

# MIS 0855 Spring 2015 – Data Science

## *Day 12 – Communicating Data*

**Min-Seok Pang**

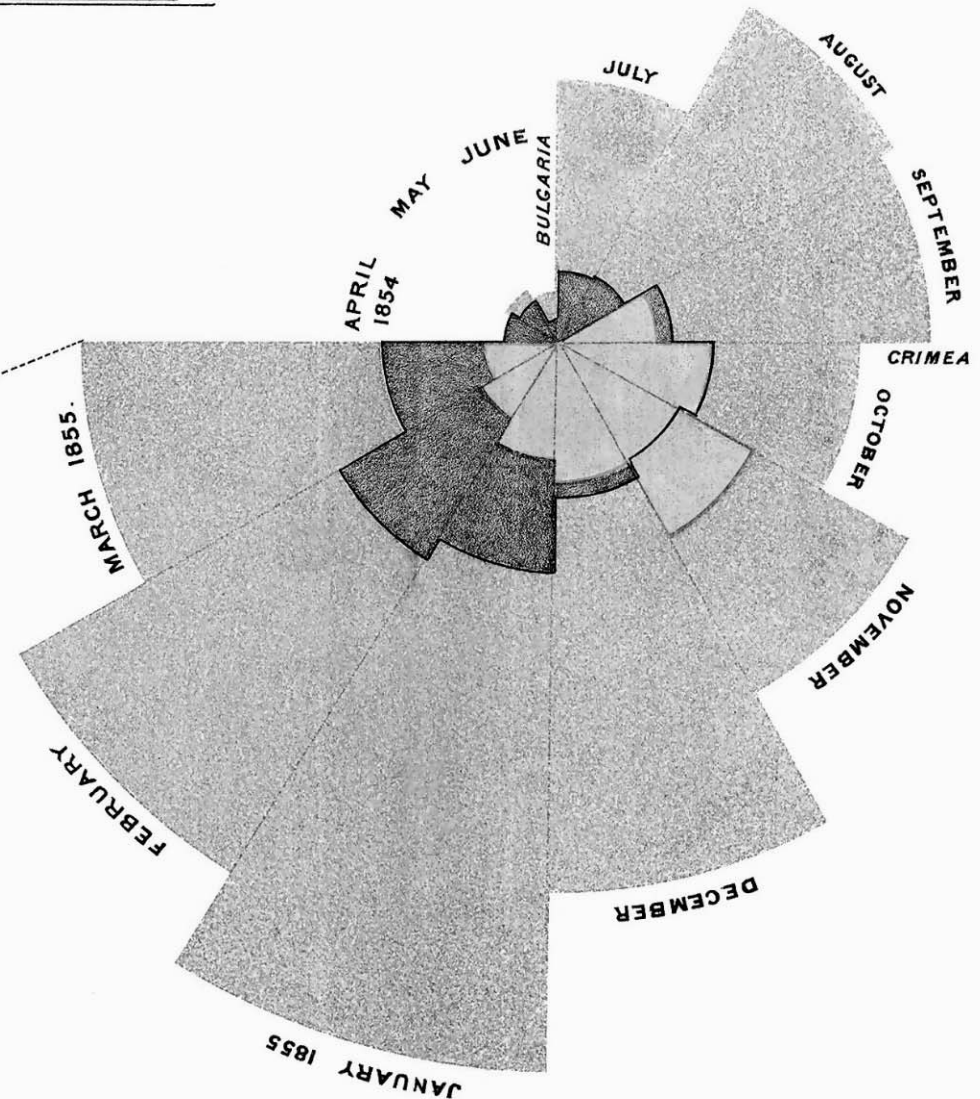
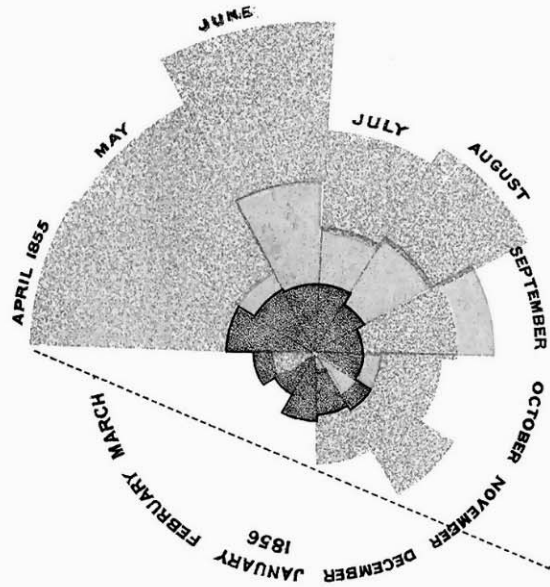
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# What Story Does This Tell?

## DIAGRAM OF THE CAUSES OF MORTALITY IN THE ARMY IN THE EAST.

1.  
APRIL 1854 TO MARCH 1855.



The Areas of the blue, red, & black wedges are each measured from the centre of the circle.

The blue wedges measured from the centre of the circle represent area of Preventable or Mitigable Zymotic diseases, the red wedges measured from the centre the deaths from wounds, & the black wedges measured from the centre the deaths from other causes.

The black line across the red triangle in Nov<sup>r</sup> 1854 marks the boundary of the month.

In October 1854, & April 1855, the black area coincides with the red; in January & February 1855 the blue coincides with the black.

The entire areas may be compared by following the blue, the red & the black lines enclosing them.

**Causes of death in the Crimean war:**  
**Blue – preventable diseases**  
**Red – wounds**  
**Black – other**

# Is This Most Effective?

## Roumeliotis' Steps for Communicating an Analysis (DOs)

- My understanding of the [business] **problem**
- How will I measure the [business] **impact**?
- What's the available **data**?
- The initial **solution** hypothesis
- The solution
- The [business] impact of the solution

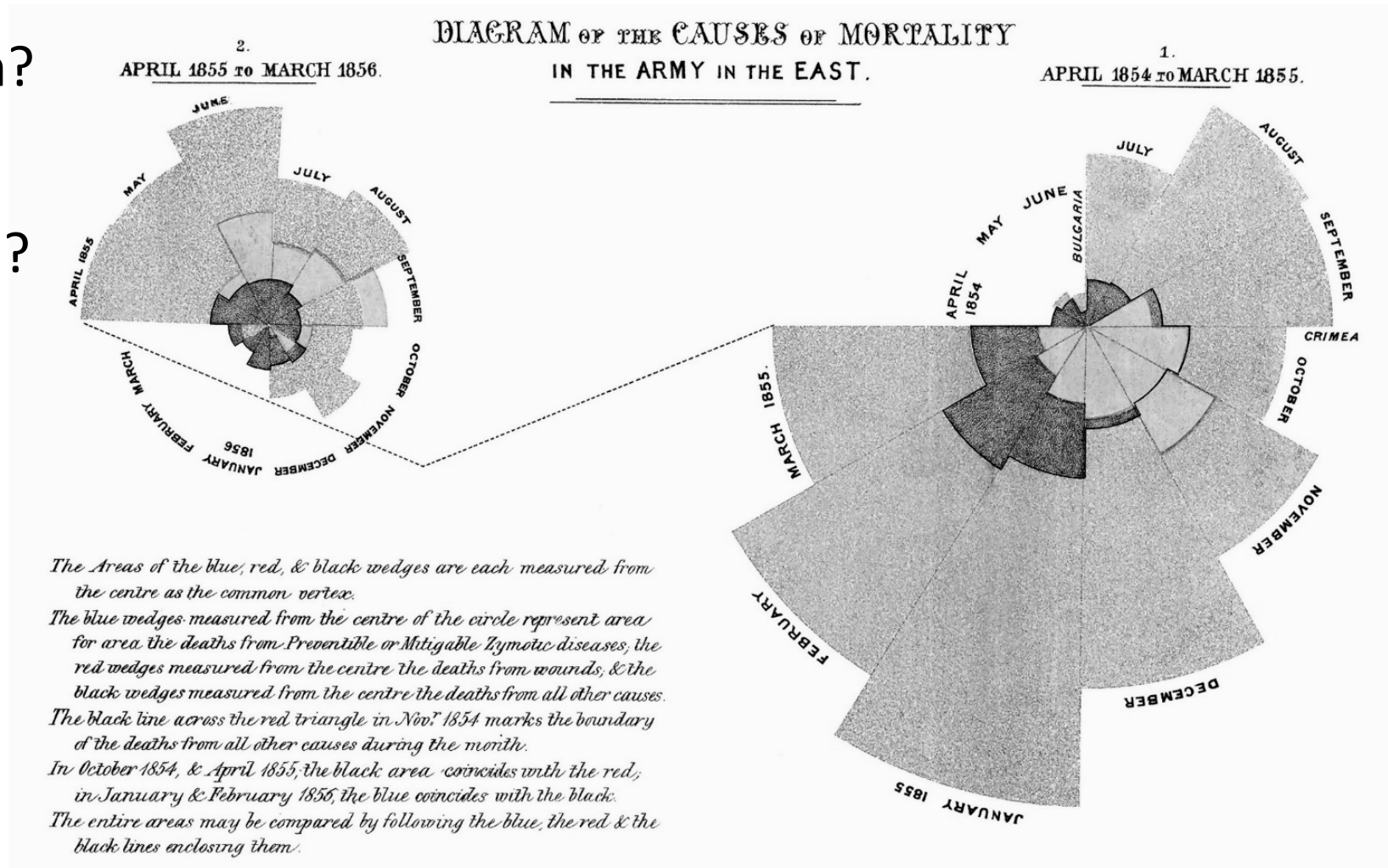
## Roumeliotis' Steps for Communicating an Analysis (DON'Ts)

- Technical terminologies
- Step-by-step (i.e. too detailed) methodologies
- Complex statistics



# What Story Does This Tell?

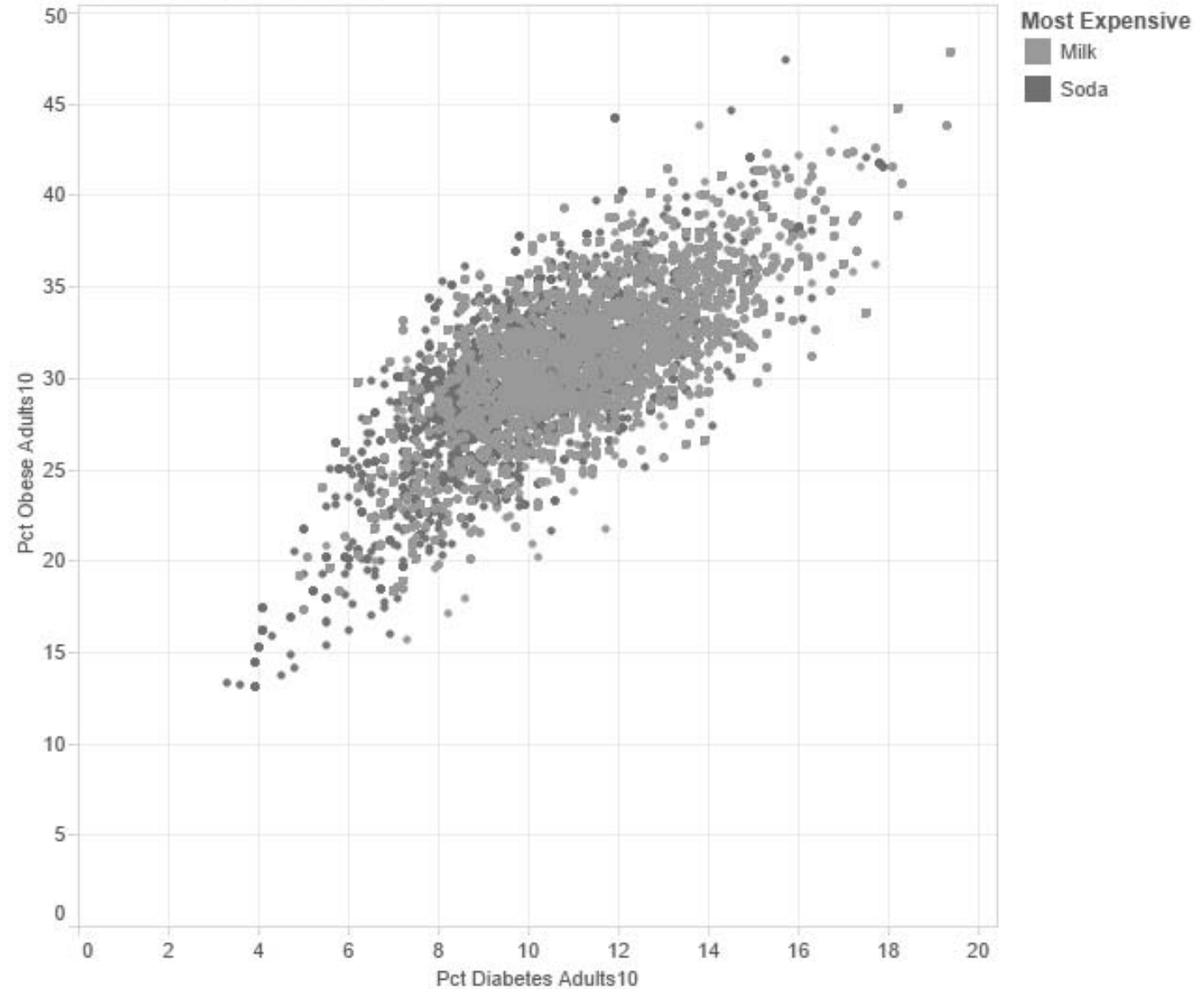
- Problem?
- Data?
- Solution?
- Impact?



# What Story Does This Tell?

- Problem?
- Data?
- Solution?
- Impact?

Impact of Beverage Prices



Pct Diabetes Adults10 vs. Pct Obese Adults10. Color shows details about Most Expensive. The view is filtered on Most Expensive, which excludes Null.

# What Story Does This Tell?

- Problem?
- Data?
- Solution?
- Impact?

## Home Values Haven't Recovered

Median value of owner-occupied units (in 2013 dollars) for 31 metro areas with more than 2 million residents; 2007, 2009 and 2013



## Coats' Rules for Storytelling

- *You gotta keep in mind what's interesting to you as an audience, not what's fun to do as a writer. They can be very different.*
- *Come up with your ending before you figure out your middle. Seriously. Endings are hard; get yours working up front.*
- *Putting it on paper lets you start fixing it. If it stays in your head, a perfect idea, you'll never share it with anyone*
- *What's the essence of your story? Most economical telling of it? If you know that, you can build out from there.*



# Data Visualization Principles

- from <http://moz.com/blog/data-visualization-principles-lessons-from-tufte>
- Show the data.
- Provoke thoughts about the subject at hand.
- Avoid distorting data.
- Present many numbers in a small place (but not too many).
- Make large datasets coherent.
- Encourage eyes to compare data.
- Reveal data at several levels of detail.
- Serve a reasonably clear purpose.
- Be closely integrated with statistical and verbal descriptions of the dataset.

## Coats' Rules for Storytelling (Paraphrased)

- Keep in mind what is interesting to the audience
- Come up with the ending before figuring out the middle
- Put it on paper
- Find the essence of the story and the simplest way to tell it



<http://www.technologyreview.com/graphiti/425120/space-over-time/>