

Let's start with a story about data...



1854 London data map



Dr. John Snow

Rev. Henry Whitehead

Data gives you the WHAT, so people can uncover the WHY

Find, combine, Form theories, Take action, analyze, refine operationalize manage 01100 10010 00101 Data science process

How can we find the source?

Find, combine, manage

Gathered & mapped incident locations

01100 10010 00101

Form theories, analyze, refine

Theorized sources & refined with external data



Take action, operationalize

Removed pump handle & stopped outbreak



"Visualization" telling great story from your data



visualize this!

- data tell stories ... simple ... complex
- data can be boring.
- it's your job to decide how to tell the story.
- Visualize
 - Facts
 - Comparison
 - Patterns

5 myths of visualization

- visualization will make data more flashy
- software will do everything
- the more, the merrier
- it's a fact!
- we need to show everything



visualization will make data more flashy

Q: can you take my data and make them more flashy?

A: No, if you have only 10 records!!

data make visualization more interesting

software will do everything

- visualization will not magically appear
- each software serves different types of users
- flexibility and interactivity

the more, the merrier

- it is better to put more information in a single graphic??
- putting multiple visual cues in a single chart to save space doesn't always a good idea
- simple and clear is better than clever and compact

It's a fact!

- visualization is subjective
- statistics is subjective
- choose what you analyze, what methods to use, and pick what to point out in reports

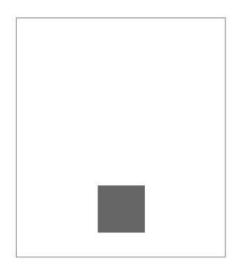
we need to show everything

- accuracy is important ... but
- visualization is less about the individual values and more about the distribution of them over time and space.
- If all you care about are individual data points, go for a table.

principles of visual organization

- figure/ground
- similarity
- proximity
- common fate
- closure

figure/ground



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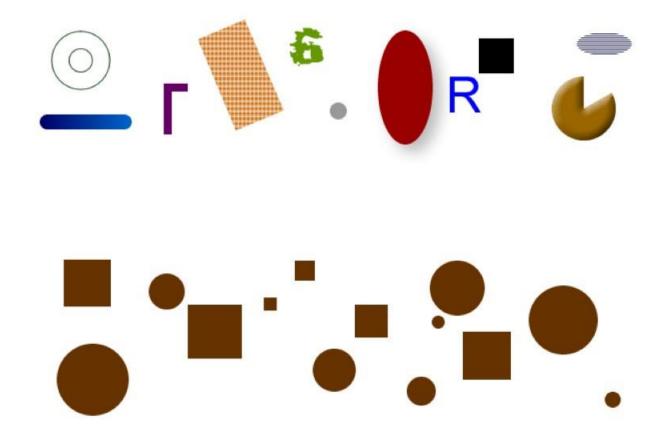
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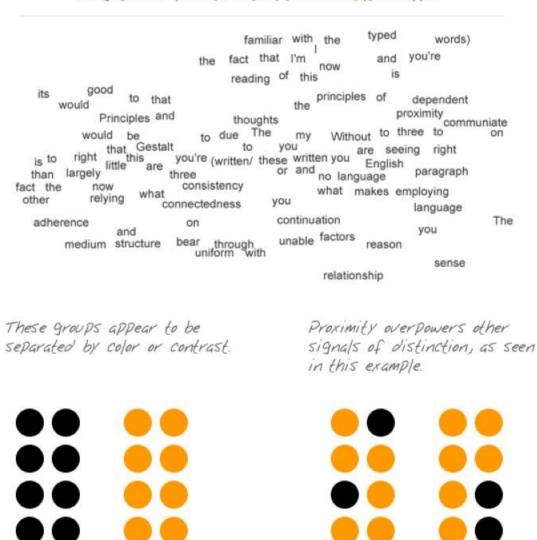
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similarity

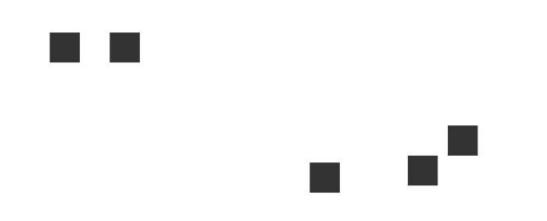


proximity

Paragraph #1 as presented without these 3 Bestalt Principles:



common fate



closure

LOOK IN IDE

This example likely requires too much effort to allow closure to occur and the message may be lost.

LOOK INSIDE

This example makes it easy for closure to occur. Therefore the message is clear.

key take away

- visualization is a mixture of art and science
- there is no harm for trial-and-error

Overview first, zoom and filter, then details on demand

How to get start?

Our recommendation for your success

1 Select a use case with a meaningful target

2 Control the scope

Start small , don't wait to get started

A powerful new way to work with data

Self-service business intelligence with familiar Excel and the power of the cloud



The Microsoft data platform

Microsoft SQL Server Microsoft Azure Office

Visualize + decide











Applications

Reports

Dashboards

Natural language query

Mobile

Transform + analyze



Orchestration







1

Information management Complex event processing

Modeling

Machine learning

Capture + manage







10101 01010 00100



Relational

Non-relational

NoSQL

Streaming

Internal & external

