

Your Brain in a Blizzard

Finding meaning in a world of (really) big data

In 2015...

 **438,000 people died of malaria.**

 **Carbon dioxide in the atmosphere reached 402.56 parts per million.**

 **10,125,159 acres burned in U.S. wildfires.**

If those numbers overwhelm you — or even make you feel helpless or numb — don't worry. You're not alone.

You (and other humans) are better able to process and respond to information about individuals rather than multitudes, says University of Idaho researcher [Scott Slovic](#).

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“This is not about the ability to do math or not. It's about how the human mind processes different types of information,” Slovic says. “Even people who are brilliant calculators of numbers are more sensitive to individual phenomena on an emotional level than they are to collective information or large-scale information.”

Slovic, chair of the UI English Department in the [College of Letters, Arts and Social Sciences](#), is an internationally known ecocritic: He studies the interplay of humans and environments in literature and other forms of communication, and uses this research to inform cross-disciplinary discussions of essential topics such as climate change, freedom of speech and energy.

Together with his father — [University of Oregon psychology professor Paul Slovic](#) — Scott Slovic published the book [“Numbers and Nerves: Information, Emotion, and Meaning in a World of Data,”](#) which appeared in November 2015.

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Defining the Limitations

“Numbers and Nerves” explores the psychological limitations that make people insensitive to information dealing with large quantities.

For example, if you felt helpless to stop thousands of malaria deaths after reading the beginning of this story, that’s pseudoinefficacy — a psychological tendency to feel as if you are too small and far away to make any difference in a big problem.

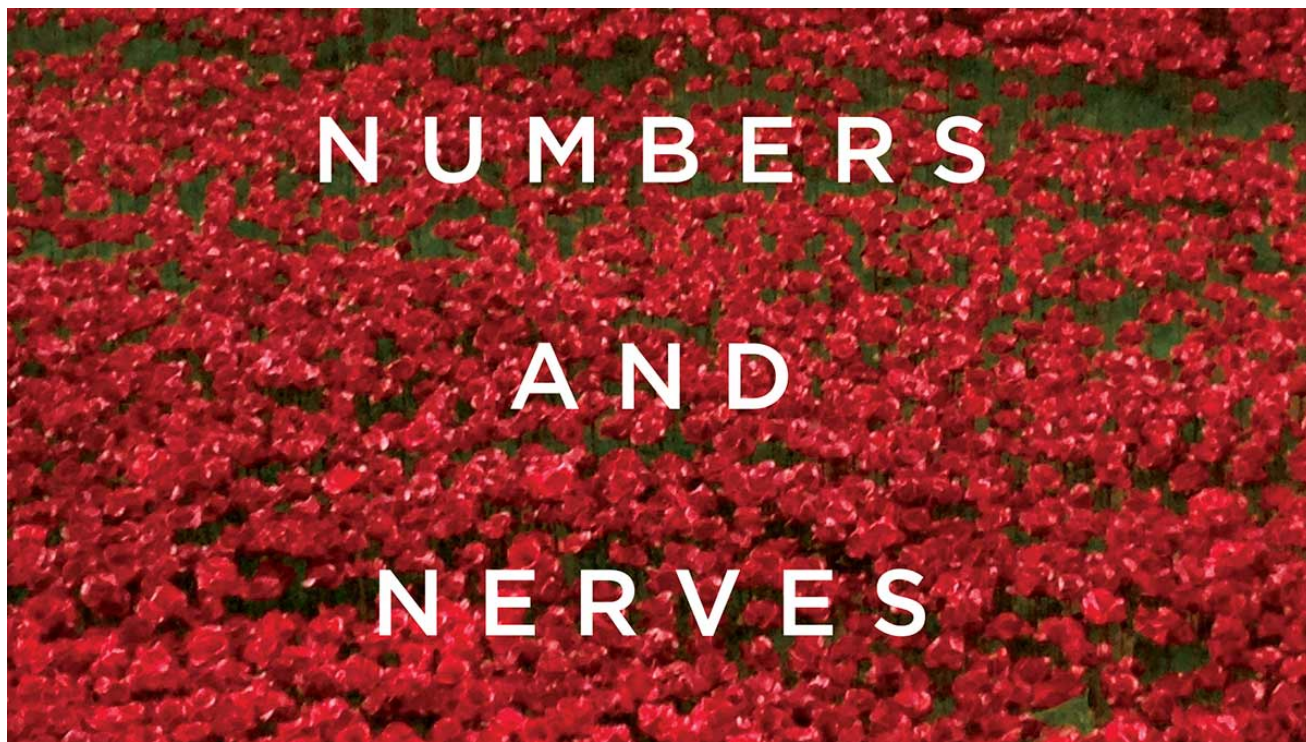
If upon reading about carbon dioxide, you briefly considered giving up driving, then looked out the window at the weather and changed your mind, that’s the prominence effect — a situation in which two values conflict and you defer to the value that feels most immediate and defensible.

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Such limitations are likely linked to evolution, Slovic says. Across evolutionary history, humans as a species needed to be sensitive to certain types of information to survive. But with the advent of technology, we face situations and encounter information that would have been unimaginable even a few centuries ago.

“We now have access at our fingertips to a bewildering blizzard of ideas and statistics,” Slovic says.



Numbers and Nerves book cover

Transcending the Limitations

We can fool ourselves into thinking we understand large-scale phenomena, Slovic says, but our blind spots and limitations ultimately affect the decisions we make in our personal and professional lives.

So, knowing this, how do we make good decisions?

The first step is knowing the limitations exist, hence the reasoning behind “Numbers and Nerves.” And once you’re aware of the way your mind works, you can work with (or against) it, Slovic says.

So you might remind yourself that saving even one life makes a difference, then make a small donation toward malaria-reducing mosquito netting.

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Or you might look out that window at the weather, remind yourself of increased pollution and climate-linked fires and storms, then dress appropriately and head outside to walk.

“When you understand these tendencies, then you can take a deep breath and think through what’s happening in the world today,” Slovic says. “Becoming self-conscious about how our minds work, including the limitations of our cognitive processes, enables us to slow down, rationally analyze our options, and ultimately make ‘better’ decisions.”



Scott Slovic and Semester in the Wild Students

Taking the Story to the World

This psychological knowledge is important to the general public, but it’s also vital for the people who share information with the public, like journalists and policymakers.

Authors, artists, musicians and filmmakers “have long been trying intuitively to make us feel something, to strike a chord,” Slovic says. Journalists know they have to find the “human interest” in a story. Audiences respond when a piece is poignant, when it makes them feel something.

Now that research is uncovering empirical psychological understanding of why the mind responds to various kinds of information, communicators can work deliberately to reach their audiences in a way that will resonate.

Slovic and his father plan to delve deeper into this idea in their followup to “Numbers and Nerves,” which will explore ways to emphasize individual voices and experiences, to infuse information with poignancy, and to meld different communication strategies in order to convey information multidimensionally.

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“We have to train ourselves to use our minds more plially, more flexibly, to move back and forth between small scale and large scale,” Slovic says.

In addition to pursuing his own continued scholarship, Slovic hopes “Numbers and Nerves” will spawn work by other writers and thinkers inside and outside academia, whether literature professors, scientists, engineers, human rights activists or others.

“I think we’ve all come to realize that academic disciplines have very artificial boundaries,” Slovic says. “The pressing problems of the world require us to ignore institutional boundaries.”



Scott Slovic (right) and his father and co-author Paul Slovic

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