Abstract

Memes has reached a crunch point. If, in the near future, it does not demonstrate that it can be more than merely a conceptual framework, it will be selected out. While it is true that many successful paradigms started out as such a framework and later moved on to become pivotal theories, it also true that many more have simply faded away. A framework for thinking about phenomena can be useful if it delivers new insights but, ultimately, if there are no usable results academics will look elsewhere. Such frameworks have considerable power over those that hold them for these people will see the world through these “theoretical spectacles” (Kuhn, 1969)—to the converted the framework appears necessary. The converted are ambitious to demonstrate the universality of their way of seeing things; more mundane but demonstrable examples seem to them as simply obvious. However such frameworks will not continue to persuade new academics if it does not provide them with any substantial explanatory or predictive “leverage.” Memetics is no exception to this pattern. (Edmonds, 2002)

INTRODUCTION

While the popular media has had several rounds of fascination with the concept of memes, the application of memes to management and to complexity has been negligible. The Edmonds quote above ascribes the problem to the stage of development of memetics: that memetics needs to provide explanatory leverage to get past the “crunch point.”

This article suggests that the answer to memetics’ “crunch point” lies in turning the concept of memes inside out. If memes are “units of cultural transmission which propagate themselves” (Dawkins, 1976) or “the least unit of sociocultural information relative to a selection process that has favorable or unfavorable selection bias that exceeds its endogenous tendency to change” (Wilkins, 1998), then the failure of the field of memetics to meet the three challenges outlined by Edmonds (a conclusive case study; a theory for when memetic models are appropriate; and a simulation of the emergence of a memetic process) is problematic and perhaps indicative of “irrelevance.” Indeed, there have been few managerial examples of the potency of a meme to explain or cause anything—and in the absence of explanatory or casual power, it is difficult to find the relevance of a concept for managers.

If, on the other hand, memes are redefined such that the evolutionary selection process is no longer an aspect of the ontology of memes but rather of the environmental niche (cf. Laland & Odling-Smee, 2000; Laland et al., 1999; Odling-Smee et al., 2003) of which the memes are evidence, then the field may have other avenues of advancement and a potential relevance to managers. Such a redefinition would entail recognition of the relationship between a given meme and the context of the social and ideational environment of which it is an affordance and which it demands be attended to. Memes in this casting are a label for successful boundary object indexicals and lose their privileged status as replicators. Instead, the replicator status is ascribed to the environmental niches and the memes are their representatives, symbols, or semantic indexicals.

With this definition, memes are repackaged as symbols and their impact on management is not that of a viral contagion but rather as an indicator of success and change in environmental niches. If an environmental niche has an important managerial role, then paying attention to its symbols and affordances can also be important. Memes are stripped of their casual role and instead become semantic tokens capable of evoking ascribed meanings. It is the process of evoking and the efficacy of the meme as the trigger for attention, recall, and repetition of the ascribed meaning that give memes relevance to managers.

The argument herein thus assumes that memes exist, but that their definition is not that of replicator but rather that of indexical token. The meme tokens are representatives of the environmental niche in which they flourish and about which they offer efficient communicative potential. Memes, it is argued, succeed when they are accepted and used as tools for the accomplishment of a communicative purpose. Memes fail when their ontic status itself becomes a focus. Memes have longevity only if they both succeed and serve as a useful tool for a successful environmental niche. Memes can be short-lived due to the failure of their communicative efficacy or the failure of the niche they represent or both.

MEMES AS INDEXICALS

Indexicals are concepts that we make use of nearly every day but, for most of us, they are unknown and unthought about.
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Indexicals are words used to stand for a set of other words; that is, they function like an index on the stock market. The Dow Jones Industrial average, for example, stands for a basket of particular stocks and stands for many of us as an indicator of the market as a whole. Pronouns as described above are indexicals in that they stand for the noun and take on different meanings in different situations. “Where a word acquires its sense from the context in which it appears; in different contexts, it changes its sense” (Vygotsky, 1986).

In American society the most commonly heard indexical is the mythical “they” who do things to us or others. “Look at what they are doing now.” Perhaps the second most popular indexical is “You know..., you know who I mean.” Indexicals are often distinguished by the fact that their reference systematically varies with the context of usage. Indexicals offer a simple means of making, expressing, and communicating our references, and they are particularly useful when proper names or descriptions are either cumbersome or unavailable. Similarly, in interpreting someone’s “that way” in response to a request for direction, one must be able to determine independently what direction the person is indicating.

One must discover what relations one bears to the indexical referents in order to locate and act on them, but there is nothing indexical about these relations themselves (Millikan, 1993). To interpret an indexical, therefore, is to establish what other items, entities, and representations it coincides with. By itself, it tells us neither about its contents—what it bears its adapting relation to—nor about its contexts; context determines the indexical’s content, but context is not what content is about. As David Kaplan (1989) puts it:

> What is common to indexicals is that the referent is dependent on the context of use and that the meaning of the word provides a rule which determines the referent in terms of certain aspects of the context.2

Indexical language possesses a quality that Barwise and Perry (1983) call efficiency. This refers to the capacity of an indexical representation to refer to different individuals on different occasions. The efficiency of an indexical relates to the engineering quality of efficiency in the notion that the same symbol is capable of standing for a multiplicity of meanings—the greater the number of potentially stood-for meanings, the greater the efficiency of the indexical. In organizations, management frequently refers to the company, a team, a symbol, or mission, vision, and values as absolutes without being aware of their indexical content. Thus, despite the likelihood that an organizational symbol carries a multiplicity of meanings, managers might make use of such symbols as if the only possible referents are the ones conceived of by the manager him- or herself. Yet, it is possible by ethnographic observation for a careful outsider to discern at least some of the various referents summoned up by the use of these “unintended” indexicals in situ. Indeed, by such processes of observation a corporate ethnographer or anthropologist can reach tentative conclusions about the corporate culture and climate of the organization being observed.

Indexicals are situated. The use of an indexical succeeds when the combination of context and symbol evokes an intended meaning. The indexical provides a locating space into which many variants of personalized and situated meaning can be ascribed, attributed, or devolved. This space is the container of which Prigogine first spoke when describing self-organizing systems. In the absence of such containers, selforganization is nearly if not totally impossible. In the arena of culture, the meme as indexical is a locator or referent affording the evocation of situated meaning. Efficacy of memes is determined by that evoking and the relevant situating.

The efficiency of indexicals means that they can break, that the context and situatedness that help to afford meaning to the indexical can stretch it beyond breaking points. When indexicals break or are challenged, they raise questions of boundaries, frames, and identities. While the challenges to indexicals can be very subtle, when they break they break the entire frame of how a situation is understood. Americans were made aware of this when Senator Jim Jeffords of Vermont switched his party affiliation from Republican to Independent (and thereby altered control of the US Senate). His speech of explanation was a discussion of his perceived limits to the indexical “republican.” If memes are understood to be indexicals, then their success or failure is not marked by evolutionary inheritance but rather by the longevity of their efficacy. That longevity is in many ways determined by the situation and the meaning “carrying capacity” of the meme indexical.

Donati (1992) observes that people frame an object around which an issue revolves rather than the issue itself, and that the study of frames involves identifying how people understand an issue, rather than determining if they are “for” or “against” a proposition. Gratton (2000) notes,
Frames are patterns of organized information by which people make sense of the world. These “patterns,” “schemas,” or “frames” form part of the “discursive universe” in which people interact with each other. People learn frames as they learn to use a language fluently and as they learn the narrative structures and ideologies present in the cultures that use that language.

When people encounter new information or a new experience, they make sense of that information or experience by fitting it into an existing frame. Nevertheless, people will generally be able to fit any given collection of information into multiple frames; though, at the same time, they will also tend to perceive information selectively, focusing on details that most readily fit into the frames they know.

As humans, we seek to solve problems as presented; we acquiesce in their frames. Indeed, we become prisoners of the frame. Shira White (2002) tells an illustrative story of such prisons:

"Scientists have done some fascinating and suggestive experiments with ordinary houseflies. If you capture and keep houseflies in a jar and then remove the lid after a few days, most of them will not fly away. In fact, they stay right where they are—inside the jar—even though they could escape if only they could see their way to freedom. But they seem “committed” to a lid that is no longer there. Psychologists have identified this phenomenon as “premature cognitive commitment.” It is premature cognition in the sense that it occurs, more or less automatically, before we are aware of or fully understand the stimulus. It is “commitment” because we are locked into a specific set of thoughts. Like the houseflies, we give up the freedom to choose once we become committed to the nonexistent lid. The first step in challenging a commitment is recognizing that you have made it in the first place."


"No matter how ardent the artist might desire it, he cannot divest himself, in his new perception, of meanings funded from his past intercourse with his surroundings, nor can he free himself from the influence they exert upon the substance and manner of his present being. If he could and did there would be nothing left in the way of an object for him to see."

The symbols and signs that we use to express meaning or hope will evoke meaning in others not only as communication devices but also as boundary setters. The words and the meanings that they evoke set up boundaries with regard to our ability to attend to, cognize, or be aware of aspects of our situation.

According to what can loosely be described as “boundary theory” (Michaelsen & Johnson, 1997; Nippert-Eng, 1996a, b; Zerubavel, 1991), individuals create and maintain boundaries as a means of simplifying and ordering the environment. “Mental fences” (Zerubavel, 1991: 2) are erected around geographical areas, historical events, people, ideas, and so on that appear to be contiguous, similar, functionally related, or otherwise associated. The process results in the creation of slices of reality domains that have particular meaning for the individual(s) creating and maintaining the boundaries. “Home,” “work,” and “church” are examples of the social domains created by boundaries (Nippert-Eng, 1996a). The boundaries are real in the sense that the individual perceives them as such and acts as though they are real (cf. Weick, 1979). Although a given domain may be socially constructed and more or less institutionalized (e.g., people share a general consensus on what home means), Nippert-Eng (1996a, b) has shown that the boundaries around that domain are somewhat idiosyncratically constructed (e.g., one person allows home to cross over into work, whereas another keeps them separated). Further, by circumscribing domains, boundaries enable one to concentrate more on whatever domain is currently salient and less on other domains. (Ashforth et al., 2000)

These boundaries can be triggered by repetition and word choice. Gould (2000) suggested that they were triggered by “canonical stories”—the shorthand for which are often labeled by the media as “memes.”

The vertebrate brain seems to operate as a device tuned to the recognition of patterns. When evolution grafted consciousness in human form upon this organ in a single species, the old inherent search for patterns developed into a propensity for organizing these patterns as stories, and then for explaining the surrounding world in terms of the narratives expressed in such tales. As for mind, even when we can attribute a pattern to conventional nonrandom reasons, we often fail to apprehend both the richness and the nature of those causes because the lure of canonical stories leads us to entertain only a small subset among legitimate hypotheses for explaining the recorded events. Even worse, since we cannot observe everything in the
bloom ing and buzzing confusion of the world’s surrounding richness, the organizing power of canonical stories leads us to ignore important facts readily within our potential sight, and to twist or misread the information that we do manage to record. In other words, and to summarize my principal theme in a phrase, canonical stories predictably “drive” facts into definite and distorted pathways that validate the outlines and necessary components of these archetypal tales. We therefore fail to note important items in plain sight, while we misread other facts by forcing them into preset mental channels, even when we retain a buried memory of actual events.

Word choices afford the possibility of new meanings, new analogies, and new insights, which, in turn, can lead to new or next activity. As people share framed information, they need not refer to all aspects of a frame directly to communicate which frame they have adopted to make sense of the information. Instead, they need only make reference to one dimension of a pattern to enable hearers or readers of their text to recall the whole frame. This evocative “power” is one of the attractive aspects of the meme concept. By viewing signifiers of meaning such as memes as mediums with a context dependence, we can see how the frames that result from word choice can work to limit or expand the very possibilities that we recognize as being afforded by our current situation. Word choice matters as a delimiter of possibility space as well as a means of communication. This provides the context in which mechanisms of memes operate.

MECHANISMS

A word in context means both more and less than the same word in isolation: more, because it acquires new context; less, because its meaning is limited and narrowed by the context. The sense of a word… changes in different minds and situations and is almost unlimited. It is not merely the content of a word that changes, but the way reality is generated and reflected in a word. A complex is a word which 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. (Vygotsky, 1986)

It is through language that we construct reality. With words we define, shape, and experience. Without the words to think, communicate, experience, or understand our lives would be very different from what they are. Words expand our consciousness but also limit us as we can only fully experience those things that we have the words for. Language provides the framework through which we perceive, experience, and act. As language constructs reality, so symbolization constitutes objects. Symbolization constitutes objects not conceptualized before, objects which would not exist except for the context of social relationships wherein symbolization occurs. Language does not simply symbolize a situation or object which is already there in advance; it makes possible the existence or the appearance of the situation or object, for it is a part of the mechanism whereby that situation or object is created. (Mead, 1934)

One example of this is the word “set,” which has more than 100 meanings. The multiplicity of such meanings is the substrate for the mechanisms of imitation, transmission, and evolution that are “normally” ascribed to memes. Words evoke families of meanings. In Lissack and Letiche (2004), these families of meanings are referred to as a glom. (Vygotsky, in his work, used a word that is usually translated as “complex.”)

Lissack and Letiche 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 distinguishes between more primitive gloms—a word that does not function as a carrier of a concept, 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 it is when abstracted traits are synthesized anew and the resulting abstract synthesis becomes the main instrument of thought that a concept emerges (Vygotsky, 1986).

Gloms differ from indexicals. Gloms are primitive collections of families of meaning. Thus, when a child is learning about daddy going to the office, an entire realm of experience is built into the glom of “daddy’s office,” “office,” and “going to the office.” Only later will the child be able to separate the primitive wealth of experiences into distinguishable parts and associate a socially acceptable label with some of those parts to better “bound” the concept of daddy’s office (the subway trip and its associated people and smells may be in the glom but will have been removed from the concept). By contrast, indexicals have no meaning independent from the situated context in which they are evoked.
Because indexicals have no inherent meaning independent from context, the use of an indexical is constrained by the variety of contexts in which it is deployed and the multitude of meanings from which the interplay between context and indexical is required to distinguish. The effective indexical serves as a medium to evoke meaning. The ineffective indexical will instead call attention to itself with the demand for further clarification. In essence, its ability to carry meaning will have been compromised. The overloaded indexical reveals itself via a lack of transparency to its medium-serving (medionic) functions and the implicit question of “this or that?” When something new is encountered (a perturbation) or emerges at another level, the prior sense of clarity in the fundierung between indexical and situation can break down, much like the tragedy of the commons as described by economists. When the context does not evoke a clarity of meaning and multiple meanings are possible, evoked, and present, the indexical is broken and what has been called a glom has been evoked instead.

The important observation is what Vygotsky says occurs when there is dissonance between the understood meaning of a concept and new input, whatever it might be. When a concept breaks down there is reversion back to the glom. That reversion allows for change. 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, 1986).

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. When there is coherence between the situation and the meaning, the word choice will display a transparency with regard to medionic function. When that coherence is weak or absent, the very act of picking a label will demand some amount of attention. What coherence there is about the meaning, if it is to exist, would be forced to overcome or overwhelm such attentional demands.

The multiplicity of meanings undercuts the effective use of analogy as the word tokens of memes. Metaphors and analogies create constraints by focusing attention on that which is like and the resulting tendency by the user to attempt to justify the analogy. These constraints may not be readily apparent when the weakness of the analogy or the affinity is being exposed. Analogy involves inexact likeness. Butchvarov (1970, 1979) distinguishes between conceptual clarity and conceptual distinctness. Via analogy we can see the relative position as far as distinctness but can never achieve clarity. The former is a location in conceptual space and can be determined by noting similarities and differences between the entity being compared and other entities in conceptual space. However, clarity involves the content of the entity itself. It can be modeled, but the limitations of the model must be noted. Understanding is the desire for clarity, not merely distinctiveness. There is a remainder between the two. While categorization can suffice on distinctiveness, understanding cannot.

When we use analogy we are calling attention to some “like aspect” of two entities (call them source and object). If we were to dialogue with full disclosure about the analogy—this is similar, this is different; notice how the similars might react in situation x and contrast that with the differences, and so on—we would lose the shorthand and efficiency evoked by the analogy. Thus, we tend to allow our use of analogy to emphasize similarity over difference and substitution over care. In practice, when we assert that a is analogous to b, we often then make use of b as a label or category into which a falls. Affording such primacy to the similarities is to grant supervenience to the characteristics of the source at the expense of a fuller description of the object. When the similarities of a metaphor or analogy are allowed to supervene such that the analogy source is substituted in meaning for the description of the object, mistakes happen, possibility spaces are misconstrued, retrospective sensemaking might not make sense, and taken-for-granted fundierung relations may hide nasty surprises. To the extent that coherence is perceived, it may be based on fantasy. Indeed, much of the Internet/telecom bubble of the late 1990s seems to have been fueled by the supervenience of the characteristics of an “insatiable appetite” associated with convenience and newness over the demands for infrastructure, use, and value. The same pattern has been displayed by many of the bubbles documented in the history of economics.

Word choice and metaphor use allow for the emergence of new memes, the replacement of memes, and the death of memes via a concept that Douglas Hofstadter (1995) has labeled “conceptual slippage.” In essence, the use of a metaphor or analogy evokes a glom of meanings. Each such use of metaphor is a perturbation to the existing selfreferencing system (be it an individual, the organization, or some part thereof). The perturbations (please notice the plural) caused by the glom or gloms interact in multiple dimensions with the self-referenced core. As this series of interactions and resultant emergent behavior self-organizes, the principle of “least action” takes over. The basin of attraction that is the least demanding of energy is likely to determine the “winning” meaning. The least-action principle suggests that the energy demands of attention or of the carrying of a full description are likely to be supervened by the efficacy of using an analogy, a label, or a name, even if incorrectly. Thus, one concept can slip to another via the energy demands of the least-action principle. The “whatever” of the current teen does not mean permission, tolerance, or inclusiveness, it means indifference—though most over-40s would not recognize that except after a series of painful experiences.

Thagard and Nerb (2002) make a similar claim to Hofstadter’s conceptual slippage in describing emotional gestalts:

*Thagard (1996: Ch. 11) described how dynamical systems theory can be applied to psychological phenomena by means of the*
When an emotional gestalt occurs, so too might conceptual slippage. Both undercut the effectiveness of a meme set in a new context.

Fauconnier and Turner (2002) go further in that they not only look for a slippage in conceptual meaning, but also for the activation of a new meaning. This is an extension of the emotional gestalt argument.

In any theory of meaning, activation does not come for free. The existence of frames, knowledge, experience, scenarios, and memories does not come for free. Ease of activation and degree of entrenchment by themselves impose very strong constraints on the imagination and the use of language. Linguists, logicians, and, for the most part, even psychologists tend to focus on the entrenched cases, which are already built and usually easy to activate. When only the rigid and entrenched patterns are used, meaning becomes predictable based on the mapping schemes and those patterns… Blends arise in networks of mental spaces which they call conceptual integration networks. Conceptual integration networks can have several input spaces and even multiple blended spaces. In conceptual integration, there is partial matching between input spaces of many kinds: connections between frames and roles in frames, connections of identity or transformation or representation, analogical connections, and metaphoric connections. In blending, structure from two input mental spaces is projected to a new space, the blend. Generic spaces and blended spaces are related: Blends contain generic structure captured in the generic space but also contain more specific structure, and they can contain structure that is impossible for either of the inputs. Similarly, not all elements and relations from the inputs are projected to the blend. Thus, emergent structure can arise in the blend that is not copied there directly from any input.

Blends, emotional gestalts, and conceptual slippages are all evidence of the least-action principle (lower energy expenditure) at work.

Lower energy expenditure is the driving pursuit in the information space world (cf. Boisot, 1995). In Vygotskian terms, a group 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. This understanding will be influenced by the metaphors and analogies available to label the gloms, for in the adjacent meanings implicit in the metaphors is the potential synthesis represented by the new concept. The premises of least action suggests that a context-dependent glom is an efficient vehicle (in the same manner that Perry and Barwise suggest that indexicals are efficient), provided that supervenience is possible. This is because we use words as tokens and allow context to evoke meaning from among the gloms 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 on 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.

To a group member, context includes ongoing change—which then disrupts the shared-context content of existing codification and disturbs the agreed 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 the 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 that 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.

Thus, we have a mechanism for meme success and failure. Emergent change occurs in the environment. 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 as a label better defined as the inverse of one’s propensity to act (Dretske, 1981; 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. 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, then there must be an offsetting emergent response to rebuild context so as to replace the content lost to uncertainty (i.e., that which was contained in the institutional codifications and abstractions that have now encountered disconfirming notions and been forced to revert to the more primitive gloms of meaning). Success is related to the evolution of the idealational niche for which the meme is a token. If that niche has failed, so too will the meaning-evocation powers of the token. The successful meme is one whose indexical quality can bridge both the old context and the new, such that the users of the meme token can dialogue about the meanings evoked by that token without asserting incommensurability. The unsuccessful meme is one whose indexical quality cannot bridge the gap between contexts and thus cannot make the transition to new context and new situation.

**IMPLICATIONS**

We need to do memetics to demonstrate when, where and how memetics has a relative and relevant advantage over social science devoid of memetics. The future of memetics will not be decided by those talking about memetics, whether grand theorising or armchair philosophy about the evolution of culture, history, consciousness or how we think, but will be decided by those doing memetics and demonstrating its relevance. (Hales & Marsden, 2002)

A memetics that accepts memes as indexical catalysts and tools can demonstrate the advantage that Hales and Marsden seek. Such a memetics allows for study of the content of information and its use, with a focus on processes and mechanisms vastly different from what passes today as information science, knowledge management, or linguistics. This is not a memetics that studies the evolution of memes per se, for the ontological status of memes is changed within it. However, such a memetics can demonstrate relevance, advantage, and application.

For example, if this approach were adapted to an extension of Salingaros and Mikiten’s (2002) exploration of modernism as an architectural meme, the discussion would explore the environmental niche in which the qualities laid out for the success of the modernism thrive. This would be followed by an exploration of what potential risks for the success of the meme lie within and without that niche, and what factors of the meme and/or the niche contribute to its ongoing resilience. Once the risks and resilience factors have been so identified, they can be mapped to other domains and compared with the success/failures of other memes both within and without the architectural domain. This seems far more fruitful an approach to making social science advances than the mere mapping of modernism in architecture as a meme (a mapping that allows critics to reply “So what?”).

Edmonds’ (2002) three challenges can be answered by this revised form of memetics. For example, his first challenge argues that a “conclusive case study” would “clearly demonstrate that there is at least one cultural process that is of an evolutionary nature, where ‘evolutionary’ is taken in a narrow sense.” If the requirement that it is the meme that must be of an evolutionary nature is dropped, then Edmonds’ challenge is easily fulfilled. Anthropology and sociology can document hundreds of cultural processes that are evolutionary and many of these will have a history of successful memes associated with them. What is difficult for meme as replicator is much easier for meme as indexical catalyst.

Lissack and Letiche’s forthcoming Coherence Emerges: A Complexity Theory of Organization (2004) is an example of work that meets Edmonds’ second challenge. So too does much of the case-study work on organizational symbolism. Edmonds’ third challenge is perhaps incommensurate with the revisions suggested above. Memetic processes of the catalytic indexical variety are easily found and documented in the “real” world and are not in need of “simulation.” Such “real” examples should, in any case, be considered as a firmer foundation for an applied theory than simulations could provide. Memetic processes of the catalytic indexical variety also seem to address many of the concerns raised in Bloch (2000) and Kuper (2000).

This redefinition of memes recognizes that they are efficient tools for evoking particular affordances to be attended to in situ. Such a definition is consistent with theories of niche construction. This article suggests that Dawkins created an indexical (meme=gene) and it has exceeded its carrying capacity and thus lost its efficacy. Worse, that indexical is evoking images and affordances that stand in the way of the memetics field making true progress. It is time to recognize that ontic status has been misplaced. Memes need a new meme: meme as catalytic indexical.

For managers, memes defined as catalytic indexicals raise the potentialities offered by other catalysts—the provisioning of an environment with a catalyst can afford the possibility of a transformation that is much more difficult than without the catalyst’s presence. Memes would be studied for their catalytic roles and managers would be taught sensitivity to the conditions that aid and hinder the evolution of such catalysts.
As catalytic indexicals, memes can be meaningfully assigned explanatory and causal roles—the very ingredients that Edmunds claims memetics needs, and the qualities that managers are often seeking.

**NOTES**

1. This notion does not conflict with the definition of meme in the *Oxford English Dictionary*: An element of a culture that may be considered to be passed on by nongenetic means.

2. An application of this argument is forthcoming in Lissack & Letiche (2004).


4. Much of the mechanism argument was first developed in Lissack & Roos (1999) and has been expanded in Lissack & Letiche (2004).

**References**


