Surviving Natural Disasters by Listening to Nature's Warnings

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Abstract

For a society to be resilient to catastrophic risks, it must be able to anticipate potential disasters in a manner timely enough to allow its people to sidestep such upheavals. The state of our current technology does not enable us to do this with any degree of consistent accuracy. Animals in nature fare much better than we do against natural catastrophes because they can predict and respond to disturbances in a way that we can't duplicate with our current technical knowledge. By studying their behavior, and reading the signs that they give us in their own inimical language, we lead people out of harm's way when catastrophes occur. History has demonstrated this very thing. By opening up this particular line of scientific inquiry, we may even learn to "read" nature as the animals do. Any knowledge gained may then perhaps be incorporated into future technologies for the betterment of humanity.

Key Words: natural disasters, animal behavior, technology, prediction

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Introduction

Mankind has long perceived itself to be living at the mercy of the forces of nature. In the last century or so we have abetted this fear with our own man-made nightmares and our technological capacity for wreaking various forms of destruction on a mass scale. The average person often feels insignificant and ineffective in the face of powers beyond his or her control. When science first began to make great strides – particularly in the areas of medicine, communication and human psychology – there was a collective feeling that this idea of helplessness might be vanquished once and for all. Man would be the master of his world and fate.

Yet illness and personal suffering continue, and natural disasters are far from vanquished. Indeed, they occur at an alarming level of frequency in the modern world. Earthquakes, volcanic eruptions, hurricanes, tsunamis, landslides, forest fires and super storms are the news of the day.

What Can Nature Tell Us?

An effective strategy for building a human society that's more resilient in the face of catastrophe must somehow have at its disposal the means of *anticipating* possible disturbances as well as responding to them. At our current state of scientific knowledge and technological progress, many catastrophes occur too suddenly for any effective action to be made - even if people have taken every conceivable precaution.

This can be seen clearly in the field of seismology, for example. Seismologists can measure seismic pressures and observe changes in magnetic fields in order to estimate the probability of an earthquake's occurrence, but they cannot do so in a manner that's *timely* enough to allow for effective safety measures. Most do not believe that they can provide the short-term notice that would be necessary to save the lives of those who live in threatened communities. Many scientists maintain that earthquake prediction is inherently impossible (Hsin-ching 2008/9/).

A pervasive myth within our modern civilization tries to convince us that the artificial world that we have created via our technology is more sophisticated than the natural world. Yet within the context of disasters on a mass scale – both natural and man-made – animals have consistently proven themselves more resilient than we civilized humans. Perhaps the earliest documentation of animals evading a natural catastrophe comes to us from the Roman writer Claudius Aelianus, who wrote of the destruction of the Greek city of Helike by earthquake and tsunami in 373 BC.

"For five days before Helike disappeared, all the mice and martens and snakes and centipedes and beetles and every other creature of that kind in the city left in a body… after these creatures had departed, an earthquake occurred in the night; the city subsided; an immense wave flooded and Helike disappeared…" (The Lost Cities of Ancient Helike).

In our own era there are numerous reports of animals, both wild and domesticated, acting restless, anxious and even fearful for hours - even days - before natural disasters strike.

- On December 26, 2004, a tsunami was roused by a 9.0 quake in the Indian Ocean. It's estimated that as many as 285,000 people were killed along the coast of India. No mass animal deaths were reported, however. The buffaloes, goats and dogs, having sought

higher ground in response to some inexplicable premonition, were unharmed. A nesting colony of flamingoes also managed to escape the devastation.

- In 1966 the city of Parkfield, California witnessed a literal deluge of rattlesnakes that were fleeing to the surrounding hills en masse. An earthquake hit the area two days later.
- In Bang Koey, Thailand, a grazing herd of buffalo suddenly turned and stampeded from the beach up to higher ground. The villagers who followed them were subsequently saved by the tsunami that subsequently struck.

Such occurrences have long been a part of our common folklore. Bees abandon their hives. Dogs bark or whine incessantly. Caged birds become restless. Even small creatures like spiders, scorpions and kangaroo rats behave in strikingly atypical ways in response to approaching natural disasters. The majority of Western scientists have long dismissed allegations of animal precognition, relegating such stories to the realm of coincidence or superstition.

China, on the other hand, took action in 1975 in response to strange animal behavior and evacuated the city of Haicheng mere days before a 7.3 quake struck. Only 10% of the city was left standing after this catastrophe occurred, but as many as 150,000 human lives were possibly saved by the preemptive move. Since that time, authorities have encouraged people living in the country's earthquake-prone areas to report any odd animal behavior. As a result, Chinese scientists have a strong track record in anticipating earthquakes. There have been other occasions, after the incident at Haicheng, where they've been able to issue warnings in time to evacuate cities and save the lives of tens of thousands of people.

In 2005, the PBS *Nature* documentary **"***Can Animals Predict Disaster***?"** considered a number of possible scientific explanations for the sort of animal behavior that is so often witnessed before natural disasters occur.

- Can these creatures detect magnetic-field variations or shifts in the intensity of electrical currents?
- Can they sense seismic activity through contact with the ground?
- Can they hear sound waves that are below the level that can be detected by our human ears?

Fred Kaufman, executive producer of the show, opined: "It's still a controversial idea, but one that's now recognized as possibly having valid underpinnings in physics and biology. You don't have to believe in paranormal perception to understand the arguments suggesting that some animals can pick up clues that humans can't perceive."

The show featured statements from Caitlin O'Connell-Rodwell, a world-renowned expert on elephants, who attended Stanford University and worked in Africa as well as the Oakland Zoo. She had not set out, at first, to determine whether animals could predict natural catastrophes but rather to demonstrate how elephants hear acutely – through their feet.

"…elephant family groups can detect and respond to artificially transmitted seismic alarm calls and can distinguish between familiar and unfamiliar callers through the ground." (O'Connell-Rodwell and Wood, 2010)

Her work was seen in a new light - and achieved wider recognition – after the 2004 earthquake near Sumatra that precipitated a devastating tsunami. Reliable witnesses reported the following:

- Trained elephants in Thailand preserved their lives by fleeing long before the waves struck.
- In India, a huge herd of antelope stampeded away from the shore.
- In a Malaysian zoo, hippos took shelter and refused to come out until the crisis abated.

"So the tsunami came up as a kind of natural experiment with anecdotes showing that, hey, maybe they can detect seismic signals from longer distances away. I think that scientists do accept that seismic communication is very common in the insect world, but not so much in the large-mammal world" (O'Connell-Rodwell, 2004).

Learning to 'Hear' Nature

Over the past several generations we have come to rely more upon technology and less upon our own senses. We tend to *trust* information received via machines more than we do our own intuition. The sheer quantity of reports regarding animal responses to natural disasters – *ahead of time* – suggests that seismic events, and related phenomenon such as changes in barometric pressure and disturbances in magnetic fields, may be detectable by the sensory and nervous systems, however. Indeed, the accuracy of the animal response to catastrophe puts our own efforts to anticipate and respond to disasters via technology to shame. Simply put, the animals survive such brushes with the primal forces of nature a lot more often than we do.

English biochemist and author Rupert Sheldrake has been strongly vocal about the idea that we would benefit from observing animals and noting their changes in behavior – drawing correlations between such changes and impending upheavals (National Geographic News, October 28, 2010). Sheldrake made such a study himself and recorded his insights and

observations in his book, *Dogs that Know When Their Owners Are Coming Home.* Responding to criticisms around this idea – and the suggestion that those who have attested to strange animal behaviors prior to crisis situations were suffering from faulty memory – he points to the number of reports that have been made independently by people the world over.

According to Sheldrake, the precognitive ability of animals is not restricted to natural phenomenon, either. He cites accounts – both from Germany and Britain – of people who relied upon their pets to warn them of impending air raids during the Second World War. Even acute hearing cannot account for such a phenomenon, as in many cases the actual planes were still hundreds of miles away when these people responded to their animals' changed behavior.

"They may…sense in advance what is about to happen in a way that lies beyond our current scientific understanding, through some kind of presentiment…if animals can predict earthquake-related disasters by sensing slight tremors, why can't seismologists do so?" (Sheldrake 2005)

Indeed, when seeking for the root of such an unexplained phenomenon as an animal's ability to anticipate natural disasters we must leave no stone unturned. The idea of precognition – the perception of a future event that's not structured or even inspired by anything physically apprehended in the moment – must be considered.

Precognition is typically considered (at best) an esoteric pseudoscience. It implies a scenario that, within the model of physical reality that is provided by classical physics, is impossible – namely, one in which the *future* casts its influence back upon the present moment. This is known as retroactive causation. *Quantum physics* may allow for such a possibility, however (Vongehr, Jan. 5, 2012).

In the world defined by classical physics, the future cannot exercise any kind of effect because it does not, in fact, exist. Quantum mechanics does not view reality in such linear terms, however, and within its framework the "future" can be seen more as a parallel reality or world rather than a measure of "time" (Vongehr Jan. 15, 2012).

Examining the idea of precognition becomes more imperative when we consider that animals are not the only creatures capable of accurately predicting storms. Many people have demonstrated this ability as well. One of the better-known earthquake predictors is Charlotte King, who predicted the major eruption of Washington's Mount St. Helen's, on May 18, 1980, to within twelve minutes of the event. She has been bestowed with an overall rating of 85-90% accuracy for earthquakes measuring over 6.0 in magnitude. Charlotte King often suffered for her gift. Her predictions were typically preceded by harsh physical symptoms including migraine headaches.

She discovered, in sharing her experiences that many people who are sensitive to natural disasters struggle with similar pains. The same environmental factors that precipitate major cataclysms such as earthquakes seem to produce physical symptoms within the human body – or at least, within those who possess the uncanny ability to foretell such events (The Charlotte King Effect).

Jim Berkland, who has been rated at over 75% accuracy for earthquakes, developed a somewhat more pragmatic method (i.e., one not entirely based upon intuition and "felt experience"). He was inspired by observing the behavior of animals, and particularly followed trends of lost or runaway pets as well as beached whales and dolphins. Berkland believed that earthquakes were caused by changes in the earth's magnetic field immediately prior to their eruptions, and he maintained that animals could sense such disruptions.

Conclusion

The demonstration of such abilities amongst both animals and human beings reveals a level of accuracy and sophistication that surpasses anything that modern science can accomplish with physical instruments in terms of natural disaster predictions. By the time modern seismographic methods have detected an impending earth upheaval, it is usually too late for protective measures to be taken. Animals, on the other hand, have demonstrated time and again that they can emerge from such crises unscathed thanks to their uncanny level of awareness. By the same token, human sensitivities have foretold natural disasters in time to save those who might otherwise have been taken unawares and perished as a result.

The best strategy for creating a population that is resilient in the face of catastrophes would be to learn from these successes and to study the patterns amongst animals and humans who have demonstrated the ability to sense such disturbances before they unfold. Rupert Sheldrake proposed a scenario wherein people would be encouraged to report unusual animal behavior to authorities. Certain criteria could then be followed to detect trends in certain areas and make predictions on this basis (Sheldrake 2005).

The approach can be taken even further, however. There is no reason to assume that the ability to sense earth disruptions (and even the effects of man-made disturbances) is restricted to the animal kingdom and a handful of sensitive people. Perhaps the ability is an innate aspect of our sensory and nervous systems, and could be developed by average people. Such a possibility can only be realized if we take the evidence of natural prediction seriously and begin to study the manifestations and implications of this phenomenon.

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