The International JOURNAL of KNOWLEDGE, CULTURE & CHANGE MANAGEMENT

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VOLUME 5, NUMBER 5

COMMON GROUND

www.Management-Journal.com

INTERNATIONAL JOURNAL OF THE MANAGEMENT
http://www.Management-Journal.com

First published in 2005/2006 in Melbourne, Australia by Common Ground Publishing Pty Ltd
www.CommonGroundPublishing.com.

ISSN: 1447-9524 (print), 1447-9575 (online)
Publisher Site: http://www.Management-Journal.com

The INTERNATIONAL JOURNAL OF THE MANAGEMENT is a peer refereed journal. Full papers submitted for publication are refereed by Associate Editors through anonymous referee processes.

Typeset in Common Ground Markup Language using CGCreator multichannel typesetting system
http://www.CommonGroundSoftware.com.

Towards a Rhizomatic Method for Knowledge Management

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Abstract: The paper highlights the importance of ontological assumptions to the management of knowledge and the development of knowledge management systems. It juxtaposes the ontology of "being" based on the work of Heidegger, and the ontology of "becoming" based on Deleuze and Guattari's discussion of rhizomatic activity. The relevance of these ideas to knowledge management, information systems, and organisational activities in general is illustrated and a tentative framework based on rhizomatics is developed and discussed.

Keywords: Rhizomatics, Ontology, Knowledge management, Information systems theory

Introduction

OVER THE PAST two decades there has been a growing interest in the ability of organisations to be able to manage knowledge. This has been driven to some degree by the need to establish and maintain competitive advantage (Lang 2001), and increased staff turnover (Chase 1997) due to higher mobility of the workforce and incentives that encourage early retirement (Macintosh et al. 1999). The focus of discussions regarding knowledge management vary including: philosophical debates on the nature of knowledge, prescriptive advice on the stages required of a knowledge management system, the role of information technology in knowledge management, communities of practice, organisational learning, and examining the nexus of theory and practice (McAdam and McCreedy 1999). The key concepts and areas of debate within Knowledge Management have been encapsulated in documents produced by standards setting bodies within different countries. In the case of Standards Australia's AS5037 (Standards Australia 2003), the major points of contention are covered at the outset in the Definitions Section. First, there is a distinction made between "data", "information", and "knowledge". Second, it points out that Knowledge Management is multidisciplinary and of a socio-technical nature. Third, it acknowledges that the stakeholders in Knowledge activities extend beyond organisational boundaries to include community groups, business partners, and government agencies. Fourth, it draws a distinction between "tacit" and "explicit" knowledge. This paper argues that the distinctions between data, information and knowledge, both tacit and explicit, are ontologically based; that the ontology of organisational systems is emergent; and, based on the work of Deleuze and Guattari, explores the development of an analysis method for knowledge creation and dissemination.

Data, Information and Knowledge

The Information Systems (IS) discipline has concerned itself primarily with the analysis and development of systems that transform data into information, either computer based (Gallupe 2000), or those activities involving the purposeful interaction of people with common goals (Checkland 1988). Therefore if the relationship between knowledge and information could be clarified, then logically, the discipline would be well positioned to extend its existing frameworks and methods, to the development and analysis of Knowledge Management systems. Far from being trivial or pedantic, the distinction between data, information and knowledge is crucial to establishing how the IS discipline may contribute to Knowledge Management initiatives.

In the Knowledge Management literature, the relationship is usually discussed in such a way that implies a hierarchy, with data viewed as the building blocks for information, and information being the foundation of knowledge (Bhatt 2001; Van Beveren 2002). Data is taken to be observable and measurable facts about a given situation; information results from processing data to give it meaning; and knowledge is the competence developed by applying information in appropriate situations and in a skilful manner (Garavelli et al. 2002).

More recently though an argument has been put forward that perhaps this hierarchy is inverted, that knowledge is required prior to deciding what information and data may be needed to make decisions. The argument for an inverted hierarchy requires a greater

http://www.Management-Journal.com, ISSN 1447-9524 (print), 1447-9575 (online)

understanding of processes as enacted by individuals and therefore suggests that Knowledge Management initiatives should be viewed as a recursive, socio-technical exercise, rather than a sequential or linear endeavour (Tuomi 2000; Spiegler 2003).

A compounding factor in understanding the relationships between data, information and knowledge is that the distinction between data and information was never that clear. Rather than distinguishing one from the other based on the observable characteristic of each, the distinction between data and information was only evident when one understood how it was being used. To summarise, in order to act one first must determine the information required to solve whatever problem confronts them. Foreknowledge of what is required has been described as tacit knowledge and will be examined in the following section.

Tacit and Explicit Knowledge

Knowing what is required in many situations is encapsulated in organisational procedures and training programs. This type of knowledge is known as "explicit" knowledge. It is thought to be easily captured, codified and shared within a community for whom it has relevance (Bloodgood and Salisbury 2001). There are many instances where the situation requires the employee to exercise their judgement in deciding what action to take. This ability to know what to do in a given situation is known as "tacit" knowledge (Haldin-Herrgard 2000). While skills can be taught, experience and intuition are required to understand where and when those skills can be utilised effectively. Knowledge creation and the management of it rests on the ability to convert explicit knowledge to tacit knowledge so that it can be easily shared (Nonaka et al. 1998).

In their seminal work Nonaka and Takeuchi (1995) discuss the processes for converting knowledge that are known as the SECI model. The process consists of four stages; "Socialization" where individuals share experiences; "Externalization" which is a reflective process where individuals convert their self-dialogue into formats that are understood by others; "Combination" involves collaboratively merging explicit forms of knowledge into more complex forms with a view to creating new knowledge; and lastly "Internalization" where individuals take new explicit knowledge and convert it to tacit knowledge by engaging in experiential activities (Nonaka et al. 1998).

One of the problems with surfacing tacit knowledge noted by Polanyi, is that some of our knowledge is acquired through "…a process of learning without knowing" or subsception which he suggests may be the intuition that underlies the process of discovery. (Polanyi 1969 p.143). While it may be possible to surface processes and methods, surfacing what lies at the core of an individuals' intuition is unlikely. Further he argues that while it is possible to have tacit knowledge in isolation, it is not possible to have explicit knowledge without it being rooted in tacit knowledge. Knowledge therefore must have an experiential base in order to be understood and explicit and tacit knowledge should be seen as complementary rather than separate (Nonaka et al. 1996). Viewing explicit and tacit knowledge in a dualistic rather than dialectic sense has resulted in the over-inflated expectations of the SECI model and disappointment in the limited impact it has had on knowledge activities in western organisations (Snowden 2002). In response, Nonaka has returned to basic principles of defining ontological spaces in which these activities occur (Nonaka et al. 1998). The next section will discuss the importance of ontology in understanding knowledge and knowledge management practices.

The Importance of Ontological Assumptions

Debates about knowledge for the most part deal with epistemological issues concerned with how knowledge is identified and appropriated (Sedgwick 2001). It is from this standpoint that most knowledge management endeavours are undertaken. The literature on Knowledge Management provides a multitude of examples that see the management of knowledge revolving around activities designed to identify, capture, codify, store and share corporate or community knowledge (Rubenstein-Montano et al. 2001). The ability to undertake such processes in an attempt to manage knowledge rather than data or information, appear to be based on several assumptions about the nature of knowledge. First, that there are knowledge entities that exist, second, that these entities have characteristics that we know with certainty, and third, that by manipulating these characteristics we can come to know things about these entities that we did not previously know. These assumptions are aligned with positivist frameworks that have proven to be reliable in scientific endeavours but have had a less successful impact in the social sciences (Goles and Hirschheim 2000). Knowledge management represents a shift from gathering observable characteristics to attempting to capture concepts that exist only in human thought processes (memory). Essentially we are trying to capture what people know and how they got to know it (i.e. we are interested in the epistemic). In developing more structured systems such as transaction processing systems, questions regarding our ontological stance did not need to be addressed in detail. Whether an objective or subjective stance

was taken (barring solipsism) for the most part, stakeholders could agree on the characteristics being captured. When dealing with human constructs that form the basis of tacit knowledge, such assumptions about the nature of objects and our experiences of them have more impact. The characteristics of entities do not do justice to our experiences of them and how we interpret their relevance or importance.

In order to better understand the experiences of individuals some Knowledge Management endeavours seek to understand thought processes retrospectively by using techniques consistent with Naturalistic Decision Making (see Lipshitz et al. 2001; Meso et al. 2002; Coffey and Hoffman 2003). However assumptions are made that actions are accurately recalled and conveyed rather than being retrospectively justified or rationalised. This statement is not an expression of disbelief or a mistrust of people's recollections, it is the belief that the majority of decisions are arrived at without access to some of the relevant information and that decisions are made within time constraints and therefore are not subjected to rigorous processes. In some instances what may be recalled or conveyed is conjecture as to what the appropriate thought process may have, or should have, logically been, with a view to uncovering cause and effect relationships. In a philosophical sense such an exercise attempts to understand what existed in the situation or the experience (ontology), then taking the essence of the experience to signify what is known and how we come to know it (epistemology).

The importance of taking a holistic view of situations has been acknowledged within social research by employing a phenomenological approach to data gathering and analysis. The ontological basis of most of this work owes much to Heidegger's thoughts on the immediacy of "being" in a situation and the notion of "thrownness", which creates a necessity to act in a timely manner (Winograd and Flores 1987). In this paper, the authors take the view that knowledge possessed by others is valued only from an experiential perspective and therefore needs to be examined ontologically rather than from an epistemic standpoint. Heidegger's notion of "being" however is only one view of ontology. The next section will discuss two views of ontology – an ontology of "being", and an ontology of "becoming" based on the work of the French philosophers Deleuze and Guattari. It is not possible to do justice to philosophical history in this paper and therefore a cursory discussion juxtaposing the ontologies of "becoming" and "being" is undertaken. This discussion will provide a basis for the development of a research framework using Deleuze and Guattari's ideas.

Being and Becoming

The basis for an ontology of being is found in the work of Heidegger as an attempt to progress Kant's refutation of idealism (Heidegger 1962; Winograd and Flores 1987; Sedgwick 2001). Heidegger disagreed that it was possible to disprove psychological idealism without first addressing ontological issues regarding the nature of the existence of the enquirer and the nature of the existence of what is enquired into. He suggests a phenomenological approach to research and analysis that rejects the idea of reflection as part of the method of action. The notion of "being" posits that the "present-at-hand" and "ready-to-hand" objects and concepts are used in our daily decisions and actions. He does not appear to dismiss totally the rationalistic orientation that proposes an external world on the one hand, and an internal world of human perceptions of the external world. Like most German philosophers Heidegger acknowledges the idea of change in the human condition, and an ontology of becoming (Sedgwick 2001). He deals with it however by suggesting that "…if changes which are present-at-hand have been posited empirically 'in me', it is necessary that along with these something permanent which is present-at-hand should be posited empirically 'outside of me'. What is thus permanent is the condition which makes it possible for the changes 'in me' to be present-at-hand." (Heidegger 1962 p.248). He draws a distinction between the "Real" and "Reality" with reality being reliant on Dasein (being there) to provide the basis for understanding and interpreting the significance of the real.

Nietzsche's[1] ontological stance differed. He felt there was no necessary correspondence between the world and our conceptualisation of it. For him there was no realm of intellectual objects or concepts that exist (Sedgwick 2001). He suggested that the world consists of things that are constantly changing (i.e. they "become"). This process is an immanent process driven by "…a flux of forces…" (Sedgwick 2001 p.106).

To compare the two ontologies, one suggests a world that just "is" and we struggle to understand it within the confines of our subjectivity ("being"). The other suggests that all things are constantly changing and our knowledge of them is derived by striving to explain and understand the drivers and impacts of change ("becoming") (Sedgwick 2001). The notion of becoming for Deleuze and Guattari (1987) is not about transformations in a physical sense, but transformations in a productive and temporary sense. They talk of humans becoming animal, but they are talking of a transcendence that enable one type of entity, in combination with other entities, to produce

[1] The ontological stance taken by Deleuze and Guattari is based on Nietzsche's work in this area.

an "affect" that is usually associated with an entirely different species or type of object. For Deleuze and Guattari everything produces and "affect". "Everything is a machine." (Deleuze and Guattari 1984 p.2). They discuss a hijacked airliner being transformed from a plane to a prison. There is no physical transformation here, and while one can argue there is a perceptual or psychological transformation for both passengers and hijackers that endures after the event, the transformation is temporary and does not infer a similar transformation in every other airliner or plane flight. While the transformation is temporary, it steals something from the entity and severs any return to the original image. In the case of a hijacking, freedom and privacy are lost with an increase in security and a loss of innocence for those travelling for recreational purposes. Similarly in organisations, any change makes a return to old practices improbable. The notion of forgoing something in order to change is essential. The natural tendencies and desires of individuals must be suppressed (stolen) in order to create a valued and productive organisational being. The human must first become the worker, then as new tasks are devised, or as processes are transformed or replaced, workers must become something different and the value of existing skills and knowledge, and potentially status, changes. They must adopt the micro-tendencies of other parts of the organisational mechanism in order to fit in – to enter a "…zone of indiscerniblity [in order to become] …the proper name to which one is reduced[2]" (Deleuze and Guattari 1987 p.280) The organisation too must surrender order, stability and a measure of control to facilitate change and to become something different.

With an emphasis on understanding the "affect" of events and or physical objects rather than their physical characteristics, Deleuze and Guattari proposed a philosophy that sought to highlight the impact of intermingling forces and the structures, struggles, and the flights from them that ensue. They were not interested in categorising objects or phenomena. They were interested in the transitory combination of different objects and organisms that merged to become a mechanism for the production of an "affect". For them there is no end-point but a continual state of change understood by speed and slowness that impact how things come together and take shape. Deleuze and Guattari's thoughts on this are perhaps best captured in this extract from their discussion about nature.

> Being expresses in a single meaning all that differs. What we are talking about is not the unity of substance but the infinity of the modifications that are part of one another on this unique plane of life. (Deleuze and Guattari 1987 p.254)

While the ontology of "being" may seem the more dominant view of organisational activity, support for an ontology of becoming can be found in mainstream theories such as Punctuated Equilibrium. Punctuated Equilibrium discusses organisational life as "…relatively long periods of stability (equilibrium periods) … punctuated by relatively short bursts of fundamental change (revolutionary periods)." (Romanelli and Tushman 1994 p.1141). The means by which stability is achieved is by developing shared understandings of activities and the creation of relationships that allow for the organisation to cope with environmental instability (constant change). These coping mechanisms however are wrongly labelled as "inertia" (Romanelli and Tushman 1994 p.1143). An absence of activity on a daily basis (true inertia) would result in the organisation quickly descending into chaos and would cease to trade in a very short period. Instead, what we have is the reenactment and reification of rules and activities that provide stability - a flurry of activity that gives the impression of standing still (i.e. the organisation paddling furiously to stay in mid-stream). Punctuated Equilibrium and an ontology of "becoming" acknowledge the fear of letting go and giving up the stability that routine provides.

Deleuze and Guattari suggest that the world and the systems we observe are not as straight-forward or predictable as they appear. Instead forces merge to create transformations that by-pass stable systems and controls. Rather than constructing concepts (or systems) based on the singular, they seek to embrace the multiple. Rather than developing concepts that are similar to those they seek to replace, they seek to differentiate. Rather than seeking to become the major or dominant paradigm, they become minor[3].

Rhizomatics

To illustrate their ideas Deleuze and Guattari use a botanical metaphor counter-posing tree like structures (arboreal structures) and rhizomes (such as grasses). The tree represents the stable structure that changes incrementally, using its resources to grow vertically in order to dominate its surroundings but remaining firmly rooted in its position. Rhizomes on the other hand are characterised by speed and direction and

[2] It is not clear in what context the word "reduced" is used. It may mean either "diminished" or "constrained", either of which would make sense. The former resulting in a lesser role. The latter, leading to a process of "framing" which has the affect of limiting others' expectations of an individual's capabilities.

[3] In order to become something different they argued that one must separate oneself from the aggregate traits required be identified as part of the majority. It is not about becoming the minority but becoming minoritarian (different).

seek to dominate by spreading horizontally into clear spaces where their path is typified by twists and turns and are devoid of a clearly identified centre, point of origin, or culmination. Rhizomes are always in the middle – in the process of becoming, passing between stable structures. From this analogy they proposed a method of philosophical investigation based on rhizomatic activity that sought to observe emerging situations focusing on twists and changes of direction, and splits or ruptures created by embracing disparate or competing principles at the same time.

Both organisations and individuals have multiple competing objectives (desires) that make actions less predictable. A shift in the balance of these objectives can lead to revolutionary changes that emerge creating disquiet among stakeholders, contradicting the existing processes, norms, and standards that the system had fought to impose. These competing objectives and how individuals reconcile them are often overlooked. By shifting the focus of analysis to exploring the disparate forces that converge in a continuous immanent process, it is felt that Rhizomatics offers a more insightful way of making sense of organisational activities. Rather than taking the dominant or outwardly obvious objectives of the organisation as the focal point, the driver of actions of individuals and subgroups need to be explored. The points of internal inconsistency, contradiction and conflict that individuals and groups seem oblivious to, need to be surfaced – not to be "fixed" as if they amount to some form of error, but to understand the "flows" that lead to revolutionary change.

Development of a Research Approach

Deleuze and Guattari developed a complex set of terms to identify the concepts underlying rhizomatic activity. This section will attempt to explain the terminology prior to discussing methodological issues.

Summary of Major Concepts

Abstract Machines and Assemblages

It is imperative that we keep in mind that concepts are initiated by a desire to achieve something. The concept quickly starts to come together in a cognitive sense as a diagram or model. The components and their operations are mentally constructed and the operation of the system visualised. At this point possibilities are limited by one's experiences and imagination as components are incorporated and replaced in an "abstract machine" that is amenable to continual variation. The abstract machine becomes the blueprint for the tools or processes that enable objectives to be realised. These tools or processes in Deleuze and Guattari's terminology are known as "assemblages". Assemblages are constructed from components that belong to one of three distinct layers or strata. These layers they defined as: a physiochemical layer - objects best defined by their chemical or physical characteristics; an organic layer - all living things; and an anthropomorphic layer - things that are endowed with human like abilities (1987). Assemblages may consist of several components and transcend other layers by means of "incorporeal transformations" which change the way that the assemblage's capabilities are perceived. The combination of objects should not be thought of as permanent. The objects should be seen as components of larger assemblages and may have only transitory relationships. Deleuze and Guattari see these relationships as symbiotic where the individual objects have an existence outside of the assemblage (1987)[4]. It is when the objects come together that an "affect" is created.

Lines of Flight, Deterritorialization, and the Plane of Consistency

Often in organisations technology can race ahead of business requirements forcing a situation where technology is pushed. In order to create a need where none exists, new opportunities, or seemingly limitless capabilities are raised in opposition to the status quo. To facilitate this shift in direction, Deleuze and Guattari suggest that new ideas need "clear space" in which to establish a foothold. This is a space devoid of the old rules, regulations, norms, and practices associated with the existing ideas. The new assemblage needs to be differentiated from other competing or existing assemblages. This process of opening up clear space is termed "deterritorialization" and is followed by a process of "reterritorializing" where new rules are coded for the new concept. To dominate effectively, there is a need to cut off a return to old methods, processes, practices, etc., thereby preventing the old practices re-imposing themselves over the new. The escape from "striated space" [5] (deterritorialization) to "clear space" is known as a "line of flight".

Segmentarity

As the ontology underlying Rhizomatics is based on continual flows and changes, Deleuze and Guattari do not suggest that there is a necessity to return to its origins, or to observe its termination, to under-

[4] They use the relationship between the wasp and the orchid where the wasp becomes part of the reproductive system of the orchid.
[5] Striated space is space that is marked with lines. These lines represent rules, regulations, etc., that dictate what is allowable within the space. Striated space is the opposite of clear space.

stand the rhizome. They argue that the rhizome is always becoming (becoming different) and therefore "in the middle". The rhizome should be examined by looking at its segments. The segments they are discussing though are not necessarily sections as the term would normally indicate, but may be a binary categorisation (setting up a duality paying particular attention to its limitations and emergence of additional categories), a linear section (which will be discussed in more detail), or a circular segment (creating concentric circles of groups and sub-groups). Linear segments may consist of a point, a section, or a contour. Each type of segment will reveal something different about the rhizome and requires a different approach to analysis.

Methodological Development

Illustrating the Assemblage

For Deleuze and Guattari, the assemblage is only relevant in terms of its escapes and lines of flight, and the transformations that occur. They were not interested in distinctions between categories of objects, but of the "machinic effects" on those impacted when "things" are combined to realise a desire. The following is an attempt to use these ideas as a practical approach to organisational analysis.

The assemblage is defined by a matrix consisting of two dimensions as shown in Figure 1 (below). Deleuze and Guattari do not appear to have elaborated on the model and therefore the following must be understood to represent an initial attempt at extending these ideas and applying the matrix in a practical way.

The lower two quadrants represent a world of well-defined rules. The space in which the assemblage moves should be seen as "striated". The upper quadrants on the other hand represent "clear" space. The left and right quadrants on the other hand are more problematic in that the assemblage will have at the same time segments of Content and of Expression. The transforming event, or a notation marking the event, has no meaning without the process by which the transformation occurs. One does not denote or anticipate the other. Deleuze and Guattari use the example of wine being dropped into water (an expression) and an observation that the water is turning red (a transformation) (Deleuze and Guattari 1987 (see page 86-87)). To use a more extreme example, the date "911" now consists at once of both content and expression – both outcomes and processes emerge without one being dependent on the other. Had an earlier attempt at destroying the World Trade Center through the detonation of a bomb been successful however, hijacked planes, the date, and some of the individuals involved (both victims and perpetrators) would have differed. The transformation of significance for most, was the tragic loss of life. Had the destruction of the World Trade Center been accomplished by other means, the perceptions of on-going threats would have differed resulting in different outcomes and impacts (less airport security for instance).

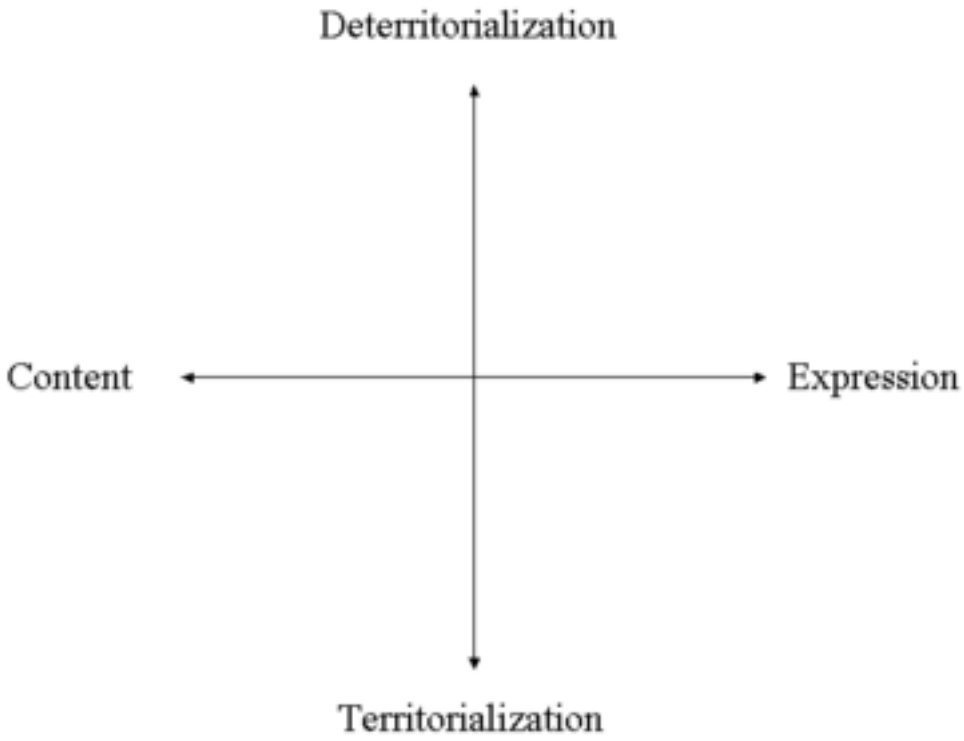

Figure 1: Nature of Assemblages

In determining the importance of locating the assemblage within the matrix the researchers are making the assumption that at times individuals and groups lose sight of the reasons for certain processes (i.e. "expression" takes precedence over "content"). The reasons for particular actions or procedures get forgotten and the assemblages employed are taken for granted – that is they are seen as the only means to a given end and it is assumed that they are to remain stable. The objectives are forgotten as the operational imperatives and what is feasible reshapes what is constructed or enacted. The left quadrants therefore can be used to highlight assemblages that are characterised more by their transformations and less by the processes involved. That is, several processes could be used to accomplish the transformation, the emphasis or focus is placed on the transformation and ensuring it occurs. The right quadrants highlight process driven assemblages that tend to focus less on the outcome and more on following procedures.

Knowledge and the Quadrants

The lower right quadrant is typified by procedures and rules. Here the outcome or transformation is taken for granted. By following the process the outcome is assured. Stable, conservative organisations and old style learning institutions are examples where this type of approach would be expected. The lower left quadrant is again typified by well-codified rules and well-delineated practices with a focus however on outcomes. Here you would expect to see experiential learning forming the basis of practices. The upper right quadrant is a domain where procedures and rules appear to fail – an area typified by conundrums where business rules and principles are at best a guide and new practices need to be developed. Similarly the upper left quadrant is a zone where few rules, processes or procedures exist and transformations are such that all are swept along with rules emerging as they are needed. Clearly the assemblage that predominantly spans this quadrant would be seen as revolutionary.

Where a particular assemblage develops or moves, depends on the focus during its development. It is conceivable that an idea develops in clear space as a desire to transform a situation (i.e. the upper left quadrant) and is developed in terms of capabilities (moves to the upper right quadrant). At the same time rules start to be imposed. Rules that define the limits of what can be transformed and also limits on the capabilities of the assemblage (e.g. technological limits). Finally as the system came together it would be highly structured consisting of specific components and rules that constrict the manner of its use and

its area of application. Just as easily though, a system could be imposed in its entirety with processes and rules (e.g. new legislation). This would not however prevent transformations within clear space. The perceptions one has of their situation and the metaphors employed have been shown to be either enabling or constraining (Sapienza 1987). The path or development of an idea therefore cannot be assumed to be consistent and must be understood within each situation.

The use of this matrix for describing an assemblage is useful, however, rhizomes are characterised by speed and direction with their twists and breaks (Deleuze and Guattari 1987). Shifts in perceptions of the assemblage may only portray a shift from the strategic to the operational, which must necessarily happen if ideas and concepts are to move from abstraction to reality. What is required is an understanding of progress towards an objective (or desire) and any resulting inconsistencies that may create anomalies in the situation.

Mapping the Segments

The dimensions provided above map the nature of the assemblage and can show how it changes, however it does not seem to be tied to the initial desires that gave rise to the creation of the assemblage. The objective of mapping the rhizome must focus on the realisation of a "desire" or an objective and plot the path that the subsequent actions take. Instead of using the dimension of Content and Expression, perceptions of the realisation of the objective (i.e. achieved or not achieved) should be determined. These perceptions of progress need to be further explained and substantiated in terms of the nature of the assemblage and its dimensions of "content" and "expression", and the "territory" upon which it imposes itself. The difficulty is to attempt to demonstrate that ideas take divergent paths with changes of direction and splits that may have little to do with the original desires or objectives. Notions of speed can be displayed in terms of the generation of codes (rules, processes and procedures) that emerge in order to achieve the objective. These variables can be used to create a visual map using vector analysis techniques[6]. While ideally the matrix discussed above should be used, the continuum of "content" and "expression" exist at once and not necessarily at opposite poles. A transformation takes place using an assemblage. The only real issue is whether an initiative is moving towards or away from its objective. The views of stakeholders can be determined and then interpreted / reduced to a Likert Scale score based on their perceptions of the nature of the objective during an initial interview and progress towards that objective during a series of follow-up interviews.

Conclusion

This paper has provided an overview of some of the main concepts discussed by Deleuze and Guattari and attempted to show how these concepts can be used as a basis for organisational analysis. The ideas however are philosophical and therefore provide limited assistance as to how to operationalise them. One of the key weaknesses of rhizomatics is that it appears to be useful as a method of making sense of a situation post hoc. Systems need to be engineered from the inside out. While it is fine to imagine, discuss, and develop new concepts, there reaches a point where, if ideas are to be enacted, rules, procedures and methods must be imposed on the development process. On the surface it appears that organisations cannot sustain extended periods of uncontrolled change. This argument is based on models of management and decision making that subscribed to rational world views of management theory. There have however been arguments mounted that a degree of management decision-making and strategy development, is done in order to validate and authorise activities that have already commenced (Mintzberg 1994). If such initiatives are not developed in a top-down manner, where are they coming from? What resources and tools are being utilised? How come there is so much flexibility in organisational decision making processes to allow for unauthorised activities to occur? More importantly, how do these ideas develop and spread throughout operational areas of the organisation, to the point that management is compelled to ratify and adopt them? Deleuze and Guattari believe that true power is exercised at the limits of one's impotence (Deleuze and Guattari 1987). It is hoped that an understanding of rhizomatics through a series of related research projects may provide a basis for management practice that proactively creates the conditions for such forces to emerge so that they may be harnessed productively.

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[6] Vector analysis is used in fields such as aviation and navigation to determine the path required to arrive at a particular location in light of prevailing conditions such as wind speed, tidal currents, etc.. The net effect of a sail boat "tacking" into the wind is that it arrives at a specific position even though it did not travel in a straight line to get there.

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