CLUES, CUES AND COMPLEXITY:

UNPACKING THE CONCEPT OF ORGANIZATIONAL SURPRISE[1]

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ABSTRACT

We discuss why surprises, defined as events that happen unexpectedly or expected events that take unexpected shapes, are important to organizations and should be considered in the organizational literature. The concept of organizational surprises is unpacked on the basis of a typology built around the (un)expectedeness of issue and process. This typology uncovers the several types of surprising events that organizations may face, and contributes to the literature by suggesting that different surprises require distinct approaches.

In its edition of December 21, 2002, an editorial of the *Financial Times*, entitled "Learning to live with uncertainty", announced "A certainty for 2002: economic forecasts will be wrong". And it continued: "The trouble with forecasting is that the future is uncertain. (...) In 2003, the *Financial Times* can say, with some confidence, there will be many surprising and unforeseen events. These will be important and prove economic forecasters wrong yet again. That is not to say that the economists should not bother to forecast the twists and turns of economies but everyone should recognize the limitations of this fiendishly difficult art."

A few months later the *Wall Street Journal Europe* (Trufimov, 2003), covering the war on Iraq, reported "Basra's resistance surprises planners." Planning and surprise can be regarded as a conceptual odd couple, not only in the military battlefield but also in the corporate environment. Despite their irrevocable coexistence, management scholars have devoted a considerable attention to planning, while almost ignoring surprise. The focus has been almost exclusively on rules and rationality, with a few exceptions such as March (1988), rather than those things that break the rules, rattle the rationality and unsettle expectations. Yet, surprise is immanent to business systems. Dell's mail order strategy caught the personal computer industry by surprise. The effectiveness of Domino's delivery strategy was a surprise to Pizza Hut. Consumers' reaction to New Coke was surprising, considering the discrepancy between predictions and actual responses.

In this paper we argue that surprise, defined as any event that happens unexpectedly or any expected event that takes an unexpected shape, is an important concept and should

be considered in the literature. The tendency to overestimate control has led to ignorance about surprises (Weick, 2003). It is an ignorance reinforced by the fact that many surprises are negligible and have no real impact on organizational activity – for example, when an unexpected complication occurs during surgery but is successfully solved. Other surprises, such as when a high profile patient dies because his doctors fear the consequences of any intervention that they might make, such as was the case with Stalin's death, can have hugely unpredictable results – such as the end of Stalinism. Thus, some surprises can create organization-made disasters (e.g. nuclear catastrophes), reputational losses, or vulnerable competitive positions (Provan & Skinner, 1989). Some surprises preannounce themselves in the form of warning signals that for one reason or another may be ignored (Wissema, 2002), while others apparently come without warning (Levy, 1994). Some surprises are sometimes taken as inevitable (as in the case of normal accidents, Perrow, 1984), while others should have been avoided – at least in retrospect (Watkins & Bazerman, 2003). Some surprises are rapidly neutralized while others escalate (Staw, 1976).

The abundant research on surprising events deals mostly with crisis management, escalating commitment, high reliability organizations, sensemaking, organizational improvisation, and so forth. A typology of organizational surprises, however, is still missing. That is unfortunate because surprises matter, both when they are good (e.g. when a failed invention becomes a successful innovation, as happened with 3M's Post-it notepads) and when they are bad (e.g. when a successful routine degenerates into disaster, as in the case of the Challenger launch). If we take surprises as failures of knowledge, they will be understood as resulting from an interactive field (i.e. an action setting that results from the interaction between expectations, dispositions and local

particularities; see Tsoukas 1996) that has not been able to manage the correspondence between internal representation and collective action. Considering that knowledge creation is an imperfect process – as Hayek (1945) remarked, no single agent may accede knowledge in its totality – the potentiality of surprise should be taken as a property of open systems, i.e. systems in which individual actions change qualitatively over time, as well as the relationships between individuals and their contexts. Recognizing the importance of surprises, organizational scholars will be better equipped to understand how organizations deal with the multiple faces of the unexpected.

To unpack the concept of surprise we start with a discussion of the origins of surprise. It comes into Middle English from the Old French, via Latin. The original meaning refers to an act of coming upon, or of being taking, unawares; the act of seizing unexpectedly. The person may be taken unawares only by that which they do not know. Organizationally, surprise accompanies a lack of attention rather than a lack of knowledge per se. Some may have known what to expect but not have been in a position to be heard. In such a case, the organization would not know, in the sense of not attending to, what some of its members might know, in the sense of being aware of the possibility of some such phenomenon.

Lampel and Shapira (2001) analyze surprises according to an external (the complexity perspective) and an internal perspective (the strategizing perspective). Complexity theory is considered because it provides a compelling view of surprise as an intrinsic feature of complex systems such as organizations and their environments (Levy, 1994). The strategizing view discusses how managers' interpretations of environments amplify rather than control, the potential for surprise (Starbuck, 1993). Hence, organizationally,

it seems as if we can propose two possibilities: surprises can be viewed as having an internal origin or an external origin. Viewing surprises as internally originated means that people fail to attend to the relevant cues or clues and are thus surprised: the archetypal reader of a thrilling suspense novel would fall into this category. Thus, this is fundamentally a cognitive explanation. The mind does not process adequately what is cued. Some organizational surprises will be similar to this example. A football team with ageing but costly stars has a board that does not cue that the players who attract the crowds' loyalty and support are blocking the opportunities for team renewal in the future.

Externally induced surprises come from outside of present cognition. It is not that cues are overlooked but that new cues are generated outside of what cognition presently and customarily attends to. The external perspective may be supported with theoretical approaches such as Austrian economics or complexity theory, which present organizations and their environments as generators of novelty through interaction and competitive rivalry (Kirzner, 1993; Roberts & Eisenhardt, 2003).

THE ORIGINS OF SURPRISES

Surprises are, to a great extent, the opposite of "good management" or, at least, the opposite of good management as portrayed on the basis of a mechanistic approach, as tends to happen in organizational research (Pondy & Mitroff, 1979). Traditional organizational wisdom, engineering-based, rationality-oriented, emphasized such features as objectivity, detachment and control (Shenhav, 2003). As a result, as noted by Tsoukas (1994: 3) "in our modern societies (...) prevention is deeply valued; we don't like to be taken by surprise". Everything is reduced to nothing – to a phenomenon

lacking any surprising or non-routine qualities (Ritzer 2004). From this perspective, surprises should become something under the organization's control; hence, the presentation of surprise as a marketing tool – something that will predictably switch attentions (Lindgreen & Vanhamme, 2002). On the contrary, we would not consider this a surprise: instead, surprise should be viewed as processes that seizes an organization's attention, despite its predictable expectations, something which has escaped the organization's control, instead of being an instrumental process stocked in the organization's tool kit.

To uncover the many faces of organizational surprises, a typology requires building with reference to issues and processes. The combination of the internal/external criteria with surprising/unsurprising results in four possibilities: predictable events, surprising processes, surprising issues and crises of sensemaking. The implications attendant upon unpacking the concept of organizational surprise are explored in the final section.

External Explanations

Traditional management thinking dealt with a world of mechanistic organizations (Tsoukas, 1994). Organizational populations were said to be composed of agents exhibiting similar behavior: rational behavior. It is a perspective, that can be considered questionable on several grounds. The major criticism refers to the possibility of knowledge. By 1945, Friedrich Hayek asserted that the major economic problem was a knowledge problem: "the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form but solely as the dispersed bits incomplete and frequently contradictory knowledge which all the separate individuals

possess. (...) Or, to put it briefly, it is a problem of the utilization of knowledge which is not given to anyone in its totality" (1945: 519-520). Complexity theorists help to better understand the reason why knowledge has not been given to anyone in its totality. These theorists describe complex adaptive systems such as organizational fields, as being made of agents that use complex behavior, i.e. structured enough to exhibit regularity but also full of surprise and of potential for novelty. Due to the complexity of agent behavior, novelty is inscribed in the fabric of social systems and so surprise is inherent to these systems. It is not possible to have access to knowledge is its entirety because the "entire knowledge" is not stocked anywhere, but emerges from interaction. The distributed nature of knowledge and the challenges it poses for organizational work is highlighted (Orlikowski, 2002). As noted by Kauffman (1995), complex systems live on the edge of chaos, in a state of compromise between structure and surprise. Contrary to the predictions of traditional economics, they may not tend towards equilibrium. Indeed, as noted by Levy (1994) they may never pass through the same state more than once. That is why surprise is a pervasive feature of complex systems, not an exogenous factor, subject to removal. It is impossible to reduce a complex system to nothingness – to central abstract control and planning and unproblematic implementation.

Internal Explanations

Several internal processes can be considered to explain the existence of organizational surprises. Cognitive functioning is a relevant one. As pointed out by Starbuck (1993: 83), firms "need to spot surprises, not just to confirm expectations." Or, as Tsoukas (1994) put it, managers sometimes fail in transforming events into experiences. It is this gap between different domains of reality that explains why signals (events) that presage

a forthcoming accident, are not properly noticed (i.e., converted into lived experience). Even the most experienced strategists are vulnerable to confirmation of expectations or the difficulty of articulation between events and experiences. Shrivastava and Schneider (1984) discussed the way people develop frames of reference, or sets of assumptions that determine the managers' view of the business. Strategic frames of reference may be helpful because they focus attention on what is important. But they may create patterns of habitual thought: "as they grow more rigid, managers often force surprising information into existing schema or ignore it altogether" (Sull, 1999: 45). As such, strategic issues need to be interpreted (Thomas & McDaniel, 1990). In the interpretation process, some surprising possibilities may simply be "normalized" and accommodated to existing schema. Of course, they may erupt later, because competitive dynamics are not merciful to flawed managerial interpretations.

ORGANIZATIONAL SURPRISES: A TYPOLOGY

Organizing basically has been reduced by management scholars to being boring: it seems to concern only repetition and routine (Weick & Westley, 1996). Under a mechanistic analysis of organizations, surprises tend to be viewed as failures of interpretation or failures of intelligence (Lampel & Shapira, 2002). Alternatively, they can be taken as failures of mindfulness (Weick & Sutcliffe, 2001), meaning that the complexity of social systems is easily overlooked by human decision makers. As such, surprises are inevitable and some are not predictable. In an attempt to unpack the concept of surprise, we propose the taxonomy presented in Table 1. It is built around two core dimensions: issue and process. We consider that an organization can be surprised by issues (something that happens and was not expected to happen or

something that was expected to happen and does not happen) or by processes (something that happens differently than expected). The combination of expected or unexpected issues with expected or unexpected processes results in four possibilities: predictable events (expected issue and process), surprising issues (unexpected issue but predictable process), surprising processes (expected issues that take unexpected processes) and crises of sensemaking (unexpected issue and process). These four possibilities are discussed below.

Insert Table 1 about here

Predictable events (expected issue and process)

Many events in an organization's life can be anticipated. Actions such as the need to substitute equipment or to launch a new product seasonally are often predictable. Expected issues are normally dealt with a planned approach in the form of a standard operating procedure or an organizational routine. But some unique events can also be anticipated and solved through planning. That was the case, for example of the Y2K bug (Pearson, 2001). The anticipation of the potentially disastrous consequences of the Y2K created awareness and directed attention to the problem, which resulted in the prevention of potential losses. Therefore, predictable events are those to which organizational routines or standard procedures can be applied. It refers, thus, to "the disasters you should have seen coming" (Watkins & Bazerman, 2003).

Surprising processes (expected issue, unexpected process)

Sometimes expected issues gain unexpected shapes while unfolding. As previously mentioned, organizations develop routines to deal with expected issues. The possibility of routines taking unexpected directions, however, is real, because routines are not mere repetitions of similar processes. In other words, expected issues which are apparently managed with recourse to the very same process, may trigger the potentialities of routines as generators of surprise. Routines are not mere repetitions. As noted by Feldman and Rafaeli (2002), they create shared understandings that are useful in dealing with the negotiated order. But when the negotiated order they rest upon is changed, they change accordingly. As such, routines play a dual and somewhat paradoxical role in the functioning of organizations: they are the building blocks of both stability and change. If much literature has evidenced the mechanical side of routine (e.g. Hannan & Freeman, 1983; Nelson & Winter, 1982), there is a growing attention to their evolutionary and mutating side (Hutchins, 1991; Tsoukas & Chia, 2002). It is the adaptive nature of routines that explains how, sometimes, organizations can find themselves transformed through the seemingly negligible accumulation of minor improvisations in organizational routines (Orlikowski, 1996).

Careful decisions can also provoke unexpected processes. That was the case of the launch of New Coke. As described by then CEO Roberto Goizueta "We set out to change the dynamics of sugar colas in the US, and we did exactly that – albeit not in the way we had planned" (Chandran, 2002, p.2). There is thus the possibility that voluntary moves (the launch of the new formula) may produce a dynamic of their own, which escapes the intentions of the players who started the game.

Surprising issues (unexpected issue, expected process)

Unexpected issues may sometimes give origin to expectable processes. An initial decision regarding some issue may ignite a process that is constrained by the decision. Complexity theorists call this sensitivity to initial conditions (Priesmeyer, 1992). Baker, Miner and Eesley (2003) offer an example of such a possibility when describing how a startup engineering firm developed a people-oriented culture. Due to difficulties in recruiting candidates to embrace the project and accept the job offers, an entrepreneur acquiesced with a candidate's preference for a people-oriented culture and presented the nascent project as corresponding to that description. The acceptance of the job by this candidate led him to spontaneously mention the people-orientation of the new firm to other prospective employees. The unexpected issue, in this case the organization's philosophy and cultural profile, produced an expected outcome: a people-oriented culture, later affirmed in practice.

Crises of sensemaking (unexpected issue, unexpected process)

Sometimes unexpected issues may lead to unexpected processes. Consider the following description of Honda's entry in the U.S. market:

"We used the Honda 50s ourselves to ride around Los Angeles on errands. They attracted a lot of attention. One day we had a call from a Sears buyer. While persisting in our refusal to sell through an intermediary, we took note of Sears's interest. But we still hesitated to push the 50 cc bikes out of fear they might harm our image in a heavily

macho market. But when the larger bikes started breaking, we had no choice. We let the 50 cc bikes move. And surprisingly, the retailers who wanted to sell them weren't motorcycle dealers: they were sporting goods stores." (Pascale, 1983: 6).

What is significant in the Honda example is that it shows how taken-for-granted assumptions; well crafted plans, and tested strategies may fail and confront organizations with the need to create new meaning. Crises of sensemaking, thus, refer to those cases where an unexpected issue combines with an unexpected process, resulting in novel, ambiguous and unfamiliar situations. Weick (1993) named these situations "vu jàdé", i.e. occasions that astonish people and force them to a radical reanalysis of their assumptions and strategies. Crises of sensemaking occur when a previous mindset is disrupted and a new one is still in the making. As illustrated by Perrow (1984), small events may interact, amplify and end up producing major crises. As such, crises of sensemaking are most likely in contexts characterized by tight coupling and interactive complexity. It is in these contexts that "normal accidents" happen.

DISCUSSION AND CONCLUSION

The interest of organizational researchers in the topic of surprise as a pervasive component of organizational life is limited. When examining it, many authors directed their attention to the prediction of surprises (e.g. Watkins & Bazerman, 2003), an approach that sets an interesting paradox: a predictable surprise can no longer be a surprise. Despite such an interest in the prediction, instrumentality, and neutralization of surprises, which is particularly sensible in the case of crisis management, some surprises are unpredictable and, therefore, surprising. That is why Brown and

Eisenhardt (1998: 7) note that "competing on the edge is about surprise" and warn managers that "something that you are doing has the potential to surprise you" (Brown and Eisenhardt, 1998: 122). The complexity literature, contrary to the mechanistic, prediction-based approach, views surprise not as a threat to neutralize but as an inherent feature of complex systems, in which novelty is a systemic property and not an exogenous factor to remove.

In this article, we have advanced two major points. First, the lack of awareness regarding the role of surprise in organization theory is unfortunate because in hindsight people tend to reduce "surprisingness" (Goiten, 1984). As such, they may fail to learn from experience and misattribute surprising outcomes to uninformed decision makers. As remarked by Weick and Sutcliffe (2001) people tend to overestimate the degree of clarity, structure and predictability of the events they face. By taking surprise as an inherent feature of complex systems, managers will accept that no one completely understands the technology, the actions of other people and the changes in the context. Therefore, more than insisting on the possibility of predicting surprises, organizational researchers should investigate how organizations may develop the resilience and mindfulness necessary to deal with the many faces of the unexpected. If we take surprises seriously, processes such as resilience, vigilance, improvisation, distributed problem sensing, minimal structuring and intelligent reaction, become part of the organizational repertoire of language and action.

Second, that the unpacking of the concept of organizational surprises suggests that different types of surprises tend to be approached differently. For instance, predictable events can be tackled with relative ease if they are deemed important by decision

makers, while crises of sensemaking involve the need to overcome the confusion arising. Managers can feel comfortable dealing with the former but they seldom are prepared to deal with the latter (Mitroff, 1988). Hence, the importance of distinguishing different types of surprises instead of treating every surprise as a predictable event. In a world of complexity, the proneness to be taken by surprise, instead of the effort to predict every single surprise, may be a component of the manager's job.

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TABLE 1

A typology of organizational surprises

	Expected process	Unexpected process
Expected issue	Predictable events	Surprising processes
Unexpected issue	Surprising issues	Crises of sensemaking