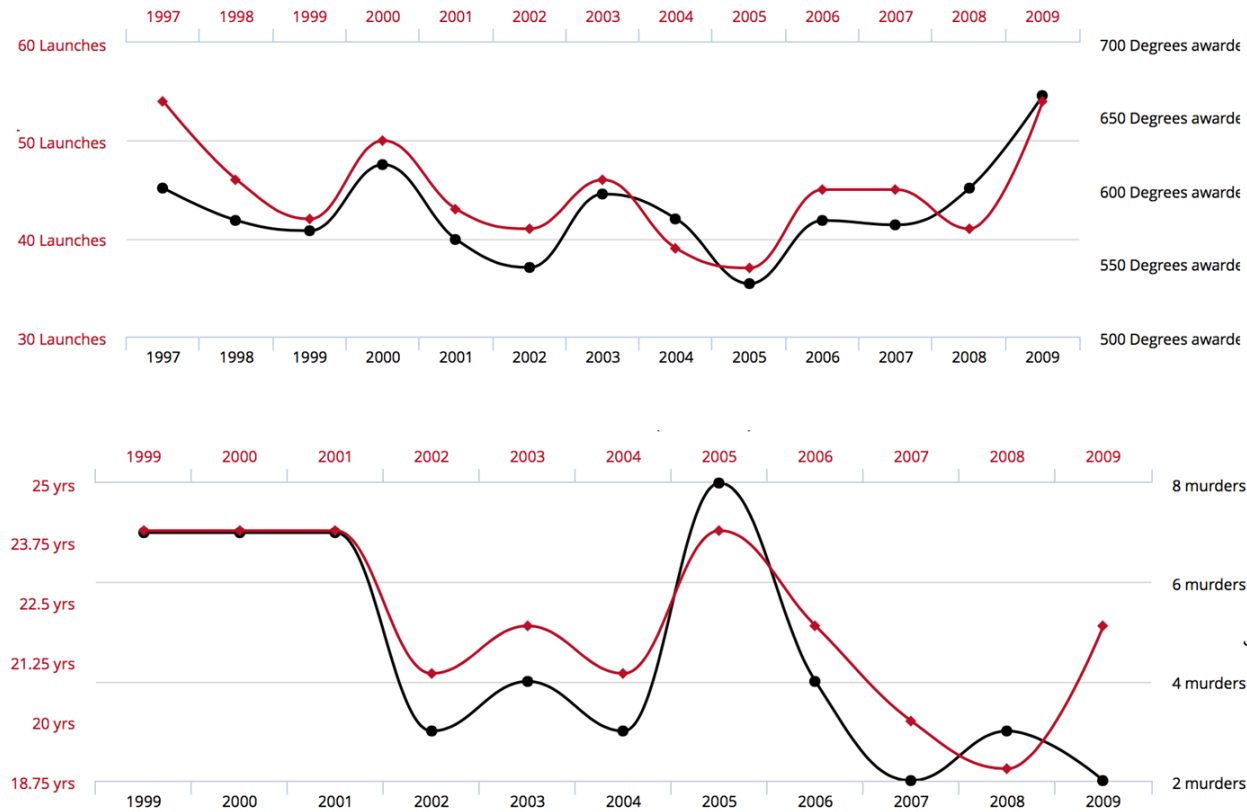
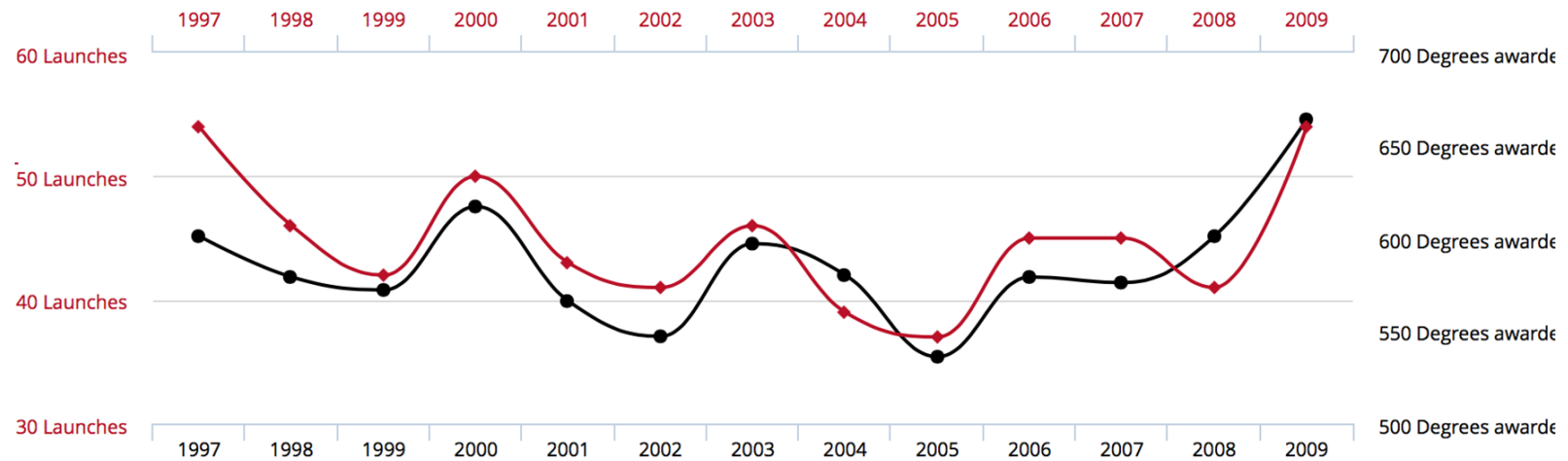


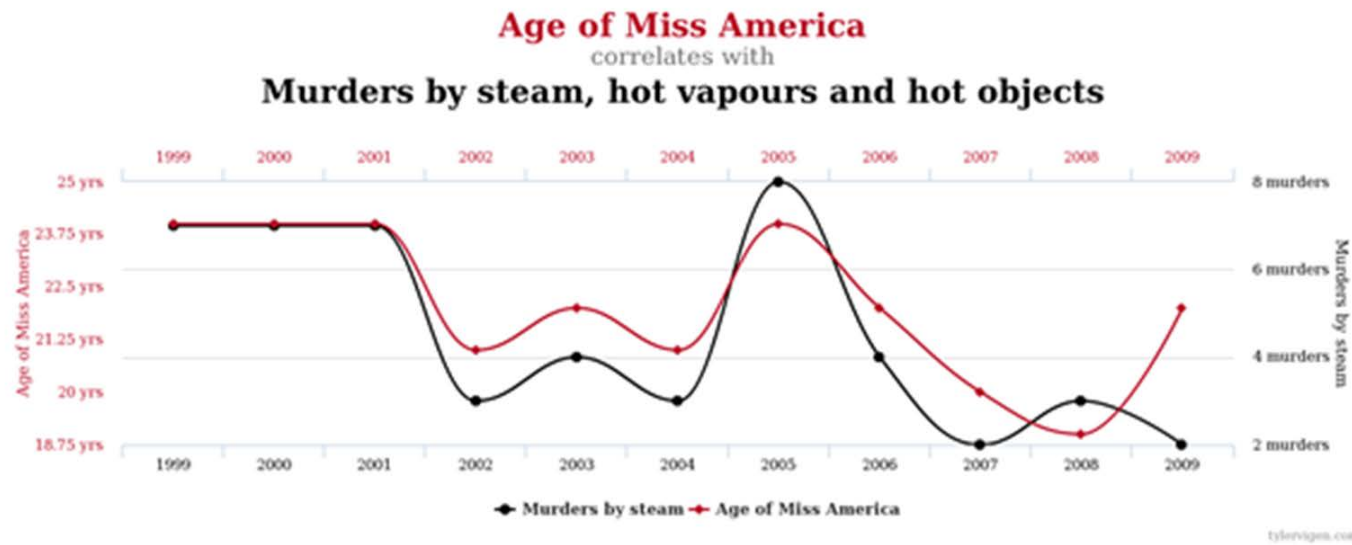
Dashboards and Storytelling with Tableau

False Narratives and Data Storytelling





Worldwide non-commercial space launches correlates with
awarded sociology doctorates



Beware, correlations easily become false narratives

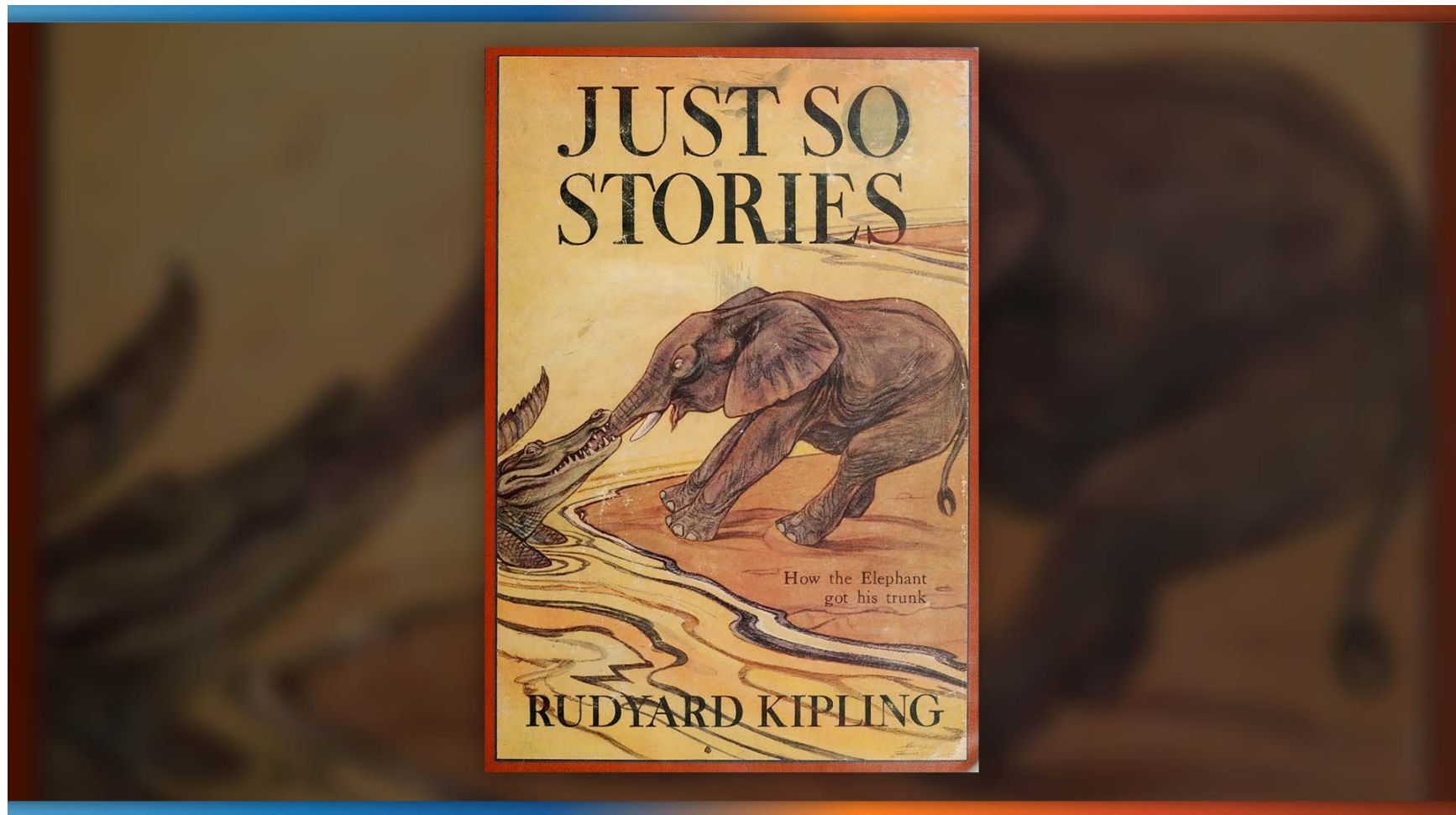
Guard Against False Narratives

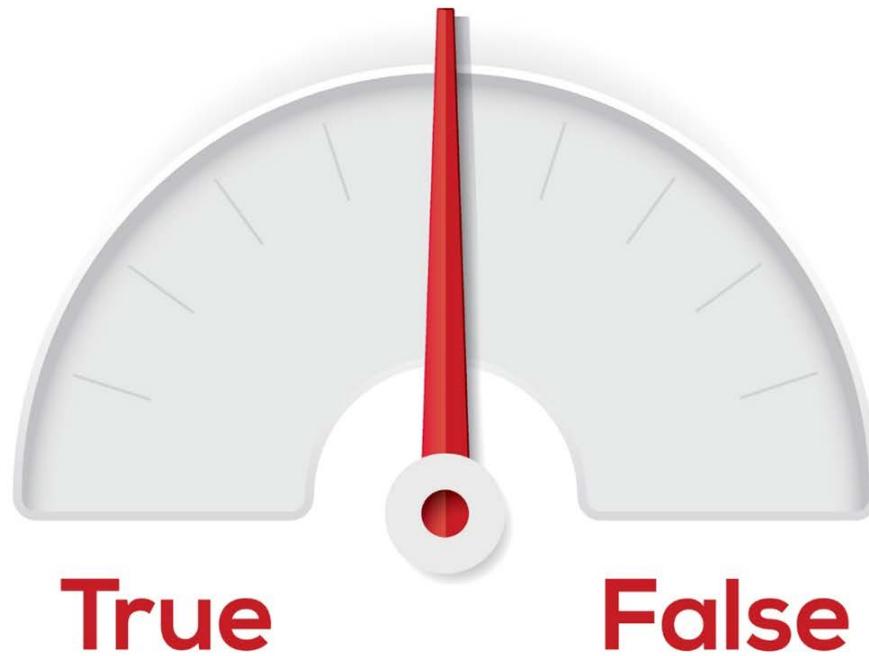
Check with SMEs
in data story domain

Compare to
outside research

Verify with other
data sources







Expansion of available data expands opportunity to create **true** and **false** narratives

Cognitive biases can twist data stories

Cognitive biases are a tendency to think and make judgments based on our own personal set of perspectives, experiences and filters, and that may not be reflective of the true situation.

Counter Measures to Cognitive Biases

1. Cultivate awareness of potential bias
2. Consider other possibilities
3. Test early versions on target audience
4. Test on variety of users outside target audience

Rhetological Fallacies

Errors and manipulation of rhetoric and logical thinking

Appeal to the Mind



Appeal to Anonymous Authority
Using evidence from an unnamed 'expert' or 'study' or generalized group (like 'scientists') to claim something is true.
"They say that it takes 7 years to digest chewing gum."



Appeal to Authority
Claiming something is true because an unqualified or untrustworthy 'expert' says it is.
"Over 400 prominent scientists and engineers dispute global warming."



Appeal to Common Practice
Claiming something is true because it's commonly practiced.
"This bank has some problems with corruption. But there's nothing going on here that doesn't go on in all the other banks."



Appeal to Ignorance
A claim is true simply because it has not been proven false (or false because it has not been proven true).
"Nobody has proved to me there is a God. So there is no God."

Appeal to Emotions



Appeal to Consequences of a Belief
Arguing a belief is false because it implies something you'd rather not believe.
"That can't be the Senator on that sextape. If it were, he'd be lying about not knowing her. And he's not the kind of man who would lie."



Appeal to Fear
An argument is made by increasing fear and prejudice towards the opposing side.
"Before you know it there will be more mosques than churches."



Appeal to Flattery
Using an irrelevant compliment to slip in an unfounded claim which is accepted along with the compliment.
"Intelligent and sophisticated readers will of course recognise a fallacy like this when they read one."



Appeal to Nature
Making your claim seem more true by drawing a comparison with the "good" natural world.
"Of course homosexuality is unnatural. You don't see same-sex animals copulating."

 <p>Appeal to Incredulity Because a claim sounds unbelievable, it must not be true. <i>"The eye is an incredibly complex biomechanical machine with thousands of interlocking parts. How could that exist without an intelligent designer?"</i></p>	 <p>Appeal to Pity Attempt to induce pity to sway opponents. <i>"The former dictator is an old, dying man. It's wrong to make him stand trial for these alleged offenses."</i></p>
 <p>Appeal to Money Supposing that, if someone is rich or something is expensive, then it affects the truth of the claim. <i>"If it costs more, it must be better."</i></p>	 <p>Appeal to Ridicule Presenting the opponent's argument in a way that makes it appear absurd. <i>"Faith in God is like believing in Santa Claus and the Tooth Fairy."</i></p>
 <p>Appeal to Novelty Supposing something is better because it is new or newer. <i>"Awesome! The latest version of this operating system is going to make my computer faster and better..."</i></p>	 <p>Appeal to Spite Dismissing a claim by appealing to personal bias against the claimant. <i>"Don't you just hate how these rich Liberal Hollywood actors go on TV to promote their agendas?"</i></p>
 <p>Appeal to Popular Belief Claiming something is true because the majority of people believe it. <i>"Milk is good for your bones."</i></p>	 <p>Appeal to Wishful Thinking Suggesting a claim is true or false just because you strongly hope it is. <i>"The President wouldn't lie. He's our leader and a good American."</i></p>
 <p>Appeal to Probability Assuming because something could happen, it will inevitably happen. <i>"There are billions of galaxies with billions of stars in the universe. So there must be another planet with intelligent life on it."</i></p>	
 <p>Appeal to Tradition Claiming something is true because it's (apparently) always been that way. <i>"Marriage is the union between man and women. Therefore gay marriage is wrong."</i></p>	

Faulty Deduction

**Anecdotal Evidence**

Discounting evidence arrived at by systematic search or testing in favor of a few firsthand stories.

"I'm going to carry on smoking. My grandfather smoked 40 a day and he lived until he was 90!"

**Composition**

Assuming that characteristics or beliefs of some or all of a group applies to the entire group.

"Recent terrorist attacks have been carried out by radical Islamic groups. Therefore all terrorists are muslims."

**Division**

Assuming that characteristics or beliefs of a group automatically apply to any individual member.

"Many Conservatives wish to ban gay marriage, discredit climate change, and deny evolution. Therefore all conservatives are homophobic, anti-environmental creationists."

**Design Fallacy**

Assuming that because something is nicely designed or beautifully visualized it's more true.

"Er..."

Manipulating Content

**Ad Hoc Rescue**

Trying to save a cherished belief by repeatedly revising the argument to explain away problems.

"...But apart from better sanitation, medicine, education, irrigation, public health, roads, a freshwater system and public order... what have the Romans done for us?"

**Begging the Question**

Making a claim while leaving out one or more major contributing factors that may affect the conclusion.

"If we label food with warning labels, it will encourage people to eat more healthily."

**Biased Generalizing**

Generalizing from an unrepresentative sample to increase the strength of your argument.

"Our website poll found that 90% of internet users oppose online privacy laws."

**Confirmation Bias**

Cherry-picking evidence that supports your idea while ignoring contradicting evidence.

"It's obvious 9-11 was a American-government led conspiracy to justify war in Iraq and Afghanistan. No plane hit the Pentagon. The Twin Towers collapse was a controlled demolition... etc"

Truth or fiction?

Vividly brought to life

Disseminated to many

Stay alert!

