• Learn the fundamentals of thinking visually
• The Phenomenon of Data Interaction
• JCU and the Tableau-Visual Analytic roadmap
Exports and Imports to and from DENMARK & NORWAY from 1700 to 1780

The bottom line is divided into Years, the right-hand line into £10,000 each.
The Areas of the blue, red, & black wedges are each measured from the centre as the common vertex. The blue wedges measured from the centre of the circle represent area for area the deaths from Preventible 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 all other causes. The black line across the red triangle in Nov. 1854 marks the boundary of the deaths from all other causes during the month. In October 1854, & April 1855, the black area coincides with the red; in January & February 1856, the blue coincides with the black. The entire areas may be compared by following the blue, the red & the black lines enclosing them.
Carte Figurative des postes successifs en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Par le 20 Novembre 1869.

Les nombres d'hommes primitivement placés dans les postes et quantités de milles, qui, en raison d'une moyenne de six milles, produisent, enfin, le total de l'accroissement de l'Armée.

Le tracé indique les postes qui restent en Russie, le recul de l'Armée par les routes, ainsi que les garnisons qui on servi à former la carte on est partie sans le passage de la frontière de la France par la suite du 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'Armée, j'ai supposé que les corps du Prince Napoléon et du Marshal Davout qui avaient été déportés en Moscou et en région vers Orléans et Waren, avaient toujours marché avec l'Armée.

TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessus de zéro.

Les graphes montrent au globe le climat général.

- 2°C à 7°C
- 8°C à 10°C
- 11°C à 16°C
- 17°C à 18°C
- 19°C à 20°C

Plaine 24 à 28°C

34 degrés
Every day, we create 2.5 quintillion bytes of data — so much that 90% of the data in the world today has been created in the last two years alone.
“Bigness” is only 20% of data’s personality

Data Quality

The ability of the data to add value into the decision-making process.
Overload, clutter, and confusion are not attributes of information, they are failures of design. So if something is cluttered, fix your design; don’t throw out the information.

If something is confusing, don’t blame your victim (the audience). Instead, fix the design.

- Edward Tufte
Visual analytics is the science of analytical reasoning facilitated by interactive visual interfaces

Thomas & Cook, 2005
## Anscombe's Quartet

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Green  Red
Red
Tableau uses **data, graphics, and interactive analysis** in order to enable people to better analyze data using their natural ability to think visually.
Traditional Business Intelligence

Tableau
Tableau Strategy

- Tableau Desktop (Design Tool)
- Tableau Server
  - Everyone with @jcu account can logon
- Consumers and Creators
Right Tools at Right Time

- **Data**
  - 10+ Years of Data in Banner/Oracle
  - IPEDS Open Data
  - Delaware, NSSE
  - Blackboard, Adirondack, Google, OneCard, more!

- **Tools**
  - Operational  Banner and other systems
  - Tactical  Argos
  - Strategic  Tableau

- **People**
  - End users with increasing data needs (and competence)
Show and Tell
John Carroll University-Employee Demographics

- Employee Type
- Multiple Values
- Month
- Multiple Values
- Division
- Multiple Values
- View By
- Years of Service

Legend:
- Blue: 1 or Less
- Orange: 1-5
- Green: 6-10
- Red: 11-15
- Purple: 16-20
- Pink: 21-25
- Brown: 26-30
- Gray: 30 or More

Number of Records:
- 2010: 374
- 2011: 383
- 2012: 402
- 2013: 399
- 2014: 414

Years of Service:
- 0-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- 30 or More
Attributes of Visual Organizations

1. Encourage self-service and enable the exploration of data
2. Be curious and ask lots of questions
3. Chose a direction of analysis first, gain precision later
4. Gain a healthy skepticism of decisions without data
5. Trust the process over the result
6. Avoid silos and specialization
7. Visualize whenever possible
8. Seek hybrid talent when hiring
Emerging JCU Analytic Culture

• **Data**
  – Building Authoritative Sources

• **Design**
  – Look/feel consistency
  – Interactivity

• **Deployment**
  – Sharing visuals and dashboards
Empowering the Campus
Spring 2016

• Request Data and Analysis Support
  – data@jcu.edu
• HR Training Part II:
  – *Data-informed Decision Making*
• Tableau Boot Camp and Training Classes
• Tableau for Teaching
  – www.tableau.com/academic/teaching
I hear and I forget
I see and I remember
I do and I understand

- Confucius -