

A Field Guide to Lies: Critical Thinking in the Information Age

https://en.wikipedia.org/wiki/Daniel_Levitin

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- *This Is Your Brain on Music: The Science of a Human Obsession*, (2006), New York: Dutton/Penguin. (Released in the U.K. and Commonwealth territories by Atlantic, 2007). (Appeared on the New York Times Bestseller List both in hardcover and paperback)
- *The World in Six Songs: How the Musical Brain Created Human Nature* (2008), New York: Dutton/Penguin and Toronto: Viking/Penguin. (New York Times Bestseller)
- *The Organized Mind: Thinking Straight In The Age Of Information Overload* (2014), New York: Dutton/Penguin Random House and Toronto: Allen Lane/Penguin Random House and London: Viking/Penguin Random House.

INTRODUCTION: THINKING CRITICALLY

This is a book about how to spot problems with the facts you encounter, problems that may lead you to draw the wrong conclusions. Sometimes the people giving you the facts are hoping you'll draw the wrong conclusion; sometimes they don't know the difference themselves. Today, information is available nearly instantaneously, but it is becoming increasingly hard to tell what's true and what's not, to sift through the various claims we hear and to recognize when they contain misinformation, pseudo-facts, distortions, and outright lies.

There are many ways we can be led astray by fast-talking, loose-writing purveyors of information. Here, I've grouped them into two categories and they make the first two parts of this book: numerical and verbal. The first includes mishandled statistics and graphs; the second includes faulty arguments. In both parts, I include the steps we can take to better evaluate news, statements and reports. The last part of the book addresses what underlies our ability to determine if something is true or false: the scientific method. It grapples with the limits of what we can and cannot know, including what we know right now and don't know just yet, and includes some applications of logical thinking.

It is easy to lie with statistics and graphs because few people take the time to look under the hood and see how they work. I aim to fix that. Recognizing faulty arguments can help you evaluate whether a chain of reasoning leads to a valid conclusion or not. Related to this is infoliteracy – recognizing that there are hierarchies in source quality, that pseudo-facts can easily masquerade as facts, and biases can distort the information we are being asked to consider, leading us to faulty conclusions.

You might object and say, "But it's not my job to evaluate statistics critically. Newspapers, bloggers, the government, Wikipedia, etc., should be doing that for us." Yes they should, but they don't always. We – each of us – need to think critically and carefully about the numbers and words we encounter if we want to be successful at work, at play, and in making the most of our lives. This means checking the numbers, the reasoning and the sources for plausibility and rigor. It means examining them as best we can before we repeat them or use them to form an opinion. We want to avoid the extremes of gullibly accepting every claim we encounter or cynically rejecting every one. Critical thinking doesn't mean we disparage everything, it means we try to distinguish between claims with evidence and those without.

Sometimes the evidence consists of numbers and we have to ask, "Where did those numbers come from? How were they collected?" Sometimes the numbers are ridiculous, but it takes some reflection to see it. Sometimes claims seem reasonable, but come from a source that lacks credibility, like a person who reports having witnessed an accident but wasn't actually there. This book can help you to avoid learning a whole lot of things that aren't so. And catch some lying weasels in their traces.

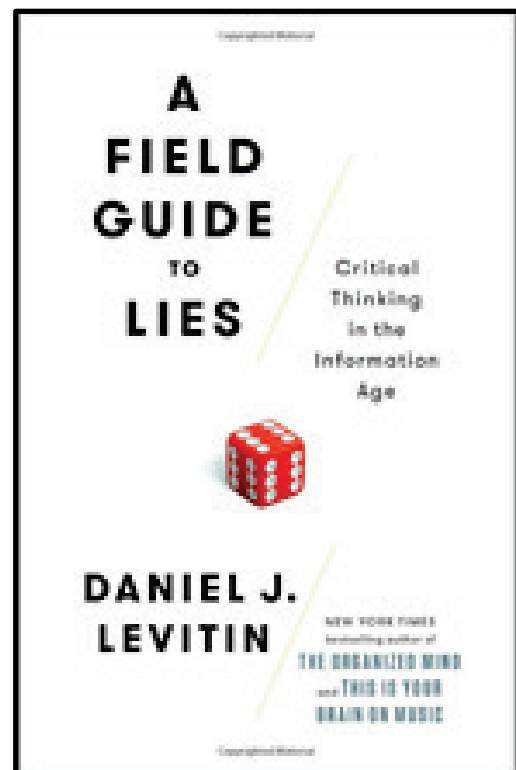
We've created more human-made information in the last five years than in all of human history before that. Unfortunately, found alongside things that are true is an enormous number of things that are not, in websites, videos, books and on social media. This is not just a new problem. Misinformation has been a fixture of human life for thousands of years, and was documented in biblical times and in classical Greece. The unique problem we face today is that misinformation has proliferated; it is devilishly entwined on the Internet with real information, making the two difficult to separate. And misinformation is promiscuous – it consorts with people of all social and educational classes and turns up in places you don't expect it to. It propagates as one person passes it on to another and another, as Twitter, Facebook, Snapchat, and other social media grab hold of it and spread it around the world; the misinformation can take hold and become well known and suddenly a whole lot of people are believing things that aren't so.

ACKNOWLEDGMENTS <Excerpt>

The inspiration for this book came from Darrell Huff's *How to Lie with Statistics*, a book I've read several times and appreciate more with each reading. I was also a huge fan of Joel Best's *Damned Lies and Statistics*, and Charles Wheelan's *Naked Statistics*. I owe all three authors a great debt for their humor, wisdom and insight, and I hope this book will take its place alongside theirs for anyone who wants to improve their understanding of critical thinking.

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Source: https://www.amazon.com/Field-Guide-Lies-Critical-Information/dp/0525955224/ref=sr_1_1