TOWARD AN AESTHETICS OF ORGANIZATION

SUBMITTED TO DR. ROBERT SILVERMAN

BY

MICHAEL HAMMAN

FIELDING GRADUATE UNIVERSITY

HOD 717

DEPTH + APPLIED

Introduction

This paper attempts to foreground the aesthetic dimension of organizations. In doing so, it asks the question:

> Can human organizations be construed as aesthetic? If so, in what ways might we make such a construal? And toward what end—what might we gain by bringing such an aesthetic emphasis to organization theory and practice? In making such a construal are we simply adding something new—adding yet further burden—to organization studies? Or are we *unconcealing* what is already there and what is already most profoundly human?

Essentially, this paper argues that in being defined by the language we use, the objects we produce, the structures and systems we invent, the ideas, concepts, and distinctions we create, the images, textures, and sounds we invoke, organizations are *already* aesthetically constituted.

The paper has four parts. In the first part, I argue that human beings are essentially aesthetic beings. In the second part, I propose a working framework that will help us think through some of the different epistemologies of organization which we encounter in the organization theory literature. The third part examines four such epistemologies—positivist/functionalist, symbolic/cognitive, interpretive/cultural, and postmodernist/critical—in order to situate the proposed aesthetic framework across a diversity of organizational situations. In the fourth part, I facilitate an examination of two organizational 'vignettes' that bring concrete bearing to many of the ideas discussed thus far. One such vignette is from my own experience as a consultant; the other takes a look at the design process of Honda Motors' *City Car*.

The questions and inquiry at the heart of this paper are likely to be most applicable to modern knowledge-based and product development organizations, where creativity, knowledge-sharing, speed, and executional excellence are in high demand—what Willmott (Willmott, 2003) referred to as "new organizational forms" (Willmott, 2003:97).

1. Imperative for an Aesthetic View of Organization

1.1 Singing Neanderthals

The fundamental notion that underlies this paper is that human beings are essentially *aesthetic* creatures. That is, we constitute our relationship to our world sensorially and emotionally at least as much as, and perhaps more than, we do so intellectually and rationally.   Moreover, the means by which we so constitute our relationship to our world is through the processes and practices of social and emotional *coordination* between and among individuals.

Mithen's (Mithen, 2006) studies of early hominids, and their means of communication and coordination shed some light on aesthetic experience, particularly on early hominid music making, principally 'singing.' First, the standing posture of early hominids changed the structure of the human vocal cords, rendering a broader range of possible sounds generated (Mithen, 2006:146). Secondly, as hominids left the jungles for the plains, and as they began to consume more meat than leaves and roots, their survival hinged on higher degrees of social coordination required for hunting and for protection from predators (Mithen, 2006:128). Emotions played a big part in this, forming the necessary impetus by which individuals would come to engage in activities that favored social cohesiveness over individual gain (Mithen, 2006:128).

Mithen goes as far back as the Neanderthals who, unable to speak, 'sang' their way toward the emotional and social coordination necessary for survival. Mithen refers to early hominid communication systems with the term 'Hmmmmm': "Holistic, multi-modal, manipulative, musical, and mimetic" (Mithen, 2006:172). It was 'holistic' in the sense that communication consisted of whole messages rather than words—"each hominid utterance was uniquely associated with an arbitrary meaning—as are the words of modern language" (Mithen, 2006:3). It was 'multi-modal' in the sense that it involved vocals plus bodily movement. It was 'manipulative' in the sense that it was intended to "manipulate the behavior of others rather than tell them things about the world" (Mithen, 2006:138). That is, its primary utility was in the building of social cohesion. It was predominantly 'musical.' And, finally, it was 'mimetic' in the sense that it involved direct reference and imitation of environmental phenomena. This constitutes an important way in which early hominids began to 'understand' and make sense of their environment.

1.2 Vico and *Poetic Wisdom*

Much of what Mithen was able to document through the study of early hominid fossil records, Giambattista Vico posited, from the perspective of philosophy in the 17th

Century. Vico asserted the fundamentally *aesthetic* nature of human knowing in all human societies. Aesthetic knowing had its own specific character: it was distinct from intellectual and rational ways of knowing, but it bound people to their surrounding reality more deeply than more 'reasoned' ways could (Stratti, 2000:14-15). This way of knowing was more *poetic* than it was *rational*. "[H]ieroglyphics, gestural language, myth and metaphor" played a major role in how people came to understand themselves and the world (Strati, 2000:15).

As Hawkes observed (Hawkes, 1977),

> "Vico's decisive perception that so-called 'primitive' man, when properly assessed, reveals himself not as childishly ignorant and barbaric, but as instinctively and characteristically 'poetic' in his response to the world, in that he possesses an inherent 'poetic wisdom' (*sapienza poetica*) which informs his responses to his environment and casts them in the form of a 'metaphysics' of metaphor, symbol and myth" (Hawkes, 1977:12).

Rothenberg (Rothenberg, 1983) notes that to be 'primitive' is to be *complex*, in the sense that trans-rational—and, to the rational mind, *non-linear*—modes of thinking and imagery predominated their knowledge systems. Even

> "the apparently ludicrous and fanciful accounts of creation and the foundation of social institutions that occur in early societies, were not intended to be taken literally. They represent, not child-like 'primitive' responses to reality, but responses of quite a different order whose function was ultimately, and seriously, cognitive. That is, they embody, not 'lies' about the facts, but mature and sophisticated ways of knowing, of encoding, of presenting them. They constitute not mere embroidery of reality, but a way of coping with it" (Hawkes, 1977:12).

Myths, symbols, allegories, forms, and images are far more than mere aesthetic *artifacts* (as, for instance, theatrical plays are for modern humans)—they represent the attempt by ancient peoples *to impose a satisfactory and graspable shape upon their day-to-day life experience*. The world itself unfolds under the determinative influence of the metaphors, myths, symbols and forms by which that graspable shape is imposed (Hawkes, 1977:13).

1.3 An Aesthetics of Everyday Life

With Modernity came a disturbance of this aesthetic/cognitive equilibrium (Wilber, 2000). Horkheimer & Adorno (Horkheimer & Adorno, 2000) mourned the loss of *magic* which constituted the pre-modern cosmologies Vico described. They note that in pre-modern societies, "dream and image were not mere signs for the thing in question, but were bound up with it by similarity or names" (Horkheimer & Adorno, 2000:10).

Mimesis did not have the same highly charged *signifying* constitution it now has—it was a means by which the world was brought close to human experience.

Moreover, the traditions by which things got done, and by which the social cohesion necessary for those activities was accomplished, all had social *particularity*. That is, they reflected the skills, practices, myths and metaphors which a given society had in common and which distinguished that society from others around it.

Under Modernity, there is a tendency to prefer the abstract and general over the particular, a trend which has led to what Adorno & Horkheimer metaphorically characterize as "the replacement of the milieu-bound practices of the medicine man by all-inclusive industrial technology." (Horkheimer & Adorno, 2000:11). Ideas have come to have an abstract separability from the everyday, and from particularity. Meanwhile, the trans-rational dimension of human knowledge has been separated from its rational counterparts, just as the latter has come to be elevated above the former (Horkheimer & Adorno, 2000:11).

That which magic, myth, and metaphor once fulfilled—at one time explicitly and expressively integrated into everyday life—was now to be played out exclusively in the rarefied realm of art. Rather than finding myth and magic in everyday life, as once may have been the case, we now go to shows, museums and concerts to get our aesthetics fix. Aesthetic experience is that which happens outside our day-to-day life: it is a (wonderfully) *rarified* aspect of our lives. Once of a unity, art and life—the sacred and the profane—now operate in different terrains.

Dewey (Dewey, 1934)sought to "restore continuity between the refined and intensified forms of experience that are works of art and the everyday events, doings, and sufferings that are universally recognized to constitute experience" (Dewey, 1934:2). For Dewey, art objects merely *facilitate* aesthetic experience—they are not the source of that experience. By this thinking, Dewey sought to reclaim aesthetic experience from the rarified isolation of the art object, and to bring it under the sway of the day-to-day, of the *mundane*. "Even a crude experience," writes Dewey, "if authentically an experience, is more fit to give a clue to the intrinsic nature of esthetic experience than is an object already set apart from any other mode of experience" (Dewey, 1924:9).

1.4 Aesthetic Organization

Such a reintegration of aesthetics into everyday life makes possible a number of different ways to think about aesthetics in organization studies. A number of organization theorists have taken up this theme. For instance, in bringing an aesthetic view to conflict management, Barrett (F. J. Barrett, 2007) observes that "[a]esthetic experiences involve awakening to the immediacies of vivid experiences, and openness to wonderment and a

widening of horizons" (Barrett, 2007:388), a quality of the relationship to experience that can enhance the characterization and resolution of complex social issues (Barrett, 2007:390). Commenting on organizational situations more generally, Strati (Strati, 2000) notes that "although an organization is indeed a social and collective construct…, it is not an exclusively cognitive one but derives from the knowledge-creating faculties of *all* the human senses" (Strati, 2000:13, emphasis added).

Silverman (Silverman, 2000) emphasizes the aesthetics of the *mundane,* of the 'micro order' of organizational life. He points out the danger of the organizational ethnographer who eschews the small, apparently insignificant moments in favor of the larger, more 'significant' ones (Silverman, 2000:136). Specifically, for Silverman, the danger is that the focus of the ethnographer "mistakes what is immediately newsworthy for what is important" (Silverman, 2000:136). Silverman seems to prefer to eschew the 'big' question and go after those that are most mundane, like Baker's (Baker, 1996) fascination with punctuation or nail-clippings. Silverman notes that "behind such seeming trivia lies what I take to be a serious intent—to seek clarity in place of our often empty accounts of bigger, more spectacular issues" (Silverman, 2000:137).

It is this connection with the quotidian aspect of daily life that I wish to situate aesthetic experience, in order to set the stage for its non-trivial introduction into the context of modern organizational life. In this context, objects and things such as shovels, trucks, laptops and business processes all derive their particular aesthetic quality not *in spite of* their functionality utility, but precisely *because* of their functional utility. In the context which Dewey emphasizes, and which I wish also to emphasize, is that things and events obtain their aesthetic qualities *in their use*. It is, for instance, in its use within the organization that a business process, in addition to the functional utility it serves (or disserves), also has an aesthetic quality.

This is the central tenet of this paper: the possibility that as organization practitioners we can yield actionable learning regarding the artifacts, structures, systems, and processes of an organization when we can adequately observe and assess their aesthetic quality.

2. An Aesthetic Framework

Having established, at the very least, a *provisional* imperative for aesthetic organization, I am now interested in exploring more precisely what I intend to mean by the term 'aesthetics.' Toward this end, I propose the following tri-partite way of thinking about aesthetics:

1. Its material and physical aspect;
2. Its formal and structural aspect;
3. Its symbolic and interpretive aspect.

By considering these aspects of aesthetics, it becomes possible to consider the aesthetics of organizations from a number of necessarily different vantage points.

2.1 The Material and the Physical

Perhaps the first place to start is with the physical and material 'thingness' of an object or event. A painting is made up of canvas, chalks, oils, and chemicals; a poem on the page is made up of ink, paper, and various binding materials (glue, string). This thingness has direct sensorial reality: the touch, the smell, the sound, the look. In the fashioning of things, especially in art, materials are manipulated—chemicals are mixed for their light absorption/reflection properties; musical instruments are constructed and tuned for their particular sonic properties; ink is colored and stamped for their particular properties of contrast against a similarly manipulated paper material. These properties convey themselves as textures and grains. The timbre of a voice, or the material qualities of a book: its feel when we hold it, the smells of the ink and of the binding, etc. These all constitute a dimension of our experience.

In understanding this 'thingly' nature of objects phenomenologically, Dufrenne (Dufrenne, 1973) focuses on the 'work of art,' since it is easier to isolate the physical and material aspects of the work of art than it is with other objects. Dufrenne notes that "every work of art requires a material basis, a substratum of specific materials such as paints, sounds, or stone" (Dufrenne, 1973:xxiv). It is this utter materiality that undergirds the sensuous existence of the thing, for, as Dufrenne observes, "[t]he sensuous…is precisely what the work's matter becomes when perceived aesthetically" (Dufrenne, 1973:xxiv). What Dufrenne seems to be saying is that when we are wholly absorbed in the functional utility of an object—its *equipmental* aspect, to use Heidegger's terminology (Dreyfus, 1991)—the material, and hence *sensual*, qualities of the object are inaccessible. However, when treated as an aesthetic object "for its own sake," it becomes possible to sensually engage with the purely material qualities of that object.

The artist Marcel Duchamp playfully brought people's attention to the aesthetic qualities of mundane objects such as combs, shovels and urinals. By placing such objects in the museum context, Duchamp provided for the disassociation of their otherwise purely 'equipmental' absorption in order that the physical (and formal) aspects of those objects might be experienced more directly.

Gumbrecht (Gumbrecht, 2004) brings a similar argument for the legitimacy of the thingly aspect of objects. Gumbrecht uses the term 'presence' to refer to an object's situation in space: he writes that "[s]omething that is 'present' is supposed to be tangible for human hands, which implies that, conversely, it can have an immediate impact on human bodies" (Gumbrecht, 2004:xii). The 'presence' of a thing is to be understood as distinct from the 'meaning' of it, if by 'meaning' we refer to that process by which "we form an idea of what this thing may be in relation to us" (Gumbrecht, 2004:xiv). Gumbrecht's major argument is that by habitually relating to things in terms of what they *mean*, we "attenuate, inevitably, the impact that this thing can have on our bodies and our senses" (xiv).

One of the fundamental means for bodily engagement is touch. Stafford (Stafford, 2007) cites Johann Gottfried Herder's argument that touch, being "the most fundamental of the five senses" is in fact "the foundation and guarantor of sight" (Stafford, 2007:19). We relate to objects at a tactile level. The smooth sound of soft tipped pen as it glides across the surface of an index card, makes present for us the particular ease with which the ink is allowed to flow onto the paper. Herder favors touch as that which "puts us reliably in contact with the biological and physiological bottom of reality where there is no illusion" (Stafford, 2007:19). Stafford calls touch "a motion of the soul, more primal than reason (*Vernunft*) and thus connected to that common body of experience that human beings have always (explicitly or implicitly) brought to the perception of the life world as well as to works of art" (Stafford, 2007:19). In short, touch engages a profound dimension of our moment-to-moment encounter with our world, and the physical and sensual quality of things-in-themselves with which touch most directly relates thus constitutes a much-neglected, but critical aspect of our aesthetic experience.

2.2 The Formal and the Structural

Form as Structure

Material and physical aspects of objects and things constitute the material, bodily aspect of our experience. And yet, form and structure also play an integral part in the life of objects and events. When we look at a painting or a poem, its projective power derives from the formal structures of which they are constructed. Similarly, when we encounter a shovel or a pair of scissors, their form immediately informs their use as a socially conditioned piece of equipment (Dreyfus, 1991).

Virtually all human-made objects are constituted, in some way or another, in terms of forms, whether they be paintings, operas, or snow shovels. Some theorists propose that our inherent attraction to form stems from a deep connection with nature and the forms of which it is constituted.

> "Yet man, whatever else he be, is a part of nature. So his artistic world cannot be one of sharply demarcated opposition to his natural world, but rather must be viewed as a fluid and continuous extension of his domain as ordinary member of animate nature, subject to all the limitations of biological reality, in a realm of irreality of his own making, stripped of those limitations" (Weiss, 1960).

Kant's notion of *a priori* forms refers to a similar innate primacy of, or feeling for, form in things. In contrast to the *a posteriori*, which refers to that which is empirically experienced, *a priori* forms "are the universal and necessary conditions of the very first appearance of anything whatsoever to our human perception" (Hendel, 1955). These are 'cognitive' forms that form the structure of the perceiving mind.

Lorand (Lorand, 2000) observes that the order in things is a reflection of the ways in which minds apprehend them. When we describe the order in the universe we are also describing the order of our minds. The order in things exist both *in them* and *in us* (Lorand, 2000:21). Alexander (Alexander, 2002) posits a similar underlying structure that, fundamental to all natural systems, underlies all that human beings most naturally perceive as 'beautiful.' That is, Nature constitutes deep forms (both structures and processes) which underlie those most observable forms and processes which we regard as most beautiful.

This almost mathematical quality of form evolved from the Greeks, and held sway in much late-Medieval to early-Renaissance art, during which time there was a fascination with proportions and the geometry of perspective (Speiser, 1960). Aesthetics were seen as an inseparable aspect of mathematics, and vice versa. This spirit seems still to permeate theoretical mathematics in the modern era. As Speiser (Speiser, 1960:198) notes, the discovery of non-Euclidean structures, automorphous functions and hyperbolic geometries in the late 19th Century had an essentially *aesthetic* dimension. They were regarded as beautiful.

Form as Process

Thus far, our brief discussion of form has focused on its static, *structural*, aspect. But, forms also unfold in time. As Cogan (Cogan, 1984)observes, language itself, Jacobson most famously observed, unfolds in time, defined by oppositions and contrasts of structures occurring in micro- time (Cogan, 1984:27,124). Those microstructures have isomorphic extensions across time, characterizing the sound forms of everything, from

Tibetan chant, to Billy Holliday's 'Strange Fruit' to a Beethoven sonata (Cogan, 1984:1). Certain forms-in-time project what we come to regard as 'beautiful' sounds and music. Those large forms in time which constitute such musics display similar oppositional structures which Jacobson observed in the micro-time structures of spoken language (Cogan, 1984:123-128).

Form also occurs within the dramaturgical structure of a narrative. For instance, in Western cultures, we come to recognize, immediately, particular narrative forms. Langer (Langer, 1953) notes, for instance, that 'tragedy' and 'comedy' are each determined by deep invariant formal structures. These deep structures render dramatic forms that are immediately recognizable either as tragedy or comedy. Those forms are, Langer observes, "to European drama what the representation of objects is to painting" (Langer, 1953:327).

Sociology of Form

I want to make one final comment regarding form, which concerns the relation of Form and the societies in given forms emerge. In her discussion of Adorno, Subotnik (Subotnik, 1991) notes, though great art has always been concerned principally with "the immanent problems of art….the more rigorous the exclusiveness with which the artists devote themselves to such immanent problems, the more certain is the resulting art to embody, within its own structure, an artistic counterpart to the structure of external human affairs, or in other words, contemporaneous history and society" (Subotnik, 1991:19). Modern information media are saturated with the social externalization of contemporaneous formal preoccupations, from the canonic narrative structure of news stories, to the visual layout of CNN news streams, to tight structures by which taut dramas play with well-established narrative forms.

2.3 Symbolic, Interpretive

Once we've acknowledged the physical and formal aspects of objects, things, and events, we can begin to notice the fact that they are (since we are talking about human-made things) made by humans, for use by humans, and as such engender symbolic and interpretive involvement. Beyond the material and formal features of a painting is that which the painting 'depicts.' We might say, for example, that it is a painting *of* something or somebody.[1] Similarly, a poem has a 'referential' domain—that which the poem is *about*, for instance, or, more accurately, the discursive realm it references.

This referential realm, the relations that lie between the material/formal aspects of a thing and realm it references, constitutes an important part of how we come to engage things

---

[1] Abstract paintings present special problems which will not be discussed here.

aesthetically. Even objects of solely functional utility project a referential realm. They project, by virtue of the particular history of use they encapsulate, an embodied utility. As Heidegger observes, using the term 'equipment', a carpenter most truly understands a hammer when he or she takes it up and begins using it (Dreyfus, 1993:64).

It is all too easy to infer rigid and linear referential schemas. As Anderson (Anderson, 1997) notes, for instance, a *symbol* constitutes just such a rigid referential schema, in that it is "based on conventional relations between signifier and signified" (Anderson, 1997: 5). For instance a picture of a raised fist could be a symbol for defiance just as a smiley face might symbolize a kind of naïve optimism. Mimesis is another case in point. And yet, as Arnheim (Arnheim, 1969) notes, "[t]he difference between mimetic and non-mimetic shapes, so plausible at first glance, is only one of degree" (Arnheim, 1969:117). This can be seen, for instance, in illustrations, or in the use of hand gestures to depict certain objects or, even more so, in the portrayal of actions (Arnheim, 1969:117). As Arnheim comments, regarding the relation between signifying gestures and the things and actions they signify, "the resemblance can hardly be literal" (Arnheim, 1969:118).

Along these lines, Stafford describes certain kinds of pictorial *emblems*, such as those found in 16th and 17th Century print collections, in which "content-laden" pictorial forms are brought together into large mesh. The resulting picture "operates by detaching its constituent parts from more diffuse wholes and then integrating them into a new crystal-like arrangement" (Stafford, 2007:45). As Stafford concludes, "[t]his dual process of first prying apart and then patching together into a novel unit yields ill-sorted and fantastic objects demanding to be noticed and thought about" (Stafford, 2007:45).

2.4 Two Illustrations

Example 1: A Bicycle

Imagine that you are in a bicycle shop assessing the possible purchase of a high-end bike, and are considering the one photographed above. As we might have done with portrait, we might first examine the materials of which it is constructed. In doing so, we might be

inclined to glide our fingers over its various surfaces in order to feel the smoothness of its finish. We might lift it up in order to take in its surprisingly light weight.

We might also stand back and observe its various forms, and how those forms are a beautiful fit to the particular functionality that differentiates this bicycle from others—for instance, its speed, its handling. The formal beauty is married to its functional performance. As with the portrait, these forms are products of rich cultures of construction and design.

We might also contemplate the referential resonances of the bicycle. Not only its functional utility, but the various cultures of style and self-identity which the bicycle projects. What would this bike say about its owner? About the shop that sells it, or the company that manufactures it? What kinds of skills, related to bike-riding, does this bike facilitate? What levels of mastery?

Now, consider the following caption, which might well appear, with the above photo, in an advertisement:

> "My Equinox TTX has truly been the best bike I have ridden and it shows in my performances. I feel really comfortable and I don't feel like I'm fighting the bike." (Taken from http://www.trekbikes.com/us/en/2008/triathlon/)

This is actually a quote, taken from the Trekbikes website, of a pro Triathlete. Note how the language evinces predominantly aesthetic considerations, with words like 'comfortable' and 'feeling', as well as metaphors like 'fighting the bike.'

Example 2: Another Bicycle
Compare this bicycle with the following one.

Though similar in terms of material, form, and function, this is decidedly a different object altogether from the one we have just examined. Nevertheless, this bicycle is no less aesthetic in its marriage of material and form, of form and function, and of organic fit to the particular manner and style of its use, and to the cultural tropes regarding status and utility which this particular bicycle resonates.

2.4 In Summary

The different bicycles in the above example constitute very different material, formal, and symbolic-social realities. And yet what differentiates these two cannot be easily grasped purely in cognitive terms; it requires an aesthetic eye—specifically in the sense I'm attempting to formulate—to adequately understand how the two bicycles are different.

By bringing attention to their aesthetic differences—in terms of the three aesthetic perspectives we've been considering—I hope to have been able to show ways in which we might begin to appreciate the subtle differences in how their purely functionality utility has aesthetic resonances. In the following pages, I will attempt to map this formulation to the discussion of various organization theories.

3. Four Epistemologies of Aesthetic Organization

This section of the paper describes four epistemologies of organization—positive/functionalist, symbolic/cognitive, interpretive/cultural, and postmodern—and attempts to show some ways in which each of these might have distinguishable aesthetic bearing, along the lines formulated in the previous section.

3.1 Positivist/Functionalist

Two Principle Tenets

Two principle tenets underlie this epistemological world-view. The first of these is the notion that there exists a world separate from interpretive and cognitive engagement which we can observe, measure, and alter in an objectivist manner. Accordingly, organizations are said to exist in relation to an environment and that, to the degree to which the organization can understand and make of itself a 'good fit' to that environment, the organization will realize success in relation to its goals and objectives (Donaldson, 2003).

The second tenet of the positivist/function epistemological world-view is the notion that social systems can be defined solely by the *functional* purpose they serve. For instance, Rosenberg (Rosenberg, 2008) suggests that we would respond to the question "Why does the heart beat?" with the functional response "in order to circulate blood throughout the body" (Rosenberg, 2008:158). Similarly, we might respond to the question "Why is our company doing X?" with the functional response "in order to realize Goal Y."   Having awareness of the functional whole of a system helps us understand how it should best go together (Rosenberg, 2008:159).

Relevant to this level of organizational analysis, is Hatch's (Hatch, 1997) conceptualization of organizations as the overlapping of "technologies, social structures, cultures, and physical structures that overlay and interpenetrate one another within the context of an environment" (Hatch, 1997:15).   The degree to which the activities defined by these overlapping spheres of organization successfully cohere and mutually support each other determines the capacity of the organization to realize its function. Toward this end, we might surmise that objects, structures, and processes are designed in order to support that coherence. We might also surmise, as well, that the strategic activities by which organizational goals are realized are similarly supported. For instance, systems that provide clear and accessible information regarding the environment would, we might suppose, support an organization's capacity to constitute itself in alignment with that environment (a notable requirement of contingency theory). Or we might wish to generate a set of principles by which information management systems ease the

accessibility and utilization of information, as well as easing their own development and maintenance.

Such concern for 'utility', 'good fit', 'ease-of-access,' and 'ease-of-use' resonate *aesthetic* design criteria. Three such criteria are relevant: organizational *usability*, organizational *attraction*, and organizational *fit*.

Organizational Usability

Systems, structures, and objects either help or impede an organization's effectiveness along these lines. Aesthetically, we might relate to this through the notion of *usability*. Norman (Norman, 1988) defines the usability of objects in terms of their *affordances*, *constraints*, and *feedback* (Norman, 1988:12). Norman defines an *affordance* as those properties of a thing that tell us precisely how that thing is to be used (Norman, 1988:9). For instance, the holes in a pair of scissors tells us, visually, where to insert our fingers and thumb. Similarly, a door handle that is raised on one side tells us, visually, that we need to *push*, not *pull*, it.

Constraints further the design goals of affordances—they tell us more about how a thing is to be used. For instance, the size of the holes in a pair of scissors indicates which hole is for the thumb and which is for the fingers. *Feedback* is yet another aspect of an object's usability. Can we tell, for instance, whether a given action is effecting the result we're looking for? If so, is the feedback instantaneous, or is it delayed?

When objects need instructions or labels, their design has failed (Norman, 1988:9). We might similarly posit that the extent to which organizational systems and structures lack affordances, constraints, and feedback determines the 'ease-of-use' of those systems and structures, and hence their capacity for efficiency and high performance.

Organizational Attraction

Another aspect to consider along these lines, besides *usability*, is aesthetic *attractiveness*. In three experiments, Tractinsky (Tractinsky, 1997) found high correlations between the perceived aesthetics of machine/human interfaces and perceived ease-of-use (Tractinsky, 1997:1). Along somewhat similar lines, Coplien (Coplien, 1998) points out that software systems whose design and structure are aesthetically beautiful tend to be easier to change and maintain: programmers *want* to work on such systems, and hence those systems stand a better chance of continuous improvement, a hallmark of stable and robust software systems.

Taking a moment longer to look at software development: among the principles abstracted from the literature on software aesthetics and patterns (Gamma, Helm, Johnson, & Vlissides, 1995; Martin, Riehle, & Buschmann, 1998), are those which map to Norman's notions of affordance, constraint, and feedback. The *affordance* principle instructs programmers to write software code that is 'self-documenting': names of variables, functions, and classes should say precisely what they do. This makes it far easier for other programmers to read and make sense of the code. The *constraint* principle can be demonstrated in the use of so-called 'interfaces' in object-oriented programming. In this context, an 'interface' of a software class (another programming construct) declares a constraint on the use of software objects made from that class. The *feedback* principle abounds in software, most notably in the development practice of test-driven development, in which software tests are written first, followed by the actual code to be tested (Beck, 2003). This makes it possible for a programmer to find out *immediately* if a given piece of code fails or not.

The Aesthetics of Good Organizational Fit

Another aspect contributing to the effective alignment of the various spheres of organization is the degree of *fit* which the objects, events, structures and processes to the organization and the functional goals by which it defines itself. The different bicycles considered above either are or are not a good fit to the particularity of the use to which they are to be put, and the cultural practices that use resonates. Employing the lightweight racing bike for the transport of various heavy loads on rough dirt roads, in communities where bike parts and repair skills are likely to be rudimentary would constitute a poor fit.

Similarly, the organizational practices, artifacts, and systems either are or are not a good fit to the particularity of organization in which they are to be exercised. Cameron and Quinn (Cameron & Quinn, 1999) write that organizational cultures reflect differing emphasis on flexibility vs. stability, and internal vs. external focus. Firms like Microsoft and Nike are more likely to find good fit with organizational practices, artifacts, and systems which emphasize higher degrees of flexibility and dynamism than would a government agency (Cameron & Quinn, 1999:30-31). Similarly, some companies are viewed as more effective if they are able to maintain "harmonious internal characteristics" (Cameron & Quinn, 1999:31), such as the "IBM-way", while others— like Toyota—are deemed more effective when they are able to interact and compete with companies that are outside their corporate boundaries (Cameron & Quinn, 1999:31).

Understanding and recognizing the particular culture of an organization, and designing the structures and processes that are a good fit for these, constitutes a form of aesthetic design: it calls for a sensitivity and attentiveness to the most subtle cultural memes and tropes that have material, formal, and symbolic aspects.

Aesthetics of Work Processes and Environments

To what degree might such an aesthetic imperative transfer into the domain of organizational processes more generally? Weggeman et al. (Weggeman, Lammers, & Akkermans, 2007) found that organizational performance "might be enhanced… indirectly by the aesthetics of organizational work processes, organizational structures, the personal well-being of employees and organizational designers with a high degree of aesthetic sensibility" (Weggeman, Lammers, & Akkermans, 2007:346). Strati (Strati, 1999) observes that the physical setting influences the manner of organization by influencing "(a) the manner of interaction, (b) the affection reaction to job and organization, and (c) interpersonal attraction, competition, cooperation and person perception" (Strati, 1999:5).

Gagliardi (1996) argues that organizational artifacts are not merely superficial embodiments of deeper cultural phenomena (as for instance Schein (Schein, 1999) argues). Rather, those artifacts are themselves "primary cultural phenomena" (Gagliardi 1996:568 quoted in Strati, 1999:158). Strati points out that by considering organizational artifacts in themselves, it becomes possible to observe ways in which they influence organizational life in two ways. First, artifacts "help, hinder, or even prescribe organizational *action*" (Gagliardi, 1996:568 quoted in Strati 1999:158, emphasis by Gagliardi). Secondly, "artifacts influence our *perception* of reality, to the point of subtly shaping beliefs, norms and cultural values" (Gagliardi, 1996:568 quoted in Strati 1999:158, emphasis by Gagliardi).

Similar observations can be made regarding organizational *processes*. Even the elegant purity of scientific management has an aesthetic quality (Guillen, 1997). More recently, an organization's capacity to *adapt* to its environment (Axelrod & Cohen, 2000; Highsmith, 2004)—its ability to 'sense and respond' to change (Haeckel, 1999)—is predicated on an ideology of process that has an aesthetic dimension. Such processes provide: rapidity of feedback; high visibility of its moving parts; high degrees of social interaction and collaborative problem-solving; 'ease-of-use'; smooth flow across otherwise disparate functional silos. All these characteristics evoke feelings of beauty evidenced by the metaphors and descriptors we use to describe such systems—terms such as 'flow', 'simplicity', 'nimble', 'agile', etc.

Such aesthetic association with the fundamental machinery of positivist organization can be summarized in the following phrases:

> "Lust for beauty and elegance underpinned the most important discoveries in computational history…. The beauty of a proof or a machine lies in a happy marriage of simplicity and power…. Beauty is the ultimate defense against

complexity…. A good programmer can be a hundred times more productive than an average one…. The gap [between a good programmer and an average one] has little to do with technical or mathematical or engineering training, and much to do with taste, good judgment, aesthetic gifts" (David Gelertner, *Machine Beauty: Elegance and the Heart of Technology*, as quoted in Peters (Peters, 2005):27).

3.2 Symbolic/Cognitive

Within the Symbolic/Cognitive paradigm, organizations are sites where images, metaphors, narratives and similes are generated regarding the past, present and future. Those images, metaphors, narratives and similes orient ways of thinking and acting that are uniquely attuned to the situation, not only in its rational and cognitive sense, but in its sensual and *feeling* sense as well.

One area where we may find such a trade in symbolic and emotive language is in the metaphors, images, and narratives that leaders in organizations construct in order to affect the metaphoric imagery of those they lead. At least in their more "personalized roles" (Czarniawska-Joerges & Joerges, 1990), one thing that leaders do is create language that "can give those involved in any particular situation the wherewithal to grasp its significance, and place it in an appropriate context or perspective" (Czarniawska-Joerges & Joerges , 1990:255). Such a notion of language calls upon not just its *denotative* (cognitively *grasping*) quality, but also its *connotative* (cognitively *orienting*) facility. Czarniawska-Joerges & Joerges refer to the "constitutive" capacity of language:

> "We create realities by warning, by encouraging, by dubbing with titles, by naming, and by the manner in which words invite us to create 'realities'" in the world to correspond with them. Constitutiveness gives an externality and an apparent ontological status to the concepts words embody" ((Bruner, 1986) quoted in Czarniawska-Joerges & Joerges, 1990:339).

Piccardo et al. (Piccardo, Varchetta, & Zanarini, 1990) note that "[m]any studies of the symbolism of organizations have stressed the fundamental role that leadership plays in channeling cultural meaning and establishing a context in which members of the organization can elaborate shared interpretations of such meanings" (Piccardo, Varchetta, & Zanarini, 1990:255). When, for instance, Domino's Pizza's CEO, Tom Monagham (Raspa, 1990), used the metaphor of 'play' to inspire employees "to believe that work is as much fun as play" (Raspa, 1990:274), he was not simply trying to give a pep talk. Rather, he was leveraging an already powerful trope that already associates pizza with fun and play in order to orient how employees think and feel about their work. Similarly, when Honda's senior management came up with slogans like "automobile evolution,"

"man-maximum, machine-minimum," and "let's gamble," their intent was to inspire new, younger product designers to imagine an entire new automobile product idea (Nonaka & Takeuchi, 1995).

Three Linguistic 'Tools'

What might be some of the tools for the management of symbolic meaning? Czarniawska-Joerges & Joerges (1990) describe three such tools for building shared meaning: labels, metaphors, and platitudes.

Labels. Labels tell people "*what* things are" (Czarniawska-Joerges & Joerges, 1990::339). They classify things and ideas. They quite literally "[call] things into being" (Czarniawska-Joerges & Joerges, 1990:340). For instance, groupings of people are formed through various forms of labeling which helps members form common identities. Of particular interest in this paper is the labeling of social phenomena: such labeling "stabilizes the flux of social life and helps to create the realities to which it applies" (Czarniawska-Joerges & Joerges, 1990:340). Weick (Weick, 1985) points out that "[l]abels carry their own implications for action, and that is why they are so successful in the management of ambiguity" (Weick 1985:128 quoted Czarniawska-Joerges & Joerges, 1990:340). For instance, we might label some set of activities a cost, in which case management would want to minimize it. Relabeled as an asset, those same activities would be promoted and supported by management.

A common example of organizational labeling would be the label 'leadership.' Different organizational settings ascribe the label 'leadership' to different kinds of behavior. As such, in some settings, a particular behavior will be activated, while in other settings, that same behavior would go unacknowledged, by the presence or absence of that label. Another example of organizational labeling is the label 'excellence,' "for which," Czarniawska-Joerges & Joerges observe, "we are all searching" (Czarniawska-Joerges & Joerges, 1990:343). In its most common use, it is something 'to be strived for,' to which organizations 'are committed.'

Labels, nevertheless, are mutable. As Czarniawska-Joerges & Joerges note, things that were once labeled "bad" sometimes later come to be labeled "good," and vice versa (Czarniawska-Joerges & Joerges, 1990:343). For instance, 'planning' and 'specialization' were once consider 'good' in IT departments. Now, there is a gradual shift in emphasis, wherein these labels are considered less good, and labels like 'emergence' and 'cross-functionality' is coming to be considered good.

Metaphors. A metaphor is "an operation by which 'aspects of one object are carried over or transferred to another object, so that the second object is spoken of as if it were the first'"(Czarniawska-Joerges & Joerges, 1990:344). Some metaphors are more

'rewarding,' aesthetically, than others. For instance, when we say that organizations are 'political systems' little is influenced in our way of thinking about organizations, whereas, for instance, when we describe organizations as 'garbage cans', new associations are created which have the capacity of bringing about a new thinking (Czarniawska-Joerges & Joerges, 1990:344).

One of the things that metaphors do is help spread new ideologies. As Nelson Goodman writes, "[m]etaphor is no decorative rhetorical device but a way we make our terms do multiple moonlighting service" ((Goodman, 1978)quoted on p. 345). Metaphors are "shortcuts in explication"—they often offer a familiar term that can explain what was previously uncertain or equivocal. The role of metaphors "involves reducing uncertainty produced by the confrontation with the new" (Czarniawska-Joerges & Joerges, 1990:345).

Metaphors also add an element of attraction to otherwise unattractive, mundane articles—they "fulfill a need for colors and life in organization which tend to be rather dull" (Czarniawska-Joerges & Joerges, 1990:345). Ultimately, "it is the expressive and not reflective power of metaphors which is most important, both in symbolic and in functional contexts" (Czarniawska-Joerges & Joerges, 1990:345).   For this reason, it could almost be said that "a metaphor 'is often most effective when it is most 'wrong'" (Czarniawska-Joerges & Joerges, 1990:345).

Platitudes. While metaphors have the effect of rendering the familiar strange, in order to engender, perhaps, a new way of thinking, platitudes do exactly the opposite: "they objectivize, make strange into familiar, doubtful into obvious" (Czarniawska-Joerges & Joerges, 1990:347). They help to familiarize that which is unfamiliar "by relating concrete things or happenings to commonsensical generalizations" (Czarniawska-Joerges & Joerges, 1990:347). In this sense, there is a strong similarity between platitudes and rituals, in that they effect intensified social cohesion and shared emotional understanding (Czarniawska-Joerges & Joerges, 1990:347).

Platitudes can reduce the interpersonal conflicts which can arise in situations of high uncertainty. They provide the safety valve that allow people to find common ground before embarking on the processes of differentiation that are at some point likely to be necessary for moving forward. Platitudes cushion the blows and shocks of change and innovation (Czarniawska-Joerges & Joerges, 1990:348).

3.3 Interpretive/Cultural

The symbolic/connotative dimension of organization focuses on how *individuals* understand and feel about their organizational situation, at any given moment. Its emphasis is at the individual level. By contrast, the interpretive/cultural dimension helps

us understand how the very social practices—by which individuals construct meaning—themselves orient communication, interaction, and relationship.

The Connotative Dimension of Communication

The focal point here is *communication*. Classically, communication has a dual constitution. On the one hand, its function is the conveyance of information from one point to another—the so-called *transmission theory* of communication. But language and communication have another role, as Taylor (Taylor & Van Every, 2000)notes, particularly in a social setting, and that is its *orienting* and *connotative* function—its role in allowing people "to construct interactively a basis of knowledge" (Taylor & Van Every, 2000:3). It is this aspect of communication that we are most interested in here.

Maturana & Varela (Maturana, 1980) talk about communication as the means by which living entities (cognitive systems) become structurally coupled to other systems in their environment, thus participating with other interlocked systems in linguistic behaviors that constitute particular 'consensual domains'. Accordingly, interaction among cognitive systems becomes a kind of dance in which each system learns how to maintain its homeostatic equilibrium in the environment of the other. Such a view of language emphasizes its *connotative* function—its role in the *orientation* of interaction. On this point, Maturana writes that

> "the basic function of language as a system of orienting behavior is not the transmission of information or the description of an independent universe about which we can talk, but the creation of a consensual domain of behavior between linguistically interacting systems through the development of a cooperative domain of interaction" (Maturana & Varela, 1980:50).

Recent theories of communication in the organizational setting seem to be saying something similar. Taylor & Van Every (Taylor & Van Every, 2000) invoke a connectionist view, observing that "cognition is not contained within the skull of the brain but is a continuous phenomenon linking what goes on in the mind and what occurs in the human conversation of people engaged in practical work" (Taylor & Van Every, 2000:4). Communication is the means by which cognition—and the organization in which it is embedded—emerges, but not by virtue of communication's carrying of a content from which cognition constructs itself. Rather, communication constitutes "a continuous process of adjustment in which each participant's speech provides the material for the interpretive skills of the hearer to fill in the gaps, to guess at the speaker's meanings and motives, to verify assumptions and to correct misapprehensions" (Taylor & Van Every, 2000:9). Such give-and-take in the communication process—and the socially and cognitively *orienting* process it engenders—is the very stuff of organizing, Taylor and Van Every seem to be saying.

In like fashion, Barrett, Thomas, & Hocevar (F. J. Barrett, Thomas, & Hocevar, 1995) write that "communication…is not just a conduit for transferring information from one person to another," but that "rather it is the very process by which organizing comes to acquire consensual meaning" (Barrett, Thomas & Hocevar, 1995:354). They give the example of an organization that was attempting to shift from a mechanistic organization to a more adaptive, responsive, quality-oriented one. One of the things that managers did was to shift the definition of *customer* to include co-workers and internal parts of the organization. As the authors note, "[t]his move—to take the network of meanings and patterns of activity usually associated with an external entity and to shift them to internal coworkers—is a *metaphorical* achievement" (Barrett, Thomas & Hocevar, 1995:354, emphasis added). That is, it is an achievement purely in language which nevertheless orients a different way of thinking and acting.

'Accounting' and 'Enactment'

Garfinkel (Heritage, 1984) focuses on the centrality of what he termed "accounting." As Taylor & Van Every observe, "[p]eople in interaction…are engaged in making what is occurring around them accountable to each other" (Taylor & Van Every, 2000:10). That accounting is not mere reflection upon an already existing organization, according to theorists like Taylor & Van Every and Deirdre Boden:

> organizational members spend an inordinate amount of their time making accounts of their activities and decisions, accounts that are, as [Boden] puts it, "not some flawed version of an otherwise objective 'reality,' or rationalizations of 'irrational' or unreasonable strategies and decisions that are being given a gloss of 'retrospective rationality'; *they are the organization in action*" ((Boden, 1994) quoted in Taylor & Van Every, 2000:15, emphasis added).

This notion is very similar to Weick's notion of *enactment*, which acknowledges that people produce their environments—through their actions, assessments, predispositions, etc.—and then relate to that environment as though it exists autonomously from those productions (Weick, 1979, 1995). Taylor and Van Every, however, take it one step further: whereas Weick says that it is the *environment* that is enacted, Taylor and Van Every claim "that the enactment of the environment is merely incidental to *the most fundamental enactment of all, that of the organization itself*" (Taylor & Van Every, 2000:245, emphasis added).

All of this points to the idea that communication is something that people *do*. For instance, the theory of the coordinated management of meaning (Pearce, 2004), asks the question "What are people doing when they communicate the way that they do?", seeing communication "as performative, as something with characteristics in itself rather than

just an expression of or reference to other things" (Pearce, 2004:39).

3.4 Postmodernist

Thus far, we have considered three epistemological views of organization in terms of the aesthetic perspectives investigated earlier in this paper. From a Positivist/Functionalist position, we regard organizations in objective and functional terms. The aesthetic perspective focuses primarily on the materials, forms, and structures by which organizational systems, artifacts, and practices might better support the aims and objectives of the organization. From a Symbolic/Cognitive position, we bring focus to symbolic and linguistic frames by which individuals might come to form internal 'images' of the organization, and of the processes and systems by which organization thinking and activities are to be framed. From an Interpretive/Cultural position, we begin to see that the language and speech acts we enter into help us frame who we are as groups and communities. This framing helps organizational members *enact* aspects of the organization. In this section of the paper, we examine ways in which *postmodern* frames may inform an aesthetic approach to organization.

Postmodern 'Axioms'

Chia (Chia, 2003) identifies four "axioms and imperatives" detectable in postmodern approaches. First, postmodern analysis seeks to emphasize the primacy of "process, indeterminacy, flux, interpenetration, formlessness, and incessant change" over the modernist emphasis on stability, order, regularity and identity (Chia, 2003:128). Second, postmodernism understands theories and descriptions of organization as forms of social construction, rather than as valid objectifications of an independently existing reality. Third, postmodernism attempts "to explore and sensitively articulate tacit and oftentimes unconscious forms of knowing", favoring these forms of knowing over the more dominant forms of rational and logical knowing. Finally, postmodernism looks for new linguistic forms and terms to express new ways of thinking about organization, noting that "ideas of reminiscence, resonance, recursion, and resemblance [are] more adequate expressions for describing the 'loosely coupled' and non-locally defined web of event-clusters constituting real-world happenings" (Chia, 2003:130).

The *Problematization* of Ongoing Organization

For the sake of the aim of this paper, I wish to focus on one piece of Chia's formulation, and that is postmodernism's search for new linguistic forms and ideas—that is, a semiologically and epistemologically *play-ful* relation to the forms and explanations by which we understand what we are doing. The 'play of signification', as Derrida would

put it, figures prominently in the perspective I wish to foreground here. This perspective calls us to "[extend] our powers of comprehension beyond the level of conscious perception" in order to "modify the conceptual asymmetry that surreptitiously privileges consciousness and intentionality over the unconscious scanning process" (Chia, 2003:129). Aesthetic engagement here takes on the form of semiotic play, of irrationality, of collage, of modernist art and cinema. It constitutes itself primarily in the *problematization* of experience (material, physics, presence) and knowledge (symbol, metaphor, society).

In proceeding, I would like to suggest that we understand the notion of an 'organizational intervention' far more broadly than we would normally. Here, I would like for us to understand an organizational intervention as equally applicable to the composition of a symphony or the making of a painting as much as it is applicable to the development of a company or of its staff. In this guise, we might understand organizational actors as "artists" whose task is to create interventions ("artworks") that in some way are able to shift the experience of another human being.

One of the dilemmas that artists confront is what Brun (Brun, 1986) refers to as the "decay of information." What Brun means here is the tendency for knowledge, and its practices, to fall into a state of what Heidegger called "circumspective involvement"—a state in which non-reflective habit dominates our knowing and our responses to events in our environment (Dreyfus, 1991: 66). This is a dilemma for artists because on the one hand to make art requires high levels of mastery over the techniques by which it is made; and yet, that very mastery has the tendency to engender expert and hence non-reflective engagement in those techniques. Artists are known to "get into the flow" and "fall into a groove." While important, and in fact critical, what is sometimes needed is an *interruption* of that flow in order to bring about the possibility of a different viewpoint, and a new perspective (Morris, 1970).

Artists of significance have through time found different ways to accomplish this *problematization* of their 'task environment.' Such practice has come to characterize the work of many 20th Century painters, writers and composers. For instance , American painter Jackson Pollock laid his canvases down on the floor and applied paint by flinging blushfuls of paint onto the canvas while standing over it. In so doing, Pollock brought to bear an entirely new set of principles for paint application, in which the types of brush and the viscosity of the mixed paint played a major role. This resulted in a signature style that all but defined modern American "action" painting in the late 1940s and 1950s. In a similar fashion, composer John Cage realized similar disturbances in his task environment through the use of chance procedures. As Pritchett (Pritchett, 1993) observes, Cage's use of charts in works of the early 1950s—as in his work *Music of Changes*—insured "combinations [of sonic elements] that Cage would never have considered himself" (Pritchett, 1993:79).

'Breakdowns' as Constitutive of Organizational Process

Winograd & Flores (Winograd & Flores, 1987) use the term *breakdown* (a term which they appropriate from Heidegger), defining it as a disturbance in the otherwise habitual involvement of some activity. According to Winograd & Flores, "breakdowns serve a cognitive function, revealing to us the nature of our practices and equipment, making them 'present-to-hand' to us, perhaps for the first time" (Winograd & Flores, 1987:77-78). For the carpenter who is circumspectively absorbed in hammering, the sudden bending of the nail, constitutes a *breakdown*—it brings to the foreground the nail, the board, the hammer and—ultimately—the carpenter himself. However, in the sense I intend it here, a breakdown is not the mere momentary 'disturbance' of circumspective absorption. Rather, it is a particular kind of disturbance in circumspective absorption that is also a kind of *revealing* (or *unconcealing* to use Heidegger's more precise term)—a revealing of some aspect of our experience, of the situation, or of ourselves which, when revealed, makes possible a new, potentially more effective way of thinking or acting. Such a revealing brings about a new possibility for *design*, as Winograd & Flores note, adding further that "[n]ew design can be created and implemented only in the space that emerges in the recurrent structure of breakdown" (Winograd & Flores, 1987:78).

Gherardi (Gherardi, 2000) makes a similar observation, noting that "reflexive understanding arises at moments of *breakdown*" (Gherardi, 2000:215, emphasis added). Action research (Reason & Bradbury, 2000) and action learning (Marquardt, 2004) constitute organization intervention methods that have the capacity to engender reflective engagement. In fact, as Gherardi notes, "[t]he tradition of action research has made much use of the method of the critical incident [i.e. the breakdown] to stimulate reflection on the conditions that govern normality" (Gherardi, 2000:215). But of course, without sufficient degrees of discrediting and doubt (Weick, 1979), such qualitative research methods will not generate the requisite level of reflection necessary for deep learning and transformative insight (Laske, personal communication). Double-loop learning and Model II theories-in-use (Argyris & Schon, 1996) are among the distinctions used in management literature to describe the requisite levels of reflective engagement discussed here. They are exemplars of what I mean by *problematization* as applied in an organizational management milieu.

4. Two Vignettes of Aesthetic Organization

In this part of the paper, I describe two short 'vignettes' which display many of the ideas discussed so far. In the first I describe an approach to project planning I facilitated with a software development team in a Fortune 500 financial services company. In the second, I describe the design process of Honda's *City Car* during the early 1980s.

4.1 Low-tech Software Project-Planning with Paper, Pens, and Index Cards

Software project-planning is often treated as an occasion for anaesthetized deliberation. It typically involves people seated around a table, while one person (the project manager) explains and assigns work tasks to team members, using Microsoft Project or a similar project management tool. Participants often follow along with a printout of the project plan, or sit in a darkened room looking at an overhead projector. For the engagement described here, I was asked by managers at EDM, a department within a Fortune 500 Financial Services company to help their team "become more agile." One my areas of focus was on the project-planning process.

I first observed the team's daily status meetings. I noticed that most team members talked exclusively to the technical lead with little interaction among each other. I also noticed that basic communication was off—people not being able to hear each other, lots of explanation of what appeared to be simple items, lack of clarity as to who was working on what, etc. I also noticed a high defect rate in the project report.

A couple of days into my engagement, I was invited to observe one of their project planning meetings—meetings which they attempt to have every 3 weeks, in order to plan work for the subsequent 3 weeks. During this meeting, the project leader described the work to be done, using an overhead projector, and assigning tasks to individual team members. There was little or no active participation from the team members, who mostly sat inert and fatigued in the darkened room.

The first intervention I had with the team was to facilitate a 'retrospective'—a meeting devoted to helping a team reflect on how they are working and declare things they might try in order to improve. My intention for this retrospective was to help them begin to ask some new questions and to begin to interact directly with each other (rather than through an intermediary, like the project manager or the team lead). Moreover, I did as little 'facilitation' as possible, asking team members to scribe and to ask each other questions.

On the basis of the findings of the team during this retrospective and on my own observations, I wrote up a few notes and shared them with the management and with the

project lead, and proposed that we try a few new things, to which they readily agreed. My assessment was that there was little team alignment and relationship and that part of this had to do, at least in part, with the structure of their meetings (I was moved by the work of Weisbord and Janoff, especially (Weisbord & Janoff, 2007)). I offered to lead the daily status meetings and the bi-weekly planning meetings for the next month and then assess the mood and performance of the team at the completion of that elapsed time. I also asked to shorten their iteration period (the period between planning meetings) from 3 weeks to 2 weeks.

In advance of the next planning meeting, I had several conversations with the project manager, technical lead, and the product manager during which I helped them to begin developing a less directive style of interaction with the team. I also asked the product manager to prioritize the current requirements and to bring them along to the planning meeting, but that we were going to have the team, with his help, develop the requirements for themselves.

During the next planning meeting, I asked the product manager to read and describe the first requirement and instructed team members to ask questions until they felt like they understood the intended functionality. I asked one of the team members to write a very brief 1-sentence summary of that requirement on a blue 3X5 index card and stick it up on the wall. I then asked the team to gather around that card on the wall with a deck of yellow index cards and to begin brainstorming all of the discrete tasks they would need to do to deliver the requirement, to write each of them down on one of the yellow cards, and to place each card directly next to the requirement (blue) card. We repeated this process for each requirement, until the team felt like they had enough work for the next two weeks. I asked the team how they felt about the work they defined and whether they could really commit to delivering that work in two weeks. After some discussion, the team decided that they could.

We moved these sets of cards into a room that would be allocated as the team's work-space. This is where the team would work each day, all sitting in the same room and hence in close proximity to each other. This dedicated collocation helped the team further in working together.

I helped the team devise a way to depict their work flow on the wall, using the cards they created during the planning meeting. We called this the team's 'task board.' Each workday, they had their status meeting in that room. The team members stood in front of the task board, and as each person reported their work status, they moved the appropriate 'task' card across the workflow columns (see the diagram below). During their daily status meetings, I continuously reminded them to talk to each other, rather than to the project manager and the team lead. I also had been coaching the team lead how to act more as a 'coach' and a 'teacher', and less like a 'manager' telling people what to do. Meanwhile, I asked the product manager to spend at least a couple of hours a day with

the team in their team room, in order to answer business- and functionality-related questions.
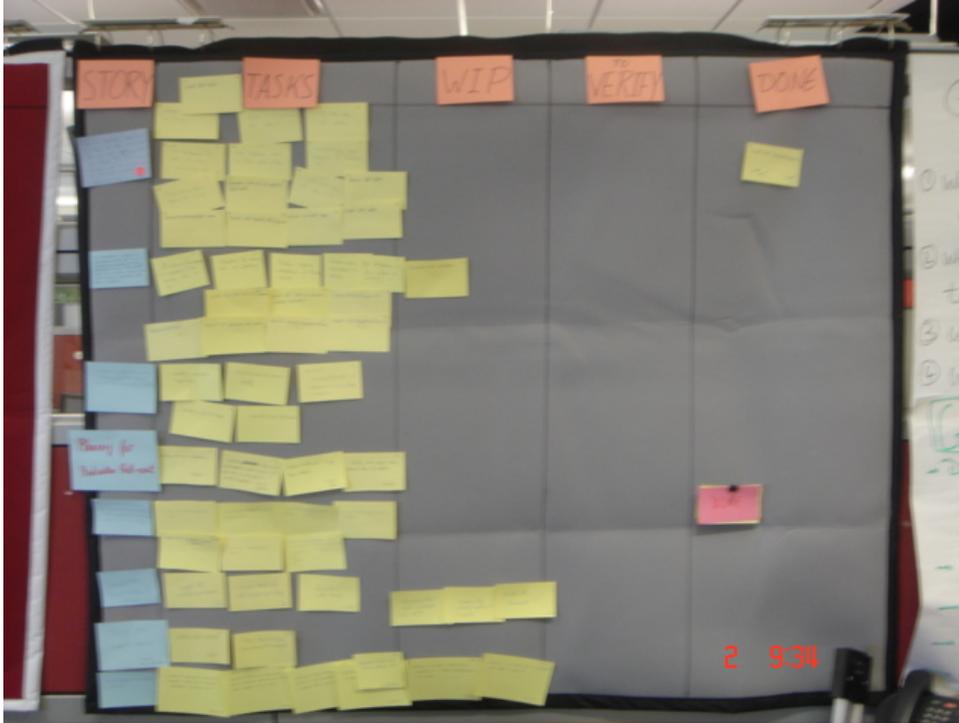
At the end of that first month, several results occurred:

1. The team was already delivering more work in each iteration, with lower defect rates;
2. Team members developed greater autonomy from the technical lead, allowing him to focus on other matters important to the larger organization;
3. Team members were increasing their understanding of the business rules which their work tasks related to;
4. Team members were working together and collaborating more closely, and they reported higher satisfaction in their day-to-day work life.

Reflection

I want to comment on aspects of this intervention, from the perspective of organizational aesthetics. First, by gently forcing team members to more deeply participate in their meetings—to the extent that they were really facilitating their own planning meetings with only a little coaching and guidance from me—they were allowed to practice a kind of improvisation that allows each to learn and understand the subtle rhythms of one another's speaking and thinking patterns (Frank J. Barrett, 1998). The particularity of

those interactions, and the patterns of interactions (often punctuated with laughter, gossip, and noisy chaos) allowed the team to begin to discover how to work together as a team.

Second, the use of low-tech tools for project planning—index cards, butcher paper, and large whiteboards—minimized the distancing effect which more 'efficient' software tools so often impose. Using minimal planning tools allowed the team to discover the degree of planning *formality* appropriate for them and for their view of the project. Having people write, with marker pens, on those cards, also had the effect of subtly preserving the smallest gestures by which project planning occurred. The particularity of each individual's handwriting, and the sketchy little diagrams that sometimes appeared on those cards, preserved subtle cues and memory aids to the conversations which happened during the planning meeting(s).

Finally, those cards became focal points in facilitating daily status meetings, allowing the team to relate directly with the project planning aids they themselves devised.

These practices emphasize the following notions, discussed above:

-   **Usability**: the cards and the planning process afforded high degrees of ease-of-use, in terms of affordances, constraints and feedback.
-   **Attractiveness**: the assembly of the cards on the team-room wall, each with different handwriting, and in differently coded colors created an attractive draw for the team; it was easy for them to *want* to interact with them, something which is rare for normal electronic project plans.
-   **Good Fit**: the cards, post-it notes, diagrams, and planning process itself evolved over time into becoming the right fit for how the team felt most natural in working. Much like the garage of the professional mechanic, the physical organization of the room was a perfect fit for how the team wanted to work.

In addition, the practices the team adopted helped them to cohere socially and culturally. The simple artifacts and practices they created for themselves obtained their organizing effectiveness not from the *denotative* qualities—though these were significant—but from their *connotative* ones. Those artifacts and practices helped *orient* a manner of interaction that assisted in the process of *self-organization* which allowed the team to discover its own natural rhythms and accents.

While other aspects of the two-month engagement—excised from the description given here—no doubt played a role in the effectiveness of the result, the little-noticed and easily overlooked aesthetics of the structure of their work environment and processes had a significant impact.

4.2 Metaphor, Allegory, and Lyric Poetry in the Design of Honda's *City Car*

One of the challenges faced by knowledge-based companies is how to inspire innovation and new thinking. Such challenges tax the traditional models of communication and knowledge-management. A traditional functionalist view of organizations sees the organization as situated in an environment from which it processes information in order to continuously adapt to new environmental situations (Donaldson, 2003). However organizations that innovate seem not to work this way. According to Nonaka & Takeuchi (Nonaka & Takeuchi, 2004),

> "When organizations innovate, they do not simply process information, from the outside in, in order to solve existing problems and adapt to a changing environment. They actually create new knowledge and information, from inside out, in order to redefine both problems and solutions and, in the process to re-create their environment" (Nonaka & Takeuchi , 2004:47).

How might this happen, and how might managers and leaders facilitate this? First, we want to differentiate 'knowledge' and 'information.' Nonaka & Takeuchi (2004) understand knowledge as including beliefs, actions and commitments. For them, knowledge is deeply human and contextual, not absolute or static—it is "a dynamic human process of justifying personal belief toward the 'truth'" (Nonaka & Takeuchi, 2004:49).

An important medium for the generation of new knowledge is dialog and communication (F. J. Barrett et al., 1995; Pearce, 2004).   Normally, we think of communication as that which 'conveys' a 'content'—that is we emphasize the *denotative* capacity of communication. However, as was discussed above, communication has a *connotative* as well, and that *connotative* sphere plays a much large role in fostering innovation and the creation of new knowledge. New thinking and knowledge are created in dialog and in muddling through together. It cannot possibly reference a known world for, as Weick points out, with any kind of new thinking, we can't possibly know what we know (or think) until we see what we do (or say) (Weick 1979).

Nonaka & Takeuchi (Nonaka & Takeuchi, 1995) cite Polanyi's distinction between *tacit* and *explicit* knowledge, and see knowledge-creation as constituted by a variety of different movements between and among tacit and explicit knowledge. The principle movement of concern in this section of the paper is the movement tacit-explicit (what Nonaka & Takeuchi call 'externalization'). Personal insight and deep knowledge are of little help to an organization, unless it can be converted into explicit knowledge and thus shared with others in ways that it can be applied by them (1995:11). This form of knowledge creation takes "the shapes of metaphors, analogies, concepts, hypotheses, or

models" (Nonaka & Takeuchi, 2004:57), language expressions that are most often inconsistent, vague, and incomplete. And yet, as Nonaka & Takeuchi emphasize, "[s]uch discrepancies and gaps between images and expressions, however, help promote 'reflection' and interaction between individuals" (Nonaka & Takeuchi, 2004:57). The use of metaphors, images, and analogies is "highly effective in fostering direct commitment to the creative process" (Nonaka & Takeuchi, 2004:58).

Consider the example, explored by Nonaka & Takeuchi (1995, 2004), of the Honda City car. At the time, Honda's top management kicked off development of the new concept with the slogan "Let's gamble" (Nonaka & Takeuchi, 1995:11). This slogan recognized that their Civic and Accord models were becoming passé. At the same time, the recognized that a new generation of young designers were emerging, with new and "unconventional ideas about what made a good car" (Nonaka & Takeuchi, 1995:11). To best capitalize on this dual situation, senior management devised a simple, though metaphorically rich slogan to guide a new team of product designers. Their slogan was "Let's gamble."

The newly assembled team was charged with the following, albeit, rather vague mission: "first, to come up with a product concept fundamentally different from anything the company had ever done before; and second, to make a car that was inexpensive but not cheap" (Nonaka & Takeuchi, 1995:11). This rather vague mission in fact provided a very clear direction, but the language, rather than being directive, was metaphoric.

The product development team came up with the metaphor "automobile evolution" to motivate a new way of thinking about automobile design. Specifically, the metaphor helped the team to ask the question, "What will the automobile eventually evolve into" (Nonaka & Takeuchi, 2004:58). Here is an example of some of the comments Hiroo Watanabe, the team's lead, used to describe what they did:

> "I insisted on allocating the minimal space for mechanics and the maximum space for passengers. This seemed to be the ideal car, into which the automobile should evolve…. The first step toward this goal was to challenge the 'reasoning of Detroit,' which had sacrificed comfort for appearance. Our choice was a short but tall car…spherical, therefore lighter, less expensive, more comfortable, and solid" (Nonaka & Takeuchi, 2004:58).

The images and concepts are paradoxical and inconsistent—how, for instance, can a car be both short *and* tall? Yet this image became the prevailing metaphor—"Tall Boy"—for the product development process. Meanwhile, the concept of the sphere evoked economy of space, while the notion of "man-maximum, machine-minimum" emphasized human comfort and ease.

Reflection

Through metaphor, analogy and vague imagery, managers were able to elicit tacit knowledge and render it explicit. As Piccardo et al. (Piccardo et al., 1990) note, "[m]any studies of the symbolism of organizations have stressed the fundamental role that leadership plays in channeling cultural meaning and establishing a context in which members of the organization can elaborate shared interpretations of such meanings" (Piccardo et al., 1990:255).   Organizationally significant words or phrases take on metaphoric qualities that not only orient how people think, but how they *feel*, about the organizational situations in which they find themselves (Piccardo et al., 1990:266). An important aspect of the rhetorical strategy of such a languaging is the fact that "it 'reawakens' words that are sleeping, restoring their original physical referents" (Piccardo et al., 1990:266).

In addition to the symbolic and interpretive frames this example evinces, the production of metaphors such as "short and tall" *problematized* the processes by which people came to habitually think about cars and the car business. Those, at times *paradoxical*, metaphors and allegories threw an epistemological monkey wrench into the works, so to speak. This is not fundamentally different than Pollock's placement of the canvas on the floor, or Cage's use of graphs, to stimulate an entirely new relation to the materials and processes of painting and music. In all cases, that which was familiar is rendered *unfamiliar* in order to engender new ways of thinking and acting within a particular action space.

Schon (Schon, 1983) uses the term 'reflection' to refer to similar phenomenon in various professional design contexts. Schon notes that " a high degree of specialization can lead to parochial narrowness of vision" (Schon, 1983:60). Moreover, "as a practice becomes more repetitive and routine, and as knowing-in-practice becomes increasingly tacit and spontaneous, the practitioner may miss important opportunities to think about what he is doing" (Schon, 1983:61). According to Schoen, "[a] practitioner's reflection can serve as a corrective to overlearning."

> "Through reflection, he can surface and criticize the tacit understandings that have grown up around the repetitive experiences of a specialized practice, and can make new sense of the situations of uncertainty or uniqueness which he may allow himself to experience" (Schon, 1983:61).

5. Conclusion

The aesthetic focus that this paper advances is less interested in postulating a new notion of organization than it is in *unconcealing* aspects of current organization that seem to be infrequently acknowledged in the literature. Moreover, I have been less concerned with getting to the deep social and psycho-social undercurrents of organization, preferring instead to bring slightly greater illumination to its *surfaces* (c.f. Stroll, *Surfaces*). At every moment we are confronted by the aesthetic—by touch, by smell, by sound, by sight, and by trans-cognitive feelings for form, imagery, and dramaturgy. This paper attempts to bring a small set of theoretical constructs to bear in order to help us understand how we might distinguish this aesthetic dimension of everyday experience.

Future directions for research might include: greater theoretical elaboration of the interrelation between aesthetic experience and organizational involvement; the launching of qualitative studies to investigate various principles advanced; a full review of the literature concerned with aesthetics and organization; bringing together what appear to be disparate and disjointed studies on aesthetics and organization into some coherent inter-relation.

References

Alexander, C. (2002). *The Nature of Order, Book One: The Phenomenon of Life*. Berkeley, CA: The Center for Envrionental Structure.

Anderson, P. B. (1997). *A Theory of Computer Semiotics*. Cambridge: Cambridge University Press.

Argyris, C., & Schon, D. A. (1996). *Organizational Learning II: Theory, Method, and Practice*. Reading, MA: Addison-Wesley Publishing Company.

Arnheim, R. (1969). *Visual Thinking*. London: Faber and Faber Limited.

Axelrod, R., & Cohen, M. D. (2000). *Harnessing Complexity: Organizational Implications of a Scientific Frontier*. New York: Basic Books.

Baker, N. (1996). *The Size of Thoughts*. London: Chatto.

Barrett, F. J. (1998). Creativity and improvisation in jazz and organizations: Implications for organizational learning. *Organization Science, 9*(5), 605.

Barrett, F. J. (2007). Cultivating transformative collaboration: Actionable knowledge as aesthetic acheivement. In S. K. Piderit, R. E. Fry & L. Cooperider (Eds.), *Handbook of Transformative Cooperation: New Designs and Dynamics* (pp. 388-416). Stanford, CA: Stanford University Press.

Barrett, F. J., Thomas, G. F., & Hocevar, S. P. (1995). The central role of discourse in large-scale change: A social-construction perspective. *The Journal of Applied Behavioral Science, 31*(3), 352-372.

Beck, K. (2003). *Test-Driven Development: By Example*. Boston, MA: Addison-Wesley.

Boden, D. (1994). *The Business of Talk: Organizations in Action*. Cambridge: Polity Press.

Brun, H. (1986). *My Words and Where I Want Them*. Champaign, IL: Princelet Editions.

Bruner, J. (1986). *Actual Minds, Possible Worlds*. Cambridge, MA: Harvard University Press.

Cameron, K. S., & Quinn, R. E. (1999). *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework*. Reading, MA: Addison-Wesley.

Chia, R. (2003). Organization theory as postmodern science. In H. Tsoukas & C. Knudsen (Eds.), *The Oxford Handbook of Organization Theory*. Oxford, UK: Oxford University Press.

Cogan, R. (1984). *New Images of Musical Sound*. Cambridge, MA: Harvard University Press.

Coplien, J. O. (1998). Space: The Final Frontier [Electronic Version]. *C++ Report*, *10*, 11-17. Retrieved July 27, 2007 from http://www.bell-labs.com/user/cope/Patterns/C++Report/SpaceFinalFrontier-1.html.

Czarniawska-Joerges, B., & Joerges, B. (1990). Linguistic Artifacts at Service of Organizational Control. In P. Gagliardi (Ed.), *Symbols and Artifacts: Views of the Corporate Landscape* (pp. 339-364). New York: Aldine de Gruyter.

Dewey, J. (1934). *Art as Experience*. New York: Pedigree Books.

Donaldson, L. (2003). Organization theory as positive science. In H. Tsoukas & C. Knudsen (Eds.), *The Oxford Handbook of Organization Theory* (pp. 39-62). Oxford, UK: Oxford University Press.

Dreyfus, H. L. (1991). *Being-in-the-World: A Commentary on Heidegger's Being and Time, Division I*. Cambridge, MA: The MIT Press.

Dufrenne, M. (1973). *The Phenomenology of Aesthetic Experience* (E. S. Casey, A. A. Anderson, W. Domingo & L. Jacobson, Trans.). Evanston, IL: Northwestern University Press.

Gamma, E., Helm, R., Johnson, R., & Vlissides, J. (1995). *Design Patterns: Elements of Reusable Object-Oriented Software*. Reading, MA: Addison-Wesley.

Gherardi, S. (2000). Practice-based theorizing on learning and knowing in organizations. *Organization, 7*(2), 211-223.

Goodman, N. (1978). *Ways of Worldmaking*. Hassocks, Sussex: The Harvester Press.

Guillen, M. F. (1997). Scientific management's lost aesthetic: Architecture, organization, and the taylorized beauty of the mechanical. *Administrative Science Quarterly, 42*(4), 682-714.

Gumbrecht, H. U. (2004). *Production of Presence: What Meaning Cannot Convey*. Stanford, CA: Stanford University Press.

Haeckel, S. H. (1999). *Adaptive Enterprise: Creating and Leading Sense-and-Resond Organizations*. Boston, MA: Harvard Business School Press.

Hatch, M. J. (1997). *Organization Theory: Modern, Symbolic, and Postmodern Perspectives*. Oxford: Oxford University Press.

Hawkes, T. (1977). *Structuralism and Semiotics*. Berkeley, CA: University of California Press.

Hendel, C. W. (1955). Introduction. In E. Cassirer (Ed.), *The Philosophy of Symbolic Forms* (pp. 1-65). New Haven, CT: Yale University Press.

Heritage, J. (1984). *Garfinkel and Ethnomethodology*. Cambridge, MA: Polity Press.

Highsmith, J. (2004). *Agile Project Management: Creating Innovative Products*. Boston: Addison-Wesley.

Horkheimer, M., & Adorno, T. W. (2000). *Dialectic of Enlightenment* (J. Cumming, Trans.). New York: Continuum.

Langer, S. K. (1953). *Feeling and Form: A Theory of Art*. New York: Charles Scribner's Sons.

Lorand, R. (2000). *Aesthetic Order: A Philosophy of Order, Beauty and Art*. London: Routledge.

Marquardt, M. J. (2004). *Optimizing the Power of Action Learning: Solving Problems and Building Leaders in Real Time*. Mountain View, CA: Davies-Black Publishing.

Martin, R. C., Riehle, D., & Buschmann, F. (Eds.). (1998). *Pattern Languages of Program Design*. Reading, MA: Addison-Wesley.

Maturana, H. R. (1980). Biology of Cognition. In H. R. Maturana & F. J. Varela (Eds.), *Autopoiesis and Cognition: The Realization of the Living*. Dordecht: Reidel.

Mithen, S. (2006). *The Singing Neanderthals: The Origins of Music, Language, Mind and Body*. Cambridge, MA: Harvard University Press.

Morris, R. (1970). Some notes on the phenomenology of making: The Search for the motivated. *Artforum, 8*, 62-66.

Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.

Nonaka, I., & Takeuchi, H. (2004). Theory of Organizational Knowledge Creation. In H. Takeuchi & I. Nonaka (Eds.), *Hitotsubashi on Knowledge Management* (pp. 47-90). Singapore: John Wiley & Sons (Asia) Pte Ltd.

Norman, D. A. (1988). *The Design of Everyday Things*. New York: Basic Books.

Pearce, W. B. (2004). The coordinated management of meaning. In W. Gudykunst (Ed.), *Theorizing About Intercultural Communication*. Thousand Oaks: Sage Publications.

Peters, T. (2005). *Tom Peters Essentials: Design*. London: DK Publishers.

Piccardo, C., Varchetta, G., & Zanarini, G. (1990). Car makers and marathon runners: In pursuit of culture through the language of leadership. In P. Gagliardi (Ed.), *Symbols and Artifacts: Views of the Corporate Landscape* (pp. 255-270). New York: Aldine de Gruyter.

Pritchett, J. (1993). *The Music of John Cage*. Cambridge: Cambridge University Press.

Raspa, R. (1990). The C.E.O. as corporate myth-maker: Negotiating the boundaries of work and play at Domino's Pizza company. In P. Gagliardi (Ed.), *Symbols and Artifacts: Views of the Corporate Landscape* (pp. 275-279). New York: Aldine de Gruyter.

Reason, P., & Bradbury, H. (Eds.). (2000). *Handbook of Action Research*. London: Sage Press.

Rosenberg, A. (2008). *Philosophy of Social Science* (3rd Edition ed.). Philadelphia, PA: Westview Press.

Rothenberg, J. (1983). Pre-Face to Technicians of the Sacred. In J. Rothenberg & D. Rothenberg (Eds.), *Symposium of the Whole: A Range of Discourse Toward an Ethnopoetics*. Berkeley, CA: University of California Press.

Schein, E. H. (1999). *The Corporate Culture Survival Guide*. San Francisco: Jossey-Bass.

Schon, D. A. (1983). *The Reflective Practitioner*. New York: Basic Books.

Silverman, D. (2000). Routine pleasures: the aesthetics of the mundane. In S. A. Linstead & H. J. Hopfl (Eds.), *The Aesthetics of Organization* (pp. 130-153). Thousand Oaks: Sage Publications.

Speiser, A. (1960). Symmetry in Science and Art. In G. Kepes (Ed.), *The Visual Arts Today* (pp. 195-202). Middletown, CT: Wesleyan University Press.

Stafford, B. M. (2007). *Echo Objects: The Cognitive Work of Images*. Chicago, IL: The University of Chicago Press.

Strati, A. (1999). Organization and aesthetics. *Thousand Oaks, CA, Sage Publications Ltd, 216*.

Strati, A. (2000). The aesthetic approach in organization studies. In S. A. Linstead & H. J. Hopfl (Eds.), *The Aesthetics of Organization* (pp. 13-34). Thousand Oaks: Sage Publications.

Subotnik, R. R. (1991). *Developing Variation: Style and Ideology in Western Music*. Minneapolis, MN: University of Minnesota Press.

Taylor, J., & Van Every, E. J. (2000). *The Emergent Organization: Communication as Its Site and Surface*. Mahwah, N.J.: Lawrence Erlbaum Associates, Publishers.

Tractinsky, N. (1997). Aesthetics and apparent usability: Empirically assessing cultural and methdological issues [Electronic Version]. *Chi 97 Electronic publications: Papers*. Retrieved March 7, 2008 from http://www.acm.org/sigchi/chi97/proceedings/paper/nt.htm.

Weggeman, M., Lammers, I., & Akkermans, H. (2007). Aesthetics from a design perspective. *Journal of Change Management, 20*(3), 346-358.

Weick, K. E. (1979). *The Social Psychology or Organizing* (2nd ed.). New York: McGraw-Hill.

Weick, K. E. (1985). Sources of Order in Underorganized Systems: Themes in Recent Organization Theory. In Y. S. Lincoln (Ed.), *Organizational Theory and Inquiry* (pp. 106-136). Beverly Hills, CA: Sage.

Weick, K. E. (1995). *Sensemaking in Organizations*. Thousand Oaks, CA: Sage Publications, Inc.

Weisbord, M., & Janoff, S. (2007). *Don't Just Do Something, Stand There! Ten Principles for Leading Meetings That Matter*. San Francisco: Berrett-Koehler Publishers, Inc.

Weiss, P. (1960). Organic Form: Scientific and Aesthetic Aspects. In G. Kepes (Ed.), *The Visual Arts Today* (pp. 181-194). Middletown, CT: Wesleyan University Press.

Wilber, K. (2000). *A Brief History of Everything* (2nd ed.). Boston: Shambala Publications.

Willmott, H. (2003). Organization theory as a critical science? Forms of analysis and 'new organizational forms'. In H. Tsoukas & C. Knudsen (Eds.), *The Oxford Handbook of Organization Theory*. Oxford, UK: Oxford University Press.

Winograd, T., & Flores, F. (1987). *Understanding Computers and Cognition: A New Foundation for Design*. Reading, MA: Addison-Wesley Publishing Company.