



Uncharted: Big Data as a Lens on Human Culture

By Erez Aiden, Jean-Baptiste Michel



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“One of the most exciting developments from the world of ideas in decades, presented with panache by two frighteningly brilliant, endearingly unpretentious, and endlessly creative young scientists.” – Steven Pinker, author of *The Better Angels of Our Nature*

Our society has gone from writing snippets of information by hand to generating a vast flood of 1s and 0s that record almost every aspect of our lives: who we know, what we do, where we go, what we buy, and who we love. This year, the world will generate 5 zettabytes of data. (That’s a five with twenty-one zeros after it.) Big data is revolutionizing the sciences, transforming the humanities, and renegotiating the boundary between industry and the ivory tower.

What is emerging is a new way of understanding our world, our past, and possibly, our future. In *Uncharted*, Erez Aiden and Jean-Baptiste Michel tell the story of how they tapped into this sea of information to create a new kind of telescope: a tool that, instead of uncovering the motions of distant stars, charts trends in human history across the centuries. By teaming up with Google, they were able to analyze the text of millions of books. The result was a new field of research and a scientific tool, the Google Ngram Viewer, so groundbreaking that its public release made the front page of *The New York Times*, *The Wall Street Journal*, and *The Boston Globe*, and so addictive that *Mother Jones* called it “the greatest timewaster in the history of the internet.”

Using this scope, Aiden and Michel—and millions of users worldwide—are beginning to see answers to a dizzying array of once intractable questions. How quickly does technology spread? Do we talk less about God today? When did people start “having sex” instead of “making love”? At what age do the most famous people become famous? How fast does grammar change? Which writers had their works most effectively censored by the Nazis? When did the spelling “donut” start replacing the venerable “doughnut”? Can we predict the future of human history? Who is better known—Bill Clinton or the rutabaga?

All over the world, new scopes are popping up, using big data to quantify the

human experience at the grandest scales possible. Yet dangers lurk in this ocean of 1s and 0s—threats to privacy and the specter of ubiquitous government surveillance. Aiden and Michel take readers on a voyage through these uncharted waters.

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Editorial Review

Amazon.com Review

An Amazon Best Book of the Month, December 2013: How big is Big Data? As it turns out, unfathomably large. According to Erez Aiden and Jean-Baptiste Michel, the authors of *Uncharted: Big Data as a Lens on Human Culture*, "If you wrote out the information contained in one megabyte by hand, the resulting line of 1s and 0s would be more than five times as tall as Mount Everest." A megabyte, though, is about one-fifth of an mp3. Written out, one terabyte, a common size for personal external hard drives, "would extend to Saturn and back twenty-five times." Still, Aiden and Michel understand how to look at data sets from a humanist perspective. They created the Google Ngram Viewer, the revolutionary tool that allows anyone to search for the frequency of words over man's written history (at least within the 30 million books Google has digitized since 2004). In *Uncharted*, they explore the history and implications of Big Data--its influence on business, government, and our personal lives. But perhaps the most remarkable part of Aiden and Michel's work is how they are able to turn the abstract language of Big Data into an accessible and thoughtful book. Who knew millions of lines of data could be so much fun? --Kevin Nguyen

From [Booklist](#)

In late 2010, Google released an intriguing new tool, the Ngram Viewer, allowing users to search the site's archive of five-million digitized books (now there are more than 30 million) for common words and phrases and graph their usage frequency along a timeline. While at first glance the application appears a tad gimmicky, its usefulness in tracking cultural trends across decades and centuries is mind-boggling. In this user-friendly demonstration of Ngram's versatility, Rice University computer science professor Aiden and Quantified Labs founder Michel showcase the results of their explorations using the statistical search engine. With trillions of words in many languages at their disposal, the pair reveals a wealth of historical nuggets, such as noting the huge impact Nazi oppression had on blotting Jewish names from WWII-era books and the sudden, ubiquitous use of Martian when Percival Lowell saw "canals" on Mars in 1895. Although the volume is somewhat top-heavy with graphs and numbers, even math-phobic readers may glean some fascinating sociological tidbits and be seduced into trying out Ngram. --Carl Hays

Review

Praise for *Uncharted*

"Aiden and Michel are big data pioneers, transforming how humanity thinks about itself. *Uncharted* is a magical, fun, fast and informative read. Every page brims with insight and humor."

—**Kenneth Cukier**, co-author of *Big Data: A Revolution That Will Transform How We Live, Work, and Think*

"One of the most exciting developments from the world of ideas in decades, presented with panache by two frighteningly brilliant, endearingly unpretentious, and endlessly creative young scientists."

—**Steven Pinker**, author of *The Better Angels of Our Nature*

"[A]musing, enlightening... Erez Aiden and Jean-Baptiste Michel show that our books are crammed with revelations about history, culture, economics, and politics that would even surprise their authors.... The resulting insights may shift our thinking about matters great and small." — *Boston Globe*

"Entertaining... This may be potato chips for intellectuals, but it is irresistible. You cannot eat just one

ngram." — *New York Times*

"Erez and Michel are keen, lighthearted guides through their complex world... fascinating." — *San Francisco Chronicle*

"Literary lovechild of: Raymond Williams' *Keywords: A Vocabulary of Culture and Society* and Nate Silver's *The Signal and the Noise: Why So Many Predictions Fail—but Some Don't*.... Aiden and Michel have made fascinating discoveries about everything from the speed of fame to Soviet censorship. That they're only just skimming the surface is hugely exciting." — *Slate*

"[Aiden and Michel] offer fascinating insights... A fun, revealing exploration of a new way to view the past."

— *Kirkus Reviews*

"[Aiden and Michel] reveal a wealth of historical nuggets... [E]ven math-phobic readers may glean some fascinating sociological tidbits." — *Booklist*

Users Review

From reader reviews:

Richard Davy:

Now a day those who Living in the era where everything reachable by talk with the internet and the resources inside it can be true or not involve people to be aware of each details they get. How a lot more to be smart in receiving any information nowadays? Of course the reply is reading a book. Examining a book can help people out of this uncertainty Information mainly this *Uncharted: Big Data as a Lens on Human Culture* book because this book offers you rich details and knowledge. Of course the info in this book hundred pct guarantees there is no doubt in it everybody knows.

Diana Rush:

The actual book *Uncharted: Big Data as a Lens on Human Culture* has a lot info on it. So when you make sure to read this book you can get a lot of advantage. The book was compiled by the very famous author. Tom makes some research just before write this book. This kind of book very easy to read you can get the point easily after looking over this book.

Karen Nash:

Are you kind of hectic person, only have 10 or perhaps 15 minute in your day time to upgrading your mind ability or thinking skill even analytical thinking? Then you are receiving problem with the book than can satisfy your short time to read it because this all time you only find publication that need more time to be read. *Uncharted: Big Data as a Lens on Human Culture* can be your answer since it can be read by you actually who have those short free time problems.

Clayton Johnson:

Many people spending their time frame by playing outside along with friends, fun activity with family or just watching TV the entire day. You can have new activity to invest your whole day by reading a book. Ugh, think reading a book will surely hard because you have to bring the book everywhere? It fine you can have the e-book, having everywhere you want in your Smart phone. Like Uncharted: Big Data as a Lens on Human Culture which is finding the e-book version. So , try out this book? Let's find.

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