machines and practices in terms of their being 'dynamic' or 'precise'.

Although there are some differences between the first and the second wave documentationalism, they still bear much resemblance, particularly with regard to the relationship between knowledge and representation – or between knowledge and Truth. More specifically, they share the belief that the world can be manifested or embodied in documentary forms and systems. While Otlet treats science as an absolute, and universally agreeable representation of the world, Briet considers it 'highly rhetorical, pointing less to sets of actual methods or practices, and more to an ideology of global standardisation and post-war industrial expansion' (Day, 2000: 470). Their difference is that what Otlet argued for was what Marx termed the formal subsumption of knowledge to the form of science, whilst what Briet proposed was the real subsumption of culture as a whole to 'science' (ibid: 470). In other words, Otlet thought that order could be represented in a global bibliographic collection, but Briet believed that order should be subsumed within the driving forces of industrial science. Nevertheless, this difference does not imply that Briet dismissed the belief in knowledge as representation, but that she held a dynamic and flexible view wherein representation involves the joined human and technological agencies and devices guided by the goals of industrial modernity. As with the development of much Western epistemology, the phenomenon of European documentation in the 20th century has moved from a static, passive view on knowledge towards a more adaptive and active one. Clearly, the second wave documentationists shed new light on the view that the nature of knowledge involves the use of information/communication technologies and organisational techniques, thus foreshadowing the social phenomenon in a flexible environment, or what can be called post-Fordism (as discussed in chapter three). Interestingly, this second wave of European documentation also concurs with a current managerial view that bureaucracies should be replaced by a more flexible form of management. However, the belief in knowledge as representation prevents either wave of European documentationists from offering a way out of the quagmire of representationalism, despite their significantly different ideas.

When looking at the social and historical context in larger cultural issues of managing knowledge, it can be found that KM is also a symptom of our attempts to use representational techniques (see Jeffcutt and Thomas, 1998: 80) to set the world in order, but what is at issue here is not how knowledge plays an important role in the concept of representation: of far greater interest is what we can make of knowledge if knowledge is **not** a representation of reality. With regard to KM, what would be the possibility of an anti-representational view of knowledge? And if we were to discard the assumption that the ultimate purpose of knowledge should be to serve the managerial interest, then to what extent could we regard managers as capable of managing knowledge? These questions, then, bring us to the second theme of this chapter. In the next part, I will shift the emphasis away from the representational mode of thinking to some radical assumptions, especially in relation to knowledge.

Part II. The Flight from Representation

The concept of representation plays a crucial role in the context of mainstream KM. Nevertheless, in recent years, we have seen some radical views have emerged to change the assumption that knowledge is representation. Some of these views disclose the ‘other’ dimension of knowledge. For example, **Foucault suggested that knowledge production is by no means a neutral process, but a process of power – or, more precisely, knowledge itself is power.** Thus, for Foucault, the idea that sees knowledge as representation is untenable, because power is an irresolvable dimension of knowledge. This belief is implicated in Deleuze’s understanding of knowledge. Deleuze shared the Foucauldian view that knowledge involves power, and he believed that knowledge production is a political process. For Deleuze, knowledge is by no means a ‘representation’, but he proposed instead the idea that knowledge has potential for ‘becoming’. In the eyes of Deleuze, this becoming is one of the most important functions of knowledge, as knowledge creates differences and alternative judgemental criteria. The Deleuzian view is particularly relevant to the task of our minor paradigm, because it not only problematises the assumptions about knowledge embedded in mainstream KM, but also has potential for legitimating alternative possibilities. However, to explore such possibilities, it makes sense to start with Foucault’s analysis of knowledge/power, because this provides the basis for our understanding of some radical assumptions about knowledge.

Knowledge/Power

Foucault's idea of power is of importance to a radical understanding of knowledge. This is because he directly challenged the concept of knowledge and power widely held since the Enlightenment which has been closely associated with Francis Bacon's famous aphorism, 'scientia potestas est' (knowledge is power; coined in 1597). But how has this Enlightenment conviction played an important role in the modern understanding of knowledge? It is possible to identify four implications (cf. Garcia, 2001).

(1) Bacon proposed the idea that there was an absolute **relationship** between knowledge and power. For Bacon, knowledge enabled the manipulation of the causes and effects of natural phenomena. Of course, it might be true that some forms of knowledge, such as much of science, imply a relationship between causes and effects. However, Bacon's intention seemed to go even further. Bacon not only considered that knowledge could be used as a tool for humankind to control its environment, but he also believed that this control could lead to our 'pleasure'. For Bacon, human beings had always enjoyed sovereignty over all 'inferior' creatures, and consequently any kind of knowledge that contributed to increasing human power and domination over nature was deemed legitimate so long as it was immediately referred to use and action rather than just a subject of contemplation. As Hans Blumenberg noted (1982: 239; see Garcia, 2001: 111):

....a concept of human happiness appeared that separated theory from existential fulfilment by reducing the necessary knowledge to the amount fixed by the requirements of domination over natural reality.

(2) Knowledge was considered as a 'disciplinary' technology. In his work *The Advancement of Learning*, Bacon suggested that knowledge was 'the human medicine of the Mind' (Garcia, 2001: 112): Bacon believed that knowledge was an invisible force or operation that can affect our will and manners – such as custom, exercise, habits, education, emulation, books, and studies. For Bacon, knowledge could be used as a kind of **medicine** that corrected our wrong behaviour.

(3) Those who had specialised knowledge in practical matters were thought of as better deserving of holding executive offices than those who just had aristocracy of blood. This thinking emphasised the importance of intellectual capital, and, as a result, privileged the people who possessed knowledge (the class of scientists). In order to

invest 'persons of the learned' (to use Bacon's phrase) with strong authority, he asked King James I to establish a system of 'reward and designation of writers and inquirers concerning any parts of learning not sufficiently laboured and prosecuted' (Garcia, 2001: 111). It should be noted that, for Bacon, as an Enlightenment empiricist, 'persons of the learned' were not syllogistic scientists or philosophers, but experimental scientists. In this sense, knowledge refers to experimental sciences (ibid: 111). Some two hundred years before Max Weber predicted that the modern world would have a strong orientation towards resting on rational-legal authority which would replace traditional authority, Bacon attempted to establish a system based on knowledge rather than on tradition or blood relationships. In other words, Bacon did not seek to eliminate social hierarchies; rather, what he proposed was to build a new form of social hierarchies based on **scientific knowledge and education**.

(4) An additional dimension to Bacon's understanding of knowledge is that he seemed to see it as something within the context of the social goods. For Bacon, knowledge produced power, and both contributed to the betterment of society. But, here, he did not even discuss the possibility that the use of the power generated by knowledge might lead to disastrous outcomes. This is perhaps a subtle, though important implication, especially with regard to the current state of KM, because mainstream KM theorists often overlook the possibility that knowledge might produce (unintended) effects beyond our practical concerns³. Yet such a view seems to somewhat contributed to the (managerial) belief that 'knowledge should be managed'.

Of course, as we saw earlier, Bacon's attitude to knowledge was not at odds with many other Enlightenment thinkers. But what is of more interest here is the relationship between knowledge and power. Bacon was convinced that only empirical science could be labelled 'knowledge'. This is because, in Bacon's mind, the problem with other forms of knowledge (such as syllogistic science) was that they were unable to discover the global truth, and therefore, for Bacon, they were not just inferior forms of knowledge, but **not** knowledge at all. From Bacon's perspective, perhaps, the power of knowledge, lies not in knowledge itself, but in its connection with 'truth'. Plainly, both representationalism and Bacon's aphorism, 'knowledge is power', imply an absolute relationship between truth and knowledge, and it is precisely the power of truth that enables humankind to control its environment. However, through a

³ For instance, Stacey (2000) has argued that knowledge process is not 'scientific', but involves power relations, and here he seemed also to overturn the Baconian understanding of the relationship between knowledge and power. But, as we have discussed, Stacey's intention was to provide an analytical tool that our 'knowledge society' requires. In this regard, we find that an Enlightenment-related assumption is at work; that is, knowledge is always good for society.

historical analysis of power and truth-claims, Foucault shattered the idea of the relationship between truth and knowledge.

The notion of power presented in Foucault's writing is heavily indebted to the Nietzschean genealogical critique of realist ontology and epistemology (Foucault, 1980; 1998). Nietzsche's thinking demonstrates a sceptical attitude towards the ideas of essences, of stable or fixed innate qualities that serve as truths (Nietzsche, 1974). Nietzsche's critique of morals, religion, and other taken-for-granted values all influenced Foucault to undertake a number of studies including his discourse on madness, medicine, and punishment practices. In the Nietzschean-Foucauldian perspective, power is primarily an outcome of claims regarding specific 'utterances' (theories, ideas, knowledge, etc):

Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regimes of truths. Its 'general politics; of truth: that is, the types of discourse which it accepts and makes function as true: the mechanisms and instances which enable one to distinguish truth and false statements, the means by which each is sanctioned: the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true. (Foucault, 1980: 131)

From the above statement, we find that, in Foucault's mind, power is inherent in 'intellectual manifestations and utterances'; power is created through a number of statements and truth-claims. Here, Foucault formulates two propositions: Truth is to be understood as a system of ordered procedures for production, regulation, distribution, circulation, and operation of statements; Truth is linked in a circular relation with systems of power which produce and sustain it, and to the effects of power which extend it. Foucault's 'the regime of truth' implies that truth is discursive, and that it is produced through the truth-claims put forth by what he termed 'enunciative modalities' – various spokespersons who claim the right to make utterances within specific fields of 'knowledge'. To Foucault, the modern societies were trying to arrive at **scientific truth by regulating truth or by gripping tightly on the production of truth**, which in turn formed different discourses (see Foucault, 1988a). Discourses are always based on power, and are magnifications of power because of their operations of exclusion and inclusion. As Foucault notes:

Discursive practices are characterised by the delimitation of a field of objects, the definition of a legitimate perspective for the agent of knowledge, and the fixing of norms for the elaboration of

concepts and theories. Thus, each discursive practice implies a play of prescription that designates its exclusions and choices. (Foucault, 1977: 99)

Foucault insisted that power operates as a network of forces and intensities capable of inclusion and exclusion, of normalisation and problematisation. Yet Foucault is very explicit when pointing out that power is, by definition, not good or bad, because power is what enables the production of new practices and institutions. That is, in the conventional view, it is often assumed that power produces repression. However, in Foucault's eyes, power should not be defined, or described, in negative terms, because he believed that it not only produces reality, but also has potential for 'liberating' (ibid: 194). For him, power produces knowledge, which in turn creates institutions:

Power would be a fragile thing if its only function were to press, if it worked only through the mode of censorship, exclusion, blockage and repression, in the manner of a great Superego, exercising itself only in a negative way. If, on the contrary, power is strong this is because, as we are beginning to realise, it produces effects at the level of desire – and also at the level of knowledge. Far from preventing knowledge, power produces it. If it has been possible to constitute a knowledge of the body, this has been by way of an ensemble of military and educational disciplines. It was on the basis of power over the body that a physiological, organic knowledge of it became possible. (Foucault, 1980: 59)

However, there are some critics of Foucault's analysis of power. Yet if we understand Foucault's analysis of power 'not' as the expression of the social phenomena of this epoch, but rather as a radical view of knowledge, it seems that he had indeed renewed the radical perspective, while integrating the notions of knowledge, power, and subject. In Foucault's mind, the power relations that constitute the institutions of everyday life are thus not just repressive, but also enable certain activities and operations to take place –and this concept plays an important role in Deleuze's (1988: 29) view of knowledge (as seen below). Moreover, Foucault's alignment of knowledge and power does not assume a binary structure of being: 'the productivity of Foucault's concept of power/knowledge lies in its refusal of an epistemology which opposes essence/appearance, science/ideology' (Bhabha, 1994: 72). In a similar vein, in Deleuze's view, Foucault's analysis of knowledge/power is that knowledge is always 'irreducibly double':

...Foucault's major achievement: the conversion of phenomenology into epistemology. For seeing and speaking means knowing, but we do not see what we speak about, nor do we speak about what we can see; and when we see a pipe we shall always say: this is not a pipe, as though intentionality

[sic] denied itself, and collapsed into itself. Everything is knowledge, and this is the first reason why there is no savage experience: there is nothing beneath or prior to knowledge. ..knowledge is irreducibly double, since it involves speaking and seeing, language and light, which is the reason why there is no intentionality. (Deleuze, 1988: 109)

Just as power is irreducible, 'power has no essence: it is simply operational' –serving as a texture of relations: knowledge is what brings vision and cognition together without necessarily making them coalesce (ibid: 29). For Foucault, knowledge is something that lies in and between, an irreducible double serving as a manifestation of power. Knowledge is also a multiplicity consisting of heterogeneous elements and components. For Foucault, knowledge is by no means a representation of reality, but a **manifestation of power**. As Foucault (1991: 27) pointed out, 'power and knowledge directly imply one another'.

Mainstream KM theorists have not shown much interest in discussing the relationship between power and knowledge. More specifically, the Baconian belief that 'knowledge leads to power' seems to be implicit in mainstream KM literature. Knowledge, in mainstream KM, is often considered as an economic resource, a stock of know-how, or even certain social relations that can be utilised by organisations in order to improve the competitive advantage of companies. It is also implied that knowledge can be used as a 'tool' to organise business practices, or a 'medicine' to cure our 'wrong' behaviour or our 'non-rational' feelings, as some Human Relations School-oriented thinkers would suggest. What is more, many KM authors often assert that managers should be treated as fundamentally different from other workers, and that this hierarchy offers management a superior position to identify, or to manage knowledge. In brief, in mainstream KM, it is usually assumed that knowledge produces economic power, and thus we need to learn how to manage it. Of course, it is true that knowledge is often treated as a commodity in modern societies (e.g. Lyotard, 1984), and therefore knowledge may, at least, generate some economic advantages. However, if knowledge, as Foucault suggested, contains an irresolvable dimension, i.e. power, based on certain interests, then I suggest that the relationship between knowledge and power embedded in mainstream KM needs to be re-examined.

Certainly, Foucault's 'inverse' claim that power produces knowledge has offered us a radical understanding of knowledge, truth and power: knowledge constitutes and is constituted by power; power is always abstract and immanent, and thus power should be seen as the force that determines truth-claims. But how do we use this Foucauldian

analysis in relation to KM? And what direction can we take from Foucault? It seems that Foucault does not offer clear answers to questions such as these. Yet, if the Foucauldian view of knowledge is accepted, one might be tempted to move towards the conclusion that we should abandon the whole concept of KM. Indeed, if knowledge is power-laden, it must have a dimension beyond our control, simply because power is an inseparable part of knowledge. What is also implied here is that knowledge, as well as the use of knowledge, could produce problematic consequences. In spite of all this, I argue that this 'unmanageable' manner should not lead to the abandonment of the concept of KM. On the contrary, it suggests that we need to revise our whole approach to KM or, at the very least, that we should be **heedful** of knowledge. Knowledge is indispensable to current society, and, in such a context, the importance of KM of our management practice is unlikely to diminish. However, as we have seen, the Enlightenment view that we can use knowledge to control our environment is one of the major sources of modern (environmental) problems. Insofar as mainstream KM still has its roots in the Enlightenment mode of worldviews, it may have potential to use knowledge in a dangerous way. However, if we removed certain 'problematic' worldviews embedded in the modern concept of knowledge, then what would KM look like? Moreover, looking at it from Foucault's perspective, knowledge always has power to liberate, and to open up **alternatives**, so what future possibilities can we envisage for KM? At this point, I turn to examine some possibilities with particular reference to Deleuze and Guattari.

The Deleuzian Project

Deleuze suggested that 'Western' philosophy has its roots in the representationalist mode of thought, and at the core of this thinking is the assumption that there is a pre-given, real, and objective 'eternity' beyond our perception. Deleuze, however, used Nietzsche's 'eternal return' to challenge this view. For Deleuze, the eternal is not actual but virtual, which means that it is opened by each perception. Perception, to him, is a fold which creates its own eternity (or eternities) – 'the whole world is only a virtuality that currently exists only in the folds of the soul which convey it, the soul implementing inner pleats through which it endows itself with a representation of the enclosed world' (Deleuze, 1993: 23). For Deleuze (1994), the dogma of representation is deeply rooted in the belief in a world of hierarchy: an actual world, and then its virtual and secondary copy. Deleuze's intention here is to reverse, or undermine this hierarchy. Ansell-Pearson (1999) regarded Deleuze's anti-representational project as a radical evolutionary model. However, this model is

totally different from the Darwinian model. While the latter would see life as a process of striving to maintain the perpetuation of species, Deleuze's concept of evolution is the theory of thinking and, perhaps, the theory of 'nonsense', both of which stress the striving of creativity and difference. In the sense given by Deleuze, evolution does not proceed in order to achieve the creation of species or beings; it is not governed by any actual goals. For him, evolution is itself a power, whose function should be to offer the potential for **becoming**.

Sense/Nonsense

From the viewpoint of representationalism, the actual world provides a representation, a reflection, or 'transcendence', and thought/mind ought to be a copy or replication of the actual. But, if we were to accept this, then thought would be judged according to its accuracy. This would give us, at least, some notion of sense, or common sense. Yet, for Deleuze, our view of knowledge has been governed by just this dogmatic image of thought, the idea of a subject who passively and dutifully recognises and represents the world. As he has indicated, philosophy often begins from the most 'puerile' examples of recognition – such as 'it is a horse'. To frame a critique of this, Deleuze started with Plato:

Therein lies a costly double danger for philosophy. On the one hand, it is apparent that acts of recognition exist and occupy a large part of our daily life: this is a table, this is an apple, this is a piece of wax, good morning Theaetetus. But who can believe that the destiny of thought is at stake in these acts, and that when we recognise, we are thinking? (Deleuze 1994: 135)

Platonists endeavour is to differentiate those who are correct from those who are mistaken, sense from nonsense, truth from falseness and so forth. However, this means that they attempt to construct a world of hierarchy, a ground for judgement (Deleuze, 1990: 254-5; cf. Patrick, 1998: 106). For Deleuze, this representationalist legacy has contributed enormously to our view of knowledge. In order to undermine this logic, Deleuze tried to dissolve this 'dualism', for example, between illogic and logic. If we suppose that thought can be seen as either logical or illogical, Deleuze would depreciate the logical in favour of the illogical. To understand this, we can use an analogy, sense and nonsense. If logic is associated with sense, illogic would be conceived as nonsense. Yet, in Deleuze's view, illogic/nonsense is such only when we have not yet found that viewpoint from which it makes sense. This is also an implication of New Physics (Zukav, 1997: 140). Nonsense is that which does not fit

into the prearranged, or established patterns which we have superimposed on reality. Nonsense is only that which, from the current view, is unintelligible (ibid: 140). For him, the supposed distinction between sense and nonsense is not a pre-given, but a human perception.

For Deleuze, illogic/nonsense might be more important than logic/sense, because nonsense discloses something about creation and difference. Representationalism has treated our world as if it were already meaningful and logically ordered. Nonsense or illogic, however, shows the intrinsic limits of representationalism – thought does not naturally copy the world. For him (ibid: 152), there is ‘natural stupor’ in thinking precisely because thought is not something fully owned or decided; thinking resides in an un-thought element: nonsense is neither the ground nor the individual, but rather this relation in which individuation brings the ground to the surface without being able to give it form. We can attribute Deleuze’s anti-representational view largely to two different sources. **On the one hand**, Deleuze (and much of his work with Guattari) somewhat relies on a Lacanian notion, believing that identities and symbols are always shifting. But, for Deleuze and Guattari, the notion of Language (with a capital L) denotes the systematic view of mainstream linguistics. This means that they regard existing languages not as creative but as a manifestation of power – Language is made not to be believed but to be obeyed and to compel obedience (Deleuze and Guattari, 1988: 76):

Language is neither informational nor communicational. It is not the communication of information but something quite different: the transmission of order-words, either from one statement to another or within each statement, insofar as each statement accomplishes an act and the act is accomplished in the statement. (ibid: 79)

On the other hand, Deleuze has freely borrowed many concepts from New Physics, particularly these derived from Prigogine and Stengers’s (1984) theory (as discussed in detail below). For Deleuze, meaning is always shifting, as well as Nature. The key challenge in his thought lies in the acceptance of the problems of both genesis and structure. On the one hand, we have to recognise the power and use of difference. There is no origin (pre-given) that must negate the world in order that we can think the world, for consciousness itself must already be differentiated. Difference is therefore not grounded on anything other than itself. It is only through difference that we can think of any origin, including consciousness. On the other hand, Deleuze does not accept that there is just a structure of differences. He insists on thinking the genesis or emergence of difference: how is it that we have systems of differentiated

signs, such as in language? How did we come to think of ourselves as differentiated from the world? Deleuze insists that we have to confront this problem by thinking difference. Only by doing so can we explain the emergence of any differentiated thing, whether that is the system of differences in a language or the differentiated human individual. Thinking difference must destroy the pacifying and stabilising intellect of sense; it must allow thought to move beyond the logic of fixed terms. For Deleuze, thinking difference is not so much a theory as an 'eternal' challenge, or an 'eternal' becoming. We tend to perceive the world as already differentiated; we do not perceive the differential genetic powers that produce difference. At any time that we try to think of the difference that produces distinct terms, we tend to label it, identify it and subordinate it once again to representation!

Re-conceptualising the Minor Possibility

For Deleuze, the flight from representation is necessary. As he sees it, the representationalist view of knowledge is untenable in the sense that it does violence to differences and becomings. The Deleuzian view of knowledge is anti-representational in essence, and I take this perspective as the basis for a 'minor' possibility of KM. Let us make a working hypothesis here: the minor possibility lies in the ecological consciousness. To articulate this idea, it is useful to start with the Deleuzian strategy, or his metaphor, 'rhizome'.

Deleuze and his collaborator Guattari explained this term by first distinguishing between the 'rhizomatic' and the 'arborescent' (see Deleuze and Guattari 1987). For them, traditional thought has a centre or subject from which it then expresses its ideas, and this mode of thought is arborescent (tree-like), producing a distinct order and direction. Rhizomatics, by contrast, makes random, proliferating and decentred connections. A rhizomatic process, therefore, does not begin from a distinction or hierarchy between ground and consequent, cause and effect, or subject and expression; any point can form a beginning or point of connection for any other. The two philosophers attempted to use 'rhizome' as a way of creating a plurality and multiplicity. Yet, to what extent is their thinking useful for our minor possibility?

In looking for a way of thinking which escapes Platonism's positing of pure transcendence (which we may also see as a kind of representation), Deleuze linked his project to the concept of multiplicity and becoming. As we have seen above, Deleuze has been highly influenced by New Physics, and, consequently, Deleuze understands

Nature as a continuous process of becoming, a process of formation and deformation, without boundaries. If Nature is always in a state of flux and involves continual 'becoming', then any dichotomy (e.g. humanity and nature) is a mistake. Deleuze and Guattari's project here is a search for a way of thinking that celebrates the difference and multiplicity which counters the urge to totalise or unify. One of the most important points in this respect is that their model must reject the arborescent image of thought based upon genealogy in favour of a rhizomatic conception of species development in which the 'traversality' (as discussed in detail below) of species is combined with a continuous interaction with the external environment⁴. Hayden (1998: 103) argued that this may imply an embedded radical naturalism – 'thinking takes places in the relationship of territory and the earth', and this in fact hints at a specific ethical implication, environmental ethics (Deleuze and Guattari, 1994: 85).

However, if we understand Nature as process of shifting and the world as on-going, it seems that there is no way to represent reality. Thus, a question arises: how can we avoid getting bogged down in the logic of 'anything goes' or a relativist attitude? Of course, for Deleuze and Guattari, representationalism cannot be upheld in the sense that any realist approach to meaning is not in accordance with natural conditions. As such, all values or judgements are merely related to the conditions of their creation and use (Hayden, 1998: 121). Representation, hierarchy, boundaries and fixed meaning, for the two thinkers, must be abandoned. Yet I will argue that this does not mean that Deleuze and Guattari⁵ reject the possibility of 'criteria'. Instead, as they see it, criteria are always immanent, situational, dynamic, and shifting. In other words, there is no transcendence and pre-given reality that inform us, and knowledge is not the representation of reality. However, if knowledge needs certain criteria – or, at least, provisional criteria – then what might these criteria be? Deleuze and Guattari, again did not provide a clear answer, but they nevertheless identified possibilities, or under what conditions possibilities exist. Knowledge, for them, should be both **political and ethical**: while Deleuze (1988: 84; as seen earlier) and Guattari retained the Foucauldian view that knowledge is the manifestation of power, they linked knowledge to ethics. This is because, in the eyes of Deleuze and Guattari, knowledge is justified not by reference to transcendent values or reality, but by reference to

⁴ According to Hayden (1997: 193), Deleuze and Guattari set out to explore what escapes from the structures of hierarchy. Thus, in terms of descent and evolution, they note the heterogeneous and wildly mutational becoming which transverses species without the register of being rendered as essences. It is above all a question of existential alliances. It is a question of the becoming-orchid of the wasp and a becoming-wasp of the orchid (See also Deleuze and Guattari, 1987: 10).

⁵ Although Deleuze might not totally agree with all of the elements of Guattari's account, it seems that in terms of ecological consciousness they share a very similar view. As I will argue later, Guattari's (1989) *The Three Ecologies* seems to be a supplement to Deleuze's account of radical naturalism.

natural change (see Hayden, 1998: 121). For them, the rejection of criteria is both ethical and political, as is the acceptance of natural change is also ethical and political. This ethical-political stance does not, however, pretend to construct an absolute moral code based on the distinction between good and bad; rather, it merely defines what is more **desirable** in certain situations. Having illustrated this, we may usefully re-examine Derrida's notion of 'undecidability', as Derrida, Deleuze and Guattari seem to share a similar view in this regard.

It has already been noted that Derrida's undecidability, which implies a form of ethics, does not seek to privilege any specific moral stances, but rather seeks to problematise all well-established or institutionalised meanings and ethics. However, its purpose is not merely to 'deconstruct' established (or majoritarian – to borrow Deleuze and Guattari's phrase) ethics, and is not to encourage an ineluctable relativist attitude to ethics. That is to say, the notion of undecidability makes things happen and allows us to open the realm of ethics to difference, but it does not rule out the possibility of reconstructing new forms of ethics. In this respect, it is obvious that Derrida's view of ethics has much in common with Deleuze and Guattari's. It is necessary, at this point, to discuss Bauman and Levinas's view of ethics, because it has some important implications for a clearer understanding of the Deleuze and Guattari's approach.

Bauman and Levinas

We have seen that ethics is situational for Deleuze, but this is not to suggest that he would accept a relativist attitude. By contrast, he never rules out the possibilities of judgement, and this position seems to share some features with Bauman and Levinas's approach. It is therefore necessary to devote some attention to these two, as they help to clarify why Deleuze and Guattari (as well Derrida) would reject a relativist attitude to ethics.

Bauman's views on ethics are expounded in his two works – *Postmodern Ethics* and *Life in Fragments: Essays in Postmodern Morality*. As far as he is concerned, a moral relativism is never acceptable. While some Postmodernism promotes denial of any pre-established criteria of judgement - or even the possibility of such judgements, Bauman believes that this does not mean that we should accept a relativist attitude to ethics. For him, postmodern ethics still exist, however, **without a foundational ethical code that can provide us with certain universal answers**. Furthermore, we are seen as our own moral agents; we recognise that we have to make choices between

good and bad without seeking shelter in a universal code, and that we must take 'responsibility' for the choices we make. Yet, this, he says, is uncomfortable. Human reality is messy and ambiguous, so moral decisions are ambivalent and uncertain:

Confronting the choice between good and evil means finding oneself in a situation of ambivalence ... Dilemmas have no ready-made solutions; the necessity to choose comes without a foolproof recipe for proper choice; the attempt to do good is undertaken without guarantee of goodness of either the intention or the results. (Bauman, 1995: 2)

While Bauman asserts that we are our own moral agents, he is far from being pessimistic; instead, he remains hopeful (this is more or less in line with Foucault's attitude). Bauman believes that people show moral competence, and society is made possible by this. He welcomes a 'repersonalising' of ethics, and their release of ethics from constructed ethical codes: personal responsibility is morality's last hold and hope (Bauman, 1993: 34). Bauman suggests that responsibility for the 'Other' is the central challenge of current morality: 'to take a moral stance means to assume responsibility for the Other. We are, so to speak, ineluctably – existentially – moral beings: that is, we are faced with the challenge of the Other, which is the challenge of responsibility for the Other' (ibid: 1). In assuming this perspective, Bauman was strongly influenced by the Lithuanian philosopher Emmanuel Levinas, who questioned the primacy philosophy has given to knowing, with its propensity to grasp and appropriate the 'otherness' of the known: 'in Western philosophy, when knowledge or theory comprehends the Other, the 'alterity' of the latter vanishes as it becomes part of the same' (Young, 1990: 38).

In the eyes of Levinas, ethics, as relationships, is a matter of sensibility, **not** the application of objective and dispassionate reason grounded in universal rules. This perspective has much in common with the concept of an 'ethics of care'. Tronto, here, echoing Bauman and Levinas, suggested that 'questions of otherness are at the heart of contemporary theory' (Tronto, 1993: 58). As the ethics of an encounter is about ethical relationships, so an ethics of care is about 'a practice rather than a set of rules or principles ... It involves particular acts of caring and a general habit' (ibid: 127). For Levinas, the Other is not simply another person, much like myself, understood in my own terms, captive of the ego. It is a concept beyond adequation: like infinity, it overflows any conceptualisation and is un-containable within any totality. The Other therefore stands outside any universalising theory which would inevitably entail a 'reduction of the Other to the Same' – a reduction of the Other to another being or existent within an ontology of Being (Levinas, 1969: 43). According to Levinas, the

Other appears to me as a face. The primary ethical relation is face to face, a relation of two inviolate terms. There can be no third term linking them within a totality. But the face is not the ordinary, sensible face of my experience, the face of another like me, but rather the epiphany of the Other. As such, it is always mysterious:

The relation between the Other and me, which draws forth in his expression, issues neither in number nor in concept. The Other remains infinitely transcendent, infinitely foreign; his face in which his epiphany is produced and which appeals to me breaks with the world that can be common to us, whose virtualities are inscribed in our nature and developed by our existence. Speech proceeds from absolute difference. (Levinas, 1969: 194)

These moral positions are more or less held by Deleuze, because Bauman and Levinas broke from the dualism of Self/Other. But for Levinas, perhaps, the Other cannot thereby be the source or container of anything. Deleuze here seems to extend the Other to a different sense – environment, which for him might be a ‘possible’ ultimate criterion. But does this mean that he sees environment as a transcendence or pre-given Truth? To answer this question, we need to review some of his comments on ethics. To Deleuze, ethics should be the:

.....critical and creative practice of developing an ethos according to which one activity works to promote the continued well-being of the various members of diverse yet interconnected milieux on the basis of their unique needs and capacity. (Hayden, 1998: 122)

As such, Deleuze believes that the ethics should be emancipatory, with the purpose of promoting a critical and creative ethos, but he does not perceive Nature as fixed, pre-given Truth. Yet how does Deleuze define the very term ‘ethics’? Although he uses the terms ethics and morality in a different way to Bauman, I suggest that their difference seems to be a matter of definition. For Deleuze, ethics is ‘a voyage in immanence’, ‘the unconscious itself’, and a ‘typology of immanent modes of existence’ which does not seek fixed standards as does morality (Deleuze 1988: 23; 29). In his view, ethics is always shifting and inspires ‘knowledge’, as it is not restricted to an external standard, and is therefore able to create knowledge of ‘difference’ marking the dynamic feature of nature. For him, morality is based on fixed moral rules that judge our actions in terms of transcendent values while producing prohibitions. But ethics represents ‘a set of optional rules that assess what we do, what we say, in relation to the way of existing involved’ (Hayden, 1998: 121).

Deleuze: Ethics, Politics and Becoming

In his readings of Foucault and Spinoza, Deleuze proposed a special account of ethics which is concerned with forms of being that exist beyond or in the interstices of guilt and conscience. In seeking to restore ethics to explorations of ways of living in-between subjects, he privileges ethical practices that depend not on external moral codes but on cultivations and sensibilities. Deleuze here used another metaphor 'fold', which is also central to his ethics. The idea of fold presumes not simply a self in relation, but also a self without any essential interiority. The inside is an enfolding of the outside, folds incorporate without totalising, internalise without unifying; they make spaces, surfaces, flows, layers. Subjectivation is created by folding, by bending the outside through practical exercises (Deleuze, 1988). Deleuze's 'fold' is, perhaps, another concept borrowed from New Physics (see chapter two). In his view, even though 'technologies of the self' may have transformed the person into a site of subjection, subjectivation persists in those spaces and folds where the relation to oneself resists being codified by agencies of power-knowledge: 'the relation to oneself is continually reborn, elsewhere and otherwise' (ibid: 104). Deleuze's use of resistance does not imply some essence of the self called agency; rather, it signals intuition, sensibilities or intensities moving below and within those folds of the self implicated in modes of obligation and duty to various forms of authority. This is also **a politics of becoming.**

For Deleuze, it is not a question of how codes, morality and the normative are enfolded within particular habits of being, but of how new identities and ethical attachments can emerge out of the unexpected energies and disturbances that unsettle being. How does being operate in a paradoxical relation of tension and interdependence with the movements of becoming (Connolly, 1999: 195)? Connolly provides a working hypothesis for this: conscience and other code-driven source of morality are crude and blunt mechanisms for coping with the world. Their tendency to ground moral actions in law, god, global survival, consensus or any other categorical imperative makes them blind to the ambiguous, disturbing and contradictory aspects of most ethical encounters. The moral weight of codes and doctrines turns obligation into duty, guilt and resentment: 'I should do this . . . , because I am law-abiding, because I am virtuous.' This is obligation working in the interests of mastery and self-certainty, obligation that undermines senses of ethical connection, implication, becoming, in order to maintain separation and the stability of being. This is obligation as a moral system of suppressing the visceral, the guttural, and the situational.

'We see the end of mastery, we see becoming' (Connolly, 1999: 49). Our responses are always shifting. In the eyes of Deleuze and Guattari, 'affects are becomings. We

know nothing about a body until we know what it can do, in other words, what its affects are, how they can enter into composition with other affects, with the affects of another body' (Deleuze and Guattari 1988: 256–7). For them, responsiveness is a condition of possibility; it opens up lines of mobility and difference within the self; it is something to be cultivated. An 'ethos of critical responsiveness' (Connolly, 1999: 62) connects becoming to various practices of self-modification; it involves work on the self in the interests of recognising the multiplicity of being and denaturalising identity as stasis or essence:

The constitutive uncertainty at the centre of becoming does not defeat the central point. It, rather, reminds us how ethical uncertainty haunts the politics of becoming and how important it is to those who care for the plurivocity [sic] of being . . . to cultivate an ethos of critical responsiveness irreducible to a fixed moral code or abstract conception of the person. (Connolly, 1999: 69)

So, what would an ethos of critical responsiveness look like in relation to ethics? Deleuze and Guattari insist that the politics of becoming does not proceed from guilt. It proceeds from a 'critical' responsiveness, critical in the sense that our intensities and affects in the interstices of guilt and conscience awaken us to our own becoming.

All that has been discussed should have made it clear that Deleuze's ethics more or less shares some important features with the ethics of deconstruction. Deleuze's ethical stance is not based on a single view or a master model. He sought to provide a package of concepts, ideas and perspectives on a more abstract level. Some would see this as a disadvantage, just as Buchanan (1997: 388) stated: 'it is hard work being Deleuzian..he did not write anything with the specific intent of instructing us'. Indeed, Deleuze avoided providing any fixed definition of ethics or knowledge, but he nevertheless searched for creation, within multiplicity of human and nonhuman modes of existence. But if Deleuze does not rule out the possibilities of any provisional, or more 'desirable' criteria, then how can we develop these criteria for constructing a new mode of thinking and realities?

Guattari's Possibility: Ecological Consciousness

Deleuze opened upon some possibilities in relation to our environment, but his collaborator Guattari seemed to complete the picture. Guattari's major contribution here was his concept of ecosophy. In *The Three Ecologies*, Guattari (2000) linked three spheres of ecology – environmental, social and mental – into a set of

ethical-political interrelations. He asserted:

.....an ethico-political articulation- which I call *ecosophy*- between the three ecological registers (the environment, social relations and human subjectivity) would be likely to clarify [the ecological dangers that confront us]. (Guattari, 2000: 28)

Superficially, Guattari's ideas focus on current capitalism, or what he called Integrated World Capitalism (IWC), which refers to several 'regimes': (1) Economic semiotics; (2) Juridical semiotics; (3) Techno-scientific semiotics; (4) Semiotics of subjectification (ibid: 48). In brief, Guattari believed that current capitalism is somewhat different from the preceding, and, with the fall of communist regimes, a globalized system of capitalism seems to be an irresistible trend. Amongst the four 'regimes' of IWC, Guattari sees semiotics of subjectification as the most serious problem. While Foucault understood capitalism as a 'system of surveillance'⁶ (Foucault in Gordon, 1980: 11155), Guattari believed that IWC has formed a regime that governs, or perhaps tortures, our subjectivity⁷. He has therefore been at pains to develop a project to overcome this semiotic regime. Guattari's ecological thinking is highly influenced by Gregory Bateson's ecological mind. For Guattari, this means that we must conceive of ecology as a realm encompassing the environmental, the social and the mental (a complex: environment-social-mental). Namely, Guattari attempts to inspire an ecological subjectivity. Guattari's version of subjectivity has taken inspiration from much contemporary New Physics, including concepts put forward by Prigogine and Stengers. As Guattari (ibid: 40-1) noted:

.....it is perhaps in the hard sciences that we encounter the most spectacular reconsideration of process of subjectification; Prigogine and Stengers, for example, refer to the necessity of introducing into physics a narrative element.....All the same I am convinced that the question of subjective enunciation will pose itself ever more forcefully as machines producing signs, images, syntax...

Guattari's ecosophical perspective of subjectivity, in large part, is a product of his Lacanian training, his experience as a working psychoanalyst and his attempt to reorient Freudianism towards the future. Thus, while *The Three Ecologies* retains the old Freudian triad (id, ego and superego), it departs from Freud in understanding

⁶ In Foucault's view, in 'this system of surveillance', 'there is no need for arms, physical violence, material constraints.....each individual.....will end by interiorising to the point that he is his own overseer, each individual thus exercising this surveillance over, and against, himself.' (Foucault in Gordon, 1980: 155)

⁷ In Guattari's (1984: 34) view, education is also governed by this predominant system, and the purpose of education was usually to convey the message of what he termed 'bourgeois knowledge'; that is, to educate students to fit the requirements of current society.

subjectivity according to the concept of ‘transversality’— a concept that dates from 1964 and that Guattari developed over his lifetime. Genosko (in Guattari, 2000) interprets this conceptual development as a series of shifts ‘from transversality to ecosophy-conceptual’, involving first, the early theorisations based on ‘transference’; second, the ‘coefficient of transversality; third, a ‘theory of groups’ (subject and subjugated groups, utilising Sartre’s concept of seriality) and, eventually, ‘transversality’. Genosko (2000: 145-6) explains this important concept in the following way:

Guattari’s transversalist conception of subjectivity escapes the individual-social distinction as well as the givenness or preformedness of the subject either as a person or individual; subjectivity is both collective and auto-producing.

Full exposition of this concept, as Genosko (ibid: 146) makes clear, would take us into Guattari’s reception of Structuralism: ‘his rejection of Freudian psychogenetic stages in favour of a polyphonic conception of subjectivity of coexisting levels’; his turn against Lacanism (despite his retention of the partial object), his theoretical cooperation with Deleuze; and, above all, his rejection of all forms of scientism. While Guattari is against scientism in psychoanalysis, especially those scientific programs and models that dress themselves up in concepts borrowed from thermodynamics, topology, linguistics and systems theory (Guattari, 1989: 36), and cautious of techno-science, particularly its technocratic approach to industrial pollution, he is by no means technophobic or anti-technology. For instance, he believes that the Internet holds potential for democratisation. In psychoanalysis, he advocates ridding us of all scientific metaphors and forging new paradigms that are ethic-aesthetic, taking inspiration from Goethe, Proust, Joyce, Artaud and Beckett, who he describes as the ‘best cartographers of the psyche’ (ibid: 37). He emphasises a reassessment of psychoanalysis that invokes political, ethical and aesthetic paradigms so as to underline a new sense of ‘engagement’ and the fact that in practical psychiatry everything has to be continually reinvented, like a work in progress. His understanding of subjectivity departs from the Enlightenment tradition, to talk of ‘components of subjectivity’ rather than the subject and to emphasise a distinction between the individual and subjectivity:

Vectors of subjectivity do not necessarily pass through the individual, which in reality appears to be something like a terminal for processes that involve human groups, socio-economic ensembles, data-processing machines, etc. Therefore, interiority establishes itself at the crossroads of multiple components, each relatively autonomous in relation to the other, and if need be, in open conflict. (ibid: 36)

The importance of Guattari's message is that he tried to retrace 'subjectivity', and for him the project should be ethical, political, and finally towards an environmentally emancipatory project. Central to Deleuze-Guattari's attitude to ethics is, perhaps, 'possibility'. Guattari's possibility is subjectivity and ecosophy. His critique of our dominant social-economic system (in this case, capitalism) suggests that this it has indeed jeopardised our living conditions, which in turn have caused the degradation of social conditions. Central to this crisis, he explained, is the fact that our system is deeply rooted in the belief that man is separable from nature. He argued that our current dominant social-political system has created problematic subjectification and singularisation. As he (ibid: 47) wrote:

.....Integrated World Capitalism (IWC) tends increasingly to decentre its sites of power, moving away from structures producing goods and services towards structures producing signs, syntax and, in particular, through the control which it exercises over the media, advertising, opinions polls, etc. – subjectivity.

For him, our dominant thinking has convinced us that we have total control over our environment, and our instrumental rationality and representational techniques have resulted in problematic subjectification. Although there are a few passing mentions of specific phenomena associated with IWC, such as child labour, he does not focus on this point. What he intended to do was to inspire a 'praxis', along with new modes of 'ecological' awareness that exist outside our current value system, or in other words, outside the majoritarian mode of thinking. To this end, Guattari (2000: 51) argued: 'it seems to me essential to organise new micropolitical and microsocial practices, new solidarities, a new gentleness, together with new aesthetic' practices to form the new 'unconscious'. To Guattari, this unconscious is, of course, a new subjectivity based on ecological consciousness.

Plainly, for both Guattari and Deleuze, this amounts to a **movement**, but this movement should **not** be restricted to the level of philosophy or thinking (cf. Deleuze and Guattari, 1987: 213). Their rejection of totality and authority does not entail the outright refusal to examine macro-phenomena or any emancipatory projects. What they would refuse is, perhaps, the rejection of any radical alternatives, at both thinking and political levels.

Discussion

To conclude this discussion, I will clarify three points, with reference to our minor paradigm. **Firstly**, Taoism, as an ancient philosophy, implied that our natural environment should be the desired criterion of ethics, and, in a Taoist view, 'Tao' means both ethics and knowledge. But does Taoism treat Tao, knowledge and ethics as interchangeable? Perhaps it does. For a Taoist, producing knowledge is an everlasting task. Just because Nature is always changing, knowledge is always in a state of becoming. To identify or justify knowledge, for Taoists, is a task of justifying certain ethics, because in their view the only source of knowledge is Nature. In a sense, there seems to be a major difference between Taoism and Deleuze/Guattari's thought. In Deleuze and Guattari's view, Nature is not the only source of knowledge, but 'one' possible criterion of knowledge. To justify knowledge, for them, is indeed a task of becoming. This task involves judgement and values which are not justified by reference to Truth, but subject to natural change. For them, the state of 'becoming' itself is ethics, and our mind and our thinking is in accordance with this state. Thus, Deleuze and Guattari's position implies that our subjectivity and nature are sources of ethics. Does this then mean that Deleuze and Guattari's view significantly differs from Taoism? While Taoism assumes that Nature itself is ethics, it also assumes that all human beings are part of our environment, in harmony with Nature. Since we are not independent of our environment, our mind and intuition, in a broader sense, also reflect the natural conditions around us. In this way, we find that the conjunction between Deleuze/Guattari and Taoism is based on their basic assumption about Nature: it is always in a state of flux. What is more, while Taoism devaluates logic, reason or normative rules in favour of intuition, Deleuze and Guattari highlight the importance of subjectivity, or even nonsense – for them, subjectivity, illogic and stupidity can generate difference, becoming, and multiplicity (cf. Deleuze and Guattari, 1994). In this respect, I suggest that the similarities between Deleuze/Guattari and Taoism are of considerable importance to our 'minor' understanding of KM.

Secondly, Deleuze and Guattari's references to New Physics, such as Prigogine and Stengers's (1984) notions, seems to mean that they try to offer a more 'scientific' base for their argument. However, upon closer examination, their New Physics argumentation in effect reflects a relaxed attitude to the boundaries between different forms of knowledge, and they also propose a different relationship between knowledge and ethics, which in turn opens the door to 'becomings'. Take Prigogine and Stengers's argument as an entry point:

One of the most highly developed skills in contemporary Western civilisation is dissection: the spilt-up of problems into their smallest possible components.....This skill is perhaps most honed in science. There we not only routinely break problems into bite-size chunks and mini-chunks, we then very often isolate each one from its environment by means of a useful trick. We say *ceteris paribus*....In this way we can ignore the complex interactions between our problem and the rest of the universe. (Prigogine and Stengers, 1984: xi)

Prigogine and Stengers (1984), as with some other new physicists, argue that our obsession with dissection results in the categorisation of thought and in turn leads to our flawed, anti-holistic view of knowledge. In contrast, holistic thinking is largely inherent in deep ecology, and deep ecology suggests that treating humankind as separate from its environment is a flawed worldview. But the implication of deep ecology here is not that we can develop perfect holistic knowledge – if our mind is an imperfect information processor, we can never develop this. As we have noted in chapter two, what deep ecology implies is that we need to recognise that thinking and knowledge always have farther-reaching effects than are expected. As such, deep ecologists do not reject knowledge (including science or the application of science), but suggest that knowledge contains **hidden ethics**, and therefore we need to be **mindful of knowledge**. This awareness, for deep ecologists, may be intuitional and ethical. The conjunction of implications of New Physics, deep ecology, and Deleuze-Guattari's ecological thinking at this point is based on the view that our awareness of potentially dangerous consequences of knowledge can be used to formulate a thinking revolution aimed at creating new values and worldviews that are beneficial to the diversity of lives on Earth.

Thirdly, Deleuze and Guattari, as we have seen, attempted to construct a mode of shifting and becoming. In their view, to identify and justify knowledge has a moral implication, that is, knowledge contains embedded ethics, and the criteria of this ethics are based on our subjectivity, of which ecological consciousness might be a (potential) possibility. However, what is equally important to them is not only to construct different mode of knowledge and ethics, but also to identify what kind of knowledge and ethics we need to reject – which are often embedded in majoritarian thought. Therefore, in order to construct this minor project, what we need to do first is to justify the components that are embedded in majoritarian thinking, and to do so, we shall return to the context of KM.

The conventional concepts of knowledge in mainstream KM – here I refer to representationalism in different guises, or our strong belief in Science and Reason, the (Baconian) faith that we have ultimate control over our environment – have been called into question by Foucault and Deleuze-Guattari’s anti-representational views. From a Foucauldian perspective, to discuss the truth of KM is also to discuss the power embedded in it: power is immanent in knowledge; power enables the truth-claims that legitimatise knowledge. The knowledge/power assemblage inherent in KM implies that its mainstream discourse is governed by certain power relations, in order to sustain a ‘regime of truth’. This regime of truth defines truth and reason, and from the outset it has to exclude things that are shown to be **unreason**. To explore some of the ‘reality’ of mainstream KM, I will paraphrase Deleuze-Guattari’s concept of ‘minor’, and further propose a minor project. In Deleuze and Guattari’s mind, the idea of representation reflects our desire to capture and further control a reality, but reality is always fluid and interconnected in a web of realities. The idea of representation is thus unable to ‘represent’ any reality, but, for them, a more serious problem with the belief in representation is that it violates the possibility of other realities as well as becomings. From a ‘minor’ perspective, I have argued that mainstream KM usually reflects a structural-functionalist view of managing knowledge, while holding a representationalist assumption about knowledge. This altogether is within a discourse which presumes that economic efficiency and economic value should attain the highest regard. However, I suggest that knowledge may have effects beyond our economic and practical concerns; that is, knowledge may have weightier consequences than its users (managers) are prepared to take responsibility for. If KM were to be of other social value, while escaping the problems associated with the current state of KM, we might also need to develop some ‘minor’ possibilities. Here I re-trace some components of what might be regarded as ‘unreason’ from a current viewpoint, for example, in Taoism and ecological consciousness. That is, while mainstream KM is a construction created to meet the (managerial) requirements of economic efficiency, I suggest that the ‘minor’ concept of KM could nevertheless be used as a conceptual tool to create possibilities based on an opening, or openness to an alternative future for KM, in the service of the natural environment. However, to explore such possibilities, we need to re-examine the concept of ‘management’ – and this will be the major theme of the next chapter.

Summary

So far, we have contended that, in the mainstream KM discourse, knowledge is often

seen as a resource, and it is also assumed that management is capable of managing this resource. This view has its roots in representationalism, and at its core is still a strong belief in the rational. However, we have argued that such a view may overlook the complex manner of knowledge, that is, knowledge contains many unmanageable or uncontrollable aspects. Notwithstanding, this is not to suggest that mainstream KM theorists have not yet recognised such problems. While some theorists (e.g. Nonaka and Takeuchi, 1995), have contended that an 'Eastern' view of knowledge may bring to bear a better explanatory power, some others (e.g. Stacey, 2001) have even adopted certain radical languages, including the implication of chaos theory or Foucauldian power/knowledge (as will be discussed in chapter six). But it seems that most of these models have not yet provided an alternative view of knowledge. By this I mean that mainstream KM holds an Enlightenment view of knowledge, largely based on the Baconian belief that knowledge can be used as a tool to serve human interests, within the context of the social goods. However, this view is still popular today, and it somewhat reflects a majoritarian view of knowledge. Yet the problem here is that, from Deleuze and Guattari's (e.g. 1986) point of view, our use of knowledge, as well as knowledge production, is usually shaped by our dominant social system (in this case, capitalism), which often reflects what they termed the 'majoritarian' interest. Majoritarian thinking may be represented as universal or objective, but it merely reflects a sectional interest. However, in modern society, knowledge is so indispensable and powerful that we cannot simply reject the use of it, and it is also probable that we cannot separate knowledge from its potential consequences.

Let us consider here Deleuze and Guattari's minor thinking, as their understanding of knowledge may provide a possible alternative. For these two philosophers, the value of knowledge (and philosophy) lies in its scope for providing alternatives. The implication here is twofold. Firstly, in their view, to articulate alternative form of knowledge is always necessary, because majoritarian interests usually replace, or suppress, other social interests. By this they meant that knowledge should not serve the majoritarian interests, that is, it should have potential to resist languages that are appropriated by the dominant social system and majoritarian interests. In a second sense, Deleuze and Guattari believed that speaking for the 'minor' should be an ethic-political project, and minor here refers to any thinking or people who are repressed and silenced by the majoritarian thinking and practice. In Guattari's (2000) mind, in current industrial civilisation, our natural environment has been increasingly seen as an economic resource waiting to be exploited by man, and, in this respect, he sees our environment as one of the silenced. While Guattari identified what he termed ecological consciousness and emphasised the importance of its subjective manner, he

seemed also to link his minor thinking to deep ecology and its related thinking. However, there arises another question. In the context of management, can we simply incorporate such an alternative view of knowledge into KM? At this point, it seems that we need to further examine the concept of management, that is, is management capable of managing knowledge that is not to serve majoritarian interests?

Hence, in the next chapter, I shall focus on the notion of management. In much industrial civilisation, the notion of management has served as one of the most pervasive, though somewhat mysterious, ideas. It is because many have believed that social or business organisation has proved to be capable of delivering societal betterment in terms of material and economic progress. To some extent, the concepts of management and managerial techniques have been applied beyond the sphere of business, and it is not unusual today to hear the claim that management can be used as a solution to our social, or economic problems. Through a brief historical excursion of the notion of management, I shall further argue that the mainstream understanding of management needs to be re-examined – if the concept is to serve any social objective other than the goal of economic or material progress.

Chapter Five

Managerialism

In chapter three, our focus was on orthodox Knowledge Management (KM), and a deconstructive approach seems to expose that much orthodox KM literature is mired in the project of rationality. In chapter four, we further noted that mainstream KM also conforms with the orthodox belief that knowledge is a reflection of reality, and this altogether can be explained by a set of beliefs and assumptions rooted in what we have termed the majoritarian paradigm. However, it should be noted that our orthodox KM does not represent a leap forward, because it is in essence a construction created to meet the requirements of current management, or even of current society, supposedly for the benefit of all. The apparent hidden assumption that management is capable of managing knowledge is, in fact, based on a taken-for-granted idea that management is capable of delivering social goods. In this chapter, I will attempt to problematise this issue by re-examining some meta-theoretical assumptions about management, but a more important intention is to suggest that the mainstream concept of management contains some majoritarian thought which may be, in some senses, axiomatic, because some pertaining deeply rooted beliefs and meta-theories even exist beyond the business horizon. Thus, this chapter focuses, at a macro level, on some components of what we might term 'managerialism'. I argue that as long as managerialism plays an important role in mainstream management, it will be one of the major obstacles to an alternative understanding of KM.

The utilisation of knowledge in organisations is generally described as Knowledge Management (KM). The nature of contemporary society has been determined in large part by exposure to various forms of organisation, and, as a result, many people believe that management is a necessary social process as it improves the efficiency of the production of material goods and services. At a macro level, many even hold the belief that management can provide a 'solution' to our social problems. In such a context, mainstream KM seems to hold an unquestionable assumption that management is capable of managing knowledge, though certain managerial techniques and management theories may need revision or improvement. It has also

been suggested that knowledge in the service of mainstream KM is concerned with the control of 'representation'. However, I have argued from a minor perspective that we should replace the concept of representation with alternative interpretation of knowledge that serves social values and functions. Yet, there arise some questions: can we simply use the concept of 'management' as a (either technical or conceptual) means to this end? Can the mainstream understanding of management be reconciled with our minor approach? To answer these key questions, I suggest that we need to re-examine some embedded beliefs and worldviews in the mainstream understanding of management. First of all, I shall define the word 'management'.

Management

We need to be careful where we start with the definition of the term management. Even language which are closely related to English, such as French, do not have a single term which directly corresponds to it. (Griseri, 2002: 26)

The meaning of management is not easily captured in one single unified definition. It is widely believed that management is a hybrid concept with many facets, denoting different processes, events and qualities. Mant (e.g. 1979: 30) identified some linguistic meanings of the term 'management', each explained in its historical context. In the first sense – or what Mant termed 'Management I', it simply means an activity of running things, and this definition has two different conceptual origins (ibid: 20-1). As he pointed out, the word 'manage' comes from two distinct linguistic sources, which can even be traced back to the beginning of the 16th century. The Italian word '*maneggiare*' was a masculine concept which meant handling things, especially horses, and, as such, this Italian root usually referred to a rough technical activity. It was then extended to operations of war where it had the sense of taking control, taking charge, and directing, and therefore the Italian origin was ultimately a masculine concept (ibid: 21; see also Gorringer, 1994: 79). In contrast, the French word '*manager*' was a refined or even a feminine usage which meant careful use or a careful housekeeper. The notion of management has always had this dual character. On the one hand, managers deal with concrete processes, such as scientific processes and handling of people, and on the other, they also have to cope with abstract and complex things, such as human relations and conflicts.

While Management I refers to a concrete activity (of running things), Management II is the logic of this activity, or the values and assumptions of managing (ibid: 21; 30).

At the outset, management was merely a neutral action of doing, which implies that all workers could do such an activity. As such, managers were not significantly different from other workers. At this point, Management II was, perhaps, an attitude created in order to offer certain authority. This was because, with the increase in the size of work organisations in the 19th century, there was an increasing need for an effective means of organising society's production system. Although it was nothing new for managers to be treated as agents of the 'ownership', it seemed that they now needed a more robust rationale for fulfilling this role. Therefore, managers were not treated as another type of workers – they were not workers at all (ibid: 21). However, this transformation was not a leap, but rather one involving the efforts of some early management theorists. In any case, Management II here means a set of beliefs that underpin the logic of managing both people and things. It also signalled an important conceptual shift before the 20th century. If management had become a different state of being, it followed that it also referred to a special career (ibid: 29). Management III, therefore, means a special, perhaps more respectable group of people, often appearing under the name of the 'professional'. This development took place mainly in the 20th century, and we should note that it reflected certain social phenomena. On the one hand, the advance of industrialisation required an increase in the number of managers, which, in turn, formed a new social class. On the other hand, academic folk started to study how managers function as a different social class, and this resulted in the 20th century in a fundamental change in our attitude to management. However, the question is: if management is a construction created simply to meet the requirements industry, why did it gain a positive sense?

The Scientific School's Contribution

One of the major reasons for a shift in our attitude to the term management is that it was linked to Science. It is not our business, however, to discuss this transformation except in so far as it plays an important role in the social-political domain. In this regard, we need to explore the contribution of Fredrick W. Taylor and his idea of scientific management. By the 20th century, or more precisely, before the emergence of Taylor's 'scientific management', the concept of manager was usually a neutral, if not a pejorative one, for managers were considered as agents who act for their owners (ibid: 21). It might be worth noting in passing that this development is not at odds with our prevailing attitudes to work throughout history. In much Western civilisation before the 19th century, work was generally seen as a demeaning term, and all workers, including managers, were therefore seen as demeaning (Maywood, 1982: 8). This

negative attitude to managers and work was to some extent inherited from the ancient Greeks, who treated those who worked for money as 'cursed' (e.g. Russell, 1993: 198). However, what is of more interest here is that Taylor's scientific management largely contributed to the transformation of the concept of management into a different and, perhaps, positive one.

Firstly, Taylor, as a mechanical engineer, tended to treat all work organisations as mechanical systems consisting of different mechanical components (sub-systems), including factory equipment as well as workers. In his keystone book, *The Principles of Scientific Management*, he asserted that all management activities could be considered as extensions of four principles of management (Taylor, 1911: 130): (1) The development of a true science; (2) The scientific selection of the workman; (3) The scientific education and development of the workman; (4) Intimate and friendly cooperation between the management and the men. Taylor's ambition was to build work organisations managed through scientific methods instead of the use of the empirical 'rule of thumb' so widely prevalent in the days of the late 19th century (e.g. *ibid*: 25). However, his influence went far beyond his original intention in that he linked management to technocracy/Science, and scientific methods. Correspondingly, managers were no longer treated as normal workers – they became scientifically selected technocrats.

Taylor's second contribution was that he provided a theoretical base which took the concept of managers away from the traditional sense of agents (e.g. Bendix, 1974: 279). For Taylor, managers were a specific social class whose main task was, via scientific study and analysis throughout 'the mechanical arts', to get the best out of men, for the benefit of all (Taylor, 1911: 25). Clearly, managers' success was not dependent upon the aristocratic blood relationships but upon their application of scientific methods, i.e. their transcendent scientific ability that required analysis and scientific study. This modern concept of management should not be understood as a static state, but indeed as a sort of becoming – that is, with specialised/scientific training one can be transformed into a member of another social class, i.e. management. This attitude also captures a religious belief particularly manifest in American Protestantism that – 'in the land of opportunity anyone can succeed according to his visions, to his efforts, to the glory of self, country and God' (Mant, 1979: 22). As M. L. Cook noted in 1913, the visions of Christianity and the dreams of democracy could not be fully realised until 'the principles of scientific management permeated every nook and cranny of the working world' (Bendix, 1974: 275). Undoubtedly, only qualified management have the authority to broadly apply science

to the working world. In this regard, the idea of scientific management even endows managers with some religious characteristics, and management become totally distinct from workers.

Finally, Taylor believed that scientific management could relieve the conflicts between capital and labour. In a sense, we might see this as Taylor's most important impact on our current understanding of management. As Bendix (1974: 275) points out:

Scientific management was believed to hold great promise for the nation as a whole, since it claims to promote material wealth and social harmony at the same time. The aim was to use all available resources and knowledge of the universe in order to realise definite ideals....

We have already argued that since the Enlightenment, many have believed that Science, scientific techniques or technologies can be applied to solve our social problems, and Taylor seems to capture this spirit. In his idea, via use of science, management will obtain the ability to optimise the productive efficiency of each worker, and maximise the earnings of workers and employers at the same time. Here, the concept of efficiency is central to some of his basic beliefs: (1) Increased output will lead to less workers (i.e. input); (2) Inefficiencies within the managerial control system include poorly designed incentive schemes and hourly pay rates not linked to productivity (Taylor, 1911: 23). For Taylor, efficiency meant that workers could be 'smarter', to everyone's benefit. However, many would disagree with such a statement. This is because the concept of efficiency might be linked to the long-lasting fear of redundancies within the industrial workforce. As we have noted, nineteenth-century neo-classical economics assumed that the application of science and technology could lead to innovation, which was also seen as the engine of societal progress. However, the problem is that neo-classical economics did not explain the possibility that, with innovative processes, production might shed labour faster than the economic system could generate new jobs. At this point, we can see that economics and management complement one another conceptually and practically, because Taylor, from a managerial perspective, offered a self-evident explanatory argument to counter this concern.

By using the economic dogma of increased demand owing to decreased pricing, Taylor put forward the idea of sharing the gains with the workforce. Here we should note that Taylor was also a strong advocate of worker 'development', because he believed that the most important object of the workman, and particularly of the

management, should be the training and development of each individual, so that the workman can do (at his fastest pace and with the maximum of efficiency) ‘the highest class of work’ (ibid: 12). Plainly, according to Taylor’s scientific principles, trade-unions would be redundant, for scientific management itself could solve all class conflicts (Bendix, 1974: 277). Taylor’s approach shed new light on the relations between employers and workers, though he still embraced a conventional economic assumption about human nature that all people are motivated by their self-interest and attempt to maximise their prosperity. What is more, he built a new social concept of success, and even morality: those who can reach their highest state of efficiency are successful¹ and therefore ethical, because it is **efficiency that improves the prosperity of all** (ibid: 279)². Once again, we see that a neo-classical economic logic is at work: economic growth = material progress = societal progress, and we find that Taylor seemed to establish a link between this economic logic and management.

As illustrated above, Taylor’s scientific approach involved a complete overhaul of the conventional view of management, and since then the concept of management has no longer been treated as a neutral or pejorative one. **On the one hand**, he saw work organisations and human beings as mechanical systems which could be analysed and predicted and managed by scientific methods. Clearly, this thinking also captures the spirit of the Newtonian world-machine in the assumption that all human actions follow physical laws. **On the other hand**, Taylor also introduced a ‘moral’ implication – by using scientific methods, management can make people work in a smarter, more efficient way while boosting the prosperity of all, thereby promoting the harmony between capital and labour. As such, Taylor’s ideas gave Management I, II, and III a concrete sense, linking Science, success, impartial expertise and professionalism, and this in turn paved the way for the development of managerialism. However, we should leave the notion of managerialism aside for a moment and confine our attention to the term ‘management’, because what is of more importance here is that Taylor seemed to offer the key term ‘management’ a moral sense. If this is

¹ According to Bendix (1974: 279), in the past, it was implied that the industrial worker like everyone else would enjoy his/her success or suffer from his failures in the struggle for existence – that is to say, he/she was a solitary being.

² It is interesting to compare Taylor’s idea of managers with Francis Bacon’s view of scientists. As we noted in chapter four, in the 17th century Bacon’s ambition was to promote scientists to a different social class, which should function as the power broker (on behalf of the government), because he believed that scientists were more capable of discovering the global truth than ordinary people (Garcia, 2001). In the eyes of Bacon, this privileged status, clearly, stemmed from the possession of scientific knowledge. Taylor’s idea of scientific management seemed to reflect a somewhat similar view. In Taylor’s mind, it was scientific ability that provided authority for certain people to function as ‘managers’.

the case, it would be no surprise to be told that the concept of management has formed one of the most important moral attitudes in the 20th century.

MacIntyre's Understanding of Management

One may say, like MacIntyre (1990), that management does represent a major moral attitude implicated in our ethical-political domain in the 20th century. MacIntyre characterises three contemporary moral attitudes: those of the rich aesthete (the aesthetic attitude), the manager, and the therapist. In his view, whilst the rich aesthete harbours the non-rational ethical attitude, the manager and therapist represent the rational attitude to morality – or the Weberian ‘bureaucratic rationality’:

The rich aesthete with a plethora of means searches restlessly for ends on which he may employ them; but the organisation [the manager/therapist] is characteristically engaged in a competitive struggle for scarce resources to put to the service of its predetermined ends. It is therefore a central responsibility of managers to direct and redirect their organisations' available resources, both human and non-human, as effectively as possible toward their ends....Bureaucratic rationality is the rationality of matching means to ends economically and efficiently. (ibid: 25)

For MacIntyre, the manager and the therapist tend to be subordinate to an objective, transcendental end in which rational agreement is possible – the realm of measurable efficiency, and, consequently, they both pay most of their attention to means whilst treating ends as unchangeable. In this regard, the two characters share some basic assumptions, and the nuance between the two could be overlooked. As he suggests:

The manager represents in his character the obliteration of the distinction between manipulative and nonmanipulative social relations; the therapist represents the same obliteration in the sphere of personal life. The manager...his concern is with technique, with effectiveness in transforming raw materials into final products, unskilled labour into skilled labour, investment into profits. The therapist...his concern is also with technique, with effectiveness in transforming neurotic symptoms into direct energy, maladjusted individuals into well-adjusted ones. (ibid: 30)

These three metaphorical characters in fact imply two ways of life – the rational way and the non-rational/aesthetic way. However, the split between rationality and non-rationality has transformed into the moral/immoral (or clean/dirty) dualism (ibid: 40). This ethical criterion seems to maintain a dual character. **On the one hand**, management refers to a purely technical attitude - the manager's attitude – as its major

concern is with effectiveness in transforming material input into material output, such as raw materials into products, or investment into profits, and so forth. **On the other hand**, management also involves the therapist's attitude, as it sometimes assumes that it can transform maladjusted human behaviour or irrational emotions into well-adjusted and rational ones, such as in problematic human relations. In any case, both see the means as the end in itself – the converting processes and economic 'efficiency'³ are thus the final, if not the only, purposes of both forms of ethics. In this regard, if management is merely concerned with converting processes, it appears that it lacks a clear conceptual framework, and this indicates that management is largely supportive – it was developed to meet the requirements of our economic system.

Overall, we can see that the concept of management is a construction created to meet certain requirements, and the recruitment of science or scientific methods in the service of management also functions in the interest of economic efficiency. While MacIntyre contended that the managerial obsession with efficiency has formed a predominant 'moral' attitude, it is possible that the concept of management has, more or less, penetrated into the field of politics, at least in many industrial societies, and this all seems to have paved the way for the rise of a specific movement, 'managerialism'.

Managerialism

Literally speaking, managerialism means the ideology of management. However, the origin of the term is highly mysterious and is still open to debate (Pollitt, 1990), though it is widely believed that managerialism is associated with the theory of the managerial revolution (Enteman, 1993). Literature on this topic can be broadly divided into two. The first group reflects a 'co-opted' and orthodox view of managerial revolution. One of the most important examples in this group is Peter Drucker's (1993) model. He argued that the 1990s could be seen as a time of managerial revolution because management techniques became more full-fledged during this period, and this has largely contributed to our economic efficiency within organisation and outside the business domain. Drucker seems to celebrate such change, as he tends to attribute our societal progress to this managerial revolution. For him, economic efficiency seems to be the ultimate 'goodness' which the whole

³ In mainstream management literature, efficiency is simply an economic/mathematical concept: the ratio of output to input of a particular process and money provides a common criterion for the measurement of both input and output (e.g. Simon, 1976: 174).

socio-economic system should aim at. The other group, however, is much more sceptical. As this thesis stems from an emancipatory interest, my major concern here is with this latter group who, in general, understand the managerial revolution as a symptom of contemporary capitalism. It is possible to further identify two approaches related to this group.

The first approach, formed during the 1930s and 1940s, tends to see the managerial revolution as a concrete social revolution. Weil (e.g. 1988 [1933]; 1987; see also Nye, 1994) was one of the earliest thinkers to discover the rise of the managerial class. She (1988: 12) understood management as a concrete social class, and suggested that conventional Marxism was unable to properly explain this new phenomenon. For Weil, management, as an emerging social class, had tried to replace the 'old' capitalist class. This view was partly inherited by some later theorists. Burnham (1941), amongst others, argued that the Second World War marked a transition from capitalism to managerial society. He shared Marx's notion of class struggle, viewing the managerial revolution as a new class revolution. His idea was that managers, as a somewhat homogenous social group, have the greater ability to practice rational techniques, thus improving the 'efficiency' of society. While Marx held the belief that the triumph of capitalism was due to the fact that capitalism is more efficient than feudalism, Burnham regarded managerialism as a more efficient economic system than capitalism. Therefore, for Burnham, the ascendance of managerialism was historically inevitable, and our society would become what he called the 'managerial society'.

However, Burnham's (1941: 59) prediction of the managerial revolution, proposed in the early 1940s, was more or less vague. In addition to his flawed predication that Nazi, as a more economically 'efficient' regime, would finally control Europe, his analysis of managerial revolution seems to be too simplistic. One of the major reasons is that he suggested that management would inevitably replace the old capitalist class. This is because he held a Marxist view that those who have 'a greater measure of control over the instruments of production and a preferential treatment in the distribution of the products of those instruments' are the dominant or ruling class in that society (e.g. Marx, 1983b; see Burnham, 1941: 59). However, both theoretically and practically, it seems that managers are unable to have complete control over the means of production, for the means of production is still controlled by 'ownership'. Blackburn (1972), nevertheless, believed that there was an ongoing conflict between capitalists and managers, for both have attempted to take complete control of the means of production. These theorists have indeed shed new light on our

understanding of the managerial revolution. However, a general problem is that they tend to see managers as a homogenous social class, though this issue is still a subject to dispute even in the 1990s within Marxism (e.g. Dumenil and Levy, 1993). Nevertheless, their vision seems to lead us into a consideration of the approach which sees managerialism as a set of judgemental criteria that particularly defines the managerial 'goods' and has effects far beyond the business domain.

The **second**, and, perhaps, more adequate approach today is through an understanding of some ideological components and a 'mindset' embedded in managerialism⁴, rather than understanding it as a concrete class revolution (e.g. Grey, 1996). That is, this approach sees the managerial revolution as an ideological movement, at a macro level of society. Deetz (1992: 221), for example, defines managerialism as ways of 'conceptualising, reasoning through, and discussing events' which can be 'distinguished from potential competitive manners' (Deetz, 1992: 222):

It [managerialism] begins with an imaginary identification where the corporation and management become a unitary identity; its central motif is control; its primary mode of reasoning is cognitive –instrumental; its favoured expressive modality is money....(Deetz, 1992: 222-3)

To him, managerialism is an ideological construction embedded in controlling mechanisms. In a sense, managerialism is a discursive process producing immediate effects within organisations, and it therefore imposes certain forms of thinking and beliefs:

The possibility exists that management becomes seen as a universal human activity....Instead of engaging in human relationships, we manage those relationships; instead of caring for ourselves, we manage our health; instead of governing, we manage money; instead of acting spontaneously, we manage and plan. In short, human life becomes something to be managed, and other forms of meaning or being in the world become marginalized, thus truncating the variety of human experience while promoting a form of experience which, it can be argued, is disciplinary, degrading and confining. (Grey, 1999: 571)

Addressing the changes in focus toward an affirmative attitude to that we call 'management', Haraway (1997: 174) argued: 'Life as a system to be managed....has a very recent pedigree'. As she continued in a later work – 'biology is produced as a

⁴ From our minor perspective, it is also important for us to understand managerialism as an ideological movement. This is because we do not seek to frame a critique of certain people - managers, but rather to show some systematic problems associated with management, as a concept.

discourse very much like political economy. Both are discourses of productiveness and efficiency' (Haraway, 2000: 2000: 20). And she went on: 'a human engineer is a management scientist. This is exactly an instance where the discourses of biology and management are bed-fellows' (ibid: 68). In current society, the ideas inherent in management pervade many spheres of everyday life. Haraway explained a typical managerial mindset – all systems, for example, biological and natural – are no longer outside human control, and can be shaped/reshaped by the use of technoscientific innovations. This is perhaps an example of the colonisation of the human organism in terms of 'managing body'. The human body is a resource that can be modified in a multiplicity of ways; it is an object to be analysed, to be controlled, to be rationalised, and to be managed. These ideas seem to be symptoms of managerialism which have certain effects beyond the business domain.

Some scholars have contended that around the 1980s there was indeed seen a rise of market-driven managerialism at an empirical and political level, especially in many industrialised societies (Pollitt, 1990; Larry, 1998). For example, Grey (1996: 592) outlined four signals: (1) The assault on trade unionism, denoting the rise of human resource management and the fall of industrial relations; (2) the elaboration of new management techniques; (3) the managerialisation of the public sector; (4) the tendency to lionise management (managers and managerial techniques) as a solution to all types of problems. Pollitt (1990), however, believed that this managerialism was particularly widespread in British and American society. By analysing some social phenomena in Britain, Pollitt (1990: xi; 2-3) asserted that managerialism consisted of a set of beliefs, values, and ideas about the state of the world and how it 'should be'. He identified five intertwined core developments – (1) the main route to social progress now lay through the achievement of continuing increases in economically defined productivity; (2) such increases in productivity would mainly come from the application of ever-more-sophisticated managerial technologies; (3) the application of these technologies could only be achieved with a labour force disciplined in accordance with the productivity ideal; (4) management had a disparate organisational function, and one that played the crucial role in planning, implementing and measuring the necessary improvements in productivity. Business success would depend increasingly on the quality and professionalism of managers; (5) to perform this crucial role, managers would have to be granted reasonable 'room to manoeuvre' (i.e. the 'right to manage').

It follows that managerialism has somewhat penetrated into the public domain, even including the educational system (e.g. Ball and Carter, 2002). But equally the rise of

managerialism has provided fertile soil for the elaboration of critical works. However, to frame a critique of managerialism is not an easy task, particularly in the realm of management, and there are many reasons for this, one of which is that managerialism has become somewhat intertwined with our social-economic context (see also Parker, 2002: 124; 199). While Hobsbawm (1994: 548) understood economics as today's 'secular theology', it is possible that managerialism to some extent has a similar feature. To borrow Deleuze and Guattari's words, managerialism has more or less become a 'majoritarian' component in many industrial societies. With this in mind, we should recognise that mainstream management and neo-classical economics complement one another conceptually and practically, and finally converge towards the same conceptual framework. To the extent that economics is unable to solve certain practical issues (i.e. the accumulation of capital) at a micro-level, management seems to be a construction created to deal with the practical problems (left by economics) within organisations. Yet the confusion between management and economics does not merely exist at a micro-level, because, as we shall see later, that certain managerial techniques also play a role in our public decision-making processes. In any case, this perplexity is of importance to our understanding of why market-driven managerialism has become a majoritarian element in much of industrial civilisation. To get a grip on this, we shall start with the economic logic of 'market', because it explains how management and economics work together political level.

The Economic Logic of the 'Market'

It has been recognised that managerialism is a highly mysterious term, but we have suggested that it can be understood as a set of assumptions and attitudes, or a kind of mindset. From an economic perspective, nevertheless, there is a version of managerialism that fits in with our predominant free market system, that is, market-driven managerialism. This version of managerialism is highly dependent on two sources: the first is the economic concept of the free market, the other, the pragmatic requirements of the production system. However, the importance of market-driven managerialism here is that it has been used as a tool to organise the market system at a political level.

While the free market is central to the current system of capitalism, we must recognise that capitalism, from the outset, has never been more than an abstract economic concept which is always in need of practical means of sustaining its framework (Anthony, 1977: 218). To some extent, this view is not at odds with

Marx's concept of the 'anarchy' of capitalist production (Blackburn, 1972: 168). For Marx, the term 'anarchy' has a double sense. On the one hand, it refers to the ultimate goals of capitalism, i.e. the accumulation of capital and the making of profit. On the other hand, this anarchy means that the actual mechanisms of capitalism are always unstable – the market system is not always under our control. That is, the capitalist economy inevitably goes through a cycle of booms and slumps. If this view is correct, it is implied that capitalism is always in need of a more effective way to control its own production system. The evidence is that 'market failure' plays a significant role in macro-economics, a subject created to deal with issues associated with economic growth. In any case, if the market mechanism is of importance to capitalism, we should understand that this economic system was, at its birth, heavily based on Adam Smith's original idea of the market. However, as with much orthodox economics, his notion of the free market has an intrinsic problem or – theoretical 'inconsistency', and, to certain extent, market-driven managerialism could come to the rescue.

In the field of economics, many believe that the 'invisible hand' is central to Adam Smith's ideal economic system wherein there is no need for any governmental intervention, as this system would automatically reach its equilibrium. Smith proposed that the business owner 'intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to prompt an end which was no part of his intention' (Smith, 1937: 423; first published in 1776). However, it is somewhat paradoxical that if Adam Smith's ideal market system were indeed at work, there would be no economic growth at all. Why? Because, in Adam Smith's 'moral' view, the invisible hand is, in fact, not supposed to support capitalist interest of the accumulation of capital, but rather to impose constraints on capitalists (Korten, 1999: 154). In 'the theory of the firm' (microeconomics), we can find that the 'perfect competitive market' seems to be very close to Adam Smith's ideal model of market mechanism. Yet, in theory, a 'perfect competitive market' will drive all commodity prices down to the minimum level, and in such a condition none can earn 'excess profits' (e.g. Nellis and Parker, 1992: 73-76). To put it another way, in Adam Smith's ideal market system, all suppliers – or 'capitalists', as well as ordinary people, are powerless price-takers, and when companies earn 'supernormal' profits (i.e. profits beyond what is necessary for their survival), they will either be forced to leave the market, or to reduce their commodity prices – the source of their excess profits. As such, Adam Smith's idea, in essence, implies a kind of equilibrium between different agents in the market system. But, the problem here is that if there were no 'excess profit', there would be no 'innovation' – for innovation heavily relies on companies' supernormal profits. Of course, the perfect competitive market seldom exists in reality.

One might conclude that this is because Adam Smith's ideal market, or the laissez-faire model, is merely a theoretical abstraction of real-world markets. But it could also be possible that, from many latter-day economic perspectives, for instance, some neo-classical economics or Thurow's notion of the knowledge economy, 'disequilibrium' (or economic inequality) between different agents is a necessary condition for innovation, for it is claimed that innovation can conquer the 'economic law of diminishing returns', thus achieving the goal of economic growth (as seen in chapter three). In brief, with regard to the goal of economic growth, it seems that we should preclude a 'perfect' market mechanism. We shall see later that this theoretical inconsistency seems to have paved the way for the rise of market-driven managerialism. However, let us put the theoretical issues aside and consider what has happened in the real-world economy.

Burnham (1941) pointed out that, in a practical sense, the mid-twentieth century governmental project in America known as the New Deal seemed to signal that market-driven managerialism, to some extent, had become an integral part of areas of industrialisation. Although, as we have illustrated, he tended to see management as a concrete, homogenous social class, the importance of his view is that he also considered that management carried some ideological implications. In the eyes of Burnham, the New Deal could be seen as the first signal denoting the rise of managerialism. The New Deal was created to solve some serious economic problems, including mass unemployment and a huge economic slump – the Great Depression. In brief, it appeared to be a successful governmental intervention in the market system, and an effective governmental project dealing with the problem of 'market failure' – one of the biggest problems in macro-economics. From an orthodox Marxist viewpoint, the New Deal definitely represented the interest of the capitalist class. But, paradoxically, Burnham observed that most capitalists during that time strongly opposed the New Deal. For Burnham (1941: 260-261), the reason was that capitalists realised the fact that the New Deal was anti-capitalist in its orientation. From a sociological standpoint, the New Deal can be understood as a sort of marriage between economic liberalism and social democracy, which, clearly, interfered with the dogma of laissez-faire, though the policy finally strengthened capitalism (Hobsbawm, 1994: 270). In this respect, Burnham's (1941) conclusion was that the capitalists' opposition to the New Deal was, perhaps, not so much practical as ideological.

In any case, the period between 1947 and the early 1970s was a time when capitalism found itself, to everyone's surprise including its proponents, surging forward into the unprecedented and possibly anomalous epoch which can be labelled as 'the Golden

Age of Capitalism', and this is to a great extent led by America (Marglin and Schor, 1990). Although there is no general agreement on why this occurred, it is clear that in the Post World War II period capitalism was a system 'reformed out of all recognition' or a 'new version of the old system' – in the words of the British premier Harold Macmillan (Crosland, 1964; quoted in Hobsbawm, 1994: 270). A defining characteristic of the Golden Age was that the public decision-makers, particular in the industrial countries, considered that the Great Slump (for economists, 'market failure' might be the preferred term) was due to laissez-faire and unrestricted capitalism, and therefore they held the new belief that the market would have to be aided by, or work within the framework of, economic 'management' and public planning. As such, there seem to be an unspoken consensus amongst many economists, as well as public decision-makers:

All wanted a world of rising production, growing foreign trade, full employment, industrialisation and modernisation, and all were prepared to achieve it, if need be, through systematic government control and the management of mixed economies, and by co-operating with organised labour movements so long as they were not communist. The Golden Age of capitalism would have been impossible without this consensus that the economy of private enterprise needed to be saved from itself to survive (Hobsbawm, 1994: 273).

This climate even turned laissez-faire champions, such as the economists Lionel Robbins and Jean Monnet, into followers of economic planning – or Keynesian supporters (ibid: 273). In a sense, Burnham's (1941) analysis was correct, in that from 1947 to 1973 (the oil crisis), the managerial way, or Keynesian economics⁵, showed its superior ability – the world economy was growing at an explosive rate. Although the Golden Age essentially belonged to industrialised countries, this tremendous economic growth was a worldwide phenomenon which, ironically, included many communist countries: the growth-rate of the USSR in the 1950s was faster than that of any Western country's, and the GDP per capita in most Eastern European countries grew slightly faster than in many capitalist industrial countries (IMF, 1990: 65). Moreover, the strong economic growth of communist countries is not at odds with Burnham's view, because he saw the communist revolution as a non-capitalist example of managerial revolution (Burnham, 1941: 207).

If the Golden Age was about reforming and 'managing', if not replacing, conventional

⁵ Although economists may not agree with the term 'market-driven' managerialism, from the point of view of a public decision maker, Keynesian economics simply means a different approach (e.g. an intervention in the market) to 'managing' the economic system.

capitalism in its orientation, it seems that this reformism did not survive beyond the 1960s. The year 1968 was the turning point of the Golden Age, which was followed by economic depression in the 1970s. Whilst some have attributed this to the OPEC oil sheiks, Marxist theorists would argue that it was simply one of the inexorable and periodic recessions (or the long waves⁶) which occur roughly every fifty years in capitalist society, providing the basis for periods of sustained accumulation (e.g. Mandel, 1975). However, from some economic perspectives, one of the major reasons might be the contemporaneous labour shortage. At the end of 1960s, there was a slow down in the productivity growth alongside a disproportionate rise in wages, which, in turn, resulted in serious inflation (Friedman, 1968: 11). Moreover, the economic recession was also accompanied by some social phenomena, such as worldwide student and labour revolts. Although student radicalism had a limited impact on the political environment, for most students were not within the production system, it certainly had important cultural implications (Hobsbawm, 1994: 285). Many of the 'new Left' even believed in 'a return to class struggle in this recognition of market realities' (ibid: 285). In any case, the managerial way seemed to have been invalidated. Along with this social/economic destabilisation, during the 1970s the consensus shifted towards the Left. Notwithstanding, this movement, as well as class struggle, was not able to change the capitalist mode of production (Guattari, 1984: 106), but it did somewhat break the conventional threads which in the past had woven human beings into social textures. The significance of this rejection of the past is that it was 'in the name of the unlimited autonomy of individual desire', according to Hobsbawm (1994: 334):

The world was now tacitly assumed to consist of several billion human beings defined by their pursuit of individual desire, including desires hitherto prohibited or frowned on, but now permitted – not because they had now become morally acceptable but because so many egos had them.

This supposed desire-driven revolution had some impacts on politics, and, more importantly, it indeed led to some extent to personal and social liberation, often in relation to sexual behaviour⁷ (ibid: 333). But in terms of a shift in the social-economic system, such revolution seemed to be unsuccessful. Deleuze and Guattari's critique of Marx offers a possible explanation (Goodchild, 1996: 120):

⁶ The term 'long waves' was proposed in the early 1920s by the Russian economist N. D. Kondratiev, who discovered a pattern of economic development through a series of long waves of fifty to sixty years.

⁷ For example, one of the May 1968 slogans: 'When I think of revolution I want to make love', implies that sex and the 1970s' revolution could not be clearly separated (Hobsbawm, 1994: 333). In the 1970s, homosexuality also became a newly extended field of publicly acceptable behaviour.

The classes of 'capitalist' and 'workers' are merely roles assigned by the functioning of capital; class revolution, allowing workers access to the means of production, does not change the machinic mode of production. Power does not operate through dominant classes, but merely produces such classes as its effect. Class struggle will therefore be ineffective in challenging the dominant regime of power.revolutionary transformation occurs in the creation of a new subjective consciousness....

Managerial techniques seemed to achieve some triumphs in the public domain between the 1940s and 1970s, but the 1980s, a time when free market regimes were in power, might, *prima facie*, qualify as an anti-managerial era. The recession in the 1970s was indeed a mark of permanence in the shift in the economic conjuncture that signalled the end of the Golden Age, which was, as usual, not recognised by business elites, politicians and economists. The recipes of Keynesian economic management, or the managerial approach to economy, seemed to fail to cure the 'new' social/economic crises. This, in turn, encouraged the rise of ultra-liberal economic theology⁸ and individualism⁹ (Hobsbawm, 1994: 409; 337). Although many economists would claim that neo-liberals (neo-classical economists) and (neo-) Keynesians hold distinct assumptions and each has its own theoretical base, the debates between them are in fact the debates between two seemingly 'incompatible' beliefs. While the former has a strong belief in the power of Adam Smith's 'invisible hand', believing that economic liberal policies, such as the prevention of the control of inflation and private business, will allow efficiency, or profits, to improve, the latter considers that it is high wages, full employment and the Welfare State that together create consumer demand, which, in turn, will fuel economic growth (*ibid*: 409). In other words, the debate, in essence, denotes two sharply divided beliefs concerning whether the old capitalist way or the managerial way is better at achieving efficiency. However, the debate might be endless, in that neither of them has yet proved to be more correct. For example, even during the 1980s, a time when free-market theology was dominant in major industrial countries, in the Soviet region, neo-liberal economic policy, implemented on the advice of Western economic gurus, caused a huge economic disaster (Gray, 1998: 133-165).

In the early 1980s Keynesians economics was not so successful. This was partly because it failed to deal with the depression stemming from the 1970s. Along with this depression, industrial societies also went through some important changes.

⁸ For example, the Nobel Prize for economics was awarded to the *laissez-faire* apologist Friedrich von Hayek in 1974, and, two years later, to the economic ultra-liberalist/monetarist Milton Friedman.

⁹ The link between liberal economics and individualism is well-illustrated by the equation: 'Free Market=Freedom of the Individual'. As Margaret Thatcher claimed: 'There is no society, only individuals' (quoted in Hobsbawm, 1994: 337).

Firstly, old capitalism became what Guattari (e.g. 1984b: 263) termed 'integrated world capitalism' – in other words, economy became globalised – and this implies that 'market' had become uncontrollable, and a more effective controlling mechanism was required. Secondly, production shed human labour faster than the economic system generated new jobs for it, and this was partly due to the development of technological innovation (e.g. Gray, 1998: 83-7). Although neo-liberal economists, in opposition to Marx, would argue that the vast economic growth made possible by constant industrial/technological innovations create more than enough jobs to replace the old ones, the reality often suggests that technology/industrialisation, in essence, usually means replacing with machines, and this process is itself being accelerated by globalisation and global competition (see Gorringer, 1999; Hobsbawm, 1994: 414).

Notwithstanding, although economic management became less effective, this by no means implies that liberal regimes, such as Reagan's America and Thatcher's Britain, discarded economic management methods. Rather, managerial methods officially appeared in laissez-faire guises, such as 'balanced budgets' or Friedman's 'monetarism'. For instance, while Reagan's America ran a huge deficit and spent gigantic sum of money on armaments, Britain taxed its citizens much more heavily than they had been taxed under Labour (Hobsbawm, 1994: 413; see also Gray, 1998: 104). The political-economic trend in the 1990s generally was a protraction of the 1980s, in the sense that there was no significant shift in the mode of production, and economic policies were still heavily based on neo-liberal triumphalism with economic management in subtle effect¹⁰ (cf. Gray, 1998: 116-132). Some would argue that capitalism has entered a new period – e.g., while Drucker has referred to 'post-capitalism', Thurow prefers the term 'knowledge economy'. However, according to the logic of much orthodox economics, the current economic system is sustained by economic growth, that is, the ultimate goal and logic is still the accumulation of capital. Nevertheless, increasingly 'rational' methods are employed. This, perhaps, suggests that current capitalism has absorbed some components of managerialism. But, as our economic analysis shows, the managerial approach has not effectively solved our economic problems associated with capitalism. Thus, there arise some questions: in the context of the social good, what can we make of

¹⁰ For leaders of some major industrialised countries, America in particular, the unexpected collapse of the 'Evil Empire – the USSR' was seen as the greatest triumph of democracy, and, theoretically, the end of a crusade. However, this democracy still has its enemies – from 1980s Grenada to current 'terrorist' countries. For capitalism, war might be helpful. Practically speaking, military spending is good for economy, because through Keynesian 'multiplier effects' it can increase industrial investment and employment in private sectors, or, at least, it directly creates job vacancies and benefits the munitions industry (Barnet, 1981: 97). For example, America successfully ended the depression of 1979-1982 by running a gigantic deficit and undertaking a huge armaments build-up (Hobsbawm, 1994: 412).

managerialism? And, does managerialism offer a satisfactory solution to the traditional problems associated with capitalism?

Managerialism and its Discontents

Literature on the problems caused by, or associated with capitalism is extremely extensive, though, with the fall of communist regimes in the last two decades, today fewer people believe that Marx's grave-diggers (working class) will launch a revolution. Our intention here is not to comment on all of the debates between anti-capitalists and pro-capitalists, as they extend beyond the scope of this thesis. What is of more interest here is whether current capitalism, having absorbed some seemingly 'rational' methods, functions 'better' than the old system. At a macro-economic level, we have seen that managerial approaches may solve some problems within a short period of time, but they then cause other problems. Blackburn (1972) believed that shifts in macro-economic methods might signal the concrete conflicts existing between the managerial class and the capitalist class, while Larry (1998) suggested that it is better to understand these shifts as indicative of the differences between conventional economics and the managerial approach. Of the two, perhaps Larry's view provides a better understanding of the current state of affairs. This is because, as we have contended, economics is more or less abstract, whereas management is created by pragmatic interests, and at a conceptual level management may also function as a supplement to economics. But the question still remains: does this supplement make capitalism better? In a limited sense, it does – if societal progress is merely to be measured in terms of material advance; however, I wish to illuminate some dimensions of this issue that are not seriously discussed in mainstream management literature, that is, I assume that progress or betterment is a much more complex issue, especially when we move beyond the economic domain. To this end, I will take Thurow's analysis of American society as a starting point. There are two reasons for this. First, the New Deal project originated in America, and a comparison between Thurow's ideas and the New Deal may shed light on our understanding of current managerial components at the macro level. Second, the term KM is strongly associated with the American author Peter Drucker and has been further strengthened by American economist Lester Thurow, both of whom seem to propose a theoretical framework that has largely shaped the mainstream understanding of KM. Let us start with some social phenomena in the United States.

The Knowledge Economy?

Thurow's thesis seems to be very close to Peter Drucker's theory about knowledge. In the 1960s Drucker coined the terms 'knowledge society' and 'knowledge worker', and expected that knowledge workers would become the major protagonists in future society (Drucker, 1993: 5):

The single greatest challenge facing managers in the developed countries of the world is to raise the productivity of knowledge and service workers. This challenge, which will dominate the management agenda for the next several decades, will ultimately determine the competitive performance of companies. Even more important, it will determine the very fabric of society and the quality of life in every industrial nation (Drucker, 1991: 69).

Thurow shares a similar view. However, from an economic position, Thurow put forward the idea of the knowledge economy, which seems to strengthen Drucker's conviction. Thurow's idea is that in the future the conventional class struggle between labour and capital will be replaced by a new form of conflicts – between knowledge workers and non-knowledge workers (e.g. Thurow, 1999; 1996). According to Thurow's investigation, 1968, particularly in America, was a watershed year. That is when the rate of inequality in society started to rise rapidly. With statistics and economic predictions, Thurow discovered two trends in relation to the state of the world's workforce. **Firstly**, he observed that the disparity between the rich and the poor is becoming more extreme – in America, the real per capita GDP rose 36% from 1973 to 1995, but the real wages of the vast majority of the workforce fell 14% (ibid: 2). **Secondly**, he found that the unemployment rate is rising in industrial countries, but there has been a structural shift in America – in recent decades, the job losses have come from the mid-skilled workers (ibid: 173-80). Although Thurow believed that these are some new phenomena associated with the 'knowledge economy', it seems that his 'discoveries' are among capitalism's inevitable trends that Marx was well aware of more than a hundred years ago. However, Thurow argues that this is not evidence of the same old inherent contradiction within capitalism (between capital and labour); instead, he thinks that it is because of the conflict between knowledge workers and non-knowledge workers. Thurow labels this a 'surging inequality', and presents it as a necessary adjustment to the 'new' forces shaping capitalism (e.g. ibid: 6-10; 20).

Under the basic principles of efficiency, there is pressure in all industrial countries to lower the average wage (i.e. inputs), but there are different ways to achieve this – the

United States has a larger unskilled sector with slightly lower unemployment, while Germany has a larger skilled sector on higher wages but with higher unemployment. As such, in Thurow's mind, the United States is different from other first world countries, and America represents a distinct way to achieve 'efficiency':

America is uniquely a first world economy with a third world economy inside of it....American corporations operate with a skill structure very different from that found in Japan or the European continent. They essentially use more managers and professionals (11.5% of the workforce in the US versus 5.7% in West Germany) to deskill the production process. This allows US firms to employ fewer mid-skill workers and more unskilled workers than would be the case in either Germany or Japan. Americans 'dumb down' the production process. German firms operate with fewer managers and professionals by 'skilling up' the bottom of the workforce....(ibid: 173)

Since a large number of mid-skill workers have been thrown into unemployment, the American social structure is correspondingly changing. As he noted in the prologue to *Building Wealth*:

The middle class is shrinking. Some are moving up, but a larger number are moving down-not surprising given what's happening to wages for midrange skills, but still disturbing. The financial pages report daily on a stock market boom, but the median household's wealth is falling, not rising, and it has less than \$10,000 in financial assets. The bottom 20 percent of the population owes more than they own (Thurow, 1999: xiv).

As we have seen, Thurow tends not to make a clear distinction between management and knowledge workers¹¹. For Thurow, the two social classes, management and unskilled workers, were the engines of American economic growth, which in turn made the United States the economic leader amongst all industrial countries. In this logic, there is little room for mid-skill workers (nor the middle class or retired people¹²) with regard to improving 'efficiency', and it follows that discarding certain economic groups is definitely necessary. However, although Thurow 'discovered' the intrinsic problems of capitalism at its birth – as Marx discovered them two centuries ago – instability, rising inequality, impoverishment, Thurow tends to offer managerial

¹¹ In this regard, Drucker showed a similar tendency. For Drucker, the difference between knowledge workers and intellectuals is the difference between managers and intellectuals. Throughout Drucker's *Post-Capitalist Society* (see 1993: 7), there is only one passing mention of the term 'intellectuals', and he believes that our new urgent task is to synthesise the two roles: managers and intellectuals. Clearly, for him there is no need for intellectuals if they cannot improve economic efficiency.

¹² To Thurow, perhaps, the only economic value of old people is that they are usually wealthier than the young, and therefore he suggests advertising more to older people to create markets (Thurow, 1996: 2).

resolutions. While Marx believed that the only way forward was to build a completely new system to replace capitalism and remove its social hierarchies, Thurow shows an affirmative attitude to capitalism, though he suggested that the minor pains it brings needs to be eased by reforming certain peripheral features and smoothing its rough edges, i.e., by making capitalism more efficient, the 'surging inequality' can be overlooked, at least in the present stage. Without doubt, for Thurow, only knowledge workers (or management) have this transcendent ability to guide people to universal progress – through efficiency. An additional point here is that he also exhibits a strong belief in the free market system, and he seems to see the associated social problems as an issue associated with 'market failure'. Here, again, a neo-classical economic hidden logic is at work: economic growth = material progress = societal progress. Yet what is of importance here is not Thurow's 'discoveries', but that he indeed represents a set of managerial values and beliefs.

Since Thurow's (1996: 21) discovery of 'surging inequality' drew attention to some realities in America in the age of the 'knowledge economy'- most income earners have experienced the trickle-up rather than the trickle-down effect – Milanovic and Yitzhaki (2002: 29) have argued that there has indeed appeared a significant burgeoning of what Marx have called the 'lumpen proletariat' on a global scale. According to Milanovic and Yitzhaki's (2002), the world's middle class is indeed moving down¹³ (in industrialised countries in particular), largely accelerated by the general trend of globalisation and related managerial projects, such as privatisation. Equally, since the 1970s, in terms of real income, inequality between populations, both between and within countries, has grown worse, despite a significant increase in GNP per capita: the poorest 20 percent of the world population has got poorer, the richest 20 percent has got a lot richer, and the larger group in the middle has also emerged worse off. While in Macarov's (2003: 122-3) view, technological advances and the adaptation of new managerial techniques would inevitably result in an increase in social inequality, some management scholars have also showed that at an organisational level these new managerial techniques may lead to unemployment (e.g. Knights and Willmott, 2000; Grey and Mitev, 1995: 6).

If Burnham's argument that the New Deal was one of the first signs of managerialism in the public domain, we could also see the crash of 'WorldCom' as comparable event at a political level. Since 2001, there has been a general demise of telecoms companies, which, as a whole, have run up total debts of around \$1 trillion.

¹³ By Milanovic and Yitzhaki's (2002) definition, today only 11 percent of the global population is middle class, and 78 percent of people are the poor.

WorldCom, amongst others, has contributed to this; however, in this case there was something different. To conceal the huge scale of their losses, WorldCom 'misclassified' \$3.8 billion in network-maintenance costs as capital spending. Although this might be the biggest failure in business history to date (The Economist, 2002: 11), such fraudulent tricks are by no means new to current society. The point here is that the case of WorldCom also denotes a mindset and some embedded ethics associated with managerialism.

In July 2002, Michael Powell, America's telecoms regulator, signalled that he would consider allowing one of the telecoms oligopoly companies, Bell, to buy WorldCom. Bell was at the time prohibited from fully entering the long-distance telecoms market by antitrust rules (ibid: 11). Meanwhile, Bell was also pushing for regulatory concessions that would let them establish new monopolies in high-speed 'broadband' Internet access, and they won a number of victories (ibid: 11). Here, it is possible to identify at least two attitudes expressed by Powell: the managerial attitude and the belief in a liberal market. On the one hand, when an old organisation is proved to be not 'efficient' enough, it should give way to a 'more efficient' organisation. On the other hand, the principles of laissez-faire rationalise this process. Indeed, under the premise of efficiency, monopolies are much less harmful than inefficient organisations.

Comparing these ideas with Burnham's observations in 1941, it seems that we can find some similarities. Burnham described the New Deal bureaucrats (administrators or technicians) in this way:

[They] are doing the actual running of the extending government enterprises: in short, managers. These men include some of the clearest-headed of all managers to be found in any country. They are confident and aggressive. Though many of them have some background in Marxism, they have no faith in the masses of such sort as to lead them to believe in the ideal of a free classless society. At the same time they are, sometimes openly, scornful of capitalists and capitalist ideas....'They believe that they can run things, and they like to run things'. (Burnham, 1941: 255; emphasis added)

It has become clear that managerial attitudes (and techniques) and belief in the free market have become an integral part of much of industrial civilisation. But in terms of the problems inherent in capitalism, it has not yet been proved that managerialism can provide a satisfactory solution. In the next section, I will shift emphasis away from these practical issues to the theoretical issues associated with managerialism. Our intention is to show that the major problems with managerialism cannot be technically

solved; that is, we need to think the fundamental, though problematic, assumptions on which managerialism rests. I will further illustrate that, due to these underlying assumptions, managerialism represents an obstacle to the solutions to our environmental crises.

Rethinking Managerialism

The economic account of managerialism implies that capitalism can hardly function alone, and managerialism plays an important role in many industrial societies. From a radical perspective, we have noted that capitalism is an abstract economic concept which lacks the 'technical' capacity to maintain its own system, and managerialism can be seen as a construction created to meet this need (e.g. Blackburn, 1972: 168). At a conceptual level, managerialism to some extent sustains the neo-classical economic logic that economic growth = material progress = societal progress. At a political level, we have seen that purely laissez-faire economy hardly exists – regimes that have been most deeply committed to laissez-faire economics, such as Thatcher's Britain or Reagan's America, have viscerally used managerial economic methods. At an organisational level, the concepts of management and managerial techniques are necessary components of today's business enterprises. All in all, this seems to suggest that managerialism has served as an important mechanism in terms of social control. However, I have argued that it cannot be seen as a practical and effective 'solution' to our social problems; rather, it has some problematic and even 'dangerous' assumptions associated with its theoretical base. More importantly, we need to recognise that some of these assumptions may become a major difficulty in terms of our understanding of alternative values and practices.

First, managerialism is often constrained by its assumptions of rational 'predictability' (c.f. Alvesson, 1987). This is also an 'internal' problem associated with mainstream management. In order to conquer this problem, some mainstream management has become less normative but more 'descriptive', and we can also find that some of it even adopts some languages hitherto associated with Marxism (as seen in chapter three). To understand this, we should note that managerialism has its roots in Taylor's scientific interest, and rational predictability here refers to an absolute (or rational) relationship between means and ends, usually in connection with economic efficiency. However, while managerialism is based on its promise, or its 'explanatory power', of providing prescription for our economic or social problems associated with efficiency, management is founded on the claim that it is able to improve efficiency at

an organisational level. Nevertheless, with the collapse of positivist orthodoxy in the 1970s, management knowledge has become much more fragmented – for instance, qualitative research on management is accepted (Whitley, 1984). This seems to indicate that many theorists have recognised that management is unable to establish a rational relationship between means and ends. From a radical perspective, if knowledge usually contains subjective dimensions and is always within the relations of power, it is also possible that management can, at best, only provide a short-term solution to its pre-given goal of ‘efficiency’.

However, it is not necessary to discuss this except insofar as to show that a shift in the knowledge base of mainstream management does not challenge the meta-theoretical purpose of management but rather provides a different legitimate basis for it. If Anthony (1977: 220; 290; see also Bendix, 1974: 202; Dahrendorf, 1959) was correct in understanding the development of different management chic as a symptom of managerialism and of its changing basis for authority, it is possible that managers are often encouraged to think about ‘how’ to solve the pre-given problems rather than address the ‘why’ questions, such as why economic efficiency should be the meta-theoretical purpose of organisations. As a sub-field of mainstream management, KM seems to be following a parallel course. Our deconstructive approach showed that much orthodox KM has its roots in the functionalist paradigm, and a functionalist approach is often used as a strategy to deal with the relationships between efficiency, organisation and KM. Each model may provide a distinct solution to the problem of KM, but each is sooner or later challenged and replaced by subsequent models. While some KM theorists are still trying to map out a ‘predictable’ relationship between efficiency and organisation, some others seek to offer a descriptive, or analytical approach to KM. However, one fact remains: efficiency is still held as an unquestionable goal. Clearly, if managerialism was created exclusively to solve pre-given problems, it will be unable to challenge the fundamental assumptions on which it rests. When it is confronted with the problem of dealing with the issue of efficiency, it usually shifts its legitimate basis at the level of method.

Second, managerialism to some extent may provide a different legitimate basis for capitalism, as well as producing a kind of **illusion** that obscures the distinction between its own **goodness and universal values** (e.g. Ingersoll and Adams, 1986). Before getting a grip on this idea, we need to make a distinction between the technical and the legitimizing functions of management. The technical function is directed at the converting processes, and is concerned with how to maintain them in the highest state of efficiency; the legitimizing function of management is concerned with how to

‘achieve approval for managerial authority by those over whom it is exercised’ (Anthony, 1977: 219; see also Child, 1969: 227-31). In this regard, we have already suggested that the conceptual framework of managerialism is somewhat hollow. On the one hand, from an orthodox economic perspective, while Adam Smith’s ideal model of the free market may hardly exist, it is possible that management is merely used as a means of maintaining the economic system, i.e. the accumulation of capital. On the other hand, management may also create an illusion. As Dahrendorf (1959: 44) noted:

.....the old-style capitalist exercised authority because he owned the instruments of production. The exercise of authority was part and parcel of his property rights, as indeed property may always be regarded from one point of view as simply an institutionalised form of authority over others.

But authority based on ownership seems to be unstable, and the appeal to the efficient ‘accumulation of capital’ may be ethically unsound. In this respect, Anthony (1977: 219) observed that the industrial authority of some capitalist societies had already been drawn from a different source – managerialism. However, Anthony (ibid: 226-227) understood this basis for legitimisation as an ‘illusion’ in which he identified four core embedded elements: (1) the end of ownership; (2) managers are virtually indistinguishable from other workers; (3) managerial appeal lies in its emphasis on the common interests of employees; (4) managers are professionals whose function is to improve the profitability of industry, for the benefit of all. While different aspects may be more or less evident at any given time or in any given society, the first element seems to be more important to the extent that it may lead to a conviction: **the employer in the traditional sense has gone.** At this point, some Marxist theorists would argue that we need to make a more sophisticated distinction between different levels of management, as senior managers may be part of the capitalist class while junior managers are part of the proletariat (e.g. Dumenil and Levy, 1993). Certainly, it would be too simplistic to see managers as a single homogeneous group, or as a fixed sociological type, but in Anthony’s (1977:291-292) view, to agonise over the hierarchical structure or the categories of managers seems to be beside the point. This is because, with managerial techniques and knowledge, capitalists can function as managers, but managers can rarely function as capitalists, insofar as managers do not completely own the means of production. In most cases, management, as it were, still functions as the ‘agent’, on behalf of the ownership.

However, what is of more interest here is that such an illusion may confuse managerial goodness with universal interests. But what is the goodness of

management? Simply put, the ethics of managerialism is **economic efficiency** within the structure of capitalism. On a global level, it is no surprise that economic growth has become an important issue that has occupied the field of politics, and in many countries economic goals have attained the highest regard. While the economic system is supposed to be based on the pursuit of maximum economic performance, many also believe that economic growth is a 'necessary' condition for achieving a higher quality of life. For example, in the 1992 United Nations Conference on Environment and Development, when the world's political leaders attempted to solve our environmental problems, they concluded that economic development and environmental protection must be 'compatible' (Pepper, 2000: 445). As if this was not enough, in 2000 George W. Bush, the president of the United States, rejected the idea of ratifying the Kyoto Protocol because he claimed that the protocol would harm the American economy. But does economic growth indeed lead to a higher quality of life? In a limited sense, it does – if our quality of life is only to be measured in terms of material progress. However, some people, such as deep ecologists, equally contend that the interest in economic growth has displaced other social and non-monetary interests, and this has altogether led to our present environmental crisis.

Thirdly, one of the inseparable but more dangerous dimensions of managerialism is that it is, in a sense, a modern version of **anthropocentrism**. Fineman (1998: 244) argues that it is the belief in 'man controlling his environment', and this also implies that managerialism at least shares some features with anthropocentrism. It is worth noting here that deep ecologists understand anthropocentrism as a major cause of the environmental crisis, and they seem to also have identified a deep-rooted problem associated with the predominant managerial view of the world¹⁴. Anthropocentrism, as already argued, developed out of a human-centred worldview which presumed that humankind has superior ability to govern the whole world. It further absorbed a Newtonian-type of reductionism, a 'secular' belief that we can 'isolate' our problem from its environment, split up a problem into smaller components, analyse each of them, and thus ignore the 'complex interactions between our problem and the rest of the universe' (Toffler in Prigogine and Stengers, 1984: xi). One of the consequences of this is that humankind becomes a mere object of technical and mechanical investigation, and many of today's mainstream management theories seem to share this tendency:

¹⁴ Here, Thurow, who holds a strong belief in the managerial approach to addressing social problems, seems to have found that the current state of economic growth may be a major cause of our environmental crisis. But his idea is that, with our superior techniques, we are still able to control the environment, thus solving the conflict between environmental protection and economic progress. In terms of global warming, he has attempted to convince us that it is 'time for unclear power' (Thurow, 2001).

[management] sees people as workers and seek to ignore or downgrade in significance any aspect of this worker which is perceived to be not directly relevant to organisational needs, and the attendant behaviourism which assumes that individuals can be understood simply by observing their behaviour and that modification of such behaviour for the benefit of the organisation, irrespective of benefit to the individual, is not just legitimate but a managerial prerogative. (Jackson and Carter, 2000: 163)

At a conceptual level, anthropocentrism implies a Cartesian belief that 'man is master and proprietor of nature'. At an organisational level, some have argued that in organisation studies anthropocentric thinking may provide the legitimacy for an 'egocentrically' oriented model whereby rational, self-interested agents can optimise and exploit the social and natural environment to their 'competitive advantage'. As Trist (1981: 43) suggested: 'Traditional organisations serve only their own ends. They are, and indeed are supposed to be, selfish'. Some believe that this position has a moral implication: 'ethical egoism' (Rand, 1967). With ethical egoism and self-interest as dominant value orientations, egocentric actors – whether they be individuals or organisations – are more likely to pursue an economically advantageous course of action when confronted with a choice between environmental preservation and economic development (Axelrod, 1994: 101). Although some organisation theorists have turned to the life sciences and imported 'organismic' metaphors to help explain organisation-environment transactions (e.g. Morgan, 1986), these models, paradoxically, share a common egocentric assumption, which requires ignoring the intrinsic value of the natural environment. This has occurred as a result of a Newtonian-type of reductionist interpretation of organismic theories through a mechanistic worldview (Purser, 1993). For example, Emery (1995) noted that the mechanisation of open systems theory occurred as socio-technical systems practitioners (in the United States) narrowly defined the concept of directive correlation as a limited problem of adaptation to the task environment. Similarly, contingency theory offered a means of identifying patterns of 'good fit' (Lawrence and Lorsch, 1967) between organisational structure and the complexity of the business environment. The resource-based model, which viewed organisations as actively seeking resources from the environment (Pfeffer and Salancik, 1978), is centred around the issue of how organisations can 'optimise' their capacities for resource acquisition, in order 'to manipulate the environment to their own advantage' (Hall, 1987: 303). Taking a population ecology model (Hannan and Freeman, 1977), some organisational theorists placed more emphasis on the economic and institutional environment as a force in organisational survival. At the core of egocentric

organisation theories is an anthropocentric assumption that nature and our environment hold potential resources that have no intrinsic value until they are used by humans. Of course, it may be true that only humans are capable of bestowing value upon things in nature, but this truism has been distorted to mean that value is exclusively applicable to humans. This perception also implies that value in the environment does not exist objectively, unless it is ascribed by humans (Martell, 1994).

However, problems with environment have also been discussed in some management literature, such as 'corporate environmentalism' or corporate greening, in recent years, although the pursuit of environmental protection is, sometimes, still under the assumption of the egocentric model (Crane, 2000). Organisations are perceived in terms of how organisational constituents would benefit or be affected. Some are still concerned with problems related to depletion of resources that are required for production processes, compliance with environmental legislation and alleviation of health hazards to avoid litigation, and image enhancement of the corporation to retain 'shareholder value'¹⁵ (Post and Altman, 1994). These concerns in fact lay within the mindset of 'corporate environmentalism' (or corporate greening). Corporate environmentalism addresses these issues quite effectively, but often for their anthropocentric reasons. Moreover, the types of environmental problems that are addressed, the scope of care, and the range of ethical extension to different parts of the environment will be limited to a narrow domain that incurs immediate benefits to egocentric organisational concerns. Even the current practice of socio-technical systems (e.g. Pasmore, 1988; Taylor and Felten, 1993) defines the unit of survival in the environment as a single focal organisation. Discourse involving environmental decision-making is confined to issues and positions that maintain the egocentric identity of the organisation (Boje and Dennehy, 1993). As Morgan (1986: 243) contended:

Egocentric organisations draw boundaries around a narrow definition of themselves, and attempt to advance the self-interest of this narrow domain. In the process, they truncate and distort their understanding of the wider context in which they operate, and surrender their future to the way the context evolves.

¹⁵ The issue of resource is an important in neo-classical economics, which usually assumes that our desire is unlimited but our resources are limited, so one of the tasks of economics is their 'optimal allocation'. But the problem is, this means assuming that environment and nature are potential resources that can be utilised by human beings. Implicit in this thinking is the assumption that nature has no intrinsic value.

In 1955, Charlie Wilson, the chairman of General Motors, summed up G.M.'s philosophy: 'What's good for General Motors is good for the rest of America'. This philosophy seems to express the system-environment relationship from the point of view of an egocentric observer – in other words, an anthropocentric attitude. The anthropocentric view subordinates the environment to the needs of the system, which is posited as standing outside (and above) nature. An anthropocentric orientation further generates disjunctive cognition (see Morin, 1992), which is enacted in terms of a contracted focal setting (Montuori, 1989; 1993). This disjunctive aspect is evident in the imaginary oppositions that are created between human and nature, organisation and environment, but also in terms of the oppositions created between managers and workers, men and women, and so on. For many deep ecologists, these are not simply either-or dichotomies; they are power relationships, with one term superior to the other: humans over nature, management over workers, men over women and so forth. Anthropocentric organisations do not give adequate consideration to how their activities will have an impact on, alter, or interfere with the complex loop structures within ecosystems. Anthropocentric organisations also subscribe to the belief that 'growth is always possible, that new technology will ensure a perpetual and inexhaustible source of natural resources'.

Toward a Minor Approach to Knowledge Management

While some people understand capitalism as an economic system of accumulation and distribution, I have argued that capitalism is often constrained by its own assumptions. As such, we can possibly see managerialism as a controlling mechanism which has become full-fledged in many industrialised societies, and which has a somewhat pervasive quality. Pollitt (1993) summed up this quality by describing its presence both, in the macro-culture, and in the business subculture, altogether as a 'value system':

.....the world should be a place where objectives are clear, where staff is highly motivated to achieve them, where close attention is given to monetary costs, where bureaucracy and red tape are eliminated. If one asks how this is to be achieved the managerialist answer is, overwhelmingly, through the introduction of good management practices, which are assumed to be founded at the highest pitch and most widely distributed in the private sector. (Pollitt, 1993: 7)

However, we have seen that there are some inherent problems associated with this controlling mechanism, and earlier I identified three core elements. While different

aspects may be more significant in any given context, these elements altogether have an enduring quality in that they play an important role in what we have termed 'mainstream management'. To the extent that anthropocentrism and the illusionary effect are more or less subtle, the first element – 'the assumption of rational ability of predictability' – has become one of the most visible problems centred on managerialism and mainstream management alike. Mainstream management academics and business practitioners are, in a sense, a group of pragmatists whose judgemental criterion of a theory is whether it works – or, more precisely, whether it leads to the presumed efficiency. Yet, with the age of Modernism already past, the assumption of rational predictability has also been called into question. While the explanatory power of mainstream management theory can hardly be maintained permanently, some mainstream theorists are having to borrow different forms of languages which had little acceptability in the past. However, in terms of our environmental crisis, the more important problems are anthropocentrism and the illusionary effect inherent in managerialism, because they appear to be the major obstacles to alternative values and practices. But, for the moment, let us leave this issue aside and return to some phenomena in mainstream literature.

It has already been suggested that managerialism plays an important role in mainstream management, and the current state of KM is a product of it. If managerialism is always in need of a more robust legitimate basis, mainstream KM is no exception. In the realm of KM, we may possibly see the widespread influence of Nonaka and Takeuchi's (e.g. 1994; 1995) work as an 'internal' theoretical reaction to the legitimate basis of conventional organisation theory, because they have sought to frame an attack on the belief that the rational, scientific languages are sufficient in themselves. As we have seen, while the managerial interest in economic efficiency is not generally seriously questioned, Nonaka and Takeuchi's enthusiasm for the tacit dimension of knowledge and the presumed non-objectivist view of management seems to imply that some non-rational forces had to be accounted for in exploring management and KM. In the context of KM, Nonaka and Takeuchi's work seems to be an 'unsuccessful' attempt to fix the problem of rational predictability associated with managerialism. On the one hand, they emphasised the importance of communication, interpersonal relationships or the role of middle management, as they argued that knowledge and organisation are not static entities that can be managed through conventional scientific techniques; on the other hand, their emphasis was usually taken to the point at which workers seemed to be completely different from management and were regarded as incapable of identifying or managing the very resource, knowledge. As we have also seen earlier, while Nonaka and Takeuchi held

the assumption that certain people (i.e. managers) are able to objectively stand outside the organisational context, their thesis finally mires in the mainstream discourse. Yet, more importantly, their allegedly 'Eastern' view of knowledge seems to imply an anthropocentric mode of thought, while the meta-theoretical purpose of efficiency remains unchallenged: in 'knowledge-creation theory', only certain people – managers – are capable of bestowing value upon knowledge. In any case, we find that many aspects of managerialism are still at work. However, how can management avoid such a problem?

To answer this, we have to return to the view that mainstream management holds some unquestionable assumptions about the world. Some of these assumptions, especially the anthropocentric assumption about growth and the managerial interest of efficiency, are even represented as universal or objective, and they seem to have become an irresolvable dimension of managerialism. Of course, it would be an oversimplification to assume that mainstream management is derived from a specific source or to understand management as a 'class interest'. But it has become clear that mainstream management operates within a paradigm in which economic usefulness has gained the highest concern, and economic interests seem to have somewhat displaced other social objectives. We referred to this paradigm as majoritarian, and mainstream KM can be seen as a product of this paradigm in that it is governed by a human-centred belief that knowledge can be managed in order to meet the requirements of business organisations. Market-driven managerialism, to some extent, sustains this paradigm, because it exists to serve the purpose of economic growth. However, we should recognise that if management were to be of other social value - such as in promoting environmental protection, we need to totally abandon the concept of managerialism. This is because the market-driven managerial approach is, obviously, not the path to the solutions to environmental problems, and managerialism offers no worldview that can be related to the eco-centred mode of thinking.

However, it should be stressed that it is not our intention to suggest that the goal of economic growth or the notion of efficiency is a completely false interest. On some scales, economic growth may point to a better quality of life, and it might be true that management is at times able to improve the efficiency of our production system. Managerial betterment is in a sense objective, and in a sense professional or universal, because it is often measured by some seemingly 'objective' indicators, such as performance or economic growth, which are often taken as axiomatic. However, betterment becomes a much more complex issue if we move beyond the conceptual framework created by neo-classical economics. Guattari (2000), for instance, argued

that social betterment is by no means objective, but always subjective and within the relations of power. Nevertheless, he indicated that his ideal judgemental criterion was ecological health. But it appears that mainstream theory seems not to be authorised to deal with issues like environmental health or ecological betterment, because it is created to address the problem of economic efficiency, often at the level of business organisation, rather than betterment at an ecological level.

Let me summarise the main points that have been made in this chapter. If we are to develop a minor approach to KM, our major task is not to reconcile managerialism with our minor approach, but rather to redefine the notions of betterment and KM in a different context, at a different level. That is to say, **the fundamental assumptions of managerialism should be discarded.**

Summary

The analysis up to this point has suggested that management is an important force in modern society. On the one hand, we are in a framework in which economic interests have attained a higher regard, and human activities are often measured in terms of economic usefulness. While some believe that our consuming and manufacturing world has become more complex and requires a sophisticated supportive system, it is possible that management has become part of this orchestration. This altogether denotes the rise of market-driven managerialism together with a strong belief in management. On the other hand, some people nowadays believe that management, in the sense of managerial techniques and management knowledge, can be used as a tool to solve social problems, and some even believe that human life can be managed through managerial techniques. Moreover, in some advanced industrial countries, the distinction between the bourgeois and the proletariat has become an obscure one, and the constituents of what Marx called 'capitalism' – such as class exploitation, alienation, or class struggle – have also become less distinct. Some people have therefore claimed that the old capitalism has gone, and it is no surprise to be told that our production and consumption system is now organised not so much on the basis of the conventional capitalist framework (ownership) as on the basis of the impartial expertise of 'management'. We can possibly see these as symptoms of managerialism. However, we have suggested that, in such a milieu, old problems associated capitalism still appear on the scene, and our outlook upon the world has been increasingly conditioned by the industrial environment. It is the controlling mechanism that has changed rather than the ultimate purpose of the whole system,

that is, economic growth. To the extent that managerialism may be taken as a means to the goal of the accumulation of capital, it offers a weak response to other problems hitherto associated with capitalism, such as social inequality. More importantly, it may generate certain problematic effects beyond the business domain, and some of its elements have presented major obstacles to alleviating our environmental problems. Certainly, it is too simple to assume that all people are merely concerned with economic purposes, but many today believe that our social objectives must be compatible with the goal of economic growth. In so far as mainstream management is produced in this context, it is possible that management methods are usually reconciled with the ultimate goals at which the system is supposed to be aimed. However, if management is to be of social value other than mere economic usefulness, I suggest that we need to re-examine the concept of betterment in a different context and at a different level, and we need to abandon the idea of managerialism. Therefore, I attempt to propose the need of a sense of a moral obligation to our eco-system, while defining betterment in terms of an eco-centred view of KM. I refer to this as a 'minor' approach, which is eco-centred in essence. However, one might ask, in this respect, how could it be possible for human beings to approach the problem of the environment or ecological crises in any way that does not involve humanly understood concepts? It might be true that there is no 'purely' eco-centred view, because any eco-centred views are still those of mankind. However, I suggest that our project is not to provide the single best approach to KM, and, from our minor position, our task should not be to prove the feasibility of such a project. Rather, I seek to articulate what our predicaments are, and what conditions for their solutions might be. A more important intention, notwithstanding, is to identify a possible, though tentative, alternative discourse, which is free from majoritarian languages, and whose purpose is 'becoming-minor'. This will be the major theme of the next chapter.

Chapter Six

Alternatives

The aim of this work is to provide a critical approach to knowledge management (KM), even though in what has been referred to as mainstream KM, there have been few claims that its models and theories, some of which have provided the basis for existing KM practices, are of little or no practical use. Although it has been argued that KM could be better practiced through the adaptation of better managerial techniques, I suggest it is the assumption that we can simply use managerial techniques to deal with the relationship between knowledge and organisation that needs to be revised. In the previous chapters, it is suggested that mainstream KM is governed by certain problematic meta-theoretical elements. However, this project aims to articulate possible alternatives, but I argue that these alternatives exist outside mainstream KM discourse and the economic framework. Yet they must be free from majoritarian languages. To this end, I shall firstly elaborate on our understanding of the concept of alternatives, and then illustrate some possible, though tentative, alternative KM practices, in the name of minor paradigm.

Deleuze and Guattari (1994) believe that the function of philosophy should be to help make the future different from the past. For this reason, they proposed the idea of 'minor', and endowed it with a political vocation: the creation of concepts. Minor thinking, as they understand it, has a double sense. In the first sense, it creates concepts that provide knowledge of events. In the second sense, minor thinking has a critical function that creates new concepts that afford new means of description of the forces which shape our future, and therefore new possibilities for action. Deleuze and Guattari referred to this as 'becoming'. For these two philosophers, becoming is always necessary, and should be an eternal process. Deleuze (1994) conceived becoming as a dice-throw, by which he meant that thinking is a form of experimentation: a form of experimentation in the creation of new concepts; a form of critical practical reason which aims to produce new means of acting upon the present. Minor thinking, therefore, is not measured by its 'truth value' but

by its novelty, by its potential for revolutionary change – ‘revolutionary becoming’ (Deleuze and Parnet, 1987: 147). But what is this revolutionary becoming?

Deleuze and Guattari (1987; 1984) understood current capitalism as a unique mode of economic and political coordination and regulation which is immanent in the social sphere. They argued that capital functions in the manner of an ‘axiomatic’ system which produces a surplus by means of the axiomatic conjugation of decoded flows of labour, money, commodities and even knowledge. Deleuze (1995: 171) conceived capitalism as ‘an immanent system which constantly overcomes its own limitations’, and then comes up against them again, because the ultimate limit of capitalism is Capital itself – or, to put it another way, economic growth. He also asserted that any philosophy worthy of being called political must take account of the nature and evolution of capitalism (ibid). Yet, while the capitalist economy may constitute an axiomatic system inseparable from the fabric of modern social life, this does not mean that particular axioms cannot be removed or replaced by others. Nevertheless, Deleuze and Guattari did not envisage a concrete, global revolution, but rather a process of thinking: a permanent possibility of ‘piecemeal’ change which is ultimately ‘revolutionary’ and pragmatic at the level of thinking. Following in this line of thought, I will attempt to articulate an alternative approach to knowledge management (KM), in the name of minor paradigm.

However, this alternative is a complex issue, especially as KM today is perceived and applied in the context of mainstream management. At a macro level, market-driven managerialism has penetrated many industrial societies, and managerial techniques have often been used as a means of organising our socio-economic system according to the meta-theoretical belief in ‘progress’. Together with the rise of this market-driven managerialism, we have also witnessed the fall of communist models since the 1980s, which seems to denote a political pessimism (see Simons and Billing, 1994: 4). Korten (1999) described this as a ‘mantra’ in public:

Like it or not – with the death of socialism – the forces of economic globalisation and the new global capitalism are immutable and irreversible.....in the meantime, those who would survive and prosper must learn to win in the global economy’s relentless and unforgiving competition. (Korten, 1999: 2)

Implicated in this mantra is the unquestionable meta-theory that ‘growth is a necessary, though not sufficient, condition for achieving the higher quality of life that the world wants’ (Stapleton, 1996: 114). In such a context, it is widely believed that

management is a necessary social process as it seemingly improves the efficiency of our economic system, and mainstream KM seems to be the outcome of the need to provide a new legitimate basis for authority in industry. However, what is usually overlooked is that much mainstream management has its roots in an Enlightenment-related belief that sees our control over environment as the measure of advance, or in the view that societal progress can simply be measured in terms of material progress. Insofar as mainstream KM does not seriously discuss the system of values which maintains and has been supported by these 'majoritarian' components (to use Deleuze and Guattari's word), it is unable to resist translation into mainstream management theory. But, if KM is to be of social usefulness beyond its economic scope, I suggest that a 'minor' understanding of it may provide potential possibilities.

A Minor Possibility?

In the previous chapters, I have illustrated a number of different possibilities. However, what might be the minor possibility of KM? I argue that the minor paradigm should be free from majoritarian languages, and its projects could be intuitive, subjective or even utopian, while not totally rejecting the application of science and technology. For some people, this project might appear as 'nonsense', but we need to recognise that 'nonsense' might allow us to identify differences and becomings, from our minor view. For Deleuze, what might be described as nonsense would be of importance to our understanding of 'minor', because the latter cannot live in peace with the spirit of the majoritarian paradigm – in this case, mainstream KM. However, before scrutinising this point, I need to somewhat complicate the picture by turning to the issue of the 'target'.

Having some different realities of current society and meta-theories of management, one might jump to the conclusion that I am trying to identify certain victims – such as those who are 'managed', or those that are impoverished under IWC – as Guattari (2000) has suggested. However, it sometimes seems difficult to isolate the clear victims. While Marx would argue that there exists a ruling class who produce ruling ideas in order to dominate others, for some Critical Theorists it is a certain group of people who create 'false/happy consciousness' that fools the rest. In the political world, however, many groups do not comfortably slot into any such pattern. For instance, in the United States, a group of people set up an organisation called 'Responsible Wealth'. Its members, in general, belong to the richest group (each one earns more than one million two hundred and fifty thousand dollars in annual income),

yet they seem to be 'anti-economic efficient' in essence, because their major concern is with the state of deepening economic inequality, and they try to convince policy makers and the public that we should impose higher taxes on corporations and the wealthy¹ (see Korten, 1999: 235). Moreover, they also believe that, due to our problematic thought and activities, our environment is indeed in great danger, and they also attempt to expose some 'hidden' polluter companies on a global scale. Yet Responsible Wealth is not just an isolated case, because there are many other protest groups at both local and international levels. Nevertheless, despite the groups that attempt to inspire protest against majoritarian thought, there are equally some groups that try to defend or rationalise our problematic activities, albeit in the guise of protesters. For example, the Global Climate Coalition is actually funded by some multinational oil companies, and its major task is to 'scientifically' convince people that environmental activities are irrational and against the global interest, i.e. against economic/technological progress, or anti-humanist in essence- preferring the welfare of animals and plants over that of human beings (Rowell, 1996: 85-8; Pepper, 2000: 445). Also, at an organisational level, it is not impossible to find some highly problematic rhetoric. For example, some managers have used the term 'corporate greening' as a new marketing slogan, thus making environmental consciousness become somewhat meaningless (Fineman, 1998: 244). Fineman and Clarke's (1996: 724) quotation from one manager exemplifies this:

The customer has very little detailed knowledge about environmental issues. They have some simple solutions which, if they buy the green washing-up powder and liquid and if they buy the recycled toilet roll then they've done their bit. So that's what we give them.

In the light of all this, it seems that in the current age there is no clear boundary between victims and beneficiaries, or a clear target to be criticised. One might argue, however, that some managerial activities appear to be 'misdeeds', and therefore we should make a critique of a specific social class, i.e. managers, as managerial activity, to some extent, has become part of some modern problems. However, such a conclusion is sustainable 'only if' we accept the assumption that managers are a homogenous group, and this may further lead to the conclusion that managers are essentially different from others. From our minor perspective, however, we suggest that the minor project will not, and cannot, aim at certain people (i.e. managers) and their 'misdeeds'. This is because, on the one hand, management is by no means homogeneous, and, on the other hand, if we see our eco-system as a whole, there are virtually no beneficiaries – we are all victims of ecological disasters! We argue that

¹ See <http://www.responsiblewealth.org/>

managerial activity and managerial mindsets are sustained by a set of worldviews which reflects a particular conceptual framework and economic system within which certain activities and behaviours become associated with particular kinds of manufacturing processes – we refer to this as a ‘majoritarian paradigm’. Thus, our minor project is aimed at some deep-rooted logic that informs managerial actions, while defining managerial goodness. Also, we will not seek to make a critique of corporate misdeed corporation by corporation or deed by deed, but rather to expose some problematic meta-theoretical components and the taken-for-granted mindset, such as in the assumption that we have ultimate control over our environment, or that we are able to manage our environment and other people via instrumental techniques, because these elements can lead to problematic consequences.

We attempt to propose a paradigm (of nature) which allows us to understand our threats and different ways of solving them. Deep ecology, here, seems to offer a ‘scientific’ understanding of the physics of the threats, while implying that human activity has been the major cause of our environmental problems. However, this seems to lead us into consideration of another issue. Some, for example, would argue that certain scientific research has ‘proved’ that global warming has nothing to do with our industrial activities – a striking example can be found on the official website² of the Global Climate Coalition. The problem here is, which scientific conclusions should we accept? And, if we are to construct alternative thinking – or to identify an angle of approach to such possibilities, how can we start? My answer is, as Guattari and some other deep ecologists would suggest, our subjectivity and intuition could provide the ultimate, though tentative, point of reference, and this should also be an ethic-aesthetic process with a political vocation. In this regard, we identified Taoism in particular as offering such a possibility, because it implies an ancient understanding of Nature, and seeks to regain a symbiosis between man and Nature. Moreover, while Taoism provides an alternative understanding of the relationship between humankind and Nature, deep ecology also has an intuitive dimension which assumes that humankind is part of its environment. Both approaches to Nature suggest that we should be mindful of our activity, and neither sees economic growth as the ultimate measure of ‘progress’. However, if our minor paradigm involves the components of subjectivity and intuition, and retains an ancient understanding of Nature, is this to suggest that our minor project should be somewhat **unrealistic** or even **utopian**? To some extent, this is the case since utopian elements are generally of importance to

² For example, Dr. Sallie Baliunas suggests that the idea that global warming is due to our industrial activities is in fact based on pseudo-science, and he contends that his more authentic scientific research shows that global warming is a merely a ‘natural’ phenomenon. See <http://www.globalclimate.org/> and <http://www.techcentralstation.com/images/pdf/GuideSep28final.pdf/>

alternative possibilities, and utopianism seems to be a 'necessity', especially in current industrial civilisation. But why? And to what extent should our alternative approach involve utopian elements?

It has been suggested our industrial civilisation embraces a set of unquestionable goals, such as capital accumulation and material progress through the exercise of control over nature by the deployment of modern technologies, and the consequent whole is often taken as a necessary condition for achieving a higher quality of human life. In such a context, interest against the goal of economic growth or material progress would appear to be impractical or even irrational. If industrial civilisation is characteristic of its 'advance', this advance, of course, has not only liberated people from otherworldly forces and myths, but also ended the age of material scarcity. However, some thinkers argue that such an advance, largely resulting from technological progress, has created a new form of control, or, to quote Marcuse (2005: 5): 'a non-terroristic economic-technical coordination which operates through the manipulation of needs by vested interests'. The outcome is as Mannheim (1936: 262) foreshadowed:

It is possible, therefore, that in the future, in a world in which there is never anything new, in which all is finished and each moment is a repetition of the past, there can exist a condition in which thought will be utterly devoid of all ideological and utopian elements. But the complete elimination of reality-transcending elements from our world wouldbring about a static state of affairs in which man himself becomes no more than a thing.....Thus, after a long tortuous, but heroic development, just at the highest stage of awareness, when history is ceasing to be blind fate, and is becoming more and more man's own creation, with the relinquishment of utopias, man would lose his will to shape history and therewith his ability to understand it.

In Mannheim's view, the problem, which we may already be confronting today, is how to sustain a faith in alternative possibility, that is, when we would appear to have lost faith in utopian goods. However, if the problem is associated with the technological advance, the current political-economic situation seems to underscore this. The fall of communist models, which were once conceived as universal models of human emancipation, seems to confirm the conviction of some that the free market system conforms to the natural condition of humanity, or that the fall of communist models signalled the triumph of some (vaguely defined) variety of liberal-democratic capitalism, 'thereby not only to proclaim the death of socialism but also to draw a final line under all forms of utopian discourse concerning a different future' (Hodgson, 1999: xv). From Deleuze and Guattari's (e.g. 1994) perspective, human beings tend to

accept their pre-existing system out of a resigned assumption that it is 'natural' and its foundations must be too strong to be questioned. Political consciousness, however, could be heightened through the recognition that views taken as transcendental truths by the majority are merely relative – that is, they are, in fact, created by particular group with particular interests, which are usually represented as 'majoritarian'. For Deleuze and Guattari, the problem is indeed that our political consciousness concerning alternatives is often suppressed by majoritarian beliefs, as they are claimed to represent the common interest and thus are 'unalterable'. Majoritarian thinking, in current society, is embedded in media, and even in textbooks – where it makes light of its partial take on the world. For these two thinkers, a political consciousness concerning alternative futures is of importance to our society. Alternative, in their 'minor' views, may not fit into the prearranged, or established, patterns which we have superimposed on reality; however, it discloses something about 'becoming' and 'difference'. This seems to imply that alternative, as a project, cannot free from utopian elements.

Although utopias may be taken as impractical or illogical, humankind has been inspired by the idea of an alternative, or a utopian world since ancient times – or since the sixteenth-century *Utopia* of Thomas More. Although Deleuze and Guattari emphasised the importance of illogic or nonsense, there is a long tradition of thinkers emphasising the value of utopian thinking, though they understand it somewhat differently. Let us briefly outline some different perspectives. Oscar Wilde (1905: 40), for instance, contended that 'a map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing'. If this is the case, then Habermas's (1989) conclusion that 'utopia' as a project has been exhausted presents a sad commentary on the present situation³. Benhabib's (1986: 319) explanation is that our social imagination has simply been displaced, in the sense that after the the exuberance of the 1960s and 1970s, our political culture now is incapable of generating 'innovative solutions', that is, our 'utopian' hope that everything can be, or could have been, otherwise seems comatose in the face of the crises that used to inspire visions of alternative futures.

Indeed, most of us no longer live our lives in accordance with Nature. Many would agree that there is no symbolic order to guide us in our social life. Things that once seemed self-evident – whether to have or how to feed and educate a child, how to relax and amuse ourselves – have become colonised by reflexivity and are experienced as something to be learned and decided upon instead of just lived. The

³ As Habermas (1989: 5) stated: 'Today, it seems that utopian energies have been used up'.

problem is that we have become too 'knowing' to tolerate the idealism of utopianism. Deleuze and Guattari (e.g. 1994) would see 'thinking' as a possible solution, but for them, thinking, as well as philosophy, is a political activity. In their idea, the role of thinkers should be the creation of 'untimely' concepts as Nietzsche described them (see Chapter Four), which means that thinking should be 'utopian' and should be to contribute to new forms of social life and identity. In their own words, thinking should inspire 'a new earth and a people that does not yet exist' (ibid: 108), though they reject the totalitarian sense of utopia in favour of utopianism that is revolutionary and has potential for emancipation. In the field of environmentalism, many thinkers also emphasise the importance of utopian elements. Eckersley (1992: 186), for example, contended that:

.....it is important to connect utopian aspirations with analysis and human experience..... The ecocentric Green movement needs idealists and pragmatists, creativity and critical analysis, grassroots activity and institutional support if it is to achieve its long-term aims.

The theorists we discussed above may have different perspectives regarding the perfectibility of their utopias. For example, while Habermas (e.g. 1984) would argue that communication without power might lead to a 'perfect', emancipatory, world, Deleuze (e.g. 1994) would suggest that to discuss the achievability of a perfect world is besides the point; that is, the value of (utopian) thinking lies in its potential for 'difference'. Yet, Eckersley (1992: 186) would contend that any utopianism, inspired by environmental thinking, should not be totally de-coupled from our 'knowledge of the present'. Although, for our purposes here, we will not further explore the different versions of utopia, as the fuller study of utopianism lies outside the scope of this thesis, the point in bringing these thinkers up is to emphasise the **necessity** of utopian elements. Utopias, of course, may appear to be impractical, and they may be against what is considered as the norm, from a current view. It is also possible that utopian thinking might not contribute to our material progress and economic growth – it might even be capable of undermining the very conditions that have made these achievements possible. Nevertheless, utopias may represent a state of potential. Utopias are visions of what should be, even if they show what should not be. Utopian ideas are of importance to us because they have implications for this world, and they suggest what this world could be, and what we could work for. This is the value of utopian thinking. At this point, we should return to the major subject, KM in the minor paradigm.

It has already been suggested that current KM is not a historical oddity, but somewhat reflects a long-lasting attempt to control, or to utilise knowledge, in order to serve certain instrumental purposes. An additional element is that in the current industrial environment knowledge is often seen as a major resource for business organisation. This altogether leads to the view that knowledge should be 'managed'. At the metaphysical level, our attempt to manage knowledge stems, in essence, from a dualism that separates spirit from reason, and humankind from its environment, and in turn results in the Newtonian-type approach which reduces complex issues to simplicity while ignoring their interconnections and the potential consequences of human action. Such belief has been further shaped and conditioned by the Enlightenment anthropocentrism that tends to isolate humankind from its environment, and then leads to an alienated self. The alienated, anthropocentric self devalues the objective world, including natural environment and other people, into the sphere of activity wherein the self labours to fulfil itself. This alienated self is encouraged to pursue economic interests and to seek for satisfaction via exploitative activity, while avoiding responsibility for the objectified others. Our ecological crisis was born in such a context, and our use of knowledge, to some extent, might be the cause of this, for the predominant discourse assumes that knowledge is an economic resource and holds the unquestionable meta-theory that the *raison d'être* of (management or business) knowledge is to sustain our production system, while Nature is also seen as a 'resource' waiting to be allocated, or even to be exploited. Here, we propose a possible alternative – minor KM. Our minor KM, which is derived from ecological concerns, assumes that the function of KM should be to promote the betterment of our environment. But with regard to minor management, how would it function? And what might a minor paradigm of KM look like?

Some Minor Principles

It has already been suggested that our eco-systematic crisis reflects a set of deep-rooted worldviews and assumptions, which can be reductively formulated in some propositions:

1. People are different from other species, because we are masters of our own destiny: we can choose our goals and learn how to achieve them.
2. The world is viewed as containing vast, though limited, resources, which can be utilised, controlled, (re-) allocated, and organised by humankind.

3. Human history is progressive, and growth and progress are necessary, for every problem there is a solution.

This altogether denotes a strong belief that the Earth is a collection of resources which can be allocated, or managed, by humankind. However, we have contended that this may result in a predicament. Economically, the survival of business organisations, or even industrial society, is highly associated with the performance of the economy as a whole, and the exercise of control over nature by means of technological innovations and knowledge has become a major approach to realising the central goal of constant economic growth (including rising material standards). However, we suggest that this growth is now approaching its structural limit, because our current state of 'progress' has nevertheless led to the eco-systematic crisis. We argue that this problem has its roots, not in economics per se, but in our problematic assumptions about the world, in our unquestionable belief that societal progress can be achieved through economic and material progress. In order to solve this problem, we are in need of alternatives at a conceptual level, and we have identified 'minor paradigm' as offering a possible conceptual framework for our understanding of alternatives. Let us review some of the lessons from the minor paradigm with special reference to management.

The Implication of Holism

As Toffler (in Prigogine and Stengers, 1984: xi) succinctly reminds us, 'dissection' is one of the most highly developed skills in contemporary civilisation. The concept of dissection here has two implications. When a person says: 'I am a Londoner', or 'I work in X company', the person has allowed his/her broad self to be constrained by a man-made boundary, or to be diminished by a bureaucratic identity. In the light of knowledge, experts, e.g. biologists, zoologists, management theorists, or economists, tend to treat knowledge as representation of natural/social phenomena, and distinguish the objective truth from subjective feelings. Within such a context, students are, therefore, taught to be objectively neutral to their environment. This emotional neutrality is of importance to a bureaucratic civilisation, because it tends to make our consciousness, spiritual awareness, and sympathy for other people or other species become amoral. The case in Nazi death camps was an extreme example: the emotional feelings of the Nazi bureaucrats were subjugated by the absolute loyalty to bureaucratic goals (see Burrell, 1997: 139-40).

The implication of the minor paradigm here is not that we can indeed develop any

'perfect' holistic knowledge, but that we need to recognise that all knowledge has potential, unexpected consequences. In this regard, the minor paradigm would suggest that we should never exclude the emotional part of knowledge. As ancient Taoists suggested, we should always be mindful about knowledge and learning, for knowledge always has potential for changing the status quo: it can help people to fashion fishhooks, to capture animals, or to manipulate our environment (see the chapter two). However, at this point, the minor paradigm would not suggest a regressive, primitivist view on knowledge, or attempt to regain a supposed lost paradise of the distant past. Rather, the implication today is that knowledge always has a wide-reaching effect: it is too powerful, too indispensable to be left to its own devices. If knowledge might contribute to modern predicaments, deep ecologists here provide an alternative epistemology - intuitive knowledge. Intuition, for many deep ecologists, such as Naess, is a foundation for our understanding of our world. Similarly, for ancient Taoists knowledge with intuition means knowledge in harmony with Nature, namely, knowledge is in accordance with our true nature, and this is the essence of the Tao. In any case, such knowledge provides a holistic, non-anthropocentric conception of the world, whose purpose is to encourage our understanding of our environment, of how to live in harmony with Nature, rather than how to manipulate and exploit it. It is possible here to further identify some pertaining general principles for our understanding of management.

Life as the Measure

In mainstream management discourse, economic performance, or profit, is usually taken as the standard for evaluating the value of knowledge at the level of corporations. Within such a context, knowledge is inevitably linked to economic efficiency. Nevertheless, using economic efficiency as the indicator of the social good has created confusion between the priority of life and the priority of profits, and this has resulted in damage to our lives and the health of our planet. Consequently, using life as the measure of knowledge or management would totally destroy the existing view of knowledge and language of efficiency, for it would place importance in the health of eco-systems – e.g. the biodiversity of other species – and the 'intrinsic' value of nature and human beings: taking life as the measure means that the function of knowledge is not primarily to raise the efficiency of the 'production system', but to improve the well-being of the eco-systems, and in turn the quality of human life.

Our natural environment was once a self-sufficient system, and different

bio-communities provided the equilibrium of the global eco-system. Of course, each bio-community consumes energy and produces pollution, and there are migratory exchanges across boundaries, but the activities of different bio-communities used to maintain the stability and resilience of the whole system. However, with our technological advances and the growth of knowledge, human activities have damaged the Earth's power of natural recuperation. The hole in the ozone layer and global warming are two striking examples. Consequently, we urgently need to recognise that our ecological system is fundamentally different from economic activity. An eco-system is 'cyclical', which means that all organisms within it produce waste, but what is waste for one species may be food for another, and the whole remains in the state of equilibrium. In contrast, the economic or industrial systems are usually 'linear'. This means that our industrial activities take resources and transform them into bundled products and wastes (pollution), and sell them to consumers. But this means consumers simply discard more waste matter after they have consumed the products. However, such linear processes have played an important role in the current managerial activities, as the interest of (economic) efficiency is one of the key meta-theoretical components of management. From an orthodox managerial perspective, it is also possible that the function of knowledge should be merely to serve the interest of efficiency. However, from a minor viewpoint, the managerial use of knowledge is highly problematic, as the managerial outlook on knowledge simply overlooks its potential impacts.

Intuition/Subjectivity as the Measure

Problems with respect to business practices are by no means new to us, and many have believed that this is a problem associated with 'business ethics'. There are, of course, many different perspectives regarding business ethics. For instance, in Drucker's (1981) view, business ethics was a matter of managers' social responsibilities, and he contended that a company's social responsibility rests in the quality of its 'products'. Or, for Friedman (1970), the social responsibility of business was to improve its 'profit'. In a sense, both views of business were right. We have seen that the conceptual framework of orthodox management is built on nineteenth-century neo-classical economics, and, as such, the moral criterion of orthodox management is usually economic, and economic efficiency, productivity or profitability may even be represented as 'objective' goals of organisation. However, the mainstream managerial approach to ethics has not yet provided a satisfactory response to our current problems, especially with regard to the eco-systematic crisis.

Our intention here is, nevertheless, 'not' to reformulate the concept of business ethics, but rather to suggest that the minor thinking implies that knowledge contains **hidden ethics**. We argue that, in the orthodox management discourse, the hidden ethics of knowledge is not led by universal interests, but often led by the economic interest, which might result in a 'chasm' between individuals and organisations, as Monks (1998: 173) described it: 'Corporations are not people...Although corporate acts are carried out by individuals, even individuals with high moral standards often find themselves caught up in a corporate action that is beyond their control'. Therefore, we propose an alternative - intuition/subjectivity, which can be used as an alternative measure of (management) knowledge.

However, it should be noted that using intuition or subjectivity as the measure does not mean that we should adopt particular moral criteria. Taking intuition as the measure implies that we should reconsider the ultimate purpose of knowledge and its potential consequences, as well as the hidden ethics in knowledge. It also implies a different criterion of knowledge: we can gain knowledge through emotional as well as intellectual experience. Intuitive language can be arbitrary in tone, but it still has an 'objective' function, which some might want to term 'Truth'. However, this objective feature of intuitive knowledge cannot be understood in any conventional objectivist ways. Rather, this objective feature implies an aesthetic quality which is able to produce a general, yet marginalized, understanding. That is, intuition and subjectivity may help us recognise the other reality of our world. Here, we can possibly see art as an example.

Throughout history, it has been recognised that art has been associated with emotion, intuition, and it is no surprise to be told that art is 'subjective'. Nevertheless, history reveals no shortage of attempts by artists to amend our 'problematic' behaviour. As De Botton (2004: 177) pointed out:

.....there was still plenty of 'wickedness and folly' at large among Manhattan's elite for cartoonists of the *New Yorker* to focus on. In business, many chief executives had acquired an interest in seeming friendly to their employees. Unfortunately, their interest stopped short of a willingness actually to be so. They merely contented themselves with camouflaging many of their more brutal practices in bland technocratic language – which, they hoped, might lend respectability to exploitation not very different from that of the satanic mills of old. The cartoonists were not fooled.

Cartoons, no less than other forms of art, offers criticism of our world, or a different understanding of 'reality'. For instance, Scott Adam's (1996) popular work, *The*

Dilbert Principle, critically showed how euphuistic managerial approaches are; that is, they are, in effect, derived from a utilitarian interest. He also exposed the ‘stupidity’ of management. One might see Adam’s work as a critique of managerial techniques and ideologies, although, in his book, there is no theoretical analysis of management. However, we suggest that *The Dilbert Principle* rather exhibits one possibility of critique, a possibility that appears in the form of comics. In any case, if art is a useful tool with which to attack our problematic behaviour or to disclose another reality of business practices, I suggest that our intuition and subjectivity may also help us critically to make sense of management. From a minor perspective though, how can we practically use intuition as a tool to make a critique of management? Here, I use BPR (Business Process Re-engineering) as an example.

From the majoritarian paradigm, perhaps, the logic of BPR is easily acceptable, and it has even been claimed that BPR is something that ‘must be done’, because BPR seems to be very rational: it has indeed improved organisational efficiency, at least in a certain period (e.g. Knights and Willmott, 2000; Grey and Mitev, 1995: 6). Yet, from a minor perspective, BPR is highly problematic. First of all, BPR heavily relies on the use of new technology, but through technology man essentially attempts to control over his environment, including the social world: ‘Technological rationality is based on technological or instrumental control of Nature, resources and even social life and individuals’ (Grey and Mitev, 1995: 9).

Apart from this, there is also the problem that BPR has actually enabled organisations to do more with less. Namely, it improves overall output while reducing the ‘headcount’, and, along with an increase in unemployment is an intensification of work – the remaining workers are more ‘empowered’ (often a managerial euphemism for expressing intensified workload; Grey and Mitev, 1995: 11). To frame a critique, we could formulate a critically intellectual appraisal of BPR; equally, we could criticise the hidden ethics of BPR through our emotional feelings: evidently, fewer people today would claim that a theory that increases unemployment is ethically tenable. However, within the theory and practice of the current production system, our emotional judgement is usually suppressed, if not perverted, in favour of economically rational appraisal. If theories are dominated by empiricist-observer philosophy, they may be deemed methodologically, or scientifically correct in spite of directly contradicting our intuition. When these theories are proved to be correct, they will soon become commonly accepted even though they were once considered as ethically problematic. To encourage our intuitive judgement is, plainly, to encourage

an alternative or intuitive measurement, and is also to inspire the 'goods' that dare not to speak their name under the majoritarian discourse.

Wu-Wei as the Measure

We have noted that the term '*wu-wei*' literally means 'non-action', but I argue that the notion of *wu-wei* may offer a different understanding in relation to management. In the previous chapter, we saw that there is a strong connection between managerialism and our orthodox understanding of management. While Fineman (1998: 244) suggests that the term 'managerialism' can be understood as 'man controlling his environment', it is not impossible that the orthodox concept of management more or less reflects the belief in our ability to manage (organise, allocate, or control, etc.) our surroundings. Philosophically, Russell (1976: 13) identified that work could be roughly divided into two activities: (1) 'altering the positions of matter at or near the earth's surface relatively to other such matter'; (2) 'telling other people to do so'. If this is the case, it is also probable that managerial 'success' is often measured in terms of its control over environment. In mainstream management literature, we can find that management is usually seen as something that needs to be technically improved. The major concern of management is, in a similar vein, usually with how to strengthen its power, or, more precisely, with how to increase management's ability to control their environment, including workers.

However, the concept of *wu-wei* does not highlight the importance of our ability, but rather the 'limits' of it. From a Taoist viewpoint, action is always a binary process. This means that any controlling process – in this case, management, always needs to build a boundary, and thus differentiate between the self and the other (environment), between truth and falseness, and so forth. Indeed, such a boundary is of importance to management, since without this boundary there will be no distinction between managers and workers. But the Taoist idea of *wu-wei* subverts this binary logic, and it also sheds new light on our understanding of managerial activities. It is because there is right, that there is wrong; it is because there is wrong, that there is right. For Taoists, the 'sage' should not approach things at this level. In the eyes of the Taoist sage, since we are part of our environment, the self is the other (environment), and the other is the self. When the self and the other lose their contrariety, there we have the essence of *wu-wei*. The Taoist notion of *wu-wei* also denotes its ideal type of leadership, or 'management'. At a psychological level, while orthodox discourse of leadership assumes that leaders should be able to motivate people, the Taoist sage is concerned

with how to limit the power of leadership. This is because Taoists are well aware that the self/other (leader/non-leader) duality is always a man-made boundary, and thus it is not in harmony with nature. Therefore, the implication for the minor paradigm here is that management, as an action that has potential for altering environment, needs to be constrained; that is, management should not be concerned with how to extend managerial action, but rather with how to **constrain** it.

The concept of *wu-wei* might make a useful contribution to our understanding of the nature of management in two senses. Firstly, all human activities have the potential to be harmful, and therefore we need to be wary of them. Secondly, insofar as managerial action is governed by a sectional interest, the claim that management is capable of managing everything is untenable. This principle of managerial action also applies, of course, to KM.

A Radical Understanding of Innovation

The notion of innovation plays an important role in conventional management studies (Scientific Management-oriented theories in particular). For ages, the concept of innovation has been linked to the application of science/knowledge (technology), and it is also considered as the locomotive of productivity. As such, it is also closely related to the concept of efficiency. Unsurprisingly, innovation plays a significant part in today's KM discourse, and many even hold the faith that innovation is the key to entrepreneurial success. However, if the notion of efficiency is of importance to mainstream management, we suggest that the orthodox understanding of it should be largely revised; that is, efficiency, in some senses, does **not** exist! This is probably a thorny assertion, because one may contend that business organisation has measurably improved the efficiency of our business processes. Nonetheless, from a 'minor' perspective, this mainstream managerial understanding of efficiency has an intrinsic problem, which cannot be resolved at the technical level. The predominant managerial understanding of efficiency is that efficiency is an 'objective' concept, or, at least, it has an objective sense, because, in the context of management, efficiency is often measured by some seemingly objective (monetary) indicators – such as productivity

or profitability⁴. However, the problem here is that this notion of efficiency is highly subjugated by an economic understanding, because efficiency, in orthodox management discourse, is often defined in a narrow sense, and merely measured in terms of economic usefulness. Yet, if the social function of efficiency is merely economic, it is possible that managerial understanding of efficiency is by no means objective, not universal. For example, if we see efficiency as an 'ecological' concept in that it should be to serve the environmental interest of ecological equilibrium, it seems that the economic view of efficiency becomes meaningless. Thus, given that the managerial understanding of efficiency is subjective so is the conventional understanding of innovation

We have seen that the orthodox idea of innovation, in the industrial context, usually means the application of knowledge or technology. However, this process merely serves the managerial interest of efficiency, we suggest that this version of innovation is problematic in itself. Marx, for example, would argue that technology is, to certain extent, a substitute for human labour: the higher the technology, the more expensive the human component of production. Compared with technology and machines, human bodies are less efficiently designed for our production system. Broadly speaking, managerial techniques may also remove or replace human labour for they are, *ab initio*, created to improve efficiency for whatever purposes (a striking example is the application of BPR, as noted above). Yet, the conventional usage of innovation, to some extent, leads to 'efficiency' in organisation, and knowledge plays a central role in it: successful innovation implies the successful application of knowledge, and also an increase in the efficiency of work organisations. But herein resides a similar problem: the higher the innovation, the faster our production system can shed human beings. Constant innovation, then, implies that human beings have to repeatedly learn to compete with technology. Paradoxically, technology is created by ourselves. At a

⁴ Anthony (1979: 270) noted that management theorists have valued productivity and efficiency over profitability, and one of the reasons is that the former appeared to be more 'objective'. Moreover, in Anthony's view, efficiency and productivity are usually the means to the final end of business organisation – profit, and management theorists, as we have also contended, tend to focus on means rather than ends. We might also point out, in passing, that some management theorists have asserted that there is a clear boundary between productivity and efficiency. For instance, Peter Drucker (e.g. 1993) seemed to value the term productivity over efficiency. As he (*ibid*: 31) claimed, 'F. W. Taylor's motivation is not efficiency...His main motivation was the creation of a society in which owners and workers...had a common interest in productivity and could build a relationship of harmony'. In Drucker's (*ibid*: 34) mind, since our society has become the 'knowledge-based' society, the main purpose of management is to apply knowledge to increasing productivity, though he has never clearly defined the term 'productivity'. Yet, literally, the term productive means 'the relationship between the amount that is produced and the work, money etc that is needed to produce it' (e.g. the Oxford Dictionary). If we see efficiency as the ratio of output to input of a particular process (Jackson and Carter, 2000: 197), it is also possible to define 'productivity' as the ratio of output to input in the industrial context.

macro level, we have also noted that deep ecological consciousness suggests that our current state of progress might be the cause of eco-systematic crises, because our exploitation of natural resources has become so efficient that it has taken them dramatically beyond the powers of natural recuperation⁵. Our industrial activity is, of course, highly associated with environmental problems, and many of them may be attributed to our 'innovation' process.

At this point, one might be tempted to assert that we should completely abandon the concept of innovation or even the whole notion of efficiency. However, such a position is untenable. Of course, in ancient times, it was not difficult for one to choose a primitive state of life, with minimal instrumental knowledge. Nonetheless, knowledge and technology are the ineluctable force that continue to shape the world we live in. Today, it is far harder for anyone to overlook, or to reject, the growth of knowledge. If at the core of innovation is the application of knowledge, the point here is **not** that we should discard the concept, but rather that we need to articulate a critical understanding and a healthier application of knowledge, because innovation, as well the notion of efficiency, is too important to be left to serve an economic interest.

Some believed that a driving motivation behind knowledge production was the desire to learn and to 'innovate'. Unlike in some of the humanities or arts, much instrumental knowledge and technology could not effectively function without considerable funding from government or, more often, from companies. That is, the assertion that the purpose of (scientific) research is just to 'satisfy our curiosity' (Lewis Thomas in Baltimore, 1978: 44) is problematic in an age when human activities tend to be measured in terms of economic usefulness. To some extent, the search for transcendental truth has been replaced by the search for instrumental truth, often governed by an economic interest. However, our dilemma here is that we cannot simply reject the application of instrumental knowledge. From our minor perspective, what is needed is, perhaps, not to eliminate the concept of innovation, but rather to encourage a different understanding of it. In this regard, we propose a holistic approach to innovation, which should be measured in terms of life and environment. In a sense, we might see Vandana Shiva (1996) as an exponent of this **holistic innovation**.

⁵ It might be worth noting in passing that some theorists also argued that our attempt to alter natural processes might lead to disastrous impacts on human health. For instance, de Marchi and Ravetz (1999: 748) see BSE (bovine spongiform encephalopathy) as a problem associated with an 'unnatural' industrial process in the livestock industry – the use of sheep remains in cattle feed.

Shiva, a physicist and philosopher, discovered that global agribusiness firms have attempted to convince farmers, particularly in the developing countries, to consume genetically modified seeds that are intensively dependent on chemicals and do not reproduce themselves:

It has in fact taken the corporate sector many years and millions of dollars of propaganda to make people dependent on the unsustainable agricultural practices that generate enormous profits for global agribusiness (ibid).

In India, Cargill among other dubious but successfully employed marketing strategies, such as providing farmers with free genetically modified seeds that need to be replenished by the same company, so that Cargill has complete control over these farmers' crops. This situation eventually jeopardises the environment, for the soil fertility falls and chemicals pollute. Moreover, the farmers bear the costs, while most profits go to the company. In order to help farmers to counter such predicaments, Shiva took some practical actions, such as establishing living seed banks, and training farmers in chemical free, innovative agricultural methods (ibid). In brief, she helped farmers to use some different agriculture knowledge and methods: living seed banks involve 'conventional' methods of cooperative selection and preservation of seeds and also separate genetic technology from food production; 'innovative' methods refer to replacing 'monocropping' with diversified 'agroforestry' systems, i.e. bio-diverse farming methods. Shiva's efforts indeed helped farmers to increase the food supply to a village, improve the quality of soils, and break the farmers' dependence on unhealthy modern techniques.

While Cargill's 'innovation' is anti-holistic in essence and is governed by economic interest, Shiva's innovation is both **holistic** and **life-centred**: her approach involves ultimate concern for life and a healthy application of instrument knowledge. It is also worth noting that such an approach is different from some primitivist ideas, as she suggested:

Some environmentalists believe that to protect biodiversity you must exclude people. In their view you either have production or you have protection. I feel it important to bring ecology and biodiversity into the heart of production rather than keeping it outside.....if you create the right conditions, people will come to see the whole economic system in a different light and will choose the sustainability option. (ibid)

A radical understanding of innovation does not mean the elimination of knowledge,

but rather a different definition of innovation, an alternative application of knowledge – an innovation that is not translated and corrupted by majoritarian languages.

Securing the Right of Stakeholders

The idea that a corporation is endowed with the rights and prerogatives of a free individual is as essential to the acceptance of corporation rule in temporal affairs as was the ideal of the divine right of kings in an earlier day. (Arnold, 1937: 185)

A business organisation is a legal instrument, and the people who work for it are legally obliged to displace their own interests and values in favour of the economic interests of ownership – the rights of shareholders. Property ownership thus defines the boundary of a business organisation, and the role of management, in such a context, is to secure the rights of shareholders. That is, it is ownership that endows management with the authority to ‘manage’ in practice. In the current economic system, the notion of property ownership may even appear to be axiomatic. We might possibly attribute this to John Locke, who was one of the earlier thinkers who gave property rights a moral sense. His argumentation, based on three assumptions, was that property rights provided the rights of persons to a means of living (see Wooten, 1993: 273-7): (1) God gave the world to men in common; (2) Men have a right to subsistence; (3) Every man has a property in his body; the labour of his body and the work of his hands are properly his.

The Lockean property theory was built on the belief that our property rights were, in fact, derived from our ‘right to live’, but in Locke’s view, our appropriation of property should be limited to the amount required for a basic livelihood. In other words, Locke believed that one’s property rights should not deprive another’s right to a means of living. Locke’s theory, however, did not deal with the problem that would arise if one gained ‘excess’ property by means of depriving another appropriation of property. At this point, Locke proposed a self-evident explanation:

Nor was this appropriation of any parcel of land, by improving it, any prejudice to any other man, since there were still enough....left; and more than the yet unprovided could use....there was never the less left for others because of this enclosure for himself. (quoted in Wooten, 1993: 273)

This view is of importance to our current understanding of the accumulation of capital.

This is because the Lockean view of property rights, which seemed to rationalise the concentration of property ownership is, to some extent, compatible with the present-day understanding of a free market system. From an orthodox economic perspective, capital concentration is not 'harmful' as such, in the sense that the wealthy (and their consumption) provide the investment that fuels the economic growth that, in turn, increases the well-being of society, for the benefit of all. Here, Korten (1999: 169) identified that the Lockean view of property rights has led to three assumptions on which our current free market system rests: (1) The accumulated capital of the wealthy will be invested in productive activity that increases output (services or material goods) and the total wealth of society; (2) The benefits of increased output are widely shared; (3) Natural capital is abundant relative to need, and one's increased use of natural resources would not deprive another of like opportunity. Of course, these three assumptions are not unchallenged. For example, from a radical perspective, the accumulation of capital of certain people or companies does not necessarily improve the well-being of all, and at a global level the benefits of economic growth are, in fact, going to the wealthiest 20% of the world population (as seen in the previous chapter). But what is of more interest is that the third assumption seems to point to our eco-systematic problems, because it implies that Nature can be used as a kind of (natural) capital that serves our economic interests. Although it would be naïve today to hold a Lockean-type belief that natural resources are unlimited, many still see Nature as a 'resource' that can be managed, or, at least, allocated or re-allocated, by man. From a minor perspective, we have argued that this fundamentally denies the **intrinsic** value of Nature.

The idea of property rights may have a moral legitimacy when it is used to defend the right of individuals to a means of living. However, property rights may be highly problematic when they are merely used as a means to serve economic interests. If the boundary of business organisations remains to be defined by ownership rights, it seems likely that the social function of business organisation is merely economic, and our productive activity may finally result in the over-exploitation of nature. From a minor perspective, I suggest that to articulate an alternative is, in fact, to redefine the boundary of organisation, and is also to rescue the rights of those who have a 'stake' in organisation; that is, to rescue 'stakeholder' ownership. In the realm of organisation studies, Freeman (1984: 25) defined 'stakeholder' as 'any individual or group who can affect or is affected by the actions, decisions, policies, practices, or goals of the organisation'. According to this definition, stakeholders may refer to owners, consumer advocates, customers, competitors, the media, employees, interest groups,

environmentalists, suppliers, governments, or members of communities in which the organisation's facilities are located.

Stakeholder ownership involves placing the power of property ownership (and the agents of ownership – managers) in the hands of people who do not merely have a financial interest or stake. Transferring the right or power of ownership to stakeholders may change the very nature of most current business organisations, as it implies a different approach to the 'decision-making process'. We have seen that the decision-making process plays a central role in managerial activity, and, within the system of private ownership, managerial activity may appear to be value-free and objective, though it is, in fact, profit-orientated and led by each company's economic interest. However, stakeholder ownership here implies broader participation or an extension of 'community', which means that decision-making processes should also involve those who are affected, or are potentially affected. Some stakeholder theorists thus emphasise the importance of open dialogue between different stakeholders (e.g. Roberts, 1998). From a minor perspective, stakeholder ownership may shift the nature of business organisation from that of economic instrument to instrument of 'life and community', in the sense that an 'extended community' may involve the living-world interest. For many deep ecologists such as Naess (e.g. 1980), it is within such an extended community that we can find out our relationship to and dependence on the living-world – in issues such as the quality of air or the potential impact of business activities, and it is where we clearly see ourselves compelled to relate to other stakeholders we have not chosen.

The concept of stakeholder ownership is not new, of course. In the field of environmentalism, some environmental activist organisations, such as Friends of the Earth, have also attempted to increase the power of stakeholders in the business world. However, in a practical sense, it has not proved to be an easy task. Business organisations are usually structured by management in a way that grants stakeholders to few powers or legal rights. However, stakeholder ownership may involve absentee ownership, but in the present system only the shareholders have the legal power to enforce their claims on management. Moreover, it is also difficult to ask management to be responsible for the conflicting interests of a broader set of stakeholders, and, in the current political environment, open dialogue between stakeholders may fall short of a solution to the problem of property ownership. This is because, in practice, companies still have more power to pursue their own interest and open dialogue may become a tool for management to deflect undesirable stakeholder demands or suppress different voices (see Roberts, 1998).

Nevertheless, the notion of stakeholder ownership provides a contrast to the present understanding of management and its decision-making processes. From a stakeholder perspective, the current ownership system gives decision-making powers and rights to a specific group, while many people who have a stake are often excluded. To secure stakeholder ownership is, indeed, to secure the interests and the rights of people who may be affected by the activities of the system, and it, in a sense, destroys the insular boundary of the system. Stakeholder ownership may have some practical problems, but stakeholder activities nevertheless make useful contributions, because they can make some marginalized voices heard in public debates. Yet, from a minor view, stakeholder ownership is not merely a matter of broader participation, or a matter of open communication. Rather, it implies a different approach to the managerial decision-making process, and involves new skills or knowledge for managers and other organisational members alike. If this is the case, it is possible that stakeholder ownership may also have some different implications for our understanding of KM.

Knowledge Management as a Minor Practice

As has already been suggested, what ultimately separates minor KM from orthodox KM is not the choice of different methods and techniques, but the answer to the question of what the ultimate purpose of KM should be. At the heart of the conflict lie different views of knowledge and of progress. While, in the orthodox discourse, the concept of progress is usually restricted to the economic domain and economic progress is often seen as identical to societal progress, minor KM rejects such a view by re-defining the meaning of progress – that is, progress is to be measured in terms of ecological betterment, at an eco-systematic level. But how does this minor project make a contribution to KM? Here I shall develop some minor possibilities, and each of them may offer a possible alternative to the predominant understanding of KM.

Possibility I: Knowledge Management as Eco-Learning

The concept of KM contains different practices and techniques. Many mainstream KM gurus have believed that KM is a matter of building a ‘learning organisation’, and, as such, the learning process may play a central role in an organisation; that is, the organisation, as well as the individual, should ‘learn’. The predominant understanding of learning process is focused on the relationship between the application of

knowledge and its economic effects. In contrast, this minor project is focused on the 'relationship' between humankind and its environment, and redefines a learning organisation in that 'organisation (and its members) must learn how to be in a responsible relationship with their environment'. So, how might such an organisation function?

Suppose an organisation decides to be an eco-learning organisation, and consequently management has to understand that the function of KM should be to serve environmental purposes. One of the most important things for an eco-learning organisation is to adopt new knowledge in order to examine the eco-impacts of its outputs (e.g. material goods or services), meaning we mean that the major role of management should be to assess the company's products, 'not' in terms of financial indicators, but in terms of environmental implications. This, plainly, requires new knowledge and skills, and, perhaps, a new organisational structure. For instance, in many current business organisations, the concept of KM has been applied to many different management disciplines. In relation to KM, the function of a HR department may be to set up education programmes to improve the skills of organisational members in order to meet organisational requirements, which are often market-driven. Marketing activity, of course, requires knowledge in order to analyse the market, to research and identify potential customers, and in many cases it tries to develop attractive propositions and persuade buyers to accept them. Moreover, if marketing activity is to have an influence on consumers, it is likely that it also involves an educational process. Notwithstanding, in an eco-learning organisation, things are different. In relation to KM, the major function of the HR department should be to spread knowledge about 'environment', and to raise the ecological consciousness of organisational members. The purpose of marketing activity, as such, might be to educate the public as to the ecological implications of products, or even to raise environmental consciousness in public debates. Of course, organisation, as an open system, needs inputs, and an eco-learning organisation should re-examine its inputs, which may include its suppliers, and people – organisational members. Take the recruitment process as an example. In a typical business organisation, while management may decide whether to hire a person in terms of his/her potential contribution to the company, the ultimate, or the hidden, criterion is usually economic. An employee's value, in such a context, is to be measured in terms of his/her economic usefulness. However, an eco-learning organisation would suggest that an employee's value should be measured by his/her contribution to the good of our eco-system as a whole. This, clearly, implies a different criterion of the recruitment process which would also remove the conventional boundary of business organisation

and the managerial process. However, it is not possible to reach this goal in one step, because to re-examine the eco-impacts of an organisation's inputs and outputs relies on knowledge about our eco-system, which may also require different people and a new decision-making process.

An eco-learning organisation has to reconsider who should contribute to KM. KM, as already argued, implies a relationship between knowledge and organisational purposes, and one of the important goals of mainstream KM is to address the issue of how to 'manage' this relationship. From a conventional viewpoint, KM is usually a task that belongs to management, so – management has the right to identify the knowledge base of KM, and to decide what to do, or what should be done, in terms of KM. This is because, in the current business system, the decision-making power in a company is, without question, in the hands of managers. Although now certain non-managerial staff are indeed involved in their companies' decision-making processes, these individuals are, in many cases, still management-appointed. However, from a minor perspective implies that management (as a set of techniques and a body of knowledge) may have a farther-reaching effect than its users and producers purport to accept responsibility for, and what is suggested here is that KM should not merely be understood as a managerial activity. Hence, an eco-learning organisation would suggest that its decision-making processes should be based on broader participation, at a societal level. KM, hence, would become a social process, rather than a mere managerial process.

An eco-learning organisation might need to employ people who would not make an economic contribution to the organisation. Conventional business organisations may see environmental activists or environmental scientists as 'external' pressure groups, and many organisations would even view these groups as a threat to their business activity. However, if we were to assume that business organisations, like individuals, had to be responsible for their environment, then evaluating the eco-impacts of organisational activities would become a necessary process. KM here implies on the one hand that an eco-learning organisation might need to employ ecologists/environmentalists, as they provide knowledge about our eco-system, and on the other hand, that it might have to employ some 'ethicists'. However, it should be noted that we are not referring to the kind of (business) ethicists who are concerned with how to promote the (conventional) managerial interest of efficiency, while seeing profit or productivity as the highest priority. Instead, we refer to ethicists who are not concerned with any financial interest, but rather with environment. That is, we propose that environmental ethics could offer a better ground for our understanding of

(business) ethics, although, as we have noted, environmental ethics may appear to be unrealistic, or utopian. However, while Jones et al (2005: 114) contended that the problem with the current state of business ethics is 'not that it is Utopian, but that it is not utopian enough', we suggest that environmental ethics might provide a possible alternative.

Possibility II: Knowledge Management as Non-interference

Non-interference is one of the most important principles for our understanding of an alternative KM practice. We have seen that, in a conventional business organisation, managerial activity is often measured in terms of its effective control over environment, but the concept of non-interference would totally destroy such an assumption. In a sense, the notion of non-interference is closely linked to the Taoist view of the relationship between knowledge and environment, which implies a 'letting-things-be' philosophy – we should avoid using knowledge to change (to organise, or to interfere in) any natural processes, because knowledge is too powerful to be left to its own devices. This leads to two different conclusions. Firstly, since human activity, more or less, has some impacts on our environment – or eco-system as a whole, the concept of non-interference might imply that managerial activities (such as KM) are unnecessary, and thus we should abandon all managerial practices involving the use of knowledge, or even remove the whole concept of 'management'. However, this seems to be an unattainable goal, because management does, in fact, play an important role in present business practices, and the use of knowledge has become an integral part of modern society. The second conclusion would be that management, as a powerful practice or a body of knowledge, always has potential to change the environment, and therefore we need to be mindful of it and its unintended consequences. This second conclusion seems to be more compatible with our minor view. This is because our intention is not to discard the whole concept of management, but to retain KM as a basis for an alternative understanding of it. In this regard, the role of KM is to identify 'unnecessary' managerial, or organisational, activities. Yet 'unnecessary' is a highly relative and subjective term, and, in a practical sense, how would the concept of non-interference function, in relation to KM? Here, we might propose some possible, though untested, suggestions.

First, identify activities that are not directly relevant to the company's 'productive' activity. By this we mean that management should focus on the company's products and production processes, while removing redundant managerial activities. For

example, the goal of a software company is to produce software. If a manager tests the reliability of software, from the principle of non-interference, such action is productive, because it contributes to the primary production process of this company. However, if this manager decides to improve the quality of products by means of creating a 'quality programme' or asking programmers to produce 'mission statements', his/her action is unproductive and unnecessary. From this perspective, it is possible that some current managerial interest in building a motivational culture or implementing some motivational programmes would be redundant and unnecessary. This is because, as we have seen, the use of managerial techniques may indeed produce some effects, but the relationship between means and ends is often chaotic, and may generate some unintended consequences. Moreover, from our 'minor' position, the idea of managing organisational culture is founded on the highly problematic assumption that management are more 'objective' than workers. The notion of non-interference is based on a basic belief that it is managerial activity itself that needs to be restricted. Thus, in applying this principle, the purpose of management should be to restrict their own actions. The concept of non-interference, at this point, would also include getting rid the company's dress code or other trivial regulations.

Second, compress organisational activities in order to reduce employees' working hours and workload. Our suggestion here is that, in an ideal 'efficient' organisation, employees could work less and go home earlier, and the role of KM should be to serve this purpose. However, it should be noted that this efficiency is fundamentally different from the orthodox managerial understanding of efficiency. Here, we may take the application of technology as an example. It has been said that the adoption of some web-based technologies – IT or ICT – may generate efficiency or enhance the 'performance' of an organisation, and some theorists also see the application of these technologies as a KM process (as seen in the chapter three). However, as a KM process this might lead to two different outcomes. The use of web-based technologies may destroy the boundary between an organisation and its environment. Yet, if a manager holds a conventional managerial standpoint – that is, the manager sees 'economic' efficiency as the top priority, it is possible that the application of new technologies would become an issue of how an organisation could use less input, to raise more output economically – for instance, with web-based technologies an organisation could have access to low-cost labour, while reducing the need for permanent employees and administrative staff. Hence, the first outcome might be that with new technology an organisation could use fewer employees, but each of them still had the same number of working hours. However, if we were to retain a radical

concept of efficiency, the practice of KM would lead to a totally different outcome. For instance, if a manager saw 'efficiency' as an issue of reducing employees' working hours as well as their workload, the application of web-based technologies would mean that an organisation could allow some employees to work at their own homes, and telework, of course, may have some immediate benefits such as reducing travel, and saving time. From our minor perspective, an additional benefit would be that it would also contribute to a reduction in air pollution. The implication of KM, from the perspective of non-interference, is that managers should identify and eliminate low-priority activities while streamlining some routine processes, such as eliminating low-priority meetings and shortening the lengths of all meeting by means of new technology, knowledge and different skills. This, of course, requires a different understanding of knowledge, and may also need the design of different organisational processes.

Implications

The above cases show some possibilities of an alternative KM practice. While in the first scenario KM would imply that managers should regard assessing the eco-impacts of organisational activities as the highest priority, the second views restricting managerial activities as the top priority. Both cases reflect some different assumptions about KM and, perhaps, some different measures of 'progress', but economic growth is nowhere amongst them. This is because we set out to argue that the mainstream understanding of KM reflects a set of assumptions, worldviews and sectional interests, the whole of which is derived from a conceptual framework in which economic values have gained the highest regard, economic growth has been considered as a necessary condition for societal progress, and economic efficiency, as such, has become central to the orthodox understanding of management. Such a conceptual framework and its assumptions may be in some senses axiomatic, but what has often been overlooked is that they seem to lead to problematic practices, especially with regard to our eco-systems.

We do not seek to engage in any current debates about which managerial techniques best serve the interest of economic efficiency or performance – whether a bottom-up decision-making process is better than a top-down process, whether autonomy is better than centralisation, and so forth – but rather to identify some possible alternative assumptions, worldviews and decision criteria on which KM might rest. We refer to this as minor. A more important intention is, however, to offer some

possible KM practices, based on minor views and concepts, which escape the problems with the current state of KM. Certainly, there may be resistance to proposals like these. Given that economic growth is often seen as identical to societal progress and that corporate interests are sometimes represented as universal in the realm of business administration, it is possible that the two preceding hypothetical cases may be considered as impractical or even against 'progress' itself. However, if the role of business education (or business schools) was not to educate students (potential managers) to fit the requirements of the industrial system but to convey the message of other social interests, it would entail students learning how to apply knowledge and techniques that are often absent in mainstream management⁶. For example, to educate students how to choose jobs not in terms of salary or opportunities, but in terms of an enlarged consideration for environmental responsibility; plainly, this is not merely a task of constructing a different form of 'business ethics'. Of course, the two hypothetical cases are not comprehensive, and they are in some senses utopian, but they nevertheless may have potential for 'becoming'.

Summary

Our ecological problems seem to be increasingly evident nowadays. Many people are aware of them, and many theorists are attempting to create theory in order to solve them. In a broad sense, most knowledge and theories are created to solve problems. However, when confronted with problems, we tend to develop different models, methods, or even change our environment. But I suggest that we could use another approach to dealing with 'problems' – that is, to change our own views and assumptions about them. Since much managerialism is driven by a belief in 'humankind controlling its environment', mainstream management is often centred on the issue of how managers alter their surroundings. In the mainstream discourse, the ultimate purpose of management is often seen as a pre-given, i.e. economic efficiency, and mainstream management is usually based on a human-centred view that management is able to correct our 'wrong' behaviour, or improve our 'inefficient' activities. This (mainstream) managerial attitude can even be found in some environmentalism. While some people, such as shallow ecologists, hold the conviction that our ecological crisis is a technical issue that can be solved at a technical level (see chapter two), some others believe that any environmental projects

⁶ It is worth noting that Guattari (1984: 34) suggested that in capitalism higher education often conveys the message of what he called 'bourgeois knowledge' whose *raison d'être* was to maintain the dominant production system.

must be compatible with the goal of economic growth. All this seems to reflect a human-centred view that, with our superior ability and advanced technologies, our environment (as an object) can be technically managed. However, to some extent, we have argued that this approach seems to be itself the problem instead of the cure.

In the field of KM, I have suggested that it is necessary to challenge the fundamental assumption about management and KM. However, our intention is not to destroy the whole idea of KM, but rather to articulate an alternative discourse, i.e. a minor approach to KM. This means attempting to find alternative form of KM that has some social value other than economic usefulness. In this work, I have particularly focused on our environmental problems, that is, I have tried to illustrate a potential alternative KM discourse at an ecological level, rather than at an organisational level. In this endeavour, I have further provided some possible, though tentative, solutions to the problems with the current state of KM. Nevertheless, from a minor perspective, although this does not mean that I attempted to demonstrate or to prove the practicability of this minor approach to KM, I do seek to argue that minor thinking may help us identify and understand what our problems are, and what conditions for their solutions might be. More importantly, minor thinking may open the door to future possibilities – even if, from current perspectives, they may be regarded as non-rational or utopian.

Conclusions

This work started with an overview of some of the origins of current prevalent views and assumptions about the 'world'. The intention was, however, to propose that although some of these worldviews are widespread and in some senses modern, they are not axiomatic, not universal. Some of these worldviews have formed the meta-theoretical components of what can be termed mainstream Knowledge Management (KM). We suggested that these meta-theories are characteristic of a period in which they form part of a specific economic environment and wherein certain characteristics of performance and commitment have become necessary. Amongst others, economic goals may have somewhat displaced some of our social or spiritual interests, and are sometimes represented as the objective norm. In this light, we proposed that the main problem with the current state of KM cannot be technically resolved because this problem has its roots in some deep-rooted values and assumptions about the world, and it is argued that we should articulate some alternative or even utopian understandings of KM.

Of course, some might argue that this is too contentious a position from which to embark upon this project. However, we intentionally set out in a subjectivist stance, and there was no attempt to objectively substantiate our argumentation. This is because, from some contemporary scientific standpoints, we have seen that even scientific processes are not free from emotion and human bias. At a macro-level, even if some people may disagree with our 'subjectivist' argumentation about KM, they would have to agree that modern civilisation is indeed complex and requires sophisticated mechanisms to sustain the production, consumption and market systems, and knowledge seems to be an important issue in these fields. In such a context, it is not unusual to hear it said that management is an important, if not a necessary, process, or that it can be used as a tool to address our social problems. It also comes as no surprise that there has been an enormous ongoing interest in KM, because since the Industrial Revolution there has been a predominant view that knowledge is the engine of 'progress'. To some extent, while some other forms of management are created to deal with concrete or tangible entities and resources, such as workers and technologies, many nowadays believe that KM is a concept created to deal with a kind of 'resource' that is dynamic, fluid or evolving. Certainly, given that KM is aimed at addressing such an implicit and complicated matter, it may follow that some different understandings of knowledge or management would improve the practice of managing knowledge. It is also possible to find that some KM theorists claim they

have discovered some revolutionary approaches to KM, or that knowledge can be managed better by certain techniques or through certain revolutionary practices. However, in re-examining some of the meta-theoretical elements embedded in mainstream KM, we have suggested that it seems to be largely governed by a similar meta-theoretical purpose, i.e. the managerial interest of efficiency, within a context of managerial goodness. However, while this thesis is focused on a critique of mainstream KM, we have also sought to retrace some of the silenced, or 'unreasoned' thinking – or, more precisely, the thinking that is sometimes regarded as unreason. It is hoped that a useful dialogue between KM and unreason took shape here. To this purpose, I have proposed a 'minor' approach to KM as the basis for our understanding of a possible alternative to its current state. However, why develop such a 'minor' approach to KM?

In a word, we seek to discuss 'possibilities'. This can be understood in three different senses. The first possibility is offered by the mainstream approach to KM. This approach is based on an assumption that there should be an ideal condition in which management are able to establish a kind of (predictable) relationships between knowledge, management and organisation – or, more precisely, between knowledge and organisation's economic advantages. It assumes that KM could be used as a (conceptual or practical) tool that would enable managers to manage such relationships. In other words, this approach seems to see KM as a pre-given – or as something 'must be done', and what is required is simply some technical adjustment. However, as we have contended, this possibility, led by the mainstream approach, is often unpredictable. By this we mean that, via the use of managerial techniques, management might indeed establish some relationships between knowledge and organisation, but this does not necessarily lead to the desired outcomes. While the issue of predictability has been somewhat centred around mainstream KM, some (mainstream) theorists have recognised that both knowledge and management are multi-faceted, and in some senses 'unscientific', usually within the relations of power. Consequently, some theorists, who have attempted to revise this approach, view KM as an analytical tool for our understanding of knowledge processes in relation to organisation. But two underlying assumptions remain intact. On the one hand, mainstream theorists still see KM as a pre-given whose purpose should be to improve our understanding of how to manage knowledge in organisation. On the other hand, the mainstream approach and its variations are still based on a hidden logic offered by neo-classic economics: economic growth = material progress = societal progress, and knowledge is the momentum behind 'progress'.

The **second** possibility is provided by a critical approach to KM. This approach is based on some radical assumptions about both knowledge and management. It sees KM as a socially constructed entity – or as the ‘problem’ itself, and suggests that the explanatory power of mainstream KM is limited, in the sense that the mainstream approach fails to recognise that there is an unmanageable dimension of both knowledge and management. This approach also implies that the managerial attempt to manage the process of knowledge may lead to chaotic, if not repressive, outcomes. In short, it has indeed challenged the deep-rooted assumptions (including the hidden economic logic) on which mainstream KM rests, and it has also framed a critique of the current state of KM. In general, our minor project shares the basic assumptions on which this critical approach relies; however, the minor project does not end at the point of critique. So, what possibility do we hope to construct?

The minor approach to KM, which stems from an environmental interest, seeks to construct an emancipatory possibility in terms of our environment. The **third** possibility, offered by the minor approach, is a tentative alternative KM discourse. While many believe that the current state of KM is derived from a seemingly universal interest, the minor approach nevertheless suggests that the mainstream understanding of KM is, in essence, economic, and is derived from some sectional interests and problematic assumptions about the world – some of which can even be traced back to the Enlightenment. The minor approach is based on a radical view of knowledge. It assumes that the problem associated with the predominant understanding of KM is not a technical one, not a simple absence of new managerial techniques, but that this understanding is deeply-rooted meta-theories about KM, in the hidden ethics embedded in the knowledge base of KM. It suggests that both management and knowledge, as well as other modern techniques, have an unmanageable dimension which may generate farther-reaching effect than their users/producers expect. Therefore, we set off with a belief that we have to be mindful of the application of modern techniques and knowledge, because they may have potential for disastrous consequences. The minor possibility here is twofold. On the one hand, we seek to formulate a critique of the mainstream understanding of KM. We contend that it is problematic, not only because it fails to deal with the economic relationships between knowledge, management and organisation, but also because it overlooks that both management and knowledge may have far-reaching impacts outside the organisational boundaries and our practical or economic concerns. Or, to put it another way, the mainstream approaches may have overlooked the (unexpected) relationships between knowledge and society or between knowledge and eco-systems. On the other hand, we tried to retrace some wisdom that may appear to be highly

subjective, some of which, in the context of current socio-economic realities, may be considered as impractical, utopian, or even irrational. However, while Leibniz's motto – 'Nihil est sine ratione' (there is nothing without its reason) denotes a modern belief that with rational tools we can explore the reason for everything, I suggest that retracing some unrealistic forms of thinking are important, in the sense that they may offer the foundation for a possible, though tentative, alternative to the current state of KM. We also propose a shift in our understanding of KM – from an economic understanding to an eco-centred understanding.

In the current situation, an alternative understanding of KM is not only important, but also necessary – even if it appears to be unrealistic. This is because, although many management theories and techniques have an 'objective' sense, they are indeed created to serve certain sectional interests, under certain conditions. A particular problem associated with the current state of management is that some of its ideas have become so widespread that they are even represented as unquestionable principles for entrepreneurial success, despite the fact that they have actually been created to meet certain industrial or economic requirements. That is, what is often overlooked is that theories might solve some problems at a given period or in a given context, but they may also generate unintended consequences at a societal, or even an ecological level. This is also the case with KM. The managerial understanding of KM, at its birth, was heavily associated with a group of American authors who sought to discuss the practical issues of managing knowledge, especially in order to meet the requirements of advanced industrialised societies (though Peter Drucker presumed that the 'knowledge society' would sooner or later become a universal phenomenon). However, KM today has been regarded as a necessary activity by many companies, and the idea of KM has already been taught in business schools across the world, even in many of the developing countries which may not totally fit into the definition of the knowledge society. Yet, if our industrial activities, together with the application of knowledge and other modern techniques, may have potential impacts on our eco-systems, I suggest that they could lead to more problematic consequences in some developing countries. This is because, on a global level, evidence shows that developed countries have paid more attention to the conflict between economic growth and environmental protection, but many developing countries still tend to see economic growth as the top priority (e.g. Chasek, 2000). In this regard, it seems that an alternative approach to KM is a necessity, if only because the concept of KM has been widely applied in our industrial processes.

Our minor paradigm may add to the confusion already existing in KM and organisation studies, especially as it undermines some deep-rooted meta-theories such

as notions of economic efficiency, performance or the unswerving belief in progress, while advocating an eco-centred understanding of the world. But it should be emphasised that there is no single theory that can promise to offer unfailing solutions for resolving current and future organisational dilemmas. The minor approach does not seek to establish a universal principle, but rather to construct a provisional hegemony – or alternative possibility, with particular reference to the ecological consciousness. Of course, with regard to the current environmental crisis, such ecological thinking seems to be attractive, but we have to recognise that there is little consensus as to what constitutes a symbiosis between humankind and environment, or between humankind and other species. However, we argue that insofar as mainstream theories and KM still contain some anthropocentric components that are rooted in a dualism between people and environment, these mainstream approaches are unable to discuss environmental objectives. Certainly, movement toward ecological consciousness is not inevitable. It requires serious debates regarding how different organisation-environment relationships should be organised. This also involves different choices, and new types of knowledge and technology. But, insofar as our ecosystem may be heading toward a point of irreversible destruction, as many deep ecologists would suggest, some alternative human-knowledge and human-environment relationships should be orchestrated. We suggest that a minor approach to KM could be retained as a ‘possibility’ to serve this purpose.

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