

SENSEMAKING

By Sid Heal

In every case, the first challenge for an incident commander in resolving a crisis is to overcome the uncertainty that accompanies it. No plan can proceed and no actions can succeed without some idea of what is transpiring and what is to be expected. It is particularly exasperating when the consequences of inaction or failure carry the potential for injury or death. *Sensemaking*¹ is a term that describes the process used to comprehend what is transpiring as well as the implications of the event. It gives meaning to experience and is a critical component of situational awareness.²

Sensemaking requires both examination and intuition. Examination will identify relevant factors and influences, but the sheer volume of possibilities prohibits an exhaustive search. Intuition is necessary to identify the most promising. Likewise, sensemaking requires an examination of what has already occurred in order to grasp

what is unfolding and anticipate the ramifications.

To understand the process better, think about a medical diagnosis. When doctors are confronted with sick patients they ask questions and conduct tests to determine what has happened. They also observe symptoms and then intuit the best treatment. It is the same

with tactical situations and disaster responses in which commanders must establish what has occurred to gain an appreciation of unfolding events and then determine an appropriate course of action to resolve the crisis.

PRINCIPLES OF SENSEMAKING

Sensemaking has been studied for decades and although still not fully understood, several principles have emerged that are useful for enhancing a commander's abilities. The first is to focus on the obvious. Something is obvious because it is typical, a principle that is often called *Sutton's Law*. Ironically, it is a law enforcement example that is taught in medical schools and takes its name from a career bank robber in the middle of the last century (William Sutton) who, when asked why he robbed banks, was reputed to



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have said, "Because that's where the money is." The concept is also eloquently expressed to doctors as, "When you hear hoof beats, think horses, not zebras." Sutton's Law is not only useful for comprehending unfolding events but also for prioritizing, since it focuses attention on the most likely factors and influences before looking for those that are more improbable.

Similarly, suitable courses of action are relatively easily discerned, which identifies another principle called *Occam's razor*. This is a heuristic that holds that the simplest solution is probably the correct one.³ All in all, this approach is a high-value, low-risk method that yields good results more often than not.

Not every situation is ordinary, however, and blindly applying a solution to a situation for which it is not suited is a recipe for disaster. The best commanders do not routinely accept a situation at face value but also look for exceptions and anomalies. This principle is called *unmet expectations*, which are used to identify extraordinary factors that are peculiar or abnormal, or influences that deviate from norms. These can be either things

that are present but irregular, or things that should be present but are not. This principle requires a certain level of experience before it can be relied upon, since one or more presumptions must be challenged. Without at least some experience there can be no presumptions.

The difficulties in sensemaking are not a result of a lack of information but rather an inability to separate the relevant from the volume. This is referred to as the *signal to noise ratio*, and it is a comparison of the amount of useful information with the amount of useless information. The higher the ratio, the more difficult it is to recognize and comprehend meaningful information. This is another area in which experts have an advantage



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because they know what types of information are likely to be useful and how best to find it.

Notwithstanding, no foolproof system has yet been devised and catastrophes and failures abound. In some cases these occurred because signals were missed, as in the terrorist attacks

on 9/11. In other cases, however, the signals were recognized but misconstrued, as with the Y2K scare in 1999.⁴ The major problem is that the signals are either obscured in the noise and so are not easily recognized, or the significance of a weak signal or subtle influence is not readily discerned. Thus, the correlations between the observed signals and their implications are not recognized until after they become apparent — nearly always too late to be of value.

HOW EXPERTS USE SENSEMAKING

In the unfolding circumstances that typically confront domestic law enforcement, researchers have noted several common methodologies used by experts. The first is that in trying to make sense of a situation, experts form a mental model based upon their past experiences. This mental model is formed by using patterns from previous situations to provide a hypothetical comparison with the present circumstances. The greater the repertoire of experience and similarity with the present situation, the faster and more accurate is the assessment.

Experts do not accept the assessment at face value, however. Rather, they look for irregularities and differences that always make the current situation somewhat unique. This allows them to modify their mental model to anticipate how best to adapt. Anticipatory thinking is how they speculate about what might happen next.⁵ In this manner, they are “thinking in the future” and gain an ability to foresee events that have not yet occurred but are expected.

Because it is impossible to continually evaluate an endless amount of information, their attention is attracted to *hot spots* to draw the evidence from the ambience. A hot spot is simply a place and/or time in which trouble is

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expected. Even without apparent clues, experts are quick to recognize these hot spots and watch them closely to gain more comprehension or validate a suspicion and so are continually scanning for weak signals and subtle influences that will provide further comprehension of the unfolding events. In the simplest terms then, even when experts do not know what to look for, they know where to look.

Sensemaking is one of the critical enabling characteristics of expertise that enable experts to take seemingly disparate pieces of information and fit them into a mental model. In turn, this model provides a rich repository of useful information, such as comparisons, probabilities, norms and trends. It is only after grasping a situation that meaningful plans can be crafted. //

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ENDNOTES

1. The term is also spelled “sense making” and “sense-making.” A more comprehensive examination is available in Gary Klein’s “Streetlights and Shadows: Searching for the Keys to Adaptive Decision Making,” p. 177.
2. For more information on situational awareness, see “Situational Awareness and a Common Operational Picture,” *The Tactical Edge*, Spring 2002, pp. 55-56.
3. A heuristic can be understood as a rule of thumb or application of commonsense. *Occam’s razor* is named after William of Ockham (c. 1287-1347) and is used for all types of problem solving. More precisely, it holds that the hypothesis with the fewest assumptions should be selected.
4. The Y2K scare (also known to as the Millennium bug or the Y2K bug) forebode widespread computer crashes resulting from antiquated software but never resulted in the predicted disastrous effects.
5. Gary Klein’s “Streetlights and Shadows: Searching for the Keys to Adaptive Decision Making,” p. 163.