

Hi, my name is **Alberto Cairo**. I'm the Knight Chair in Visual Journalism at the University of Miami. I teach data visualization and infographics in our Journalism and Interactive Media Masters programs. I'm also the director of the Visualization Program at UM's Center for Computational Science.

I've been in journalism for twenty years, as a director of infographics and multimedia at news publications in Spain —my country of origin— and Brazil. I've also been a professor at the University of North Carolina-Chapel Hill.

Besides teaching at UM, I work as a freelancer and consultant for institutions and companies including Google, Microsoft, the European Union, and many others.

I've written two books about visualization, *The Functional Art: An Introduction to Information Graphics and Visualization* (2012) and *The Truthful Art: Data, Charts, and Maps for Communication* (2016). I'm currently working on a third one, based on this talk. It may be titled *Graphicacy*. You'll soon understand why.

Feel free to contact me in the future!

**Twitter:** [@albertocairo](https://twitter.com/albertocairo)  
[www.thefunctionalart.com](http://www.thefunctionalart.com)  
[www.albertocairo.com](http://www.albertocairo.com)

**If you want to study with me:**  
<https://interactive.miami.edu>  
<http://com.miami.edu/>

# VISUAL TRUMPERY

How to fight against fake data and visualizations  
—from the left and from the right

A talk by Alberto Cairo  
[www.trumperytour.com](http://www.trumperytour.com)

Welcome to **Visual Trumpery**. Thanks so much for being here. I foresee that, depending on your political leanings, your expectations for this talk are diametrically opposed.

If you are a liberal, you're likely prepared to enjoy a tirade against right-wing politicians. If you are a conservative, I bet you came here ready to get outraged by an unhinged leftist ranter.

I am indeed a ranter, and I love a good tirade, but I'm also going to disappoint you. The very title of this talk is an example of its content. It's intended to prime you and trick you into believing what is not so.

The English word "**trumpery**" means worthless nonsense, something that is showy and deceitful at the same time. Trumpery can occur in text, verbally, or visually. This non-partisan talk focuses on the visual, examining misleading charts, graphs, and data maps designed by individuals and organizations from all over the political spectrum.

I'll use these examples to equip you with a solid understanding of "**graphicacy**," the word I use to refer to visual literacy. I believe a literate, numerate, and graphicate citizenry is the best antidote for a world where trumpery runs rampant.

Join me in the fight against it.

## SUMMARY OF THE TALK

Here are the four questions I'll mention during the talk to assess the quality of any data visualization:

### 1. Is the graphic based on reliable sources and data?

Any document or news story that uses data and graphics ought to clearly identify its sources and link to them. You, the reader, must be able to check whether they are trustworthy, and whether writers and designers handled the data properly.

### 2. Does the graphic include enough information to be truthful?

Visualizations should never *simplify* information. They ought to *clarify* it. You'll soon understand the difference, thanks to the examples I'll share with you.

### 3. Is the data correctly represented?

Data visualization is based on visual encoding. Numbers are mapped onto spatial properties of objects, like their height, length, size, color, etc. When seeing a chart, graph, or map, always ask yourself: Are the properties representing the data proportional to the data itself?

### 4. Did the journalist or designer take uncertainty into account?

Data is hardly ever precise or certain, regardless of what visualizations and news stories often suggest. A good understanding of uncertainty and elementary probability can help you decide what to think or how to act based on what you read.

## ADDITIONAL READINGS

It's impossible to teach all about graphicacy in just 90 minutes. That's why I created a repository of readings: <http://goo.gl/JwmUcW> Finally, if you're interested in my books, I recommend that you first read ***The Truthful Art***. A good part of it is related to the Visual Trumpery talk:

