

WORDS COUNT:

VIEWING ORGANIZATIONS AS EMERGING SYSTEMS OF LANGUAGING

by

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Abstract

Both the theory and practice of strategic management need to pay much more attention to language in organizations because it is in the emergent nature of languaging that change manifests itself. Languaging is an emergent holonic property of situated day-to-day activity in organizations. Given the variety of situations that occur in organizations, we find that words are carriers of more than just one preset meaning. Managers need to recognize that words carry multiple meanings and that viewing meaning from a relational point of view can open up new possibility spaces. Meanings can be dealt with as mediums for action and not “managed” as if concrete objects. In sum, words count. The question is which words? The answer is that context is all-determinative.

Framing the Issue

Strategic management and organization science needs to pay much more attention to language in organizations because it is in the emergent nature of languaging that change manifests itself. In organizations, language is the vehicle through which shared meanings are communicated. Such communication of shared meaning is the very interaction, which defines, as Karl Weick likes to phrase it, “organizing.”

By “languaging” we mean *word choice in usage*. Word choice allows meaning to emerge as a relationship between and among the various descriptions actually used by members of the organization interacting with themselves or with external others. Our emphasis here is on usage, for in usage lies both a focus on members of the organization and a focus on interaction with others. Word choice in usage is an activity, and pursuant to both activity theory and situation theory can be studied as its own unit of analysis.

It will be important for the reader to understand the philosophical positioning of the authors. Our stance is that of “pragmatic constructivism.” Asserting that *making sense* is a *circular* cognitive process perhaps best summarizes this stance. The process may begin with some initially incomprehensible sensation; it then proceeds to imagining hypothetical contexts for that situation. The process is circular in that for features to be distinguished -- in both contexts and in what is to be made sense of -- meanings must be constructed. The interrelation between distinguishing features and constructing meanings will continue until this process has converged to a sufficiently coherent explanation. For example, picture the understanding process you went through the first time you heard a cell phone ring out on the street or in a restaurant. The incomprehensible had a sensible context constructed by you around it. *Meaning is thus a cognitively constructed relationship*. As argued by Krippendorff (1989), meaning selectively connects the features of an object and features of its context into a coherent unity. Constructivism is very different from the traditional representationalist point of view regarding words, language, and meanings as applied in the strategic management and organization science literature. These differences will be very apparent as the article proceeds.

In addition to presenting the rationale for why we believe languaging is important to strategic management and organization science, we will also be describing how that importance makes itself extant in day-to-day practice. By outlining a workable mechanism for how languaging allows for change, we can better illuminate the importance we ascribe.

Our starting point is that languaging is an emergent holonic property of situated activity in organizations. Organizational languaging is integral to maintaining coherence – an unfractured sense of identity -- in the face of emergent change. The first part of this essay will be devoted to explaining these two sentences.

Our Philosophical Stance

The traditional management and organization literature is based on the logical notion of deduction. The underlying assumption of this notion suggest an objective world where interactions can be described in linear terms, where words have singular meanings, and where prediction and control are paramount. Our perspective, by contrast, is rooted in observations from complexity science. As already noted by others, complexity theory challenges assumptions underlying the deductive notion. We believe the lessons of complexity science for organizations can be summarized by simply noting that human activity such as organizations allow for the possibility of emergent behavior. By emergence, we mean an overall system behavior that comes out of the interaction of many participants -- behavior that cannot be predicted or even envisioned from a knowledge of what each component of the system does in isolation.

Philosophically the possibility of emergence defies the deductive rationale by creating an ever-expanding infinity. What might have been the “null set,” and therefore, traditionally excludable, moments before, may now be an emergent extent item and definitely not null. If we define “possibility space” as the summation of possibilities for action perceived by an observer (an individual or an organization), then the prospect of emergence is the prospect of an ever increasing and non-delimitable possibility space.

If one accepts that organization science is a science of people who interact and, thus, give rise to emergent behavior, we have to examine the value of truth claims. Truth claims from the deductive tradition are based upon a logical assumption known as “countable additivity.” In simple terms, this assumption states that if the possibility space (or universe of possibilities) is divided and subdivided that such division can be done in countable pieces and that the pieces will add back to unity. Complex adaptive system theory, with its notion of emergence, disproves the assumption of countable additivity with respect to any emergent system. Recall that emergence is defined as the appearance of unpredictable or incalculable behavior from the interaction of simple components. Emergence from interaction renders the division of the possibility space non-countable or alternatively non-addable (much as Gödel held that a system of rules must be either incomplete or inconsistent).

For some types of activity, actual occurrences rather than theoretical notions of causation serve as the explicans (Nagel, 1961); we believe organizational activity is one such type. Therefore, to understand what we are saying the reader must suspend traditional notions of causality and their inherent claims for truth, prediction and control. In their place, we substitute weaker (but, in Kelly’s terms, more reliable, see Kelly, 1997) claims of dependence without causality, observation without reduction, emergence from interaction and the importance of identity.

Having confessed our philosophical stance and its implications for how to interpret this text, the starting point of our conceptual journey is the issue of coherence in organizations.

Maintaining Coherence

Coherence is regarded by many psychologists as critical to day to day productivity and effectiveness of individuals. In organizations coherence can be a most potent force; see for example, such recent mainstream business books as *The Power of Alignment* (Labovitz and Rosansky, 1997), *The Living Company* (de Geus, 1997), *Built to Last*

(Collins and Porras, 1994), or *Synchronicity* (Jaworski, 1996). The experience of change – particularly the experience of what an observer may label emergent change with its notions of “surprise” and lack of predictability -- has the potential to threaten coherence.

The philosophical stance of constructivism is based on the concept that we each construct our private versions of reality and deal only with those constructions, which may or may not correspond to some real world. Such a stance notes that people act towards each other and towards things on the basis of the meanings that such others and things have for them. Meanings are negotiated among social system members. As suggested by Karl Weick these members themselves are limited to the “construction” of a reality, which they have internally composed. Thus, managers choose the environments they attend to, and their internal views shape these choices.

Word choice in usage is tentative much as the acceptance of a theory. What works for the moment may be *supervened* by a better meaning in an instant. As suggested by Gopnik and Meltzoff (1997), this simply means that, whenever we get a new signal from the environment, our internal rules for sensemaking change, analogous to the well-known Heisenbergian hook. Subsequently, both our rules and the relationships will emerge into different states. This idea can be illustrated by an old metaphor from Quine (1961) who wrote of the “web of belief” where even the innermost threads would be altered as the web was perturbed. Coherence is the requirement that, as these perturbations occur, *some sense of unity and identity is maintained*, i.e. the web still recognizes itself as the “same” web despite the perturbations and their cumulative effects.

The possibility space of the organization is constrained by the language of interpretation available to it and its members -- for it is in that language that their reality will be constructed. We suggest that the choice of frames (which endow meaning) and metaphors (which can provoke new images) within an organization can be determinative of what an organization can both extract and absorb from the environment around it. Kauffman (1996) refers to nearby possibilities as “the adjacent possible.” To us, the sequence of activities within and by an organization represent both movement within the possibility space and an enactment of how it defines the adjacent possible. In the interplay between

language and activity, we find both meaning and tension. Organizations must not only act, but their understanding of those actions – their sensemaking – must be coherent if identity is to be preserved.

Situated Activity as a Unit of Analysis

Activity is the embodiment of sensemaking. Situation theory as developed by Barwise and Perry (1983) and extended by Devlin and Rosenberg (1996) suggests that phenomena are best studied by using *describable situations* as the unit of analysis. The notion of situated activity places heavy emphasis on context. By combining situation and activity theory, we conclude that it is appropriate to take *sensemaking* within an organization as the situated activity being studied, and thus to look at the ways organization members *go about* such sensemaking as its own unit of analysis. More restrictively, we have focused on that portion of sensemaking devoted to maintaining a unified sense of identity or “coherence”. This type of sensemaking occurs at many grains (or levels) through the organization from the individual through the work group and on to the organization itself and the industry of which it is a part.

Activity theory, based on the work of the Russian psychologist Vygotsky in the 1920’s and as modified by cognitive scientists such as Bonnie Nardi (1996) and cultural psychologists such as Carl Ratner (1991), suggest that word meanings dominate situational experience and even rewrite it. *Activity shapes meanings, and access to meanings further influences potential activity*. Situation theory suggests that the adjacent attributes of a situation influence meaning -- which then can influence the potentialities for further action. The very words that organizational members use to describe and communicate the changes they experience help shape that experience. In effect, the words are part and parcel of defining the environment. Weick’s (1995) concept of “sensemaking” is, from this perspective, an organization’s need to interpret and make sense of the environment around it, if it is to survive.

The rules for using words greatly depend on the institutional setting in which the usage occurs, such as in an organization. The setting provides the appropriate vocabulary for

saying something meaningful -- for understanding and establishing rules, as well as finding, creating and using terms. A key point is that a newcomer in an organization learns not only words, syntax and semantics, but also the context in which these terms are used. This combination of words and context leads to a preliminary thought:

Organizations are themselves a "System of Language."

The Holonic Nature of Sensemaking

As discussed in depth by Weick, Berger, Luckman and others, organizations can also be viewed as systems of interpretation and constructions of reality. From the traditional perspective, in order to survive, organizations must find ways to interpret events so as to stabilize their environments and try to make them more predictable. From the complexity perspective, organizations must find ways to interpret events so as to be one with the environment – an environment which they choose. From both perspectives, the central concern of sensemaking is that of understanding how people construct meaning and reality, and exploring how that enacted reality provides a context for action.

Sensemaking begins with the perception of some change or difference in the organizational environment. The perception, in turn, requires the organization's members to attempt to understand such differences and to determine the significance of the changes. Weick suggests that sensemaking is accompanied by "enactment". In our terms this means the embodiment of situated action. When managers 'enact' the environment, they "construct, rearrange, single out, and demolish many 'objective' features of their surroundings. ... they unrandomize variables, insert vestiges of orderliness, and literally create their own constraints" (Weick 1979: 164). Through this process of sensemaking and reality construction, people in an organization give meaning to the events and actions of the organization. This occurs at two principal levels - - the individual and the organization. In the simultaneity of the two levels lies a holonic structure.

Holonic is the sense of being both a part and a whole. A holon is an identifiable part of a system that has a unique identity, yet is made up of sub-ordinate parts and in turn is part of a larger whole. To our knowledge the word first appears in Arthur Koestler's *The*

Ghost in the Machine (1967). Holon comes from the Greek *holos* meaning "whole" and *on* meaning "part" or particle. The holon has a "self-assertiveness tendency" (wholeness) as well as an "integrative tendency" (part). This duality is analogous to the particle/wave duality of light.

The notion of a holonic structure can help form a picture of how possibility spaces change over time. With a holon, that which is a part is at some other graining level also a whole. For our purposes this means that the interactions produced by languaging change the perceptions of organizational members of what is possible, the perceptions (and resulting activities) of who and what are where in the holonic structure may also change. It is worth remembering that organizational members have a limited sphere of activity – they can talk, write, or exercise a small range of coercive powers. For example, a senior manager can hire and fire people, and order changes in working conditions). For things to happen (including, in many organizations, the coercive activities) others in the organization must react to the managers' languaging and do so in a holonic way. The middle manager is both a boss and a subordinate. Desired changes and actions must echo through the organization with both activity and repeated languaging. Such echoing is an example of the recursiveness (repetition at varying levels) that marks the holonic organization.

Languaging is the process by which we reflect and report on our experiences with others. Languaging is thus a means for organizational members to connect with one another. Humberto Maturana has suggested that, to be human means that we do not just use language, we are *immersed* in it. Through languaging we describe our experiences to one another and ourselves. As articulated by Fell and Russell (1994), the meaning of the term languaging is not just that of our use of words in a discourse, it is the structured flow of our behavior. Our behavior is marked by our word choices.

Perhaps the most obvious of our many word choices in usage is the act of referring to a situated activity by a word, by a name. Naming -- the process of giving language to experience -- is more than just sense-making. Naming directs actions toward the object or experience you have named because of the related attributions of meaning carried by

the very words used to make up the “name”. To change the name connotes changing your relationship with the experience. As suggested by Srivastva and Barrett (1988), naming implies anticipations, expectations, and evaluations toward the named. We suggest that names and word choices are themselves holons -- in that they stand for that which they label (functioning as an object) and they act as a metaphoric equivalent to a whole family of meanings with which the word (not what it labels) is associated (functioning as a medium for further analogic thought). This two partedness or multiple roledness is an important function for how emergence occurs.

The Importance of Languaging

Please recall that emergence is defined as the appearance of unpredictable or incalculable behavior from the interaction of simple components. It can be thought of as the simple patterns which through interaction lead to complex behavior. We suggest that that simple pattern within organizations is languaging -- word choice in usage.

The study of languaging is important for organization science and strategic management. As a research field, we strongly feel that more emphasis must be placed on observations of word choice in actual usage. We suggest that word choices are both the delimiters and expanders of possibility space in an organization. Word choices affect both what is in the adjacent possible and what can be perceived *as* the adjacent possible. This is similar to Wittgenstein’s proposition that the limits of our language mean the limits of our world. From this language perspective, organizations are reflections of the words their members use to describe and delimit their world.

Our emphasis on word choice *in usage* is also an emphasis on interaction (c.f. Clancey, 1993). Within the patterns of language interactions lie emergent behaviors. We cannot either predict or calculate how such interactions will unfold, and there is always the possibility of surprise. Like Vygotsky we see word meanings as dominating situational experience and rewriting it. Others have made reference to this concept (e.g. Fiol, 1989 or Lakoff and Johnson, 1980), but have not made it central. We, by contrast, believe that the inter-relations between word meanings and activities are the key to understanding

behavior within organizational settings.

In summary, we are building our observations upon the following description of this interaction process:

1. The essence of organizing is communicating.
2. To communicate about a given situated activity, we pick our words.
3. By picking particular words we are, in turn, picking meanings (and not only a specific meaning, but also a glom of meanings, the particularities of which are determined by the user from the context).
4. The meanings we pick influence both our perspective on the situated activity we are relating to (or communicating about) and our sense of the possibility space and adjacent possibles relating to that activity.
5. Continuation of activity requires movement within that possibility space.
6. Movement evokes organizing and returns us to step one.

Emergent behavior arises out of the interactions of languaging holonic entities; indeed such behavior is the bulk of the activity that occurs within most organizations. What emerges is the *potential for further action*. Organizations are an emerging system of languaging such that word choice determines possibility space and languaging interventions can affect the adjacent possible.

Supervenience and Fundierung

It is not enough for us to describe why we believe that the observation of word choice is important. Our philosophic position relative to constructivism (i.e. *pragmatic*) suggests that we must also describe a workable mechanism for how this importance manifests itself. To do this we introduce yet two additional philosophical notions -- those of “fundierung relations” and “supervenience”-- which describe how we *make use* of meanings in expanding and defining possibility space. The linkage between them lies in the notion that words evoke *families* of meanings and that it is *context*, which determines which meaning we apply in the given situated activity.

It was Husserl who introduced the notion of fundierung relations (found in most of the translations as “foundation,” c.f., Smith and Smith, 1995 and Rota, 1997.) for the purpose of naming the relationship embodied in a “medium.” In architecture, Christopher Alexander referred to this relationship as the “quality without a name.” Husserl’s term fundierung is more general, and, because it is named, can be used with respect to almost any function. We observe that languaging has a fundierung relation to situated activity – that relation is what occurs in step number four above. We further observe that this fundierung relation pattern is recursive (i.e., it recurs over and over again throughout the many layers and levels of the organization).

Fundierung is a relationship between function and facticity. For example, the use of a pen to write is a function. This function is related to the pen and its components by a fundierung relation. In our example, the facticity is the pen and the components (plastic, ink, tip, etc.) that make it. This relationship between facticity and function is not reducible to any other kind of "relationship." Facticity plays a supporting role to function. *The pen is the facticity that lets the writing function be relevant.* Function alone is relevant. Nevertheless, function lacks autonomous standing: take away the facticity, and the function disappears with it. It is often difficult to recognize that what matters, namely functions, lacks autonomy. We typically try to reduce functions to facticities, which can be observed and measured. The absurdity of this reduction can be realized by the notion that no amount of staring at this object as an assemblage of plastic, metal, and ink will reveal that the object we are staring at "is" a pen, unless my previous familiarity lets me view the pen through the facticities upon which it is founded (c.f. Rota, 1997).

For our purposes the conclusion is to think of languaging as medium instead of object. Languaging is, thus, a medium that allows the *next* situated activity to have meaning. In the Greeno and Moore (1993) articulation of “situativity theory” such a fundierung relation between word choice and activity is described as an “affordance.” This means that word choices afford the possibility of new meanings, new analogies, and new insights which, in turn, can lead to new or next activity. By thus viewing meanings as mediums with a context dependence, we can see the recursiveness between languaging

and situated activity.

The Importance of the Multiplicity of Meanings

Words evoke families of meanings. The most notorious example of this is the word “set” with more than a hundred meanings. We refer to these families of meanings as a glom. (Vygotsky, in his work, used a word that is usually translated as “complex.” We have opted for “glom” so as to avoid confusion.) The multiplicity of meanings implicit in a glom allows, when each such meaning is viewed as a medium, new possibilities for action.

Vygotsky’s work provides an architecture of development that brings forth the Wittgenstein viewpoint in a practical manner. He does this by distinguishing between more primitive *gloms* -- a word that does not function as a carrier of a concept but rather as a family name for a group of objects belonging together not logically but factually – and higher level *concepts*. First come the gloms, and then when abstracted traits are synthesized anew and the resulting abstract synthesis becomes the main instrument of thought does a concept emerge. Both gloms and concepts are ascribed words. To us the important observation is what Vygotsky says occurs when there is dissonance between the understood meaning of a concept and new input, what ever it might be. When a concept breaks down there is reversion back to the glom. That reversion allows for change. For instance, the first time an American confronts the word saloon as meaning a type of car (i.e. for the British, a sedan), that information is wildly discordant with the concept of a drinking establishment. The notion of “petrol for the saloon” that might have been taken to mean beer takes on a whole new meaning. The dissonance produced thereby forces a reversion in the perceived meaning of the word. Context dependence takes over. “It is not merely the content of a word that changes, but the way reality is generated and reflected in a word”(Vygotsky, 1962).

Inherent in the multiplicity of meanings is the recognition that only one meaning will be primary within the context of a given situated activity. That primary meaning will not be the solely representative meaning but will take its primacy from the context. Such

primacy falls within the philosophical band known as supervenience. We are all familiar with this concept (though perhaps not its name) in that we expect that by offering an excuse we can supervene the expectation of another. In essence, we temporarily trump that expectation, but our supervenience is not causal or reductive as can be verified should we attempt to use the same excuse a second time.

The philosophical relation supervenience (c.f. Savellos and Yalcin, 1995 and Chalmers, 1996) is little used in organization science, but we feel it holds much explanatory power for our thesis on languaging. A is said to supervene B if for all possible (or sometimes for all observed) states of B, A holds. B can then be said in some manner to be grounded in A, but is not reducible to A. For instance, the beauty of a symphony is related to the orchestra, the conductor, the music hall, the composer, any given series of notes, but is in no way reducible to any one of them, and we would be reluctant to say that factor “x” is the *cause* of the beauty. Yet, we have no such reluctance to asserting the beauty’s existence. The beauty of the symphony supervenes its components,

In common usage, the supervening relationship often reverts to a logical misstatement. Picture a child in the example of an excuse above. The child may very well attempt to reinvokethe same excuse multiple times hoping that the parent will see causality and thereby relinquish the underlying expectation. Adults are prone to do this by failing to recognize that words evoke families of meanings and that context has allowed one to supervene in a given situation. Such a situated (and thus one time) supervision does not permanently assert a primacy to the particular meaning, nor does it allow for a deductive claim of cause.

Just because we always perceive A if B does not imply B if A, yet it is common to speak of supervening relations as if this logical fallacy held true. Thus, an articulation of an excuse may at a given moment supervene questions of why something went undone, but it would be a mistake to assert that the excuse has eliminated the underlying questions. Just because something supervenes does not mean you can now “freeze it” in place. *Supervenience does not reify that which has supervened.* Supervenience and its related logical mistakes in use seem to be potentially important influences on how word choice

effects the construction of meaning within an organization and among its members.

With the notions of fundierung, gloms of meaning, and supervenience in place, we can now describe a conceptual operationalization of how word choice in usage effectuates such import.

An Explanation from Economics

Behind the relationships discussed above are familiar economic activities. We have made use of Boisot's (1995) concept of "information space" as the vehicle within which to structure an economics-like explanation of the role of languaging. Given a goal of communication that relevant information is carried along, and given further a recognition that the acts of communicating, message retention, and storage all involve expenditures of energy, economics would suggest that efficiency is best served by minimizing the expenditure. Boisot refers to this principle within information space as the "Least Action Principle."

Word choice and metaphor use allow for emergence via a concept Douglas Hofstadter (1995) has labeled "conceptual slippage." In essence, the use of a metaphor evokes a glom of meanings. Each such use of metaphor is a perturbation to the existing self-referencing system (be it an individual, the organization or some holonic part thereof). The perturbations (please notice the plural) caused by the glom or gloms interact in multiple-dimensions with the self-referenced core. This is because the components of the glom each cause their own perturbations in a holonic way. As this series of interactions and resultant emergent behavior self-organizes, "least action" then takes over. For example, prior to 1865 the phrase "the United States are" was common usage. The civil war changed that. "The United States is" took over with manifold connotations represented within the change from plural to singular. The small change of word choice was a large change in concept for a minor expenditure of energy.

Lower energy expenditure is the driving pursuit in the information space world. In Vygotskian terms, an organization and its members begin with some existing set of

concepts and they encounter change. The encounter reduces some of the concepts to the status of gloms, and in such a status, the possibility arises for new conceptual understanding to emerge. Such understanding will be influenced by the metaphors available to label the gloms, for in the adjacent meanings implicit in the metaphors is the potential synthesis represented by the new concept. For example, the glom represented by “saloon” could lead an advertising agency to do a commercial wherein a back seat passenger in a sedan is transported to some friendly or trendy brasserie. The interplay of the word meanings evokes the advertising concept of either “friendly” or “trendy”. A model of this process is shown in Exhibit 1.

A model built upon the premises of least action confirms the notion that a context-dependent glom is an efficient vehicle, provided that supervenience is possible. This is because we use words as tokens and allow context to evoke meaning from among the glom represented thereby. If supervenience is possible, then such evoked meanings are triggered by the situated activity in which they occur. By contrast, gloms will not work well in a system that is dependent upon representations, reductions and causality. *In such a world, evoked meanings become reified and are carried across new situated activities.* Dissonance from the mismatch is the likely result.

Picture the Englishman who is unaware of the American meaning of saloon. A friend’s statement that he “got some petrol out of the saloon” as the explanation for the strange colored liquid set before him to drink is likely to produce revulsion, not an exuberance for ale. The notion of gasoline or diesel fuel will have been reified and thereby inform and constrain his notion of just what this liquid is (especially if it has no head). Indeed, we find that the reluctance of traditional organization science to make use of supervenience instead of reduction and causality may be a major explanation for why our “theories” often fail. Meanings and concepts that have supervened in a situated activity are somehow assumed to be causal or reductive and then reified into what becomes a “failed” theory.

To an organization member, context includes ongoing change -- which then disrupts the shared context content of existing codification and disturbs the agreed upon meanings of

abstractions. A key least action observation is that personal coding of meaning is transformed within an organization into institutionalized codification so as to both maximize the value of shared meaning and minimize the need for energy expended to transmit shared context. *Emergent change erodes the ability of codification to hold.* In the absence of an offsetting response to this erosion, institutional codification recedes to personalized coding, and the ability of common abstractions to transmit shared meaning deteriorates. Concepts become gloms. Such disturbances can have an emergent character which itself is disturbing because the cumulative effects thereof cannot be predicted or planned for. This lack of prediction or planning poses a threat to coherence. And, coherence-preservation is another energy conserving action within the information space.

One lesson from IBM, Xerox, Sears, and many of Tom Peters' "excellent" companies is that emergent change cannot be ignored nor dealt with by rigidly asserting prior concepts of identity. FedEx had to reorganize its business when the fax machine took hold as a common product. Microsoft had to react to the growth of the Internet. The very concept of the network computer has caused Microsoft to reexamine its prior codifications of what operating systems and application software are supposed to "do."

In Vygotskian terms, the dissonance introduced by emergent change forces previously accepted concepts to recede to gloms. Uncertainty of meaning is introduced. For our purposes, uncertainty can be regarded a label better defined as the inverse of one's propensity to act (Dretske, 1981 and Fransman, 1994). Given uncertainty's threat to coherence, organizations must find a way to combat its increase, for uncertainty is a significant energy drain running counter to the principle of least action. Exhibit 2 relates the effects of dissonance and chance introduced into Boisot's information space to the Vygotskian model we drew in Exhibit 1.

Increases in uncertainty can be attributed to loss of identity, to a perceived need for more and "better data", and to an increase in the perceived threat from taking an incorrect action. This translates into the lack of a well-understood model of the possibility space and thus the substitution of a need to search for a willingness to act. If identity is to be preserved, there then must be an offsetting emergent response (of like graining, i.e. at

similar levels within the holonic structure) to rebuild context so as to replace the content lost to uncertainty (i.e. that which was contained in the institutional codifications and abstractions which have now encountered disconfirming notions and been forced to revert back to the more primitive gloms of meaning). This is the opportunity for meaningful languaging intervention. The fundierung between word choice and activity allows for such intervention.

Witness Walt Disney World and its emphasis on “guests’ and ‘experiences” rather than customers and transactions. These words seem to guide all of its park employees in determining how to go about their day to day activities and in how to handle problems as they occur (c.f., Connellan, 1997 and Boje, 1995). The right words made available at the right time can restore coherence and the willingness to act.

And isn't that what “organizing” and organizations are all about?

Possibility Space is the Embodiment of Emergent Change

So far, we have made three basic claims:

1. Word choices, particularly metaphor and analogy use, shape possibility space.
2. Languaging interventions can facilitate the adjacent possible.
3. Emergence demands coherence if the growth of possibility space is not to be received/perceived as destabilizing.

Our focus has been on the experience of emergent change. Such changes seem to induce uncertainty and equivocation – a lack of a willingness to act. Emergent change can be experienced as a reduction in the knowledge base of the organization. Such reductions seem contrary to what management intends. The likely response is to counter these reductions, to reduce the experience of uncertainty, and to restore the organization's

willingness to act. The key to doing so is to introduce the right words, the right metaphors – to intervene so as to purposefully facilitate the adjacent possible.

We are not the first to note the potent power of words. For example, Nonaka and Yamanouchi, (1989) wrote of the usefulness of metaphors in coping with ambiguity and in interpreting large amounts of data. To them, word choice was a tool, an interpretative scheme to aid in the reduction of equivocality or uncertainty. Still others have written of the need to pay attention to the metaphors and images used to describe change in organizations, pointing out that metaphors and word choices can prepare and align as well as confuse or mislead people (c.f., Marshak, 1993, and Labovitz, 1997).

We claim that word choice in use shapes the possibility space. Weick, in his work on sensemaking notes that “as ways of talking and believing proliferate, new features of organizations are noticed.” We would add that new features of the organizations’ environment are noticed as well. The use of metaphor, in as simple a form as in naming a situated activity, is a generative process. Any given label is also an invitation to see an object as if it were something else; through the resonance of possible connotations, new contextual meaning can be created. Word choice is thus a fundamental tool for the manager whose role is to shape and create contexts in which appropriate forms of self-organization can occur. The process is much as Kauffman has described for the adjacent possible. Both the opening up to new approaches and the development of new language are emergent processes (c.f., Srivasta and Barrett, 1988 and Morgan, 1997).

Our model in Exhibit 3 illustrates the possibilities inherent in languaging interventions. Words can add to the sense of alienation and the loss of coherence or can provide a quick remedy to those effects. By suggesting the right word at the right time, the successful manager can give those around him or her the means to communicate a shared meaning and to coalesce around new possibilities. Where uncertainty has introduced a search for meaning instead of a willingness to act, shared meaning found in the right word can resolve that uncertainty and restore the cohesion necessary for further activity.

To the extent that emergent change has intervened in the Boisotian cycle (value creation,

exploitation, and erosion) to cause erosion where exploitation might otherwise have occurred, it seems that an offsetting intervention is called for. Languaging, and in particular metaphors in use, can fulfill this role by *suggesting meanings around which the reverted “gloms” can coalesce and from which a new concept can be synthesized.*

Think, for example, of the World Wide Web and critical role that the concept “browser” has had in shaping its development. How different would the Internet be if the word had been “lister” or “sorter” or “sifter”? The word “browse” carries with it gloms of meaning that involved pictures, objects, and the experience of shopping, and in those metaphors the web, as we know it, has found its possibility space. As the web grows, adjacent possibles have made use of these concepts to evoke potential extensions – from visual pictures to sensory experiences, from web pages to web objects. All from the word “browser” (c.f. Reid, 1997). On the other hand, many of the problems which plague business models on the web stem from conceptual images evoked by the word “surfing.” Storekeepers may be happy to have you browse while deciding on a purchase, but to “surf” from store to store conjures up notions of being out on a lark or out to shoplift.

The process described above opens the door for *leadership through languaging* – through word choice in usage. A leader’s effectiveness lies in his ability to make activity *meaningful* for those he leads. He does this not by changing behavior, but by giving others a sense of understanding about what they are doing. If the leader can put such understanding into words then the meaning of what the group is doing becomes a social fact. The group can now communicate about the meaning of their behavior. The great leader is the one who both makes sense of things and puts that sense into language meaningful to large numbers of people (Pondy, 1976).

Framework for Future Work

In forming our research questions, we kept coming back to the congruence of two events: (1) an increasing focus in the popular press on change, uncertainty, loss of identity, alienation of value systems, etc. and (2) an increased search in the organization science

literature for “something” to reconcile what have come to be labeled as the interpretive and objectivist approaches.

As McKelvey (1997) illustrates, paradigm wars still grip organization science. The challenge these wars pose is that in quarrelling over philosophy, valuable research effort might be wasted that could instead be directed at advancing knowledge. McKelvey finds his solution by identifying the “complex idiosyncratic nature of organizational phenomenon” where resolution “calls for studying firms as ... the intersection of intentionally and naturally caused behavior ... [whose] idiosyncratic phenomena self-organize into emergent aggregate structures.” We find ours in questioning the purpose of the scientific approach as applied to organization science and turning instead to meaning derived from such concepts as supervenience, fundierung, and gloms.

Complex adaptive systems theory has a role in organization science. Most progress to-date has been made in using the theory as a historical descriptive tool (i.e. this episode was “chaotic,” this episode illustrates “path-dependence”) or metaphorically (i.e. to justify the impossibility of “control”). Our tack was a bit different. We have been particularly struck by the notion of emergence – the concept that simple patterns through interaction lead to complex behavior that was incalculable from knowledge of its precursors. Our reading of complex adaptive systems work suggests that a key to organizational analysis is finding those simple patterns. We see one of those simple patterns as languaging.

What both McKelvey and we have in common is a focus on emergence. Our view is that such a focus together with a focus on languaging can contribute to what McKelvey has termed “the modern view of organizational phenomena as idiosyncratically complex and the development... of an organization science based on co-evolutionary selectionist theory, idealized models, analytical mechanics, and complexity theory.” We could not agree more.

Conclusion

Words count. By actively seeking to guide languaging, managers can influence the perceptions and actions of the remaining members of the organization. The question is "which words?" The answer is that it is all context dependent. The key lies in remembering that languaging is the concept of *word choice in usage* and, as such, both "choice" and "usage" are important.

Jay Conger writing in *Academy of Management Executive* (1991) notes, "It is important that business leaders see their role as meaning makers. They must pick and choose from the rough materials of reality to construct pictures of great possibilities.... In the choice of words, values, and beliefs, you as a leader craft reality." In this essay we have laid the conceptual foundation for this and for the increasing numbers of claims in the management and organization science literature regarding the importance of language, languaging and conversations in organizations.

Languaging, the way we have used the concept here, is much more than a Wittgensteinian "language game." Word choice in usage delimits possibility space and helps to determine the adjacent possible. Thus, it is an active process with real consequences and not just a symbolic toy. Management of organizations facing emergent change must deal with the consequences of languaging -- it is the managers' choice whether or not to do so in a purposeful manner.

This article represents *our* word choice in usage.

NOTES

i) The falsity of this assumption leaves only abduction -- the process of reasoning to the best inference without making a claim of "truth." Truth claims based on deduction do not hold (c.f., Kelly, 1997 and Josephson and Josephson, 1996).

ii) Our focus on patterns and their interactive processes led to the notion of autopoiesis and its role within the social science literature (c.f., Maturana and Varela, 1987; Varela, et al, 1993; Mingers, 1996).

iii) There are multiple interpretations of situated activity (c.f. Clancey, 1993, Greeno and Moore, 1993 and Hendriks-Jansen, 1996).

iv) Koestler's holons have been extended by Mathews (1996) into the notion of organizational holonic structures and holonic architecture. Mathews cites the notion that evolution of such holonic structures occurs through association.

v) Linguaging is what Maturana would call the consensual coordination of behavior or conversations to coordinate behavior, which themselves generate another realm of possibilities, and so on, recursively. In this realm, acts of coordination of behavior -- conversations -- themselves become objects of coordination. This recursiveness leads to coordination of 'coordination of behavior' -- the flow of which Maturana describes as languaging. Winograd and Flores (1986, p.151) use the term "conversations for possibilities."

vi) This is a three dimensional view of the transitions between data, information, and knowledge. His three axes -- codification, abstraction, and diffusion -- are used to chart a path where the goal is what he calls "the principle of the least action", doing that which calls for the lowest expenditure of energy. In Boisot's world we begin with data. Data persists as memory. Memory preservation requires energy. Data diffusion (communication with others) requires energy. The conversion of data into information requires energy. Knowledge is related to activity; it is information, which contains

within it the potential to be acted upon.

vii) Boisot's "Social learning cycle" describes the intervention caused by a sense of emergent change and gives us clues as where other interventions might result in added value. Boisot's cycle has two phases – value creation and value exploitation. Value creation occurs through a process of scanning, problem solving, and abstraction. In Vygotskian terms, creation occurs in the synthesis of a concept from a glom such that the concept can be used in communication with others. Value exploitation occurs through diffusion, absorption, and impacting. In Vygotskian terms, such exploitation in the activity which preceded a reversion to a glom from a concept.

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