

That's fake news! – role of data literacy in reducing data misrepresentation in journalism

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6135 Project Presentation

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Agenda



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BACKGROUND

2

PROPOSED STUDY

3

DISCUSSION

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DISCUSSION

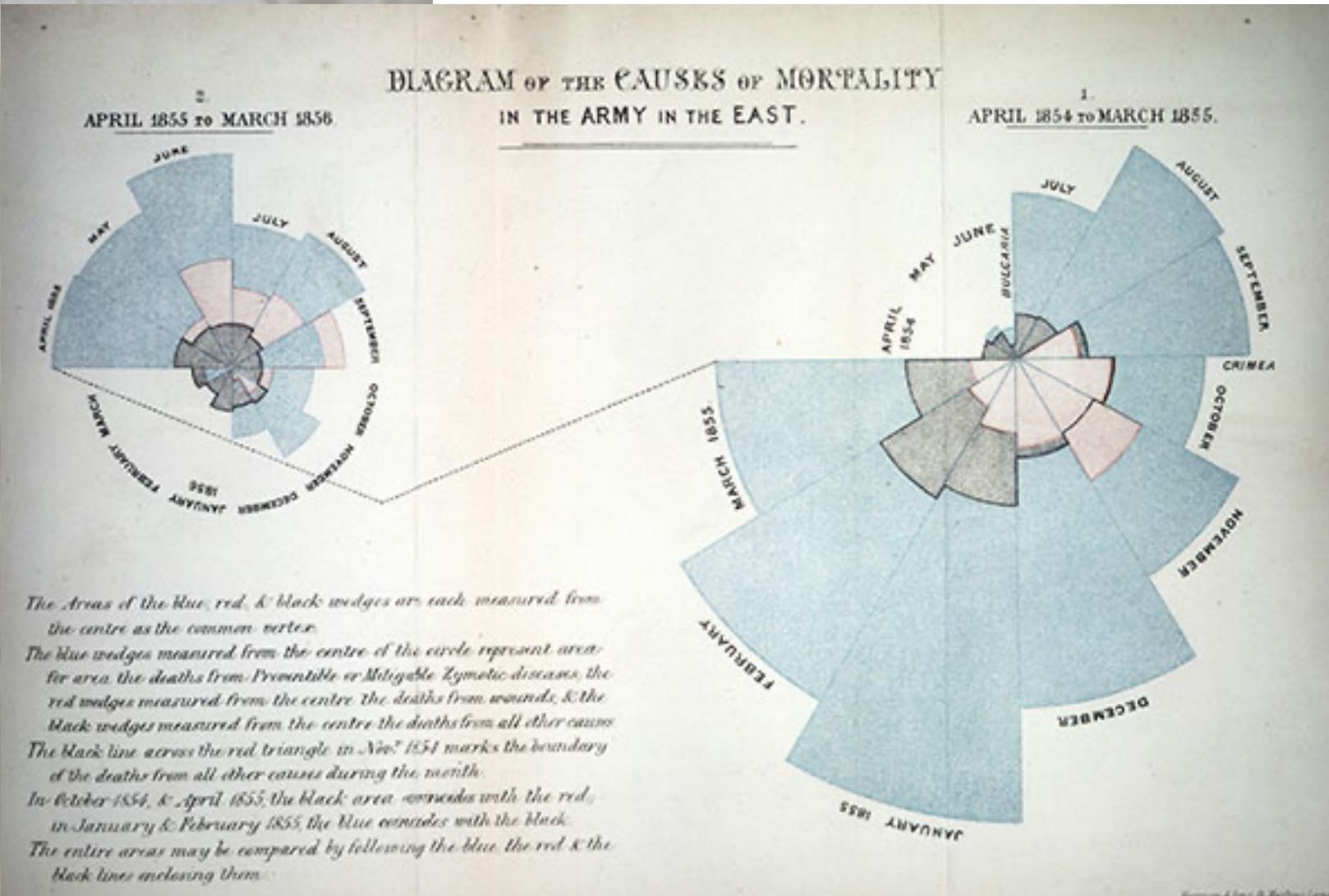


representation



Background

- Another early instance of data journalism, published in 1858
- Florence Nightingale: Mortality of the British Army



Background

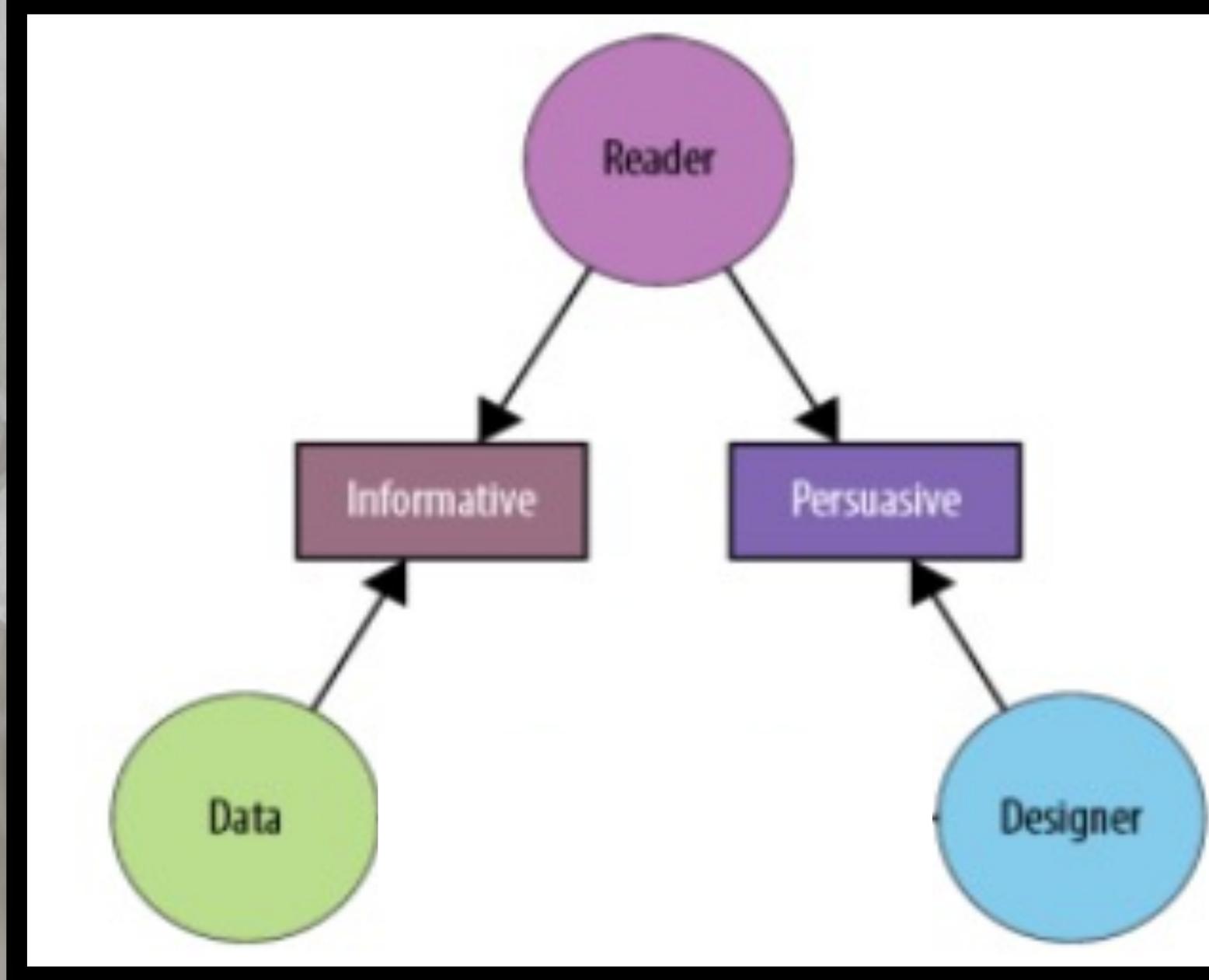
- High data misrepresentation

CRISIS!
distrust in journalism

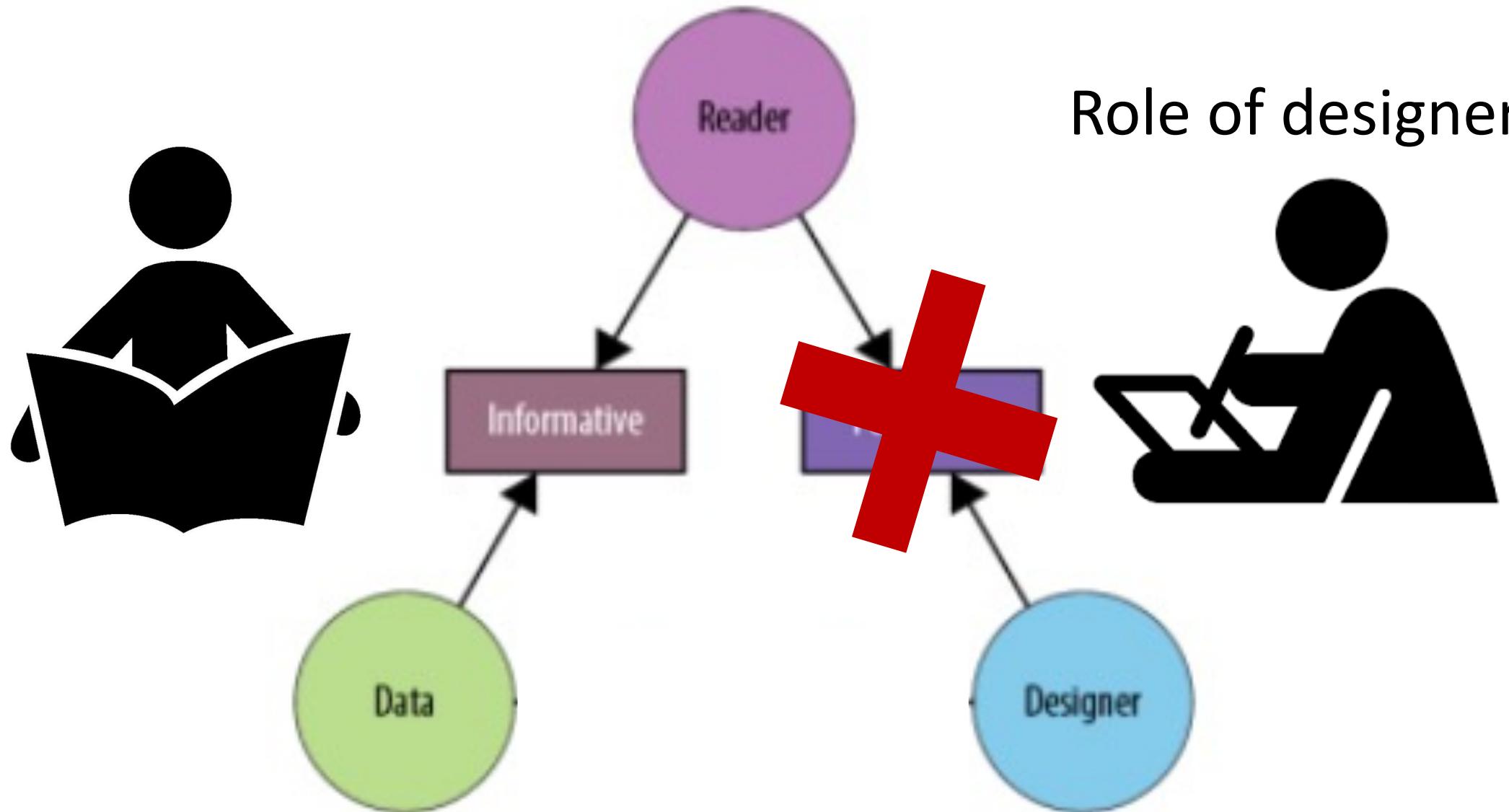


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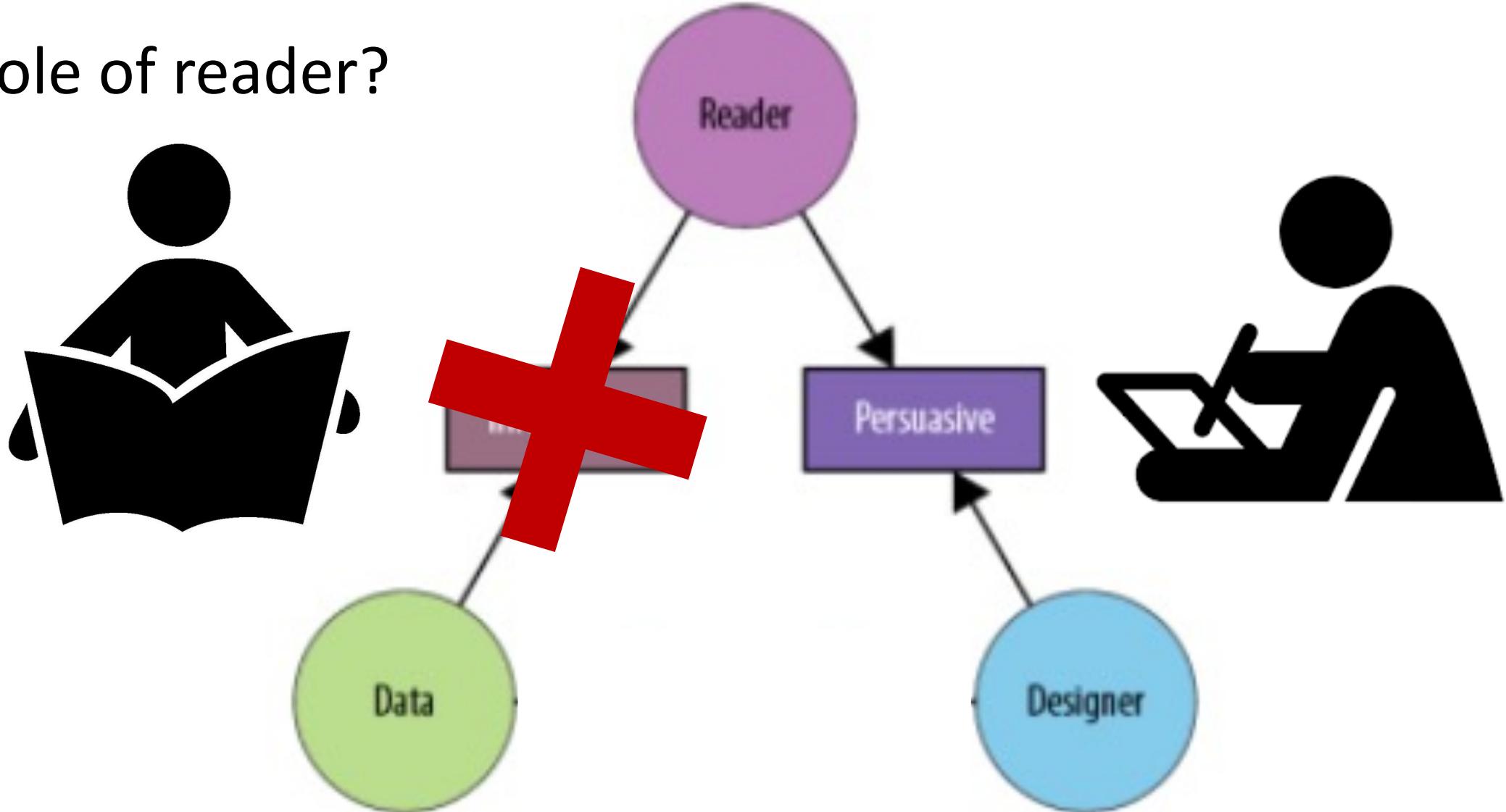
- Three key players: reader, designer, data
- Two categories of data visualization in journalism:
 - Informative
 - Persuasive



Role of designer?



Role of reader?

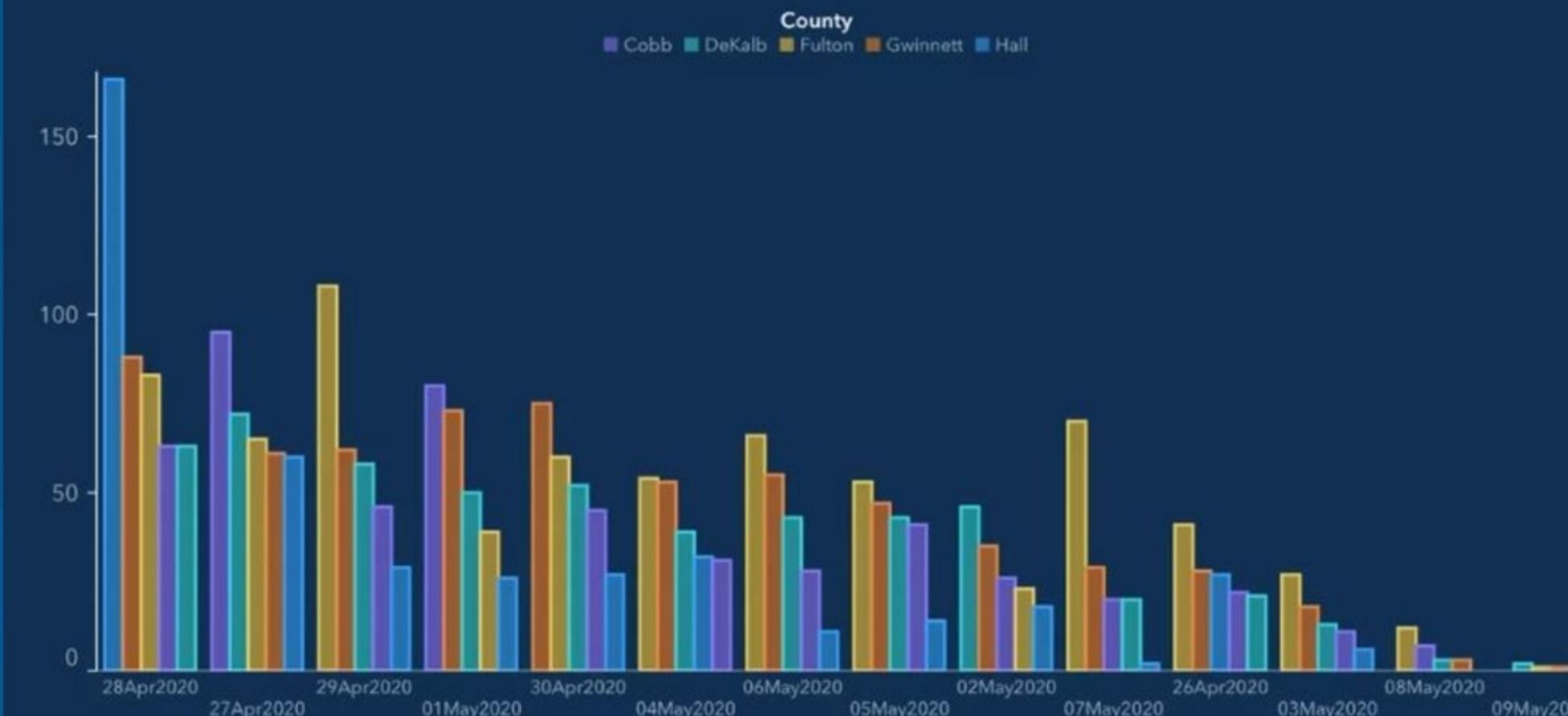




Covid-19 Examples – Case 1

Top 5 Counties with the Greatest Number of Confirmed COVID-19 Cases

The chart below represents the most impacted counties over the past 15 days and the number of cases over time. The table below also represents the number of deaths and hospitalizations in each of those impacted counties.



Covid-19 Examples – Case 2

Kansas COVID-19 7-Day Rolling Average of Daily Cases/Per 100K Population





MIS representation

Role of designer?



- warning labels
- transparency
- corrective information

Role of reader?



- Statistically literate behavior = joint activation of five interrelated knowledge bases (literacy, statistical, mathematical, context, and critical)

Data literacy?



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OBJECTIVE

The purpose of this study is to examine the extent to which data literacy improves the ability to detect data misinformation

METHODS

PARTICIPANTS

- University students
- Two groups (STEM vs. non STEM majors)



METHODS

TASK

- presented with examples of normal and misleading graphs and prompted to answer a series of questions on an assessment
- sample questions:

what does this graph show?

What conclusion can you draw from this graph that makes sense?

What conclusion can you draw from this graph that doesn't make much sense?



METHODS

ANALYSIS

- Psychometric test
- score each response as:
 - correct (+1)
 - incorrect (0)
 - missing (0)
- sum up score for main outcome variable



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SUMMARY

- widespread misrepresentations and misinterpretations of data leading to public distrust of journalism

Designer



- warning labels
- transparency
- corrective information

Reader



Proposed: improve statistical literacy among general public

IMPLICATION

Benefits of data literacy:



Early detection of
misinformation



Slows spread of
misinformation



Shifts the power
back to the public

Future Direction



Course Planning



Journalism training

Thank you for listening