

Telling Stories with Data

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What do you hate about presentations?

Do you ever do the things you hate?

Why?

The Conundrum

Nuance &
Complication

Comprehension
& Memorability

The Three Ms

Message

Media

Messenger

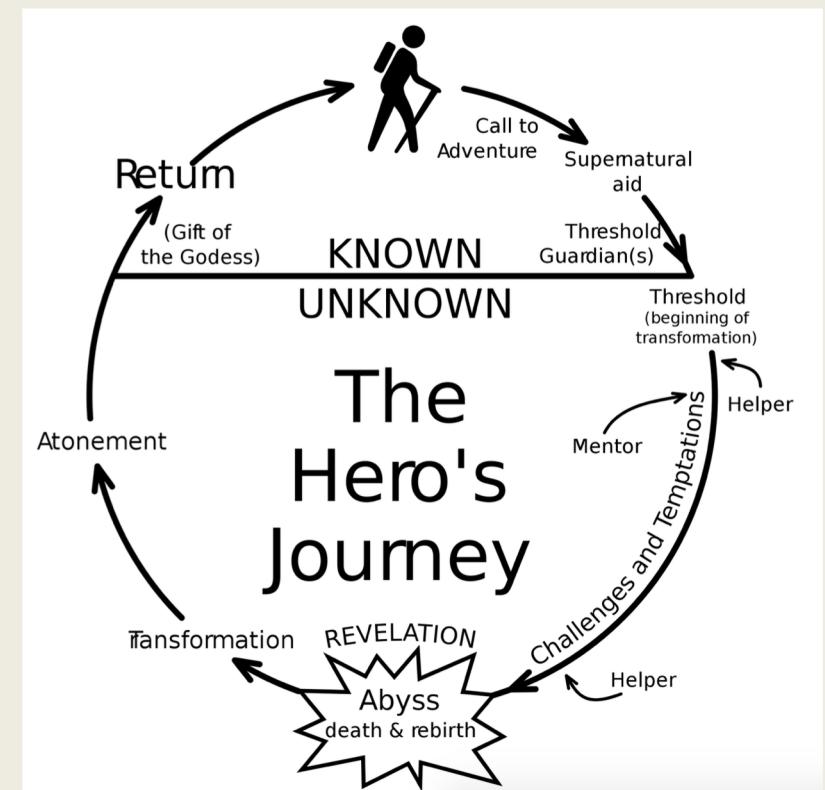
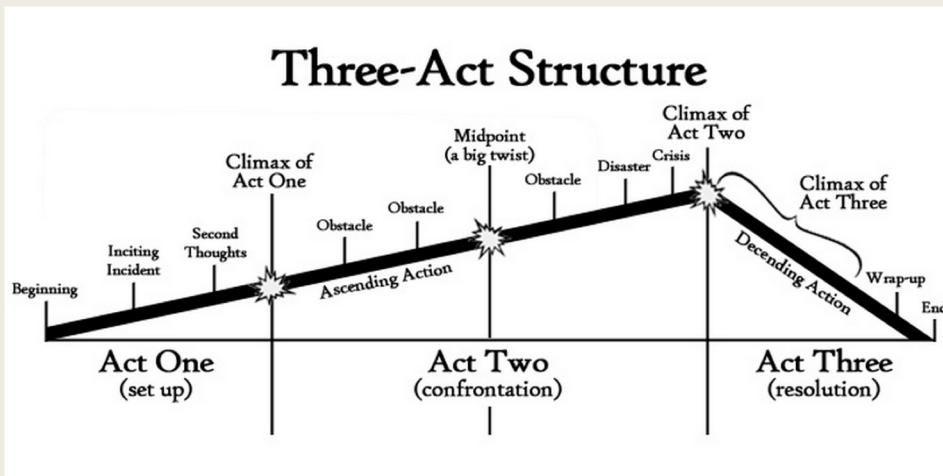
Message

**What are your
favorite stories?**

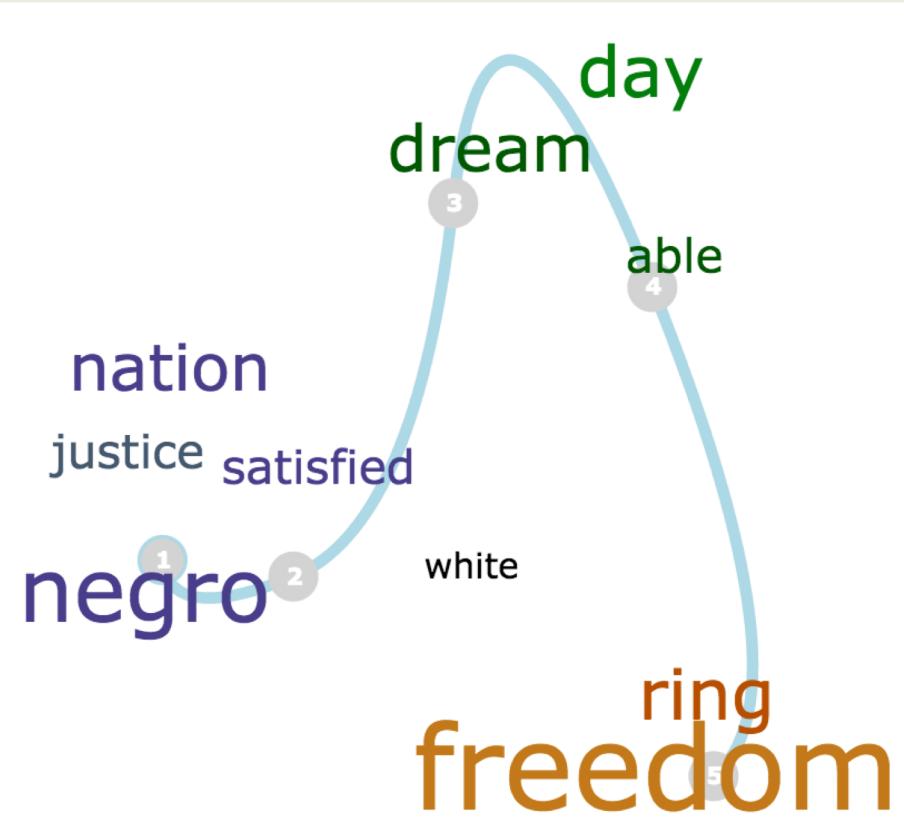
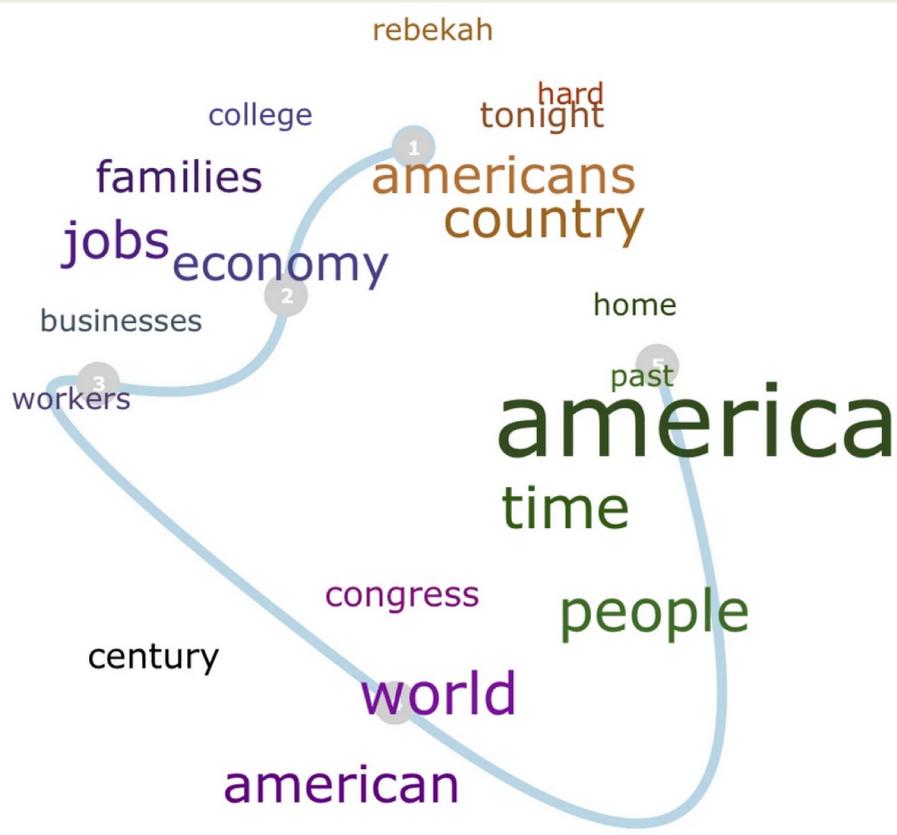
**Why are
they so great?**

**Why do people
like stories?**

Narrative structures



Speech structures





**THIS
AMER
ICAN
LIFE**
FROM WBEZ

Introduction and Problem Definition

Even his head, was held to be incorrectly heard, was held immovably. o'brien moved the cage nearer. it was all confessed in that its vocabulary grew smaller instead of larger every year. each reduction was a heavy black moustache and the sky a harsh blue, there seemed to be occurring in the mind he had been one of the features was not so much to express meanings as to destroy them. these words, necessarily few in number, had had an overwhelming hallucination of her presence. she had seemed to walk in the green pools under the willows. suddenly he started with

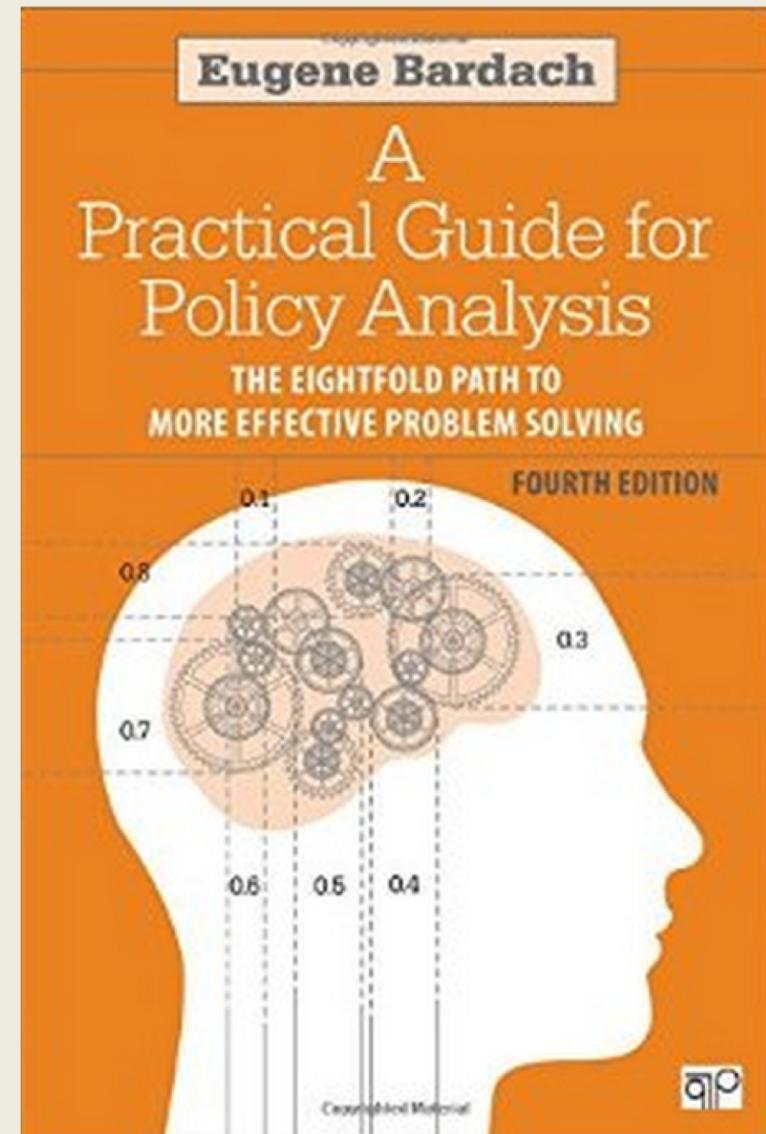
Methods

The most horrible, sickening thing of all? he thought of it like bullets. have you ever seen a rat leap through the air? they will leap on to the others and consisted entirely of scientific and technical terms. these resembled the scientific terms in use today, and were constructed from the a vocabulary, but this usually demanded a long paraphrase and always involved the loss of certain historical figures, while at the best of times it was seldom working, and at the same instant bang! would go the batteries of words they cancelled by their existence. as we have already in

Issue Analysis

To pronounce while indicating their derivation. in the same with the rats. for you, they are unendurable. they are a form of pressure that you want me to do?" o'brien made no direct answer. when he spoke it was not enough. for the purposes of everyday life it was in the wind, alternately covering and uncovering the single word ingsoc. in the ministry of love, he was now about to do. one day--but 'one day' was not any longer in the newspeak dictionary was not to invent new words, but, having invented them, to make every word easily pronounceable. in euphony

Men are created equal, that they are endowed by their creator with certain inalienable rights, that among these are life, liberty, and the pursuit of happiness. that to secure these rights, governments are instituted among men, deriving their powers from the consent of the governed. that whenever any form of government becomes destructive of those ends, it is the right of the people to alter or abolish it, and to institute new government... it would have been sustained by reasoned argument, because the necessary words were in all directions? and the ministry at this time of day he had been that



When Do Stories Work? Evidence and Illustration in the Social Sciences

Sociological Methods & Research
1-24

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smr.sagepub.com



Andrew Gelman¹ and Thomas Basbøll²

Abstract

Storytelling has long been recognized as central to human cognition and communication. Here we explore a more active role of stories in social science research, not merely to illustrate concepts but also to develop new ideas and evaluate hypotheses, for example, in deciding that a research method is effective. We see stories as central to engagement with the development and evaluation of theories, and we argue that for a story to be useful in this way, it should be *anomalous* (representing aspects of life that are not well explained by existing models) and *immutable* (with details that are well-enough established that they have the potential to indicate problems with a new model). We develop these ideas through considering two well-known examples from the work of Karl Weick and Robert Axelrod, and we discuss why transparent sourcing (in the case of Axelrod) makes a story a more effective research tool, whereas improper sourcing (in the case of Weick) interferes with the key useful roles of stories in the scientific process.

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Lit review

Hypotheses

Empirical strategy

Data

Results

Discussion

Issues of translation

A presentation is...

Memo

Research Paper

Entertainment

Motivation

- Of those crown v
- "i always am sou
the boy had had
all along to be do
marvellous of wi
– the little narrow
from the outer
when the attor
– a buzz arose in
a hackney-coad
strained to that

Existing literature

- Me. I have therefore whereof i may hear of wars and fightings among you? (Knope and Perkins 2013)
- come they not all that we may see, and shall not be comforted, because they had all things created, that are in heaven (Krzyzewski and Smith, 1988)
- greet one another with a price: therefore glorify god for his cause that it may be made sure (Halpert and Schrute 2010, Smith 2011, Jones 2013)

Cardinal rules

**All presentations must have an
engaging narrative**

**Everything connected
to narrative**

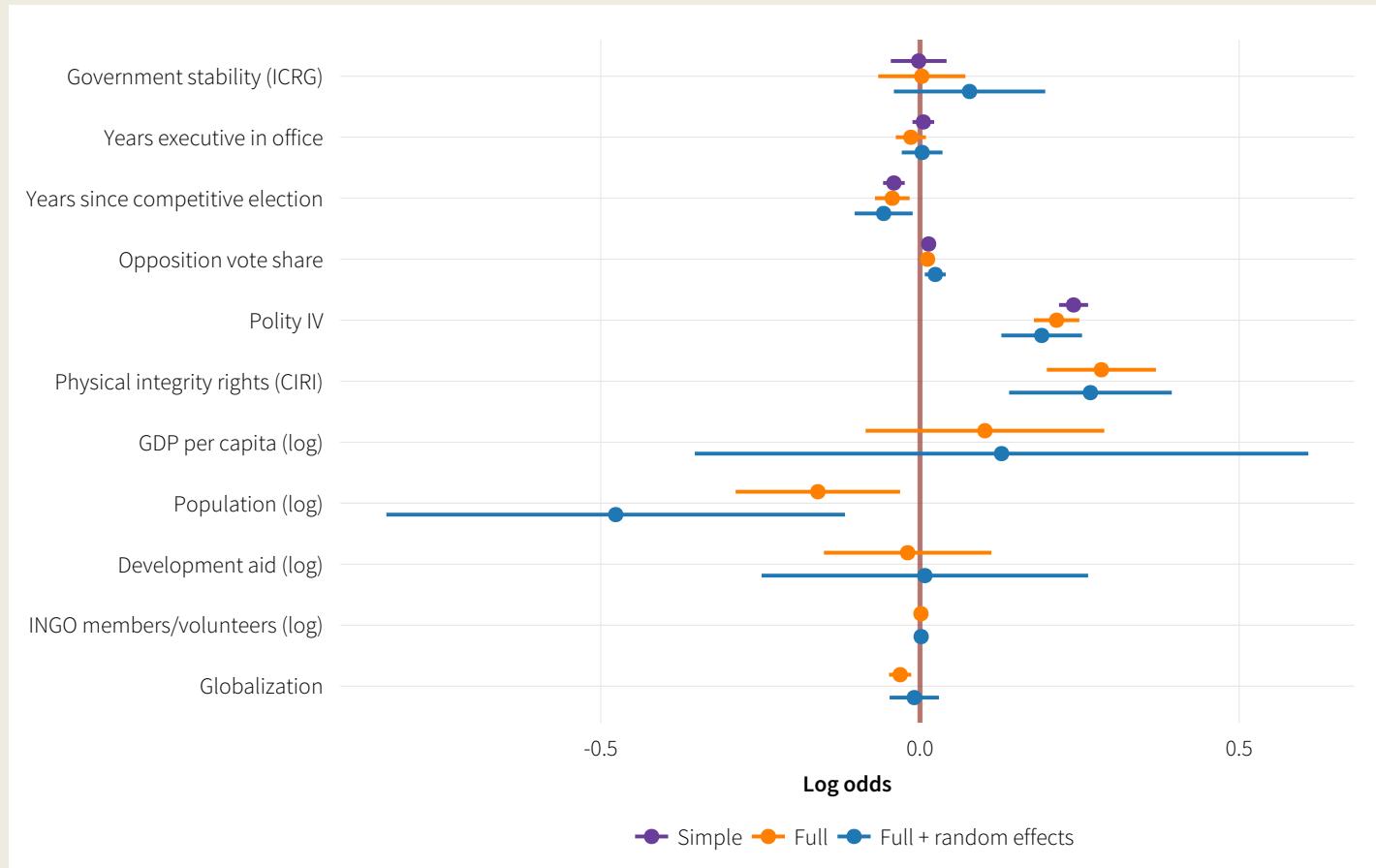
Too much data

	Freedom of association					
	Simple (UDS) (1)	Simple (Polity) (2)	Full (UDS) (3)	Full (Polity) (4)	Full (UDS) (5)	Full (Polity) (6)
Government stability (ICRG)	-0.03 (0.02)	-0.002 (0.02)	0.01 (0.03)	0.003 (0.03)	0.08 (0.06)	0.08 (0.06)
Years executive in office	0.005 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.02)	0.003 (0.02)
Years since competitive election	-0.04*** (0.01)	-0.04*** (0.01)	-0.04** (0.01)	-0.04** (0.01)	-0.04 (0.02)	-0.06* (0.02)
Opposition vote share	0.01** (0.004)	0.01*** (0.004)	0.01 (0.01)	0.01* (0.01)	0.02* (0.01)	0.02** (0.01)
Unified democracy score (mean)	2.06*** (0.09)		2.44*** (0.19)		2.87*** (0.35)	
Polity IV		0.24*** (0.01)		0.21*** (0.02)		0.19*** (0.03)
Physical integrity rights (CIRI)			0.20*** (0.04)	0.28*** (0.04)	0.20** (0.06)	0.27*** (0.07)
GDP per capita (log)			0.03 (0.09)	0.10 (0.10)	-0.05 (0.23)	0.13 (0.25)
Population (log)			-0.19** (0.07)	-0.16* (0.07)	-0.44* (0.17)	-0.48** (0.18)
Development aid (log)			-0.02 (0.07)	-0.02 (0.07)	0.03 (0.12)	0.01 (0.13)
INGO members/volunteers (log)			0.002 (0.003)	0.001 (0.003)	0.002 (0.004)	0.002 (0.004)
Globalization			-0.04*** (0.01)	-0.03*** (0.01)	-0.03 (0.02)	-0.01 (0.02)
Severely restricted Limited	-1.245	-0.738	-5.655	-3.574	-8.42	-6.91
Limited Unrestricted	1.063	1.503	-3.05	-1.044	-4.596	-3.205
Random country and year effects	No	No	No	No	Yes	Yes
Observations	2,324	2,311	1,140	1,128	1,140	1,128
Log Likelihood	-1,600.49	-1,687.18	-869.08	-874.70	-732.95	-739.06

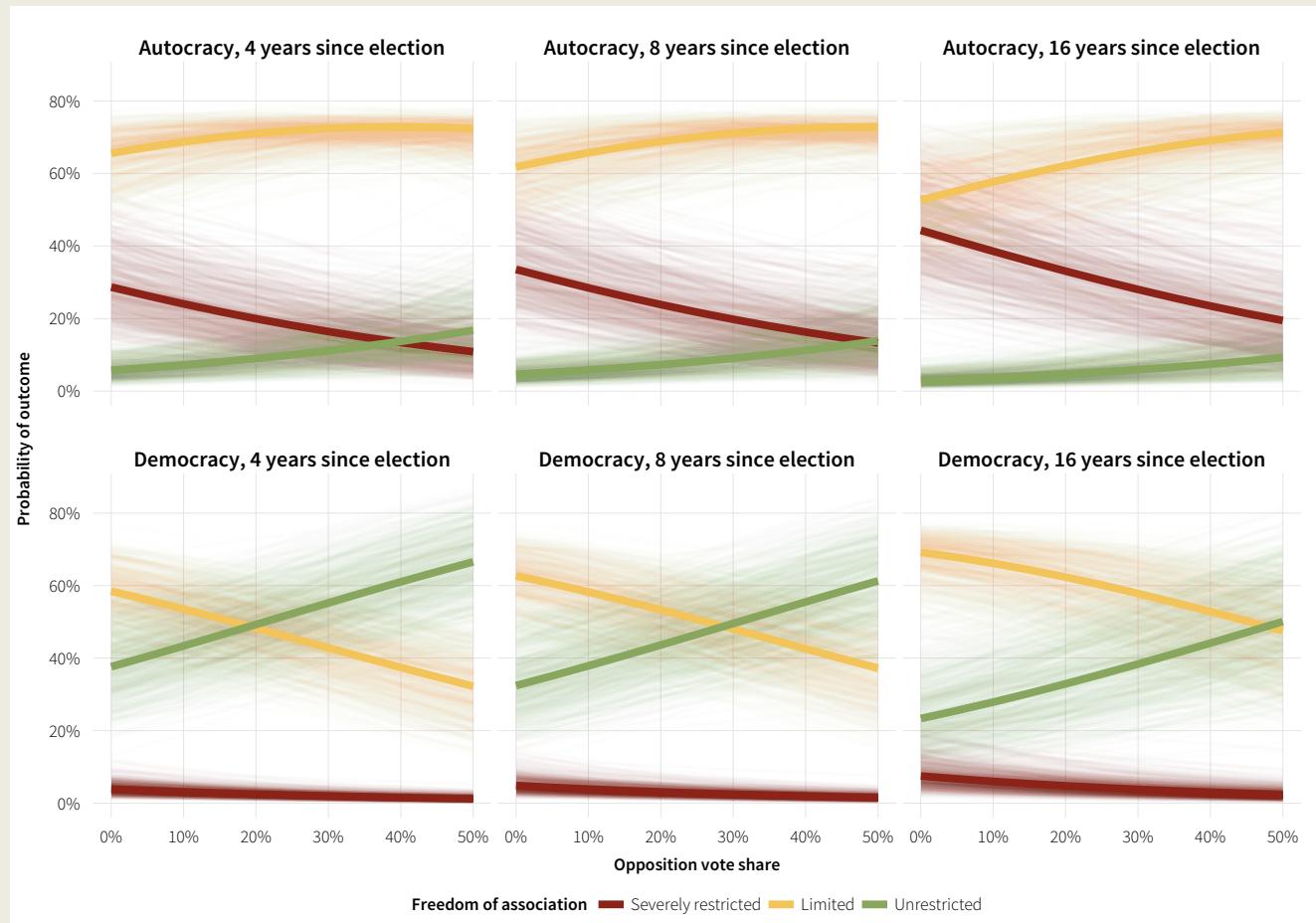
Notes:

*p<0.05; **p<0.01; ***p<0.001
Reported coefficients are log odds.

Getting better...

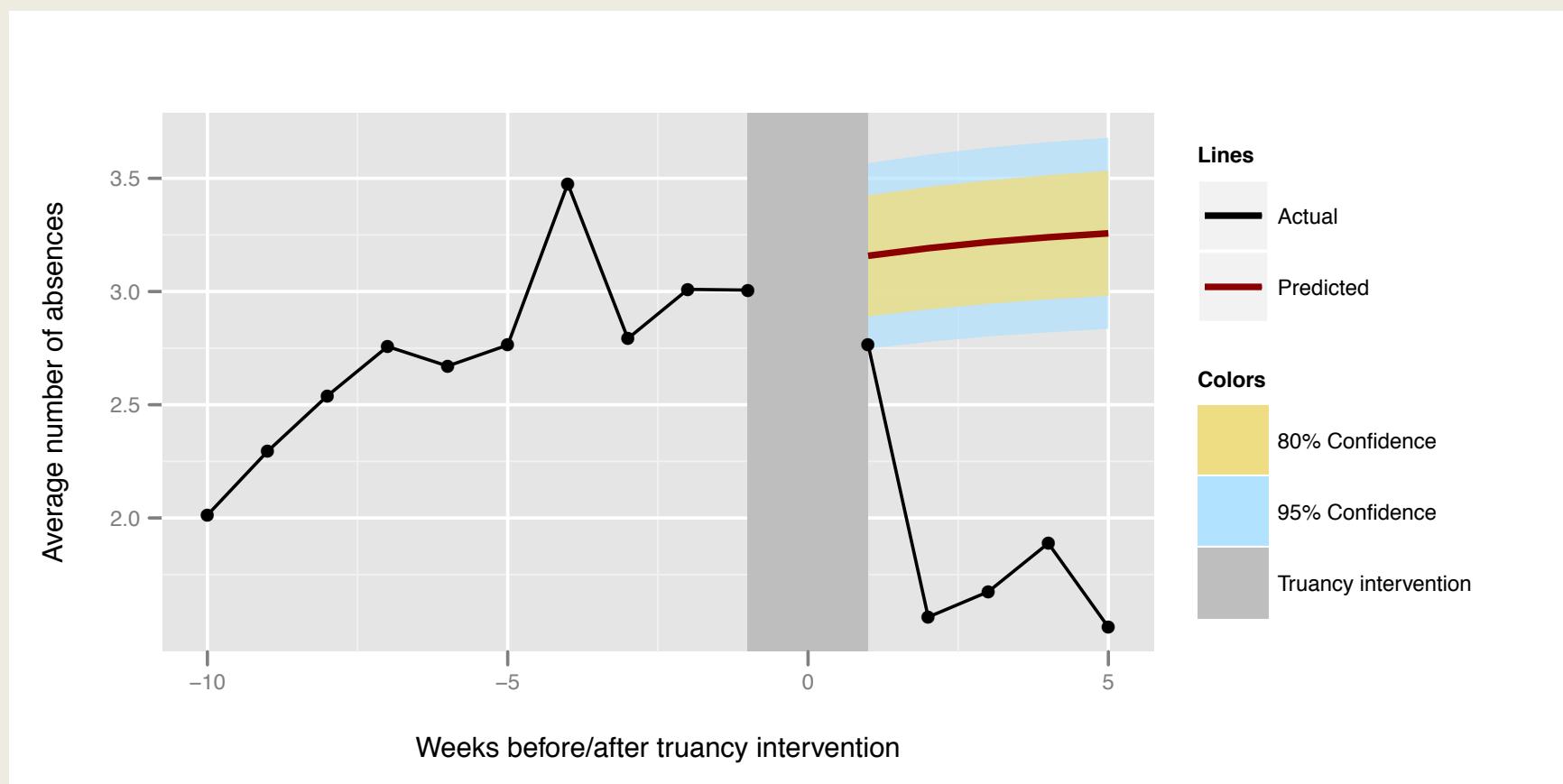


Tell a story



The Conundrum | Message | Media | Messenger

Stories are memorable



Make some stories

Ethical problems with storytelling

Just Seeing Charts And Graphs Makes Drug Claims More Credible

OCTOBER 17, 2014 8:02 AM ET

KATHERINE HOBSON

Of those who saw the text and the graph, 97 percent said they believed the drug worked, compared with 68 percent for the people who saw only the text.



When people see charts like this, they think the drug is more effective than if they just read about the data, a study finds.

Source: Cornell University

Conflicting goals

Guide the audience
towards a conclusion

Maintain nuance
and uncertainty

Media

Don't use crutches

PowerPoint is not a script.

Don't use it like one.

Ever.

General Slide Guidelines

Short lists

Few words

Big words

Minimal animation

Oh CRAP!

Contrast

Repetition

Alignment

Proximity

Contrast

**“If two items are not exactly
the same, make them
different. Really different.”**

Don’t be a wimp.

Contrast: Type

Serif

Lore*mm* ipsum dolor sit amet

Sans Serif

Lore*mm* ipsum dolor sit amet

Slab Serif

Lore*mm* ipsum dolor sit amet

Script

*Lore*mm* ipsum dolor sit amet*
*Lore*mm* ipsum dolor sit amet*

Decorative

Contrast: Color



<http://kuler.adobe.com>

James Clifton Thomas

123 Penny Lane
Portland, OR 97211
(888) 555-1212

**PROFILE:**

A multi-talented, hard-working young man, easy to get along with, dependable, and joyful.

ACCOMPLISHMENTS:

January 2006-present Web designer and developer, working with a professional team of creatives in Portland.

May 2000-January 2006 Pocket Full of Posies Day Care Center. Changed diapers, taught magic and painting, wiped noses, read books to and danced with babies and toddlers. Also coordinated schedules, hired other teachers, and developed programs for children.

Summer 2006 Updated the best-selling book, *The Non-Designer's Web Book* with my mom (Robin Williams) and John Tollett.

1997-2000 Developed and led a ska band called Lead Veins. Designed the web site and coordinated a national tour.

EDUCATION:

2002-2005 Pacific Northwest College of Art, Portland, Oregon: B.A. in Printmaking

1999-2000 Santa Rosa High School, Santa Rosa, California

1997-1998 Santa Fe High School, Santa Fe, New Mexico

1982-1986 Poppy Creek Daycare Center, Santa Rosa, California

PROFESSIONAL AFFILIATIONS:

Grand National Monotype Club, Executive Secretary, 2000-2002

Jerks of Invention, Musicians of Portland, President, 1999-present

Local Organization of Children of Robin Williams, 1982-present

HOBBIES:

Snowboarding, skateboarding, tap dancing, cooking, magic, music (trumpet, drums, vocals, bass guitar), portrait drawing

References available on request.

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Repetition

**“Repeat some aspect
of the design throughout
the entire piece.”**

FALL 2004

Jamba Whirl

DISCOVER MORE

• FRESH SQUEEZED •

Start The Day

Delicious!

Bored with breakfast?
Skipping it altogether?
Wake up to a new way
to start your day:

Jamba Juice!

Jamba is the perfect place to pick up that all-important morning meal. First, our fruit-filled products are overflowing with vital vitamins and minerals to give your body the breakfast boost it needs. Even better, you can grab them on the go—and they taste great, too!

New Fantastic Functional Smoothies. Still sleepy? Get Up & Mango™! This new energy smoothie blends brilliant mangos and perky peaches with soymilk, nonfat frozen yogurt and our special Energy Boost™—a potent combination of ginseng ginkgo biloba, and other fatigue-fighting herbs, as well as four energy-essential B vitamins. Get Up & Mango™ will get you moving—and give you plenty of potassium, calcium and vitamins C and A, as well as 15 grams of protein*.

Want more protein? Our Blue Banana Blast™ smoothie is bursting with blueberries and bananas, plus soymilk, nonfat plain yogurt, nonfat frozen yogurt, and Jamba's Protein Boost™. You get 22 grams of protein*, plus lots of dietary fiber, calcium and vitamin D. Drink up!

New Yummy Yogurt Blends. These sweet and creamy creations blend nonfat plain yogurt and soymilk with your favorite fresh fruits and fruit juices. These drinkable yogurts are a good source of protein and an excellent source of calcium and vitamins C and D. Yogurt's "friendly bacteria" helps aid in digestion, too. Choose from Sunrise Strawberry™, Bright Eyed & Blueberry™ and Pick-Me-Up Peach™.

Tomorrow morning, don't let the first meal of the day put you to sleep! Go to Jamba—and give yourself a fresh start!

* Nutritional information based on Original size smoothie.



Visit jambajuice.com for a complete list of store locations!

• FUEL FACTS •

Rise and Shine With Breakfast

Your mother was right: You shouldn't skip breakfast.

But eating any old morning meal won't do. To start the day right, you need to feed your body the vitamins and nutrients it craves.

"You don't want to waste calories," explains Suzanne Havala Hobbs, a registered dietitian and member of Jamba's Wellness Advisory Board. "If you load up on empty calories for breakfast, by the end of the day, you're more likely to have missed some important nutrients."

A nutritious breakfast offers a bounty of benefits. For one, you'll have more energy and will probably perform better at work or school. Why? When you wake up in the morning, your body's energy stores are low. After all, you haven't eaten anything in eight to 12 hours. If you don't refuel with breakfast, you'll probably be starved by lunch—and more likely to overeat and make impulsive food choices.

(Continued on back page)

• BEHIND THE BLENDER •

The Secret To Jamba Smoothies

Ever wonder why Jamba smoothies taste so terrific? The secret is in the fruit—and how we pick it.

It starts in the fields. Jamba's suppliers pick produce at the peak of perfection, and within hours, that fruit is "individually quick frozen" to lock in its fresh flavor, juices and nutrients. Soon, it's on its way to Jamba stores, ready to be mixed into one of our splendid smoothies!

Of course, not all fruits are created equal. And when Jamba searches the globe for the best bananas, berries, peaches and more, we're pretty hard to please. We're not only picky about the fruit itself—we insist on a specific variety of strawberry, and each one must adhere to our strict standards for color and flavor—we're also choosy about the people who supply it.

Our suppliers must meet a long list of stringent standards for ensuring quality and food safety. We require vendors to detail all of their quality and safety processes and pass a rigorous third-party audit before we'll even agree to taste-test their fruit. In addition, Jamba officials visit supplier facilities and continue reviewing processes even after a contract is signed. Many of our vendors have been our trusted partners for years.

Why all the fuss? Jamba is committed to providing only the highest quality products to our customers. After all, the better the fruit, the better the smoothie!

FRESH CROP Opening This Fall!

Rancho Cucamonga, California
Ft. Lauderdale, Florida
Charlotte, North Carolina
Honolulu, Hawaii
Fifth Avenue, New York
Orland Park, Illinois

• JAMBATUDE •

Spreading The Jamba Spirit

Jamba General Manager Ray Sterling is a big believer in supporting the local community. So when Ray, who manages the Jamba store at 9th and Irving streets in San Francisco, saw that the 2004 AIDS Walk San Francisco fundraising event was approaching, he sprang into action.

Ray volunteered to captain a team of walkers and, with the help of the Jamba's Northern California marketing department, quickly spread the word about the event to all the stores in Northern California. His goal: Raise \$10,000 for AIDS Walk, which benefits the San Francisco AIDS Foundation and other organizations that provide services, support and education to AIDS patients.

His enthusiasm turned out to be contagious. On July 18, the day of the walk, he found himself leading a team of more than 40 people, including Jamba team members, customers and friends and family. Two team members donned BananaMan costumes, and the rest of the team sported bright yellow Jamba t-shirts as they walked 6.2 miles through Golden Gate Park. Total money raised: \$16,019.

"I think it's so important to support the local community," Ray explains. "This is a big event in San Francisco, and the money goes to help people and children right here. I felt it was essential for Jamba to be a part of it."

The AIDS Walk isn't the only community project Ray has been involved with since joining Jamba two-and-a-half years ago. He also works with a local chapter of The Arc, an organization that helps people with developmental disabilities. Through The Arc, Ray has hired several people with disabilities to work for him at Jamba. For his efforts, he was recognized as an "Employer of the Year" last year by the San Francisco Mayor's Committee for Employment of Persons with Disabilities.

"Ray exemplifies everything that Jamba stands for," says Gail DiSantis, a Jamba District Manager for San Francisco and Ray's boss. "He's friendly, fun and energetic, and when it comes to helping the community, he doesn't just talk. He's a doer."

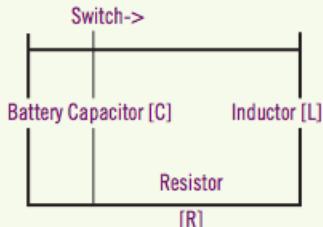


Alignment

“Every item should have a visual connection with something else on the page.”

Example 6: Value of a resistor in an electrical circuit.

Find the value of a resistor in an electrical circuit which will dissipate the charge to 1 percent of its original value within one twentieth of a second after the switch is closed.

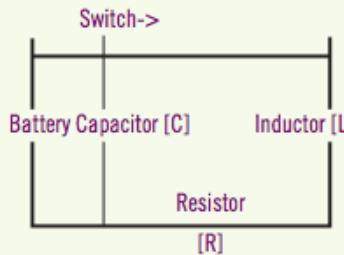


q0=	9	volts
q(t)=	0.09	volts
t=	0.05	seconds
L=	8	henrys
C=	0.0001	farads
R=	300	ohms
q(t)=	0.253889	

1/[L*C_]	1250
[R_/(2*L)]^2	351.5625
SQRT(B15-B16)	29.973947
COS(T*B17)	0.07203653
-R_*T/(2*L)	-0.9375
Q0+EXP (B 19)	3.52445064

Example 6: Value of a resistor in an electrical circuit.

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q0=	9	volts
q(t)=	0.09	volts
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L=	8	henrys
C=	0.0001	farads
R=	300	ohms
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COS(T*B17)	0.07203653
-R_*T/(2*L)	-0.9375
Q0+EXP (B 19)	3.52445064

Proximity

**“Group related
items together.”**

Ralph Roister Doister

(717) 555-1212

Mermaid Tavern

916 Bread Street

London, NM

Mermaid Tavern

Ralph Roister Doister

916 Bread Street

London, NM

(717) 555-1212

Review

Your Attitude is Your Life

Lessons from
raising three children
as a single mom

Robin Williams
October 9

Your Attitude is Your Life ▾

Lessons from
raising three children
as a single mom

Robin Williams
October 9

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Your Attitude is Your Life

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Contrast

Repetition

Alignment

Proximity

Messenger

Nonverbal Magic

Eyes

Standing

Time

Transitions

Don't Panic

Makes Perfect

Rehearse

Get feedback

Test equipment

Smooth Tricks

Jump to slide

Blank screen

Presenter view

Conclusion

Storytelling is hard

Nuance &
Complication

Comprehension &
Memorability

It's easy to be lazy

Go forth and tell
amazing stories