ORGANIZING AND FAILURES OF IMAGINATION

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Page 344 of the 9/11 Commission Report contains this striking assertion: "Imagination is not a gift usually associated with bureaucracies....It is therefore crucial to find a way of routinizing, even bureaucratizing the exercise of imagination. Doing so requires more than finding an expert who can imagine that aircraft could be used as weapons" (344).

The background for that assertion includes examples like this. The attack on the Twin Towers in New York City in 2001 involved a novel mode of destruction that had people scrambling for ways to label it. "Suicide hijacking" and "aircraft as explosives" were two of the labels that stuck. The idea of a suicide hijacking was imaginable and had been imagined before 9/11 by the Federal Aviation Administration. It was on a short list of plausible terrorist scenarios, but it was judged unlikely because it did not offer an opportunity for terrorists to have a dialogue in order to gain the release of captive extremists being held in the U.S. Unimagined was the possibility that terrorists might not be interested in dialogue at all, but only in destruction (Ibid., 345). Furthermore, analysts imagined that any use of aircraft as weapons would originate overseas and that the threatening aircraft would be intercepted en route. The idea of a suicide hijacking had also been imagined by Richard Clarke who developed a scenario in which a Learjet was commandeered in Atlanta, Georgia, loaded with explosives, and flown into the capitol building. Clarke circulated this scenario to federal agencies and asked them what they could do about this. Their answer was that they could scramble aircraft to intercept the Learjet, but they'd have to get rules of engagement from the president before they could do anything, and there was no mechanism to do so (345). In the context of imagination, it is interesting that Clarke got many of his ideas about domestic vulnerability to terror attack from reading Tom Clancy novels and not from government intelligence sources. It is also interesting that Clarke's imagined scenario was constrained. He imagined "aircraft *with* explosives," not "aircraft *as* explosives."

The failures of imagination uncovered by the 9/11 Commission resemble those uncovered by the Columbia Accident Investigation Board (CAIB) that studied NASA's second shuttle disaster. When the space shuttle Columbia was launched on January 16, 2003, blurred photographs taken 81.7 seconds into the flight showed that

debris of some sort had struck the left wing with unknown damage. Three different groups in NASA requested additional photographic images from non-NASA sources to get a clearer picture of the damage, but all were denied by the Mission Management Team on Day 7 of the 17 day flight (Wednesday, January 22). Had better images been available, and had they shown the size and location of damage from bipod foam striking the wing, engineers might have been able to improvise a pattern of re-entry or a repair that would have increased the probability of a survivable landing.

NASA's failure of imagination was due partly to an abstract category that shaped their inferences. People in NASA distinguished between problems that were "in-family" and those that were "out-of-family" (CAIB 2003,146). An in-family event is "a reportable problem that was previously experienced, analyzed, and understood" (Ibid., 122). The lapse in the Columbia accident was that top management treated the debris strike as "*almost* in family" (Ibid., 146). The strike was treated as close enough so that it could be treated as essentially in-family. Once this interpretation was adopted at the top, it was easier to treat the insistent requests by engineers for further images as reflecting their professional desires to learn more rather than any imperative for mission success.

There are two key phrases in the definition of an in-family event: "reportable problems" and "problems previously experienced." For something even to qualify as "reportable," people need to have words already in hand to do the reporting. And those same words can limit what is first seen and then reported. Whatever labels a group has available will color what they perceive, which means there is a tendency to overestimate the number of in-family events that people feel they face. People don't first recognize something and then label it as an in-family event. Instead, they have categories of in-family events which punctuate a stream of experience into familiar events and a residual. The world is thereby rendered more stable and certain, but that rendering overlooks unnamed experience that could be symptomatic of larger trouble. The problem here is a failure of imagination, a failure that is common in organizational life.

I want to take a closer look at organized failures of imagination. I will argue that imagination fails in part because organizing favors a related capability, "fancy," and fancy gets mistaken for imagination. This mistake equates imagination with reshuffling remembered experience, and ignores imagination as the joint capability to create new entities which serve as associables and new principles of associating that go beyond mere linear sequencing. To restore imagination as a gift of bureaucracy is to organize in ways that forestall "fancy."

The argument will be organized as follows. First, I review the distinction between imagination and fancy, relying heavily on the use of these terms in nineteenth century literary circles (e.g., Engell 1981). Second, I review general properties of organizing that take on special significance in the context of episodes where imagination fails. Third, I examine three specific organizational mechanisms that undermine imagination. It is suggested that organizing favors schema-based perceptions, deduction rather than abduction, and mindless rather than mindful attention, all of which encourage fancy and discourage imagination. Discussions of these three mechanisms are interspersed with suggestions of ways to reverse this undermining.

THE PROPERTIES OF IMAGINATION AND FANCY

It is tough to address the issue of failed imagination in bureaucracies because the concept of imagination tends to get muddied when it is subsumed under prevailing organizational assumptions that are weighted heavily in favor of rationality. As Engell puts it, "If imagination apprehends more than cool reason comprehends, then ... reason cannot directly comprehend the imagination; or if it can, according to that principle of subsumption by which every higher power includes the lower ones, then reason cannot express its comprehension of the imaginative power. ...If imagination is a never-ending coalescence of opposites, then words of the understanding only reveal this process by cutting it open ... (T)he very act of observation inextricably alters the nature of what is observed" (Engell 1981, 346–347).

This warning cautions us to be mindful lest we rub the edges off the idea of imagination in our efforts to connect it with organizing. I have tried to heed that warning by grounding my discussion in perspectives drawn from the humanities. Undoubtedly, it is the very elusiveness of the activity of imagining that makes it hard to spot, hard to support, and hard to routinize in bureaucracies. I will argue that fancy, a form of imagination, is less elusive and more common in bureaucracies and that one way to reduce failures of imagination is to rework fancy so that it is less wedded to memory and sequential association.

Imagination can be understood as an "ability to conceive of something, seen only fragmentarily or superficially, as a complete, perfected, and integral whole" (Merriam-Webster's Dictionary of Synonyms 1984, 415). Fancy, by contrast, refers to "the power of inventing the novel and unreal by recombining the elements found in reality." (Ibid., 415). Imagination is a shaping or modifying power while fancy is an aggregative and associative power (Ibid., 415). Descriptions of imagination tend to converge on at least three properties: (1) imagination represents things that are absent; (2) imagination unifies the empirical and the ideal; and (3) imagination fills out and extends incomplete experience.

It is easy to lose sight of the fact that imagination is empirically anchored. "Imagination is the power to present in concrete, particular forms and expressions what before had been only general and abstract knowledge, hazy feeling, or impression" (Engell 1981, 101). These close ties between imagination and perception are especially crucial in intelligence work. "Imagination can produce sharper, more fortified effects than sense impressions ... Our appetites and desires formed by the imagination, are strong enough to drive us to extreme actions in order to attain a specific object or experience" (Engell 1981, 514). That description is fascinating for its hall-of-mirrors quality: imaginative terrorists imagine improbable next moves that an imaginative intelligence community tries to detect through imaginative work. There is not much room for error in this scenario but neither is there much guidance as to how to avoid error.

The contrasts between imagination and fancy were elaborated by Coleridge (1817) who distinguished between fancy and two forms of imagination, primary and secondary. "Primary imagination" is described as "the prime agent of all human perception" and embodies the act of creation. "Secondary imagination"—and here

Coleridge is using the word secondary as in an advanced secondary school—refers to higher order imagination. Secondary imagination is similar to primary in being a prime agent of perception, but it differs in mode of operation. "It dissolves, diffuses, dissipates, in order to recreate; or where this process is rendered impossible, yet still at all event, it struggles to idealize and to unify. It is essentially *vital*, even as all objects (*as* objects) are essentially fixed and dead." Fancy is different because, it "has no other counters to play with but fixities and definites. The Fancy is indeed no other than a mode of Memory emancipated from the order of time and space; and blended with, and modified by the empirical phenomenon of the will, which we express by the word CHOICE. But equally with the ordinary memory it must receive all its materials ready made from the law of association."

To elaborate on these distinctions, primary imagination occurs when "we order and collect immediate sense impressions into objects and ideas that we understand, which have meaning beyond mere physical stimuli. We form in our minds a picture of reality that is capable of repeating complex relationships actually existing in the world" (Engell 1981, 120). Primary imagination orders and unifies what we sense and perceive and connects "separate experiences into units large and comprehensive enough to be intelligent and meaningful" (Ibid., 13).

Secondary imagination is distinctive because it frees primary imagination from its association with vision and images. If primary imagination is about the formation of meaningful images that are associable, then secondary imagination is about an associating principle that reorders, fuses, and moves these associables around, which enables them "to form around and encrust any new object or experience with which they have an affinity.... From an internal fund, ideas and feelings rush to surround any object that presents itself to the mind" (Ibid., 201). "Surround" is a key word in this description because it signifies that the associating principles involve more than simply assembling discrete episodes, steps, and objects. Secondary imagination gathers experiences and images into "more comprehensive schemata" (Ibid., 14). The products of secondary imagination are like original paintings whose images have no visible joints or seams and no suggestion that they were assembled from multiple constituent parts. Such seams are, however, visible in the products of fancy.

Fancy can be likened to the action of a curator of a gallery of paintings. Curators do not create the works, instead, they place, group, and re-order existing representations (Ibid., 121). Pegasus is a good example of fancy. Pegasus is a combination of two ideas, wings plus horse. In this static compounding of ideas, neither idea changes nor interacts with the other. They are simply stuck together (Ibid., 120). The result is new because it doesn't exist in nature. But it is basically little more than a recombination of elements found in reality. When people engage in fancy they produce simple associations of adjacency rather than the compound associations of simultaneity; they link one point to another rather than form clusters of multiple links around one point; and, their ideas grow incrementally rather than exponentially. Recall Richard Clarke's speculation, mentioned in the introduction, that aircraft might be used as containers for explosives. Aircraft as containers are common in everyday experience, aircraft as explosives are much less common. One speculation is fanciful, the other imaginative.

The nature of imagining is perhaps best summarized by Theseus in Shakespeare's "A Midsummer's Night Dream." Theseus describes 3 types of people who personify compact imagination: the lunatic, the lover, and the poet. It is the poet who is of greatest interest:

> The poet's eye, in a fine frenzy rolling,
> Doth glance from heaven to earth, from earth to heaven;
> And as imagination bodies forth
> The forms of the things unknown, the poet's pen
> Turns them to shapes and gives to airy nothing
> A local habitation and a name.
> —Theseus from A Midsummer Night's Dream

Imagination gives form to unknown things. And words turn those forms into shapes that have a local habitation and a name. Interestingly, what Shakespeare describes as the workings of a poet are similar to the workings of people in general when they engage in sensemaking. This resemblance is evident in Magala's statement that sensemaking means basically "inventing a new meaning (interpretation) for something that has already occurred during the organizing process, *but does not yet have a name* (italics in original), [and] has never been recognized as a separate autonomous process, object, event" (Magala 1997, 324).

THE EFFECTS OF ORGANIZING ON COGNITION

One way to connect theories of organization with failures of imagination is to start with the assumption that "the cognitive properties of human groups may depend on the social organization of individual cognitive capabilities" (Hutchins 1995, 176). Collective mind, for example, can be conceptualized as a kind of capacity in an ongoing activity stream that is emergent and takes different forms depending on the ways in which activities are interrelated (Weick and Roberts 1993). Applied to organizations and sets of organizations it is assumed that "groups composed of individuals with distributed ... partial ... images of a complex environment can, through interaction, synthetically construct a representation of it that works; one which, in its interactive complexity, outstrips the capacity of any single individual in the network to represent and discriminate events .... Out of the interconnections, there emerges a representation of the world that none of those involved individually possessed or could possess" (Taylor and Van Every 2000, 207). Those representations that no individual could possess are the potential outcroppings of secondary imagination. But the ways people are organized determine whether fancy or imagination will dominate these representations.

Bureaucracies engaged in intelligence work need to sense and respond to the unexpected and the counter-expected (Shackle 1979, 88), both of which require imagination. But bureaucracies tend to be dominated by fixed categories, definite objects, rigid assembly rules, and routines that embody memory, all of which mean that

bureaucracies are predisposed to fancy rather than imagination. They see what they have seen before and they link these memories in a sequential train of associations. In a potentially dangerous reversal, people in bureaucracies may essentially imagine the past and remember the future. The mechanism for this has been suggested by Namier: "One would [normally] expect people to remember the past and to imagine the future. But in fact, when discoursing or writing about history, they imagine it in terms of their own experience, and when trying to gauge the future they cite supposed analogies from the past; till, by a double process of repetition, they imagine the past and remember the future" (Sills and Merton 1991, 171).

This is pure fancy complete with associating and fixities. And fancy is a continuing threat in the intelligence community.[1] "Beneath the acknowledgement that Bin Laden and al Qaeda presented serious dangers, there was uncertainty among senior officials about whether this was just a new and especially venomous version of the ordinary terrorist threat America had lived with for decades, or was radically new, posing a threat beyond any yet experienced. Such differences affect calculations about whether or how to go to war." (National Commission on Terrorist Attacks Upon the United States 2004, 343). Is the al Qaeda network a nuisance or the point of a novel spear? To pose these questions based solely on memories and ready-to-hand associations is essentially to continue the Cold War. Intelligence experts said, "We'll solve al Qaeda problems with the same interests and capabilities used in last stages of the Cold War"[2] (Ibid., 351). But that Cold War knowledge won't work if the threats are "on a scale approaching acts of war, . . . committed by a loose, far-flung, nebulous conspiracy with no territories or citizens or assets that could be readily threatened, overwhelmed, or destroyed" (Ibid.:348). Questions and uncertainties such as these reach beyond memories and associations.

How these questions will be answered is affected by the organized settings in which they are debated. As Lynn Eden notes, "Nature is read from inside institutions" (Eden 2004, 288). The influence of organizing on imagination can be traced using Taylor and Van Every's description of distributed information processing mentioned earlier (2000). They highlight interaction, synthesis, and connectivity as key variables that determine whether groups will construct representations that are more interactively complex than their remembered inputs.

One way to conceptualize the forms of interaction and their effects on imagination is to adopt James Thompson's (1967) typology of three basic forms of task-based interdependence. Each of the three forms should have a different effect on the relative dominance of fancy or imagination. *Pooled interdependence*, coordinated by standardization, could induce automatic cognition and fancy; *sequential interdependence* that is coordinated by plan could induce rule-based cognition built around recipes and mix fancy together with some primary imagination; and, *reciprocal interdependence* that is coordinated by mutual adjustment could induce controlled cognition which would mix together fancy, primary imagination, and secondary imagination.

If analysts are told to imagine novel scenarios for a surprise attack they are more likely to be successful if they use controlled cognition that is not limited by memory, definites, and sequential trains of association. But if they are organized in ways that

discourage controlled cognition (i.e., they are organized by pooled or sequential interdependence), then they are more likely to use heuristic or automatic cognition that is driven by memory and association, and mistakenly to call an unexpected emerging threat an expected, in-family problem. Furthermore, if we invoke the idea that small sub-units have dense interaction within the unit among their members and less with other sub-units, then individual sub-units should exhibit mutual adjustment and reasonable levels of imagination. But hierarchical organization of sub-units should result in a greater number of sequential, rule-based interactions that produce more fancy and less imagination. And when agencies of hierarchically arranged sub-units engage in interagency relations, those relations should be even more formal and interactions should take the form of pooled interdependence with standardized, automatic cognition. Pooled interagency interdependence should produce an even lower incidence of imagination. To infuse more imagination into interagency deliberations, people need to design more reciprocal and sequential interdependence into those relations. Those sets of agencies best able to deploy multiple forms of interdependence simultaneously, should be the sets that are most capable of detecting surprise attacks.

THE EFFECTS OF ORGANIZING ON IMAGINATION

Organizing can restrict imagination in at least three ways: through restrictions on perception, conjecture, and mindfulness. We label these three constraints, the shareability constraint, the inference constraint, and the mindfulness constraint. The joint effect of these constraints is to direct collective attention toward definites, sequential associations, and remembered labels and away from associables, clusters of associations, and fresh labels. The mechanisms that produce these constraints, their effects on imagination, and their redesign are discussed below.

Organizing and the Shareability Constraint

Organizing restricts perception because requirements for coordination necessitate generalizing. Generalizing can suppress both recognition of anomalous details and imaginative development of their meaning. The close connection between organizing, generalizing, and coordinating is described by Tsoukas (2005, 124): "A distinguishing feature of organization is the generation of recurring behaviours by means of institutionalized roles that are explicitly defined. For an activity to be said to be organized implies that *types* of behaviour in *types* of situations are connected to *types* of actors.... An organized activity provides actors with a given set of cognitive categories and a typology of action options.... On this view, therefore, organizing implies *generalizing*; the subsumption of heterogeneous particulars under generic categories. In that sense, formal organization necessarily involves abstraction."

One way in which generalizing works against imagination is suggested by Baron and Misovich (1999). They argue that making sense of discrepant cues starts with knowledge by acquaintance that is acquired through active exploration. Active

exploration involves bottom-up, stimulus-driven, online cognitive processing in order to take action. But in order to take collective action people start attaching names and concepts to the things they see. This is a major shift because now they develop knowledge-by-description rather than knowledge-by-acquaintance; their cognitive processing becomes schema-driven rather than stimulus-driven; and they go beyond the information given and elaborate their direct perceptions into types, categories, stereotypes, and schemas.

The relevance of these shifts for failures of imagination becomes more apparent if we add a new phrase to the vocabulary of organizational design, "shareability constraint" (Baron and Misovich 1999, 587). Informally, this constraint means that if people want to share their cognitive structures, those structures have to take on a particular form. More formally, as social complexity increases, people shift from perceptually-based knowing to categorically-based knowing in the interest of coordination. The potential cost of this shift is greater intellectual and emotional distance from the details picked up by direct perception. People preoccupied with coordination tend to remember the name of the thing seen rather than the qualities that were observed and felt. If significant details lie outside the connotations of these remembered names, then coordinated people will be the last to see them.

The shift from perception-based knowing to categorically-based knowing deserves closer attention since it represents a steady progression away from imagination toward the remembered entities, fixities, and additive aggregates of fancy. Robert Irwin (1977) has developed a more detailed picture of this progression in his discussion of "compounded abstraction." The significance of this progression is that perceptions are steadily compounded into abstractions that eventually "mean something wholly independent of their origins" (Ibid., 25). The process begins for both Irwin and Baron and Misovich with *perception* (synthesis of undifferentiated sensations). From this origin sensations then move through the stages of *conception* (initial crude differentiation into unnamed zones of focus), *form* (zones of focus are named, transformed into entities, and communicated), *formful* (named entities are related, compared, preserved as patterns), *formal* (patterns get reified, e.g., the pattern of above and below is reified into superior/subordinate), and *formalized* (reifications are treated as true and dictate behavior thereby completing their estrangement from direct perceptual experience).

The progression from perception to formalized abstraction erases detail. Recall that detail is central to imagination. Primary imagination is the agent of perception and fills in gaps inherent in fragmentary origins. It is these initial wholes, filled in by imagination, that steadily get elided into schema, conceptions, and categories that get reified and sealed off from reworking. To counteract failures of imagination that are attributable to compounded abstractions, people need to be organized in ways that enable them to return to earlier activities of formful relating, the naming of forms, and the conceptual partitioning of undifferentiated impressions.

Organizing that facilitates this return to earlier kinds of abstracting tends to be associated with weaker requirements for coordination. The goal would be, in Lanzara's words (1999, 343), to produce "larger, loosely connected structures, that, taken as a whole possess a high degree of stability and resilience, but locally are

always up for grabs." What Lanzara has described is a recipe for weak coordination that creates space for imagination and perception-based knowing. But weak coordination can be tough to accomplish in bureaucracies with their combination of standardized procedures, fixed divisions of responsibility, hierarchy, and impersonal relationships. Weak coordination tends to be accomplished by structures that are simultaneously loose and tight, with tight coupling around a small number of core values and loose coupling around everything else (Weick 1987). This pattern increases the number of independent elements that can sense small discrepancies in the pattern of events and build conjectures about unexpected worlds in which they might not be discrepancies at all.

Organizing and the Inference Constraint

Organizing also tends to be bound by norms of rationality (e.g., Thompson 1967) in the interest of order, prediction, and uncertainty reduction. These norms are commonly expressed in analytically reductive thinking and a preference for deductive modes of inference (Kerbel 2004). Norms of rationality and uncertainty reduction suppress an important vehicle for imagination, abductive reasoning.

Abductive reasoning, a term coined by philosopher Charles S. Peirce, refers to reasoning that forms and evaluates hypotheses in order to make sense of puzzling facts (Thagard and Shelley 1997). Examples of abductive reasoning are found in medical diagnosis, fault diagnosis, and archaeological reconstruction. Peirce initially restricted the meaning of abduction to the use of known rules to explain a fact. For example, if I see wet grass and know that streets get wet when it rains, then I conjecture (not deduce) that the most plausible explanation for wet grass is that it rained on the grass. In his later work, Peirce broadened the meaning of abduction to include making up new rules to explain surprising facts (e.g., the new ideas of AIDS, quarks, natural selection). Notice that in this broadened view clues give rise to speculations, conjectures, and assessments of plausibility rather than to a search among known rules to see which one might best fit the facts.

Current use of this broadened sense of abductive reasoning is found in the work of people such as Ginzburg (1988), Harrowitz (1988), and Patriotta (2004) who argue that the conjectural paradigm, grounded in abductive reasoning, is the foundation of inquiry. The basic idea is that when people imagine reality, they start with some tangible clue and then discover or invent a world in which that clue is meaningful. Imagination "conceives a whole design almost at once, which it then fills out and gives body to by particular association.... The mind thinks simultaneously of specific parts and of their one organizing principle" (Engell 1981, 82–83). This act of invention is an act of divination that has a close resemblance to detective stories. Divination involves a clue + world + connection, which is similar to the basic requirements for sensemaking: clue + frame + connection (Weick 1995, 110). The problem, when people settle for fancy is that their choice of current frames is too dependent on frames previously used. For example, critics of the intelligence community have noted that "one of the main cognitive traps analysts must overcome

is mirror-imaging—estimating the risk-benefit calculations of a foreign government or non-state group based on what would make sense in a US or Western Europe context" (Davis 2002).

Since divination starts with fragments, imagination is crucial in order to unify and give meaning to those fragments. The essence of conjecture and divination is to take a fragment and complete it by finding a world in which it is a meaningful symptom. Given an observed fact, a rule suggests itself to explain the origin of the observed fact. "The rule, then, generates the intelligibility of the observed fact, and the observed fact is read through the rule." Failures of imagination, therefore, may represent either a failure of rule choice or a failure in grounding the rule. Nancy Harrowitz has analyzed these moves with considerable insight. Conjecture essentially utilizes "obscure or remote clues in a speculative manner to build an epistemological model" (Harrowitz 1988, 183). Clues enable people to "leap from apparently significant facts, which could be observed, to a complex reality which—directly at least—could not" (Ibid., 88, 184). "The importance of the conjectural model is not found in the notion of reading coded signs such as imprints [animal footprints], but rather in the fact that the systems . . . were developed and invested with meaning through a process much like abduction. The rules were postulated to explain the observed facts . . . . As in abduction, a cultural or experiential knowledge is required to codify a system. Abduction is literally the groundwork necessary before a sign is codified" (Ibid., 184).

When an observed fact is read through a rule, this action can generate a world not previously thought of. But if the reading is driven by fancy rather than imagination, then the larger worlds that are generated will be familiar, remembered worlds, not unfamiliar ones that are newly discovered. Conjecture is importantly an issue of language. New hypotheses go hand in hand with the development of new theoretical terms (Thagard and Shelley 1997). And the development of new theoretical terms is importantly an issue of denotation and connotation. Wallace Stevens elaborates this point: "A language, considered semantically, evolves through a series of conflicts between the denotative and connotative forces in words; between an asceticism tending to kill language by stripping words of all association and a hedonism tending to kill language by dissipating their sense in a multiplicity of associations. These conflicts are nothing more than changes in the relation between imagination and reality" (Stevens 1965, 13).

A heavy reliance on analytic denotation and known rules in the development of organizational language strips away associables, associating principles, and imaginative conjectures. As a result, when unexpected weak signals appear, conjectures tend to be conventional, and the relation between reality and imagination is treated as settled rather than contestable. Productive conflicts that could reopen the relationship between imagination and reality get damped down in the interest of analysis and uncertainty reduction. Uncertainty reduction can occur either when words are stripped of all association or when words are rendered equivocal and all-inclusive by excessive associations. Language in which one word equals one thing or one word equals all things has stopped evolving and can neither register the unexpected nor preserve a relationship between imagination and reality.

These speculations suggest that organizations may differ in the degree to which they are cultures of imagination. In a culture of imagination ongoing conflicts between the denotative and connotative forces in words are encouraged in the belief that these conflicts recapitulate the larger tension between imagination and reality. The continuation of this tension corrects the blindness of extreme denotation and the emptiness of extreme conceptualization (Blumer 1969, 168). All organizations produce different mixes of denotation and connotation which produce different mixtures of reality and imagination. Failures of imagination occur when fixed mixtures heavily weighted in favor of memory and association drive out active and continuous mixing.

Organizing and the Mindfulness Constraint

The norms of rationality (Thompson 1967) that commonly accompany organizing affect alertness as well as conjecture. The 9/11 Report can be read as a chronicle of ongoing struggles for alertness that become increasingly unsuccessful. One way to describe these losses is as a deterioration of the capability for mindfulness. Efforts to understand the nature of organized mindfulness are represented in the body of work focused on high reliability organizations (e.g., Roberts 1990). One cornerstone of this work is Ellen Langer's (1989, 138, 157, 159) description of mindfulness as involving (1) active differentiation and refinement of existing distinctions; (2) creation of new discrete categories out of the continuous streams of events that flow through activities; and (3) a more nuanced appreciation of the context of events and of alternative ways to deal with that context. This combination of differentiation, creation, and appreciation captures more details, evokes a wider variety of roles, and synthesizes those details and rules into richer conjectures.

Analogues to individual mindfulness at the organizational level are found in high reliability organizations (HRO) such as air traffic control systems, nuclear powered aircraft carriers, and wildland firefighting teams. The pattern of mindfulness found in these settings is one where people pay more attention to failures than success, avoid simplicity rather than cultivate it, are just as sensitive to operations as they are to strategy, organize for resilience rather than anticipation, and allow decisions to migrate to experts wherever they are located (Weick and Sutcliffe 2001). These may sound like odd ways to make good decisions, but decisionmaking is not what HROs are most worried about. Instead, they are more worried about making sense of the unexpected. In that context, their attempts to prepare for the unexpected through attention to failure, simplification, and operations, coupled with their attempts to respond adaptively to the unexpected through resilient action and deference to expertise make perfectly good sense. Those five processes of mindfulness favor imagination because they preserve detail, refine distinctions, create new categories, draw attention to context, and guard against mis-specification, mis-estimation, and mis-understanding. By contrast, when organizing is more mindless and takes the form of attention to success, simplicity, strategy, anticipation, and hierarchy, fancy is more likely because people tend to focus on formal abstractions,

remembered experience, and institutionalized pathways of associating discrete elements. Under these conditions, an act of imagination is often interpreted as an act of insubordination.

CONCLUSION

Efforts to mitigate failures of imagination represent a battle of sorts between naming the thing and losing the whole, and keeping the whole but losing the name that stirs others to actions. Names can motivate, but they also have the potential to freeze and edit and fracture the initial impressions that spot anomalies and the conjecturing that assigns them an improbable home. To design imagination rather than fancy into organizing, administrators need to slow the upward movement from perceptions toward the naming that begins to compound our abstractions. And they need to hasten the downward movement away from reifications back toward perceptions that can be renamed with labels that are imperfect in new ways. Movement in either direction, either away from the certainty of an impression or away from the certainty of a reification, is movement toward greater uncertainty and toward fuller imagining. The result is uncertainty infusion rather than uncertainty absorption. People give up clarity and take on confusion, they give up intention and take on thrownness[3] and they give up anticipation and take on resilience. To counteract failures of imagination is to alter organizing in ways that reduce the demands for coordination, replace deductive thinking with abductive thinking, shift a culture of analysis toward a culture of imagination, and intensify norms of mindfulness.

These may seem like odd ways to organize. The wisdom of these actions lies in their alignment with changing contexts that are not of our own making. But this alignment does not mean that we give up stability. Instead, these design choices focus on stable processes of labeling, connecting, and acting. They focus the activity of organizational design on sensemaking rather than decision making. When people make sense of flows, they impose labels that are good enough to move their projects along. But they hold those labels lightly and update them without apology and return again and again to perceptions and exploration and dreams rather than to scripts and exploitation and memories. Thus, updating and repeated sensemaking become a testimony to the soundness of an organizational design, not an indictment of its flaws.

NOTES

1. Here's an example of bureaucratic fancy found in the 9/11 Report. The head of analysis at the Counterterrorist Center said, in 1999, "It would be a *mistake* to *redefine* counterterrorism as a task dealing with 'catastrophic,' 'grand,' or 'super' terrorism, when *in fact* these *labels* do not *represent* most of the terrorism that the United States is likely to face" (343). In the context of fancy, the key words here are "redefine," "fact," and "label." People are told that it would be wrong to redefine and right to invoke past experience.

2. Lynn Eden in *Whole World on Fire* finds the same persistence of WWII assumptions about precision bombing of key vertical targets in the current talk of "precision nuclear strikes."

3. "Thrownness" is Martin Heidegger's term for part of the experience of being-in-the-world. Winograd and Flores (1986, 97) translate this term as referring to "the prereflective experience of being thrown into a situation of acting without the opportunity or need to disengage and function as detached observers." (See also Weick 2004, 74–78.)

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