Numbers in the Newsroom

How to tame your fear of figures

Statistics are people with the tears washed off

- Paul Brodeur

Statistics are people with the tears washed off

- Paul Brodeur

He uses statistics as a drunken man uses lamp-posts -- for support rather than illumination

- origin unknown, often attributed to Andrew Lang, b. 1844

Statistics are people with the tears washed off

- Paul Brodeur

He uses statistics as a drunken man uses lamp-posts -- for support rather than illumination

- origin unknown, often attributed to Andrew Lang, b. 1844

We do not expect reporters to be mathematical geniuses. But we do expect them to sidestep their mind-numbing fear of mathematics long enough to ask, 'Does this make sense?' 'What would I conclude from these numbers?'

- A.K. Dewdney

Even the most compelling narrative stories have a backbone of statistical evidence

Footnotes from *Invisible Child: Dasani's Homeless Life*, by Andrea Elliott, New York Times, December 2013

It is a place where mold creeps up walls — Interviews with residents and photographs by The Times; videos and photos taken by residents; and city and state inspection reports.

Dasani is among 280 children at Auburn, and more than 22,000 homeless children — Department of Homeless Services. The Auburn figure is from January, the month in which this scene occurs. Unless otherwise stated, all references to the city's homeless population are provided by D.H.S.

The highest number since the Great Depression — The city began recording its shelter population in the early 1980s, when the shelter system was created at the dawn of the period known as "modern homelessness." The city's current homeless population of more than 50,000 surpasses anything in the city's record, and is the highest known figure since the Great Depression, according to Coalition for the Homeless.

New York is the most unequal metropolis in America — United States Census Bureau.

Almost half of New Yorkers live near or below the poverty line — New York City Center for Economic Opportunity. Forty-six percent of New Yorkers were within 150 percent of the city poverty level in 2011.

Put numbers in their place

Put numbers in their place

- Summaries

Put numbers in their place

- Summaries
- Opinions

Put numbers in their place

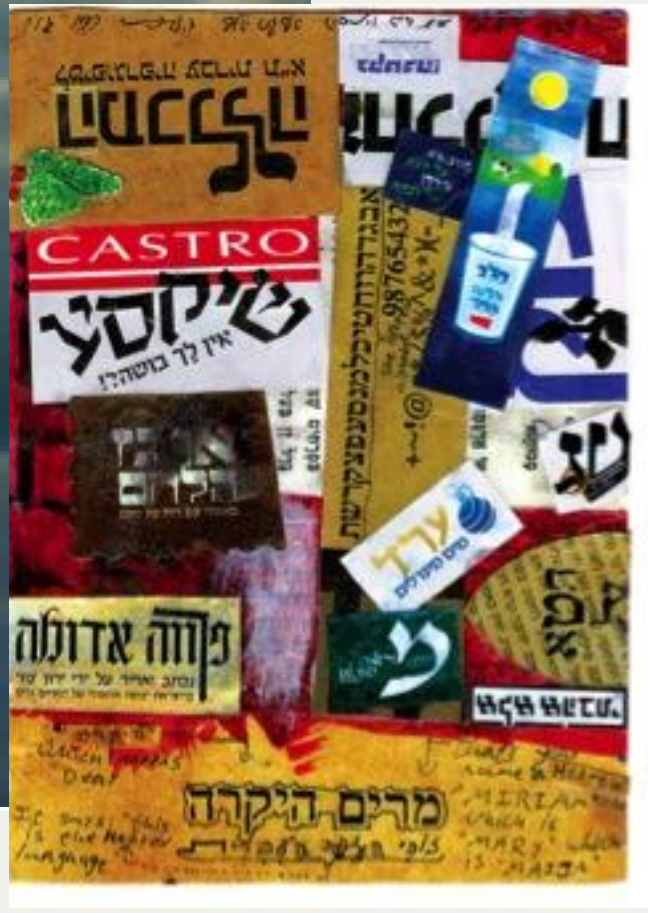
- Summaries
- Opinions
- Guesses

Why are we so anxious?

Letters make
understandable units

Numbers don't - for you
or your audience

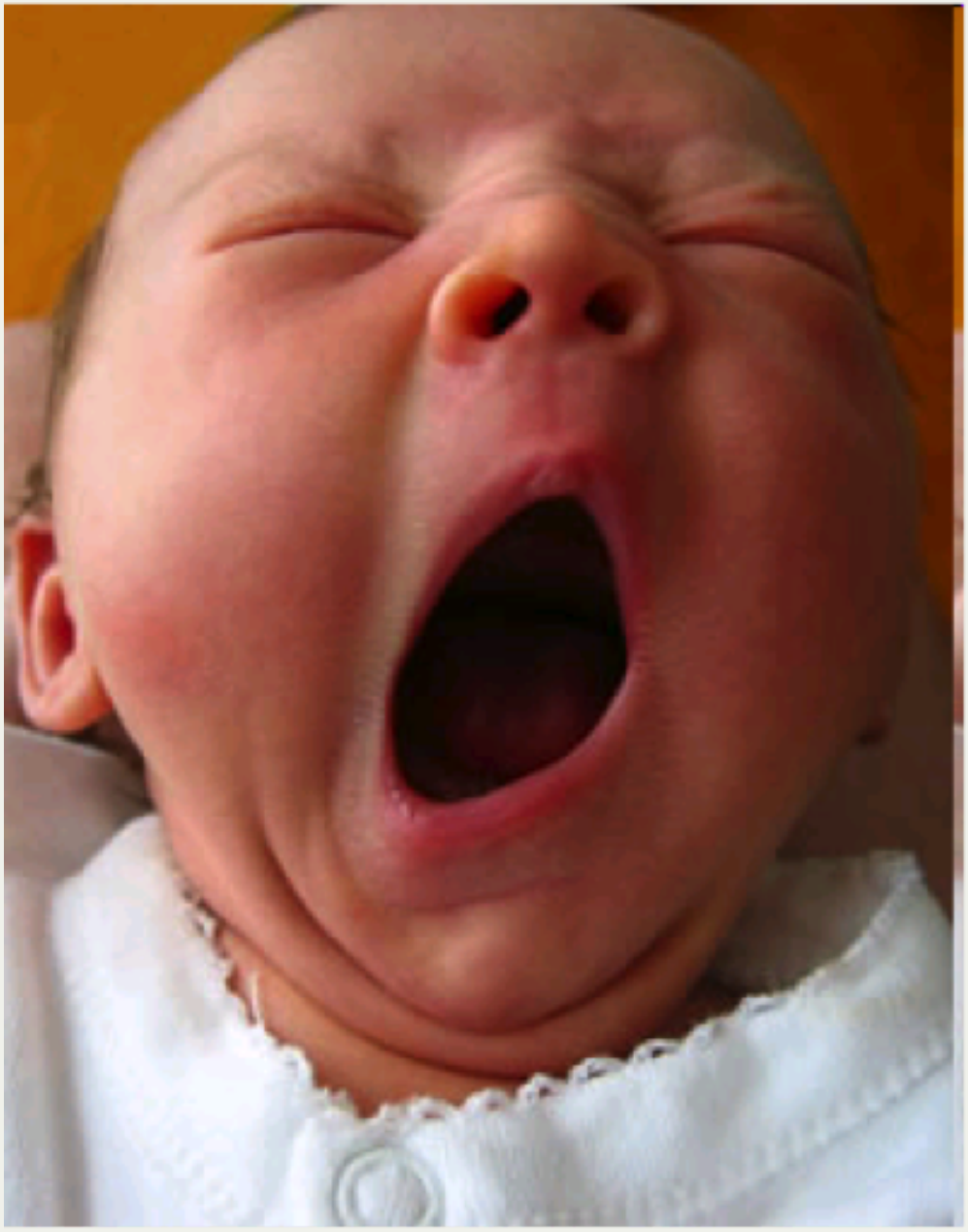
Three fears



Lost at sea or in another language without a translator

Three fears:

Boring your readers and viewers



Three fears: The statistics police

Three fears

Three fears

- Feeling out of your element
  - *Everyone is!*
  - *Get a sense of scale - how much is a lot? How much is a little?*

Three fears

- Feeling out of your element
  - *Everyone is!*
  - *Get a sense of scale - how much is a lot? How much is a little?*

- Boring your readers
  - *Don't do that!*
  - *Select, don't compress, the best opinions, summaries and guesses*
  - *Use visualizations to convey dense numbers more clearly*

Three fears

- Feeling out of your element
  - *Everyone is!*
  - *Get a sense of scale - how much is a lot? How much is a little?*

- Boring your readers
  - *Don't do that!*
  - *Select, don't compress, the best opinions, summaries and guesses*
  - *Use visualizations to convey dense numbers more clearly*

- Being wrong and getting caught
  - *Start early and check your work*
  - *Simplify, simplify, simplify til you're sure you understand*
  - *Do you believe it?*
  - *Go back to "get a sense of scale"*

5

5-4

5-4


FINAL
(20-9)
5
4
(16-15)
10 11 12 13 14 15 16 17 18 R H E
YANKEES 0 0 0 0 0 0 0 0 1 5 10 0
CUBS 0 0 0 0 0 0 0 0 0 4 11 2
UBER

327

327

million

327

billion

2.8 million

vs.

327 million

* can you picture it? Try dividing...

.0087

* ... Still can't picture it? Try multiplying ...

.0087

"The death rate in the US is 8.7 per 1,000 people"

* ... Still can't picture it? Try multiplying ...

$$1 \div .00864$$

$$= 116$$

*.. or dividing again.

1 ÷ .00864

= 116

" One out of every 116 people in the US die each year."

*.. or dividing again.

Scaling numbers

- When numbers get big, they are incomprehensible
- When numbers get too small, they're also incomprehensible
- Find a way to get them to a scale you understand - proportions, fractions, rates, ratios

Strategies to scale: Find an anchor

- A standard or goal. What would a "good" number look like?
- Other places
- Over time
- Portion of a whole

Example: The Million Man March

Key math skills

Key math skills

- Averages
  - Mean, or simple average
  - Median, esp for money values

Key math skills

- Averages
  - Mean, or simple average
  - Median, esp for money values
- Changes

Key math skills

- Averages
  - Mean, or simple average
  - Median, esp for money values
- Changes
- Rates

Key math skills

- Averages
  - Mean, or simple average
  - Median, esp for money values
- Changes
- Rates
- Percentages
  - Pieces of the pie
  - Percent change

Tips

- Writing is about selection, not compression, of facts - ration your numbers in your story
- Memorize a few numbers on your beat ("compared to what?")
- Round off a lot
- Learn to think in ratios
- Use devices from everyday life
- Envision success

Sarah Cohen
sarah.h.cohen@asu.edu
@sarahcnyt
August 2019