

Organizing and the Process of Sensemaking

Karl E. Weick, Kathleen M. Sutcliffe

Department of Management and Organizations, Ross School of Business, University of Michigan, 701 Tappan,
Ann Arbor, Michigan 48109-1234 {karlw@umich.edu, ksutclif@umich.edu}

David Obstfeld

Organization and Strategy, University of California, Irvine, Irvine, California 92697, dobstfel@uci.edu

Sensemaking involves turning circumstances into a situation that is comprehended explicitly in words and that serves as a springboard into action. In this paper we take the position that the concept of sensemaking fills important gaps in organizational theory. The seemingly transient nature of sensemaking belies its central role in the determination of human behavior, whether people are acting in formal organizations or elsewhere. Sensemaking is central because it is the primary site where meanings materialize that inform and constrain identity and action. The purpose of this paper is to take stock of the concept of sensemaking. We do so by pinpointing central features of sensemaking, some of which have been explicated but neglected, some of which have been assumed but not made explicit, some of which have changed in significance over time, and some of which have been missing all along or have gone awry. We sense joint enthusiasm to restate sensemaking in ways that make it more future oriented, more action oriented, more macro, more closely tied to organizing, meshed more boldly with identity, more visible, more behaviorally defined, less sedentary and backward looking, more infused with emotion and with issues of sensegiving and persuasion. These key enhancements provide a foundation upon which to build future studies that can strengthen the sensemaking perspective.

Key words: sensemaking; interpreting; articulation; identity; power

Sensemaking involves the ongoing retrospective development of plausible images that rationalize what people are doing. Viewed as a significant process of organizing, sensemaking unfolds as a sequence in which people concerned with identity in the social context of other actors engage ongoing circumstances from which they extract cues and make plausible sense retrospectively, while enacting more or less order into those ongoing circumstances. Stated more compactly and more colorfully, “[S]ensemaking is a way station on the road to a consensually constructed, coordinated system of action” (Taylor and Van Every 2000, p. 275). At that way station, circumstances are “turned into a situation that is comprehended explicitly in words and that serves as a springboard to action” (p. 40). These images imply three important points about the quest for meaning in organizational life. First, sensemaking occurs when a flow of organizational circumstances is turned into words and salient categories. Second, organizing itself is embodied in written and spoken texts. Third, reading, writing, conversing, and editing are crucial actions that serve as the media through which the invisible hand of institutions shapes conduct (Gioia et al. 1994, p. 365).

The emerging picture is one of sensemaking as a process that is ongoing, instrumental, subtle, swift, social, and easily taken for granted. The seemingly transient nature of sensemaking (“a way station”) belies its central role in the determination of human behavior. Sensemaking is central because it is the primary site where

meanings materialize that inform and constrain identity and action (Mills 2003, p. 35). When we say that meanings materialize, we mean that sensemaking is, importantly, an issue of language, talk, and communication. Situations, organizations, and environments are talked into existence.

Explicit efforts at sensemaking tend to occur when the current state of the world is perceived to be different from the expected state of the world, or when there is no obvious way to engage the world. In such circumstances there is a shift from the experience of immersion in projects to a sense that the flow of action has become unintelligible in some way. To make sense of the disruption, people look first for reasons that will enable them to resume the interrupted activity and stay in action. These “reasons” are pulled from frameworks such as institutional constraints, organizational premises, plans, expectations, acceptable justifications, and traditions inherited from predecessors. If resumption of the project is problematic, sensemaking is biased either toward identifying substitute action or toward further deliberation.

Sensemaking is about the interplay of action and interpretation rather than the influence of evaluation on choice. When action is the central focus, interpretation, not choice, is the core phenomenon (Laroche 1995, p. 66; Lant 2002; Weick 1993, pp. 644–646). Scott Snook (2001) makes this clear in his analysis of a friendly fire incident over Iraq in April 1994 when two F-15 pilots shot down two friendly helicopters, killing

26 people. As Snook says, this is not an incident where F-15 pilots “decided” to pull the trigger.

I could have asked, “Why did they *decide* to shoot?” However, such a framing puts us squarely on a path that leads straight back to the individual decision maker, away from potentially powerful contextual features and right back into the jaws of the fundamental attribution error. “Why did they decide to shoot?” quickly becomes “Why did they make the *wrong* decision?” Hence, the attribution falls squarely onto the shoulders of the decision maker and away from potent situation factors that influence action. Framing the individual-level puzzle as a question of meaning rather than deciding shifts the emphasis away from individual decision makers toward a point somewhere “out there” where context and individual action overlap. . . . Such a reframing—from decision making to sensemaking—opened *my* eyes to the possibility that, given the circumstances, even *I* could have made the same “dumb mistake.” This disturbing revelation, one that I was in no way looking for, underscores the importance of initially framing such senseless tragedies as “good people struggling to make sense,” rather than as “bad ones making poor decisions” (pp. 206–207).

To focus on sensemaking is to portray organizing as the experience of being thrown into an ongoing, unknowable, unpredictable streaming of experience in search of answers to the question, “what’s the story?” Plausible stories animate and gain their validity from subsequent activity. The language of sensemaking captures the realities of agency, flow, equivocality, transience, reaccomplishment, unfolding, and emergence, realities that are often obscured by the language of variables, nouns, quantities, and structures. Students of sensemaking understand that the order in organizational life comes just as much from the subtle, the small, the relational, the oral, the particular, and the momentary as it does from the conspicuous, the large, the substantive, the written, the general, and the sustained. To work with the idea of sensemaking is to appreciate that smallness does not equate with insignificance. Small structures and short moments can have large consequences.

We take the position that the concept of sensemaking fills important gaps in organizational theory. We reaffirm this idea and take stock of the sensemaking concept first by highlighting its distinctive features descriptively, using an extended example of pediatric nursing. Next we summarize the distinctive features of sensemaking conceptually and discuss intraorganizational evolution, instigations, plausibility, and identity. Finally, we summarize the distinctive features of sensemaking prospectively and examine future lines of work that may develop from ideas about institutions, distributed sensemaking, power, and emotion. We conclude with a brief description of gaps in organizational theory that the concept of sensemaking fills.

The Nature of Organized Sensemaking: Viewed Descriptively

Organizational sensemaking is first and foremost about the question: How does something come to be an event for organizational members? Second, sensemaking is about the question: What does an event mean? In the context of everyday life, when people confront something unintelligible and ask “what’s the story here?” their question has the force of bringing an event into existence. When people then ask “now what should I do?” this added question has the force of bringing meaning into existence, meaning that they hope is stable enough for them to act into the future, continue to act, and to have the sense that they remain in touch with the continuing flow of experience.

While these descriptions may help delimit sensemaking, they say little about what is organizational in all of this. The answer is that sensemaking and organization constitute one another: “Organization is an attempt to order the intrinsic flux of human action, to channel it toward certain ends, to give it a particular shape, through generalizing and institutionalizing particular meanings and rules” (Tsoukas and Chia 2002, p. 570). We need to grasp each to understand the other. The operative image of organization is one in which organization emerges through sensemaking, not one in which organization precedes sensemaking or one in which sensemaking is produced by organization.

A central theme in both organizing and sensemaking is that people organize to make sense of equivocal inputs and enact this sense back into the world to make that world more orderly. Basic moments in the process of sensemaking are illustrated in the following account, where a nurse describes what she did while caring for a baby whose condition began to deteriorate (Benner 1994, pp. 139–140)¹:

Nurse: I took care of a 900-gram baby who was about 26 or 27 weeks many years ago who had been doing well for about two weeks. He had an open ductus that day. The difference between the way he looked at 9 a.m. and the way he looked at 11 a.m. was very dramatic. I was at that point really concerned about what was going to happen next. There are a lot of complications of the patent ductus, not just in itself, but the fact that it causes a lot of other things. I was really concerned that the baby was starting to show symptoms of all of them.

Interviewer: Just in that two hours?

Nurse: You look at this kid because you know this kid, and you know what he looked like two hours ago. It is a dramatic difference to you, but it’s hard to describe that to someone in words. You go to the resident and say: “Look, I’m really worried about X, Y, Z,” and they go: “OK.” Then you wait one half hour to 40 minutes, then you go to the Fellow (the teaching physician supervising the resident) and say: “You know, I am really worried about X, Y, Z.” They say: “We’ll talk about it on rounds.”

Interviewer: What is the X, Y, Z you are worried about?

Nurse: The fact that the kid is more lethargic, paler, his stomach is bigger, that he is not tolerating his feedings, that his chem strip (blood test) might be a little strange. All these kinds of things. I can't remember the exact details of this case; there are clusters of things that go wrong. The baby's urine output goes down. They sound like they are in failure. This kind of stuff. Their pulses go bad, their blood pressure changes. There are a million things that go on. At this time, I had been in the unit a couple or three years.

Sensemaking Organizes Flux

Sensemaking starts with chaos. This nurse encounters “a million things that go on” and the ongoing potential for “clusters of things that go wrong”—part of an almost infinite stream of events and inputs that surround any organizational actor. As Chia (2000, p. 517) puts it, we start with “an undifferentiated flux of fleeting sense-impressions and it is out of this brute aboriginal flux of lived experience that attention carves out and conception names.” As the case illustrates, the nurse's sensemaking does not begin *de novo*, but like all organizing occurs amidst a stream of *potential* antecedents and consequences. Presumably within the 24-hour period surrounding the critical noticing, the nurse slept, awoke, prepared for work, observed and tended to other babies, completed paper work and charts, drank coffee, spoke with doctors and fellow nurses, stared at an elevator door as she moved between hospital floors, and performed a variety of formal and impromptu observations. All of these activities furnish a raw flow of activity from which she may or may not extract certain cues for closer attention.

Sensemaking Starts with Noticing and Bracketing

During her routine activities, the nurse becomes aware of vital signs that are at variance with the “normal” demeanor of a recovering baby. In response to the interruption, the nurse orients to the child and notices and brackets possible signs of trouble for closer attention. This noticing and bracketing is an incipient state of sensemaking. In this context 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), has never been recognized as a separate autonomous process, object, event” (Magala 1997, p. 324).

The nurse's noticing and bracketing is guided by mental models she has acquired during her work, training, and life experience. Those mental models may help her recognize and guide a response to an open ductus condition or sickness more generally. Such mental models might be primed by the patient's conditions or a priori permit her to notice and make sense of those conditions

(Klein et al., in press). Some combination of mental models and salient cues calls her attention to this particular baby between the hours of 9 to 11 with respect to a bounded set of symptoms.

The more general point is that in the early stages of sensemaking, phenomena “have to be forcibly carved out of the undifferentiated flux of raw experience and conceptually fixed and labeled so that they can become the common currency for communicational exchanges” (Chia 2000, p. 517). Notice that once bracketing occurs, the world is simplified.

Sensemaking Is About Labeling

Sensemaking is about labeling and categorizing to stabilize the streaming of experience. Labeling works through a strategy of “differentiation and simple-location, identification and classification, regularizing and routinization [to translate] the intractable or obdurate into a form that is more amenable to functional deployment” (Chia 2000, p. 517). The key phrase here is “functional deployment.” In medicine, functional deployment means imposing diagnostic labels that suggest a plausible treatment. In organizing in general, functional deployment means imposing labels on interdependent events in ways that suggest plausible acts of managing, coordinating, and distributing. Thus, the ways in which events are first envisioned immediately begins the work of organizing because events are bracketed and labeled in ways that predispose people to find common ground. To generate common ground, labeling ignores differences among actors and deploys cognitive representations that are able to generate recurring behaviors: “For an activity to be said to be organized, it implies that types of behavior in types of situation are systematically connected to types of actors An organized activity provides actors with a given set of cognitive categories and a typology of actions” (Tsoukas and Chia 2002, p. 573).

A crucial feature of these types and categories is that they have considerable plasticity. Categories have plasticity because they are socially defined, because they have to be adapted to local circumstances, and because they have a radial structure. By radial structure we mean that there are a few central instances of the category that have all the features associated with the category, but mostly the category contains peripheral instances that have only a few of these features. This difference is potentially crucial because if people act on the basis of central prototypic cases within a category, then their action is stable; but if they act on the basis of peripheral cases that are more equivocal in meaning, their action is more variable, more indeterminate, more likely to alter organizing, and more consequential for adapting (Tsoukas and Chia 2002, p. 574).

Sensemaking Is Retrospective

The nurse uses retrospect to make sense of the puzzles she observes at 11:00. She recalls “what he looked like

two hours ago. It's a dramatic difference." Symptoms are not discovered at 11:00. Instead, symptoms are created at 11:00 by looking back over earlier observations and seeing a pattern. The nurse alters the generic sensemaking recipe, "how can I know what I think until I see what I say," into the medically more useful variant, "how can I know what I'm seeing until I see what it was."

Marianne Paget (1988, p. 56) has been especially sensitive to the retrospective quality of medical work as is evident in her description of mistakes in diagnosis: "A mistake follows an act. It identifies the character of an act in its aftermath. It names it. An act, however, is not mistaken; it becomes mistaken. There is a paradox here, for seen from the inside of action, that is from the point of view of an actor, an act becomes mistaken only after it has already gone wrong. As it is unfolding, it is not becoming mistaken at all; it is becoming." When people bracket a portion of streaming circumstances and label them as a concern, a bad sign, a mistake, or an opportunity, the event is at an advanced stage; the label follows after and names a completed act, but the labeling itself fails to capture the dynamics of what is happening. Because mistakes and diagnoses are known in the aftermath of activity, they are fruitfully described as "complex cognitions of the experience of now and then. They identify the too-lateness of human understanding" (Paget 1988, pp. 96–97). So, "the *now* of mistakes collides with the *then* of acting with uncertain knowledge. *Now* represents the more exact science of hindsight, *then* the unknown future coming into being" (Paget 1988, p. 48).

Sensemaking Is About Presumption

To make sense is to connect the abstract with the concrete. In the case of medical action, "instances of illness are concrete, idiosyncratic, and personal in their expression, and the stock of knowledge is abstract and encyclopedic. Interpretation and experimentation engage the concrete, idiosyncratic, and personal with the abstract and impersonal" (Paget 1988, p. 51). It is easy to miss this linkage and to portray sensemaking as more cerebral, more passive, more abstract than it typically is. Sensemaking starts with immediate actions, local context, and concrete cues, as is true for the worried nurse. She says to the resident, "Look, I'm really worried about X, Y, Z."

What is interesting about her concerns is that she is acting as if something is the case, which means any further action tests that hunch but may run a risk for the baby. To test a hunch is to presume the character of the illness and to update that presumptive understanding through progressive approximations: "The [medical] work process unfolds as a series of approximations and attempts to discover an appropriate response. And because it unfolds this way, as an error-ridden activity, it requires continuous attention to the patient's condition and to reparation" (Paget 1988, p. 143).

Sensemaking Is Social and Systemic

The nurse's sensemaking is influenced by a variety of social factors. These social factors might include previous discussions with the other nurses on duty, an off-hand remark about the infant that might have been made by a parent, interaction with physicians—some of whom encourage nurses to take initiative and some who do not—or the mentoring she received yesterday.

However, it is not just the concerned nurse and her contacts that matter in this unfolding incident. Medical sensemaking is distributed across the healthcare system, and converges on the tiny patient as much through scheduling that involves cross-covering of one nurse's patients by another nurse (and through multiple brands of infusion pumps with conflicting setup protocols) as it does through the occasional appearance of the attending physician at the bedside. If knowledge about the correctness of treatment unfolds gradually, then knowledge of this unfolding sense is not located just inside the head of the nurse or physician. Instead, the locus is systemwide and is realized in stronger or weaker coordination and information distribution among interdependent healthcare workers.

Sensemaking Is About Action

If the first question of sensemaking is "what's going on here?," the second, equally important question is "what do I do next?" This second question is directly about action, as is illustrated in this case, where the nurse's emerging hunch is intertwined with the essential task of enlisting a physician to take action on the case. The talk that leads to a continual, iteratively developed, shared understanding of the diagnosis and the persuasive talk that leads to enlistment in action both illustrate the "saying" that is so central to organizational action. In sensemaking, action and talk are treated as cycles rather than as a linear sequence. Talk occurs both early and late, as does action, and either one can be designated as the "starting point to the destination." Because acting is an indistinguishable part of the swarm of flux until talk brackets it and gives it some meaning, action is not inherently any more significant than talk, but it factors centrally into any understanding of sensemaking.

Medical sensemaking is as much a matter of thinking that is acted out conversationally in the world as it is a matter of knowledge and technique applied to the world. Nurses (and physicians), like everyone else, make sense by acting thoughtfully, which means that they simultaneously interpret their knowledge with trusted frameworks, yet mistrust those very same frameworks by testing new frameworks and new interpretations. The underlying assumption in each case is that ignorance and knowledge coexist, which means that adaptive sensemaking both honors and rejects the past. What this means is that in medical work, as in all work, people face evolving disorder. There are truths of the moment that change,

develop, and take shape through time. It is these changes through time that progressively reveal that a seemingly correct action “back then” is becoming an incorrect action “now.” These changes also may signal a progression from worse to better.

Sensemaking Is About Organizing Through Communication

Communication is a central component of sensemaking and organizing: “We see communication as an ongoing process of making sense of the circumstances in which people collectively find ourselves and of the events that affect them. The sensemaking, to the extent that it involves communication, takes place in interactive talk and draws on the resources of language in order to formulate and exchange through talk... symbolically encoded representations of these circumstances. As this occurs, a situation is talked into existence and the basis is laid for action to deal with it” (Taylor and Van Every 2000, p. 58). The image of sensemaking as activity that talks events and organizations into existence suggests that patterns of organizing are located in the actions and conversations that occur on behalf of the presumed organization and in the texts of those activities that are preserved in social structures.

We see this in the present example. As the case illustrates, the nurse’s bracketed set of noticings coalesce into an impression of the baby as urgently in need of physician attention, but the nurse’s choice to articulate her concerns first to a resident and then to a Fellow produces little immediate result. Her individual sensemaking has little influence on the organizing of care around this patient as this passage shows (Benner 1994, p. 140):

... At this time, I had been in the unit a couple or three years. I was really starting to feel like I knew what was going on but I wasn’t as good at throwing my weight in a situation like that. And I talked to a nurse who had more experience and I said, “Look at this kid,” and I told her my story, and she goes: “OK.” Rounds started shortly after that and she walks up to the Attending [Physician in charge of patient] very quietly, sidles up and says: “You know, this kid, Jane is really worried about this kid.” She told him the story, and said: “He reminds me about this kid, Jimmie, we had three weeks ago,” and he said: “Oh.” Everything stops. He gets out the stethoscope and listens to the kid, examines the kid and he says: “Call the surgeons.” (Laughter) It’s that kind of thing where we knew also what had to be done. There was no time to be waiting around. He is the only one that can make that decision. It was a case we had presented to other physicians who should have made the case, but didn’t. We are able in just two sentences to make that case to the Attending because we knew exactly what we were talking about. ... this particular nurse really knew exactly what she was doing. [The Attending] knew she knew what she was doing. ... She knew exactly what button to push with him and how to do it.

What we see here is articulation (Benner 1994, Winter 1987), which is defined as “the social process by which tacit knowledge is made more explicit or usable.” To share understanding means to lift equivocal knowledge out of the tacit, private, complex, random, and past to make it explicit, public, simpler, ordered, and relevant to the situation at hand (Obstfeld 2004). Taylor and Van Every (2000, pp. 33–34) describe a process similar to articulation: “A situation is talked into being through the interactive exchanges of organizational members to produce a view of circumstances including the people, their objects, their institutions and history, and their siting [i.e., location as a site] in a finite time and place.” This is what happens successively as the first nurse translates her concerns for the second more powerful nurse, who then rearticulates the case using terms relevant to the Attending. The second nurse absorbs the complexity of the situation (Boisot and Child 1999) by holding both a nurse’s and doctor’s perspectives of the situation while identifying an account of the situation that would align the two. What is especially interesting is that she tries to make sense of how other people make sense of things, a complex determination that is routine in organizational life.

Summary

To summarize, this sequence highlights several distinguishing features of sensemaking, including its genesis in disruptive ambiguity, its beginnings in acts of noticing and bracketing, its mixture of retrospect and prospect, its reliance on presumptions to guide action, its embedding in interdependence, and its culmination in articulation that shades into acting thoughtfully. Answers to the question “what’s the story?” emerge from retrospect, connections with past experience, and dialogue among people who act on behalf of larger social units. Answers to the question “now what?” emerge from presumptions about the future, articulation concurrent with action, and projects that become increasingly clear as they unfold.

The Nature of Organized Sensemaking: Viewed Conceptually

Sensemaking as Intraorganizational Evolution

The preceding overview of early activities of sensemaking and organizing that mobilize around moments of flux needs to be compressed if it is to guide research and practice. One way to do that is to assume that “a system can respond adaptively to its environment by mimicking inside itself the basic dynamics of evolutionary processes” (Warglien 2002, p. 110). The basic evolutionary process assumed by sensemaking is one in which retrospective interpretations are built during interdependent interaction. This framework is a variant of Donald

Campbell's application of evolutionary epistemology to social life (1965, 1997). It proposes that sensemaking can be treated as reciprocal exchanges between actors (Enactment) and their environments (Ecological Change) that are made meaningful (Selection) and preserved (Retention). However, these exchanges will continue only if the preserved content is both believed (positive causal linkage) and doubted (negative causal linkage) in future enacting and selecting. Only with ambivalent use of previous knowledge are systems able both to benefit from lessons learned and to update either their actions or meanings in ways that adapt to changes in the system and its context. For shorthand we will call this model "enactment theory," as has become the convention in organizational work (e.g., Jennings and Greenwood 2003). Graphically, the ESR sequence looks like Figure 1.

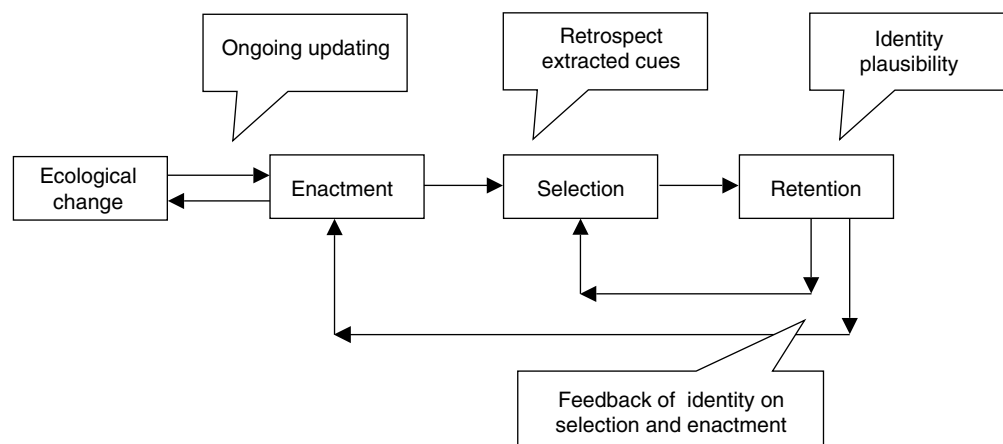
If we conceptualize organizing as a sequence of ecological change-enactment-selection-retention with the results of retention feeding back to all three prior processes, then the specific activities of sensemaking fit neatly into this more general progression of organizing. The reciprocal relationship between *ecological change* and *enactment* includes sensemaking activities of sensing anomalies, enacting order into flux, and being shaped by externalities. The organizing process of *enactment* incorporates the sensemaking activities of noticing and bracketing. These activities of noticing and bracketing, triggered by discrepancies and equivocality in ongoing projects, *begin* to change the flux of circumstances into the orderliness of situations. We emphasize "begin" because noticing and bracketing are relatively crude acts of categorization and the resulting data can mean several different things. The number of possible meanings gets reduced in the organizing process of *selection*. Here a combination of retrospective attention, mental models, and articulation perform a narrative reduction of

the bracketed material and generate a locally plausible story. Though plausible, the story that is selected is also tentative and provisional. It gains further solidity in the organizing process of *retention*. When a plausible story is retained, it tends to become more substantial because it is related to past experience, connected to significant identities, and used as a source of guidance for further action and interpretation. The close fit between processes of organizing and processes of sensemaking illustrates the recurring argument (e.g., Weick 1969, pp. 40–42) that people organize to make sense of equivocal inputs and enact this sense back into the world to make that world more orderly. The beauty of making ESR the microfoundation of organizing and sensemaking is that it makes it easier to work with other meso- and macro-level formulations that are grounded in Campbell's work (e.g., Aldrich 1999, Baum and Singh 1994, Ocasio 2001).

Instigations to Sensemaking

The idea that sensemaking is focused on equivocality gives primacy to the search for meaning as a way to deal with uncertainty (e.g., Mills 2003, p. 44). Thus, we expect to find explicit efforts at sensemaking whenever the current state of the world is perceived to be different from the expected state of the world. This means that sensemaking is activated by the question, "same or different?" When the situation feels "different," this circumstance is experienced as a situation of discrepancy (Orlikowski and Gash 1994), breakdown (Patriotta 2003), surprise (Louis 1980), disconfirmation (Weick and Sutcliffe 2001), opportunity (Dutton 1993), or interruption (Mandler 1984, pp. 180–189). Diverse as these situations may seem, they share the properties that in every case an expectation of continuity is breached, ongoing organized collective action becomes

Figure 1 The Relationship Among Enactment, Organizing, and Sensemaking



Source. Jennings and Greenwood (2003; adapted from Weick 1979, p. 132).

disorganized, efforts are made to construct a plausible sense of what is happening, and this sense of plausibility normalizes the breach, restores the expectation, and enables projects to continue.

Questions of “same or different” tend to occur under one of three conditions: situations involving the dramatic loss of sense (e.g., Lanir 1989), situations where the loss of sense is more mundane but no less troublesome (e.g., Westley 1990), and unfamiliar contexts where sense is elusive (e.g., Orton 2000). Methodologically, it is hard to find people in the act of coping with disconfirmations that catch them unawares (see Westrum 1982 for a clear exception). Such outcroppings can be found, however, if we examine how everyday situations sometimes present us with either too many meanings or too few. For example, managing any kind of process (e.g., a production routine) with its interconnected processes of anticipation and retrospection (Patriotta 2003) creates equivocality of time (e.g., is this a fresh defect, or has it happened for some time?) and equivocality of action (e.g., do I have the resources to correct this defect?). Regardless of whether there are too many meanings or too few, the result is the same. Actors are faced with fleeting sense impressions that instigate sensemaking.

While scholars have a strong interest in conscious sensemaking and in making the sensemaking process more visible, they also agree with Gioia and Mehra (1996, p. 1,228), who suggest that much of organizational life is routine and made up of situations that do not demand our full attention. As they note, people’s sense can be “modified in intricate ways out of awareness via assimilation of subtle cues over time” (p. 1,229). Acknowledgement of this facet of sensemaking is important if only to avoid the impression that “routine organizational life is devoid of sense” (Gioia and Mehra 1996, p. 1,229).

Plausibility and Sensemaking

Sensemaking is not about truth and getting it right. Instead, it is about continued redrafting of an emerging story so that it becomes more comprehensive, incorporates more of the observed data, and is more resilient in the face of criticism. As the search for meanings continues, people may describe their activities as the pursuit of accuracy to get it right. However, that description is important mostly because it sustains motivation. People may get better stories, but they will never get *the* story. Furthermore, what is plausible for one group, such as managers, often proves implausible for another group, such as employees. In an important study of culture change, Mills (2003, pp. 169–173) found that stories tend to be seen as plausible when they tap into an ongoing sense of current climate, are consistent with other data, facilitate ongoing projects, reduce equivocality, provide an aura of accuracy (e.g., reflect the views

of a consultant with a strong track record), and offer a potentially exciting future.

The idea that sensemaking is driven by plausibility rather than accuracy (Weick 1995, p. 55) conflicts with academic theories and managerial practices that assume that the accuracy of managers’ perceptions determine the effectiveness of outcomes. The assumption that accuracy begets effectiveness builds on a long stream of research on environmental scanning, strategic planning, rational choice, and organizational adaptation (e.g., Duncan 1972, Pfeffer and Salancik 1978) and persists, for example, in current theorizing on search and adaptive learning (e.g., Gavetti and Levinthal 2000) and strategic decision making (e.g., Bukszar 1999).

However, studies assessing the accuracy of manager’s perceptions are rare (see Sutcliffe 1994, Starbuck and Mezas 1996 for exceptions), and those studies that have been done suggest that managers’ perceptions are highly inaccurate (Mezas and Starbuck 2003). This may explain why some scholars propose that the key problem for an organization is not to accurately assess scarce data, but to interpret an abundance of data into “actionable knowledge” (Bettis and Prahalad 1995). These critiques have raised the question of the relative importance and role of executives’ perceptual inputs relative to their interpretations of these inputs. Kruglanski (1989) argues, for example, that perceptual accuracy should be treated as pragmatic utility, judged only by its usefulness for beneficial action.

A focus on perceptual accuracy is grounded in models of rational decision making: A given problem is evaluated in relation to stable goals and a course of action chosen from a set of alternatives. In this model, accurate information is important in evaluating the feasibility and utility of alternative actions, and accurate perceptions increase decision quality. However, actual organizations do not fit this conception. Problems must be bracketed from an amorphous stream of experience and be labeled as relevant before ongoing action can be focused on them. Furthermore, managers with limited attention face many such issues at the same time, often evaluating several situations, interpretations, choices, and actions simultaneously. Thus, inaccurate perceptions are not necessarily a bad thing, as Mezas and Starbuck (2003) conclude. People do not need to perceive the current situation or problems accurately to solve them; they can act effectively simply by making sense of circumstances in ways that appear to move toward general long-term goals. Managerial misperceptions may not curtail effective performance if agents have learning mechanisms and operate in a context where there are incentives to improve performance (Mezas and Starbuck 2003, p. 15; Winter 2003, p. 42).

The important message is that if plausible stories keep things moving, they are salutary. Action-taking generates

new data and creates opportunities for dialogue, bargaining, negotiation, and persuasion that enriches the sense of what is going on (Sutcliffe 2000). Actions enable people to assess causal beliefs that subsequently lead to new actions undertaken to test the newly asserted relationships. Over time, as supporting evidence mounts, significant changes in beliefs and actions evolve.

Identity and Sensemaking

Identity construction is seen by many to be one of the two basic properties that differentiate sensemaking from basic cognitive psychology (Gililand and Day 2000, p. 334). The other property is the use of plausibility as the fundamental criterion of sensemaking. Mills (2003) made a similar point when she organized her study of culture change at Nova Scotia Power around identity construction, which “is at the root of sensemaking and influences how other aspects, or properties of the sense-making process are understood” (Mills 2003, p. 55).

Discussions of organizational identity tend to be anchored by Albert and Whetten’s (1985) description of identity as that which is core, distinctive, and enduring about the character of the organization. From the perspective of sensemaking, who we think we are (identity) as organizational actors shapes what we enact and how we interpret, which affects what outsiders think we are (image) and how they treat us, which stabilizes or destabilizes our identity. Who we are lies importantly in the hands of others, which means our categories for sensemaking lie in their hands. If their images of us change, our identities may be destabilized and our receptiveness to new meanings increase. Sensemaking, filtered through issues of identity, is shaped by the recipe “how can I know who we are becoming until I see what they say and do with our actions?”

The pathway from image change to identity change is demonstrated in Gioia and Thomas (1996). Their work suggests that if managers can change the images that outsiders send back to the organization, and if insiders use those images to make sense of what their actions mean, then these changes in image will serve as a catalyst for reflection and redrafting of how the organization defines itself. The controversy implicit in Gioia and Thomas’s findings is the suggestion that identity may not be nearly as enduring as first thought, and may be more usefully conceptualized as a variable, mutable continuity (Gioia et al. 2000). If this were found to be the case, then identity would turn out to be an issue of plausibility rather than accuracy, just as is the case for many issues that involve organizing and sensemaking.

Gioia and Chittipeddi (1991) set the stage for many of the current concerns with identity and image in their early finding that sensemaking is incomplete unless there is sensegiving, a sensemaking variant undertaken to create meanings for a target audience. The refinement of this demonstration is the finding that the content of

sensegiving (present versus future image) and the target (insider versus outsider) affect how people interpret the actions they confront. Yet to be examined is the effect of efforts at sensegiving on the sensemakers. In the sensemaking recipe “how can I know what I think until I see what I say?” sensegiving corresponds to the *saying*. However, notice that the saying is problematic, you do not really know what you think until you *do* say it. When you hear yourself talk, you see more clearly what matters and what you had hoped to say. Sensegiving therefore may affect the sensemaker as well as the target. For example, in Gioia and Chittipeddi’s study, those administrators trying to move a university’s identity and image into the category “top 10 university” may themselves have thought differently about this issue as they articulated their campaign to improve the university’s reputation.

It is clear that the stakes in sensemaking are high when issues of identity are involved. When people face an unsettling difference, that difference often translates into questions such as who are we, what are we doing, what matters, and why does it matter? These are not trivial questions. As Coopey et al. (1997, p. 312, cited in Brown 2000) note,

Faced with events that disrupt normal expectations and, hence, the efficacy of established patterns of meaning and associated behavior, individuals attempt to make sense of ambiguous stimuli in ways that respond to their own identity needs. They are able to draw creatively on their memory—especially their personal experience—in composing a story that begins to make sense of what is happening while potentially enhancing their feelings of self-esteem and self-efficacy. The story is a sufficiently plausible account of “what is happening out there?” that it can serve as a landscape within which they and others might be able to make commitments and to act in ways that serve to establish new meanings and new patterns of behavior.

The outcomes of such processes, however, are not always sanguine. This was the case in Bristol Royal Infirmary’s (BRI) continuation of a pediatric cardiac surgery program for almost 14 years in the face of data showing a mortality rate roughly double the rate of any other center in England (Weick and Sutcliffe 2003, p. 76). The board of inquiry that investigated this incident concluded that there was a prevailing mindset among people at BRI that enabled them to “wish away their poor results” as a “run of bad luck” even though “there *was* evidence sufficient to put the Unit on notice that there were questions to be answered as regards the adequacy of the service” (Kennedy 2001, pp. 247–248). That mindset prevailed partly because surgeons constructed their identity as that of people learning complex surgical procedures in the context of unusually challenging cases. The dangerous omission in this identity was that the resources they used for learning were minimal.

They did not collect detailed data about their own prior performance, solicit input from other members of the surgical team, or observe the work of other surgeons who were more skilled at this procedure until formal complaints were filed against pediatric surgeons.

The Nature of Organized Sensemaking: Viewed Prospectively

Considering the modest amount of empirical work on sensemaking that has accumulated so far, the question of “future directions” pretty much takes care of itself. Almost any kind of work is likely to enhance our understanding of a largely invisible, taken-for-granted social process that is woven into communication and activity in ways that seem to mimic Darwinian evolution. We briefly discuss institutionalization, distributed sensemaking, power, and emotion to illustrate a few of the many ways in which present thinking about sensemaking might be enhanced.

Sensemaking and Institutional Theory

We have treated organizing as activity that provides a more ordered social reality by reducing equivocality. A crucial question is whether that reality gets renegotiated in every social interaction or whether, as Zucker (1983) puts it, “institutionalization simply constructs the way things are: alternatives may be literally unthinkable” (p. 5). The tension inherent in these otherwise “cool” positions is evident when Czarniawska (2003, p. 134) observes that “Intentional action never leads to intended results, simply because there is a lot of intentional action directed at different aims in each time and place. Institutionalization, like power, is a post factum description of the resultant of all those efforts combined with the random events that accompanied them.”

Discussions of sensemaking often include words like “construct,” “enact,” “generate,” “create,” “invent,” “imagine,” “originate,” and “devise.” Less often do we find words like “react,” “discover,” “detect,” “become aware of,” or “comply with.” This asymmetry suggests that people who talk about sensemaking may exaggerate agency and may be reluctant to assume that people internalize and adopt whatever is handed to them, as Zucker suggests. An example of such exaggeration might be the statement, “sensemaking is the feedstock for institutionalization” (Weick 1995, p. 36). Institutionalists might well argue that the causal arrow in this assertion points in the wrong direction. The causal arrow neglects evidence showing that organizational members are socialized (indoctrinated) into expected sensemaking activities and that firm behavior is shaped by broad cognitive, normative, and regulatory forces that derive from and are enforced by powerful actors such as mass media, governmental agencies, professions, and interest groups (Lounsbury and Glynn 2001). In other words,

“no organization can properly be understood apart from its wider social and cultural context” (Scott 1995, p. 151).

These diverse positions can begin to be reconciled if we focus on mechanisms that link micro-macro levels of analysis and if we pay as much attention to structuring and conversing as we do to structures and texts. One way to further such reconciliation is to follow the lead of Hedstrom and Swedberg (1998), who argue that when we want to explain change and variation at the macrolevel of analysis, we need to show “how macro states at one point in time influence the behavior of individual actors, and how these actions generate new macro states at a later time” (p. 21). Sensemaking can provide micromechanisms that link macrostates across time through explication of cognitive structures associated with mimetic processes, agency, the mobilization of resistance, alternatives to conformity such as independence, anticonformity, and uniformity (Weick 1979, p. 115), and ways in which ongoing interaction generates the taken for granted. Examples of such mechanisms are found in Elsbach’s (2002) description of institutions within organizations and in descriptions of “conventions” in the French Convention School of institutionalists’ thought (Storpor and Salais 1997, pp. 15–43).

The juxtaposition of sensemaking and institutionalism has been rare, but there are recent efforts to correct this (see the important integration proposed by Jennings and Greenwood 2003). For example, Klaus Weber’s (2003) study of globalization and convergence specifically connects the sensemaking and macroinstitutional perspectives. Weber focuses on the content rather than the process of sensemaking. He argued that the media provides corporate vocabularies, and that corporate social structures direct the distribution of these vocabularies among actors. His findings suggest that while institutions in the form of public discourse define and impose the problems to which corporate actors respond, those public institutions do not appear to direct the solutions. Thus, public discourse appears to direct corporate attention, set agendas, and frame issues, but it is less critical for supplying response repertoires. Weber concludes that the relationship between institutions and corporate sensemaking is not linear; the use of corporate sensemaking vocabularies tends to be triggered by institutions, but institutions have less influence over what happens subsequent to triggering.

Distributed Sensemaking

The rhetoric of “shared understanding,” “common sense,” and “consensus,” is commonplace in discussions of organized sensemaking. However, the haunting questions remain: Are shared beliefs a necessary condition for organized action (Lant 2002, p. 355), and is the construct of collective belief theoretically meaningful (Porac

et al. 2002, p. 593)? The drama associated with such questions is demonstrated by Hughes et al. (1992) in their study of reliability in the UK air traffic control system:

If one looks to see what constitutes this reliability, it cannot be found in any single element of the system. It is certainly not to be found in the equipment . . . for a period of several months during our field work it was failing regularly Nor is it to be found in the rules and procedures, which are a resource for safe operation but which can never cover every circumstance and condition. Nor is it to be found in the personnel who, though very highly skilled, motivated and dedicated, are as prone as people everywhere to human error. Rather we believe it is to be found in the cooperative activities of controllers across the “totality” of the system, and in particular in the way that it enforces the active engagement of controllers, chiefs, and assistants with the material they are using and with each other (cited in Woods and Cook 2000, p. 164).

Promising lines of development would seem to occur if work on distributed cognition (Hutchins 1995), heedful interrelating (Weick and Roberts 1993), and variable disjunction of information² (Turner 1978, p. 50) were focused less on the assembling and diffusing of preexisting meaning and more on collective induction of new meaning (see Laughlin and Hollingshead 1995 for laboratory investigations of this issue). When information is distributed among numerous parties, each with a different impression of what is happening, the cost of reconciling these disparate views is high, so discrepancies and ambiguities in outlook persist. Thus, multiple theories develop about what is happening and what needs to be done, people learn to work interdependently despite couplings loosened by the pursuit of diverse theories, and inductions may be more clearly associated with effectiveness when they provide equivalent rather than shared meanings.

Sensemaking and Power

Sensemaking strikes some people as naïve with regard to the red meat of power, politics, and critical theory. People who are powerful, rich, and advantaged seem to have unequal access to roles and positions that give them an unequally strong position to influence the construction of social reality (Mills 2003, p. 153). Sensemaking discussions do tend to assume that meanings survive as a result of voting (e.g., Weick 1995, p. 6), with the proviso that sometimes the votes are weighted equally and sometimes they are not.

Enhancements of sensemaking that pay more attention to power will tend to tackle questions such as how does power get expressed, increase, decrease, and influence others? Preliminary answers are that power is expressed in acts that shape what people accept, take for granted, and reject (Pfeffer 1981). How does such shaping occur? Through things like control over cues, who talks to

whom, proffered identities, criteria for plausible stories, actions permitted and disallowed, and histories and retrospect that are singled out. To shape hearts and minds is to influence at least seven dimensions of sensemaking: the social relations that are encouraged and discouraged, the identities that are valued or derogated, the retrospective meanings that are accepted or discredited, the cues that are highlighted or suppressed, the updating that is encouraged or discouraged, the standard of accuracy or plausibility to which conjectures are held, and the approval of proactive or reactive action as the preferred mode of coping.

Sensemaking and Emotion

Magala (1997, p. 324) argued that perhaps the most important lost opportunity in the 1995 book *Sensemaking in Organizations* was fuller development of a theory of organizational sentiments. Such a theory was “hinted at but ignored.” The opening for further development of emotional sensemaking was the property that projects are ongoing, and when interrupted generate either negative emotions when resumption is thwarted or positive emotions when resumption is facilitated. If emotion is restricted to events that are accompanied by autonomic nervous system arousal (Berscheid and Ammazzalorso 2003, p. 312; Schachter and Singer 1962), if the detection of discrepancy provides the occasion for arousal (Mandler 1997), and if arousal combines with a positive or negative valenced cognitive evaluation of a situation (e.g., a threat to well-being or an opportunity to enhance well-being), then sensemaking in organizations will often occur amidst intense emotional experience. Consider the case of high task interdependence. As the interdependent partners “learn more about each other and move toward closeness by becoming increasingly dependent on each other’s activities for the performance of their daily behavioral routines and the fulfillment of their plans and goals, the number and strength of their expectancies about each other increase. As a result, their opportunities for expectancy violation, and for emotional experience also increase” (Berscheid and Ammazzalorso 2003, p. 317). When an important expectancy is violated, the partner becomes less familiar, less safe, and more of a stranger. In the face of an emotional outburst, people often ask in disbelief “what did I do?!” That is the wrong question. The better question is “what did you expect” (Berscheid and Ammazzalorso 2003, p. 318)? Expectations hold people hostage to their relationships in the sense that each expectancy can be violated, and generates a discrepancy, an emotion, and a valenced interpretation. If I expect little, there is little chance for discrepancy and little chance for emotion. However, when “an outside event produces negative emotion for an individual in a close relationship, the individual’s partner may be less likely to remain tranquil and supportive than a superficial partner might be because the partner

is likely to be experiencing emotion him or herself; the partner's emotional state, in turn, may interfere with the partner's ability to perform as the individual expects" (Berscheid and Ammazalorso 2003, p. 324).

Further exploration of emotion and sensemaking is crucial to clear up questions such as whether intraorganizational institutions are better portrayed as cold cognitive scripts built around rules or as hot emotional attitudes built around values (Elsbach 2002, p. 52).

Conclusions

To deal with ambiguity, interdependent people search for meaning, settle for plausibility, and move on. These are moments of sensemaking, and scholars stretch those moments, scrutinize them, and name them in the belief that they affect how action gets routinized, flux gets tamed, objects get enacted, and precedents get set. Work to date suggests that the study of sensemaking is useful for organizational studies because it fills several gaps. Analyses of sensemaking provide (1) a micro-mechanism that produces macro-change over time; (2) a reminder that action is always just a tiny bit ahead of cognition, meaning that we act our way into belated understanding; (3) explication of predecisional activities; (4) description of one means by which agency alters institutions and environments (enactment); (5) opportunities to incorporate meaning and mind into organizational theory; (6) counterpoint to the sharp split between thinking and action that often gets invoked in explanations of organizational life (e.g., planners versus doers); (7) background for an attention-based view of the firm; (8) a balance between prospect in the form of anticipation and retrospect in the form of resilience; (9) reinterpretation of breakdowns as occasions for learning rather than as threats to efficiency; and (10) grounds to treat plausibility, incrementalism, improvisation, and bounded rationality as sufficient to guide goal-directed behavior.

Analyses of sensemaking also suggest important capabilities and skills that warrant attention and development. For example, the concept of enacted environments suggests that constraints are partly of one's own making and not simply objects to which one reacts; the concept of sensemaking suggests that plausibility rather than accuracy is the ongoing standard that guides learning; the concept of action suggests that it is more important to keep going than to pause, because the flow of experience in which action is embedded does not pause; and, the concept of retrospect suggests that so-called stimuli for action such as diagnoses, plans for implementation, and strategies are as much the products of action as they are prods to action.

Taken together, these properties suggest that increased skill at sensemaking should occur when people are socialized to make do, be resilient, treat constraints as self-imposed, strive for plausibility, keep showing up,

use retrospect to get a sense of direction, and articulate descriptions that energize. These are micro-level actions. They are small actions, but they are small actions with large consequences.

Acknowledgments

The authors thank two anonymous reviewers, Senior Editor Alan Meyer, and Gary Klein for constructive comments on previous versions of this paper.

Endnotes

¹The terms "open ductus" and "complications of the patent ductus" referenced by the nurse in her description refer to a condition formally known as patent ductus arteriosus. Patent ductus arteriosus is a condition where the ductus arteriosus, a blood vessel that allows blood to bypass the baby's lungs before birth, fails to close after birth. The word "patent" means open. If the patent ductus is not closed, the infant is at risk of developing heart failure or a heart infection.

²"... a complex situation in which a number of parties handling a problem are unable to obtain precisely the same information about the problem so that many differing interpretations of the problem exist" (Turner 1978, p. 50).

References

- Albert, S., D. Whetten. 1985. Organizational identity. L. L. Cummings, B. M. Staw, eds. *Research in Organizational Behavior*, Vol. 7. JAI Press, Greenwich, CT, 263–295.
- Aldrich, H. 1999. *Organizations Evolving*. Sage, Thousand Oaks, CA.
- Baum, J. A. C., J. V. Singh. 1994. *Evolutionary Dynamics of Organizations*. Oxford University Press, Oxford, UK.
- Benner, P. 1994. The role of articulation in understanding practices and experience as sources of knowledge in clinical nursing. J. Tully, ed. *Philosophy In An Age of Pluralism: The Philosophy of Charles Taylor In Question*. Cambridge University Press, New York, 136–155.
- Berscheid, E., H. Ammazalorso. 2003. Emotional experience in close relationships. G. J. Fletcher, M. S. Clark, eds. *Blackwell Handbook of Social Psychology: Interpersonal Process*. Blackwell, Malden, MA, 308–330.
- Bettis, R. A., C. K. Prahalad. 1995. The dominant logic: Retrospective and extension. *Strategic Management J.* **16** 5–14.
- Boisot, M., J. Child. 1999. Organizations as adaptive systems in complex environments: The case of China. *Organ. Sci.* **10**(3) 237–252.
- Brown, A. 2000. Making sense of inquiry sensemaking. *J. Management Stud.* **37** 45–75.
- Bukszar, E., Jr. 1999. Strategic bias: The impact of cognitive biases on strategy. *Canadian J. Admin. Sci.* **16** 105–117.
- Campbell, D. T. 1965. Variation and selective retention in socio-cultural evolution. H. R. Barringer, G. I. Blanksten, R. Mack, eds. *Social Change in Developing Areas*. Schenkman, Cambridge, MA, 19–49.
- Campbell, D. T. 1997. From evolutionary epistemology via selection theory to a sociology of scientific validity. *Evolution Cognition* **3**(1) 5–38.
- Chia, R. 2000. Discourse analysis as organizational analysis. *Organization* **7**(3) 513–518.

- Czarniawska, B. 2003. Constructionism and organization studies. R. I. Westwood, S. Clegg, eds. *Debating Organization: Point-Counterpoint in Organization Studies*. Blackwell, Malden, MA, 128–139.
- Duncan, R. B. 1972. Characteristics of organizational environments and perceived uncertainty. *Admin. Sci. Quart.* **17** 313–327.
- Dutton, J. E. 1993. The making of organizational opportunities: An interpretive pathway to organizational change. L. L. Cummings, B. M. Staw, eds. *Research in Organizational Behavior*, Vol. 15. JAI Press, Greenwich, CT, 195–226.
- Elsbach, K. D. 2002. Intraorganizational institutions. J. A. C. Baum, ed. *The Blackwell Companion to Organizations*. Blackwell, Malden, MA, 37–57.
- Gavetti, G., D. Levinthal. 2000. Looking forward and looking backward: Cognitive and experiential search. *Admin. Sci. Quart.* **45** 113–137.
- Gililand, S. W., D. V. Day. 2000. Business management. F. T. Durso, ed. *Handbook of Applied Cognition*. Wiley, New York, 315–342.
- Gioia, D. A., K. Chittipeddi. 1991. Sensemaking and sensegiving in strategic change initiation. *Strategic Management J.* **12** 433–448.
- Gioia, D. A., A. Mehra. 1996. Book review: *Sensemaking in Organizations*. *Acad. Management Rev.* **21**(4) 1226–1230.
- Gioia, D. A., J. B. Thomas. 1996. Identity, image, and issue interpretation: Sensemaking during strategic change in academia. *Admin. Sci. Quart.* **41** 370–403.
- Gioia, D. A., M. Schultz, K. Corley. 2000. Organizational identity, image, and adaptive instability. *Acad. Management Rev.* **25** 63–81.
- Gioia, D. A., J. B. Thomas, S. M. Clark, K. Chittipeddi. 1994. Symbolism and strategic change in academia: The dynamics of sensemaking and influence. *Organ. Sci.* **5** 363–383.
- Hedström, P., R. Swedberg. 1998. Social mechanisms: An introductory essay. P. Hedström, R. Swedberg, eds. *Social Mechanisms: An Analytical Approach to Social Theory*, Ch. 1. Cambridge University Press, Cambridge, UK, 1–31.
- Hughes, J., D. Randall, D. Shapiro. 1992. Faltering from ethnography to design. *Comput. Supported Cooperative Work (CSCW) Proc.*, Toronto, Ontario, Canada, 1–8.
- Hutchins, E. 1995. *Cognition in the Wild*. MIT Press, Cambridge, MA.
- Jennings, P. D., R. Greenwood. 2003. Constructing the iron cage: Institutional theory and enactment. R. Westwood, S. Clegg, eds. *Debating Organization: Point-Counterpoint in Organization Studies*. Blackwell, Malden, MA, 195–207.
- Kennedy, I. 2001. *Learning from Bristol: The Report of the Public Inquiry into Children's Heart Surgery at Bristol Royal Infirmary 1984–1995*. Her Majesty's Stationer, London, UK.
- Klein, G., J. K. Phillips, E. L. Rall, D. A. Peluso. In press. A data/frame theory of sensemaking. Unpublished manuscript. R. R. Hoffman, ed. *Expertise Out of Context: Proc. 6th Internat. Conf. Naturalistic Decision Making*. Erlbaum, Mahwah, NJ.
- Kruglanski, A. W. 1989. The psychology of being “right”: The problem of accuracy in social perception and cognition. *Psych. Bull.* **106** 395–409.
- Lanir, Z. 1989. The reasonable choice of disaster—The shooting down of the Libyan airliner on 21 February 1973. *J. Strategic Stud.* **12** 479–493.
- Lant, T. K. 2002. Organizational cognition and interpretation. J. A. C. Baum, ed. *The Blackwell Companion to Organizations*. Blackwell, Oxford, UK, 344–362.
- Laroche, H. 1995. From decision to action in organizations: Decision-making as a social representation. *Organ. Sci.* **6**(1) 62–75.
- Laughlin, P. R., A. B. Hollingshead. 1995. A theory of collective induction. *Organ. Behavior Human Decision Processes* **61** 94–107.
- Louis, M. R. 1980. Surprise and sensemaking: What newcomers experience in entering unfamiliar organizational settings. *Admin. Sci. Quart.* **25** 226–251.
- Lounsbury, M., M. A. Glynn. 2001. Cultural entrepreneurship: Stories, legitimacy, and the acquisition of resources. *Strategic Management J.* **22**(6) 545–564.
- Magala, S. J. 1997. The making and unmaking of sense. *Organ. Stud.* **18**(2) 317–338.
- Mandler, G. 1984. *Mind and Body*. Free Press, New York.
- Mandler, G. 1997. *Human Nature Explored*. Oxford, New York.
- Mezias, J. M., W. H. Starbuck. 2003. Managers and their inaccurate perceptions: Good, bad or inconsequential? *British J. Management* **14**(1) 3–19.
- Mills, J. H. 2003. *Making Sense of Organizational Change*. Routledge, London, UK.
- Obstfeld, D. 2004. Saying more and less of what we know: The social processes of knowledge creation, innovation, and agency. Unpublished manuscript, University of California-Irvine, Irvine, CA.
- Ocasio, W. 2001. How do organizations think? T. K. Lant, Z. Shapira, eds. *Organizational Cognition: Computation and Interpretation*. Erlbaum, Mahwah, NJ, 39–60.
- Orlikowski, W. J., D. C. Gash. 1994. Technological frames: Making sense of information technology in organizations. *ACM Trans. Inform. Systems* **2** 174–207.
- Orton, J. D. 2000. Enactment, sensemaking, and decision making: Redesign processes in the 1976 reorganization of US intelligence. *J. Management Stud.* **37** 213–234.
- Paget, M. A. 1988. *The Unity of Mistakes*. Temple University Press, Philadelphia, PA.
- Patriotta, G. 2003. Sensemaking on the shop floor: Narratives of knowledge in organizations. *J. Management Stud.* **40**(2) 349–376.
- Pfeffer, J. 1981. *Power in Organizations*. Pitman, Marshfield, MA.
- Pfeffer, J., G. R. Salancik. 1978. *The External Control of Organizations: A Resource Dependence Perspective*. Harper and Row, New York.
- Porac, J. F., M. J. Ventresca, Y. Mishina. 2002. Interorganizational cognition and interpretation. J. A. C. Baum, ed. *The Blackwell Companion to Organizations*. Blackwell, Malden, MA, 579–598.
- Schachter, S., J. E. Singer. 1962. Cognitive, social, and physiological determinants of emotional state. *Psych. Rev.* **69** 379–399.
- Scott, R. W. 1995. *Institutions and Organizations*. Sage, Thousand Oaks, CA.
- Snook, S. 2001. *Friendly Fire*. Princeton University, Princeton, NJ.
- Starbuck, W. H., J. Mezias. 1996. Opening Pandora's box: Studying the accuracy of managers' perceptions. *J. Organ. Behavior* **17** 99–117.
- Storpor, M., R. Salais. 1997. *Worlds of Production: The Action Frameworks of the Economy*. Harvard, Cambridge, MA.
- Sutcliffe, K. M. 1994. What executives notice: Accurate perceptions in top management teams. *Acad. Management J.* **37** 1360–1378.

- Sutcliffe, K. M. 2000. Organizational environments and organizational information processing. F. M. Jablin, L. L. Putnam, eds. *The New Handbook of Organizational Communication*. Sage, Thousand Oaks, CA, 197–230.
- Taylor, J. R., E. J. Van Every. 2000. *The Emergent Organization: Communication as Its Site and Surface*. Erlbaum, Mahwah, NJ.
- Tsoukas, H., R. Chia. 2002. Organizational becoming: Rethinking organizational change. *Organ. Sci.* **13**(5) 567–582.
- Turner, B. 1978. *Man Made Disasters*. Wykeham Press, London, UK.
- Warglien, M. 2002. Intraorganizational evolution. J. A. C. Baum, ed. *The Blackwell Companion to Organizations*. Blackwell, Malden, MA, 98–118.
- Weber, K. 2003. Does globalization lead to convergence? The evolution of organizations' cultural repertoires in the biomedical industry. Unpublished dissertation, University of Michigan, Ann Arbor, MI.
- Weick, K. 1969. *The Social Psychology of Organizing*. Addison-Wesley, Reading, MA.
- Weick, K. E. 1979. *The Social Psychology of Organizing*, 2nd ed. Addison-Wesley, Reading, MA.
- Weick, K. E. 1993. The collapse of sensemaking in organizations: The Mann Gulch disaster. *Admin. Sci. Quart.* **38** 628–652.
- Weick, K. E. 1995. *Sensemaking in Organizations*. Sage, Thousand Oaks, CA.
- Weick, K. E., K. H. Roberts. 1993. Collective mind in organizations: Heedful interrelating on flight decks. *Admin. Sci. Quart.* **38** 357–381.
- Weick, K. E., K. M. Sutcliffe. 2001. *Managing the Unexpected*. Jossey-Bass, San Francisco, CA.
- Weick, K. E., K. M. Sutcliffe. 2003. Hospitals as cultures of entrapment: A re-analysis of the Bristol Royal Infirmary. *California Management Rev.* **45**(2) 73–84.
- Westley, F. R. 1990. Middle managers and strategy: Microdynamics of inclusion. *Strategic Management J.* **11** 337–351.
- Westrum, R. 1982. Social intelligence about hidden events. *Knowledge* **3** 381–400.
- Winter, S. 1987. Knowledge and competence as strategic assets. D. Teece, ed. *The Competitive Challenge—Strategies for Industrial Innovation and Renewal*. Bollinger, Cambridge, MA, 159–184.
- Winter, S. 2003. Mistaken perceptions: Cases and consequences. *British J. Management* **14** 39–45.
- Woods, D. D., R. I. Cook. 2000. Perspectives on human error: Hind-sight biases and local rationality. F. T. Durso, ed. *Handbook of Applied Cognition*. Wiley, New York, 141–172.
- Zucker, L. G. 1983. Organizations as institutions. S. B. Bacharach, ed. *Research in the Sociology of Organizations*, Vol. 2. JAI Press, Greenwich, CT, 1–48.