#1

Practice / Day 1 / P#1

What do you think of those 3 visuals ?

Source : Wikipedia, Alberto Cairo on psychopathic graphs, Swiss Info

Source : Wikipedia

#1

text

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
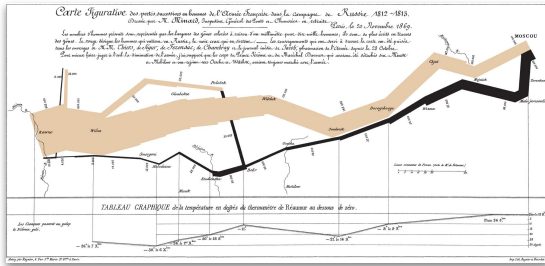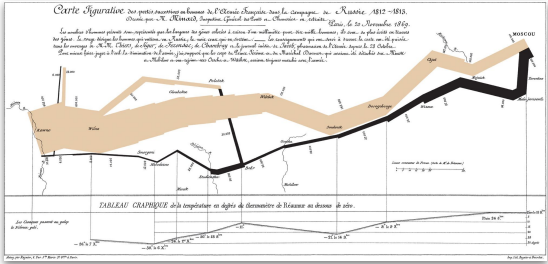
VS

Source : Wikipedia

#1

text

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

VS

simple table

Date	Center position	# of people	Way go/back	Temperature
12/08	45,5 ; 56,4	10 345	go	N.A.
13/08	47,5 ; 54,2	9 856	go	N.A.
14/08	48,5 ; 50,6	9 756	go	N.A.
15/08	48.9 ; 50	9 432	go	N.A.
...	...	...	...	...

Source : Wikipedia

text

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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...	...	...	...	...

→   Less space
→   More lisibility
→   Better overall understanding
→   Less time to get the big picture

Source : Wikipedia

#1

→ Less space

→ More lisibility

→ Better overall understanding

→ Less time to get the big picture

→ See something "new"

HOW COME ?

#1

→ Less space
→ More lisibility
→ Better overall understanding
→ Less time to get the big picture
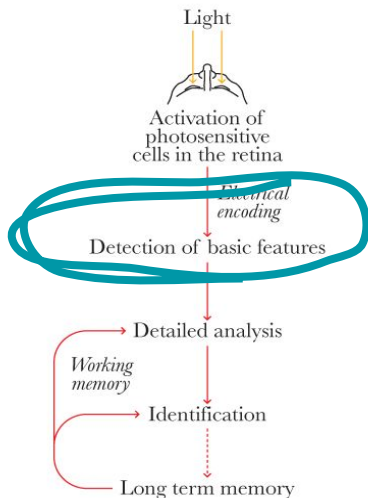→ See something "new"

HOW COME ?
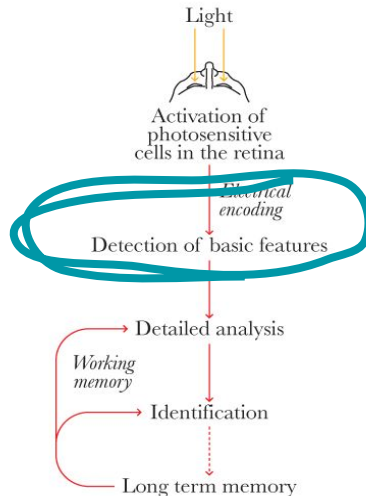
Source : Datasaurus Rex

#1

→ Less space
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→ Less time to get the big picture
→ See something "new"

HOW COME ?

preattentive features of our brain

Light

Activation of photosensitive cells in the retina

Electrical encoding

Detection of basic features

shade variations, patterns in size, orientation, color and shade

Detailed analysis

Working memory

Identification

Long term memory

Source : Alberto Cairo - The functional art

10

#1

→ Less space
→ More lisibility
→ Better overall understanding
→ Less time to get the big picture
→ See something "new"

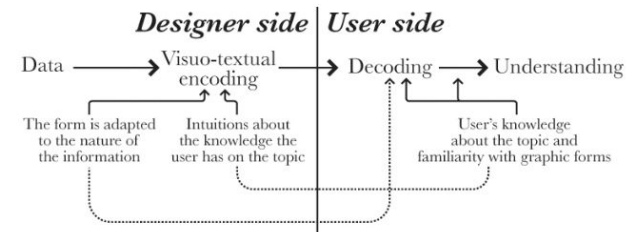# HOW COME ?
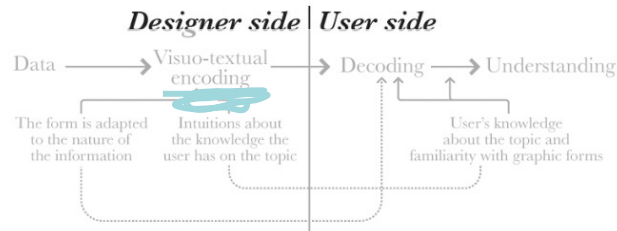
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shade variations, patterns in size, orientation, color and shade

encoding

Designer side | *User side*

Data → Visuo-textual encoding → Decoding → Understanding

The form is adapted to the nature of the information

Intuitions about the knowledge the user has on the topic

User's knowledge about the topic and familiarity with graphic forms

Source : Alberto Cairo - The functional art

encoding

Designer side | User side

Data → Visuo-textual encoding → Decoding → Understanding

The form is adapted to the nature of the information

Intuitions about the knowledge the user has on the topic

User's knowledge about the topic and familiarity with graphic forms

mapping data

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...	...	...	...	...

encoding

with visual variables

position

size

color ...

Source : Alberto Cairo - The functional art

12

encoding

#1
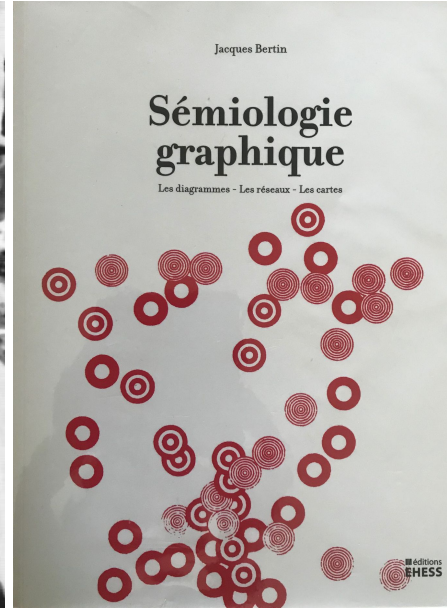
encoding

visual variables

position

size

value

texture

color

orientation

shape

Source : Jacques Bertin - Sémiologie Graphique

14

#1

encoding

visual variable
syntactics

position

size

value

**visual
variables**

texture

color

orientation

shape
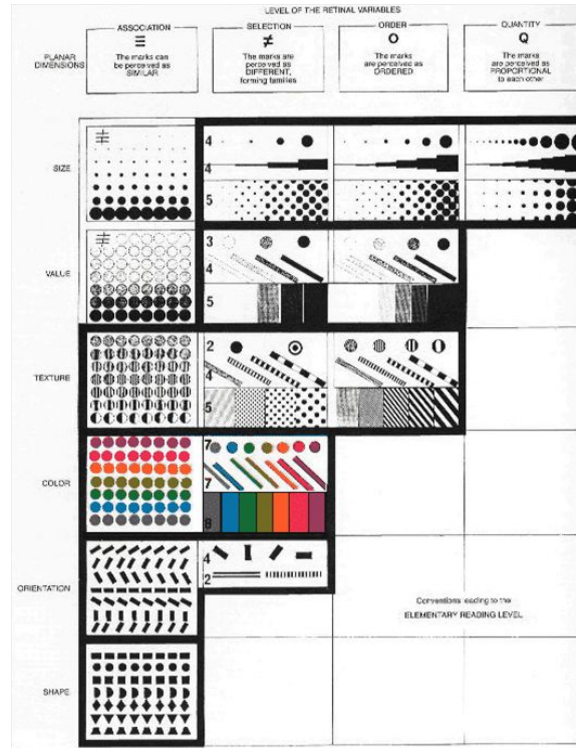
association

difference

order

proportion

Source : Jacques Bertin - Sémiologie Graphique

trying out **encoding**
Making a by-hand data visualisation

Source : Dear Data and Observe Collect Draw

trying out **encoding**
Making a by-hand data visualisation
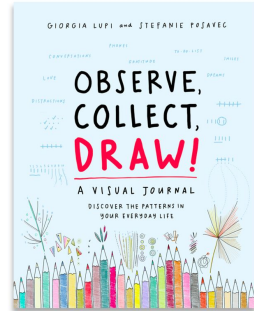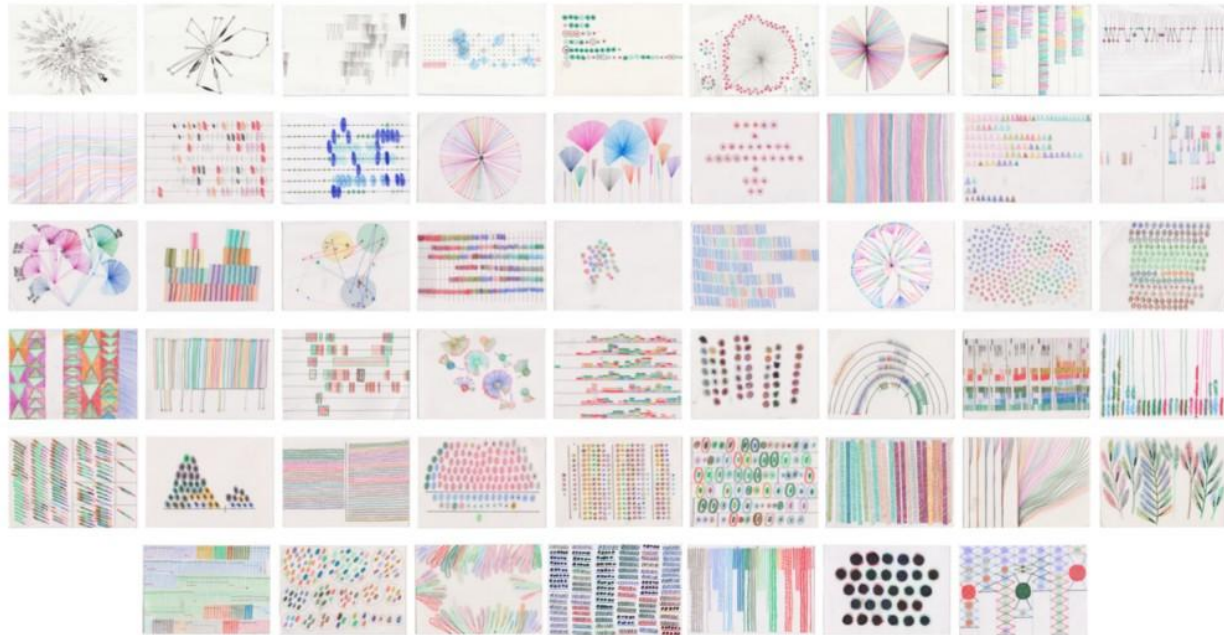
1
Collect data

List the following variables for 5 of your friends :

- When did you met them ? [cat : childhood, college, university]
- When was the last time you saw them ? [cat : last week, last month, last year, before]
- Their age [value]
- Their gender [cat : W, M, O]
- How do you communicate with them [mult cat : in person, messaging, call]
- What do you talk about ? [mult cat : studies, hobbies, life doubts, love & relations, work …]

trying out **encoding**
Making a by-hand data visualisation

1

Collect data

2

Use / design an encoding
for each variable

- Individual friend [shape : circle]

- met [position : horizontal axis]

- saw [position : vertical axis]

- age diff [shape : arrow up / down
  from the dot]

- gender [shape : circle filling]

- communicate [shape : filled /
  empty croissant]

- talk about [color : add a petal of
  color for each topic you discuss,
  with a mapping topic-color]

trying out **encoding**
Making a by-hand data visualisation

1

Collect data

2

Use / design an encoding for each variable

3

Draw

- Individual friend [shape : circle]
- met [position : horizontal axis]
- saw [position : vertical axis]
- age diff [shape : arrow up / down from the dot]
- gender [shape : circle filling]
- communicate [shape : filled / empty croissant]
- talk about [color : add a petal of color for each topic you discuss, with a mapping topic-color]

trying out **encoding**
Making a by-hand data visualisation

30 min

1

Collect data

2
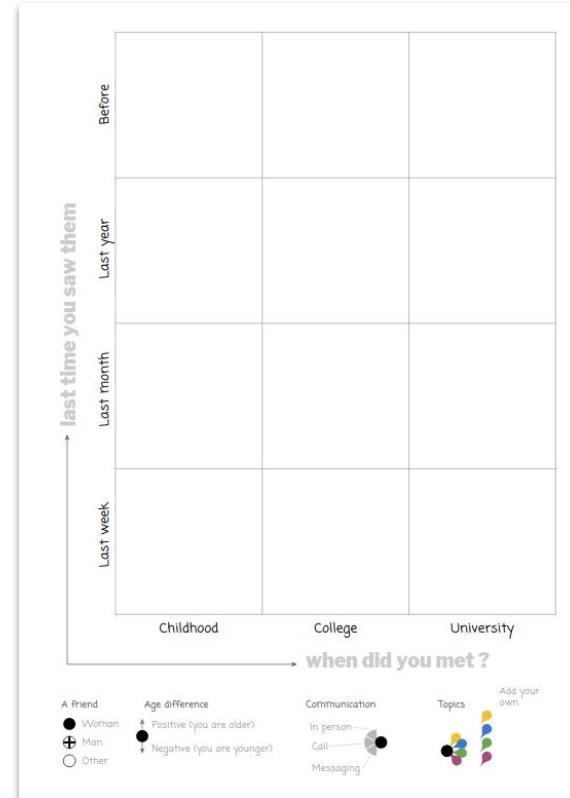
Use / design an encoding for each variable

3

Draw

4

Reflect

– How did it felt to draw a dataviz ?

– How do you feel about less common encoding and "original" ones ?

– Do you feel it's still readable ?

– Do you see any pattern you were not aware of ?

Whats is it ?

Data visualization refers to the techniques used to communicate data or information by encoding it as visual objects.

Wikipedia

Whats is it ?

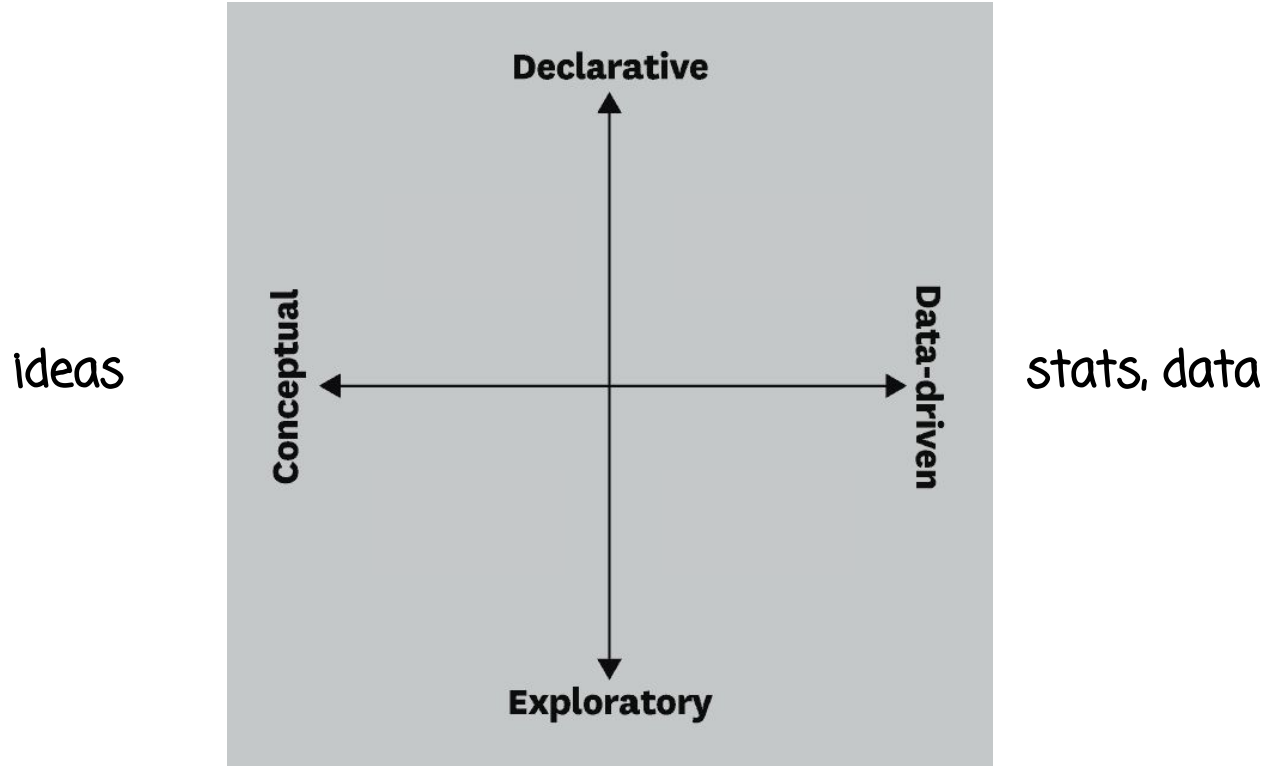Data visualization refers to the techniques used to communicate data or information by encoding it as visual objects.

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super badass uses of **preattentive** feature to provide an helpful **cognitive help** understand (complex) topics
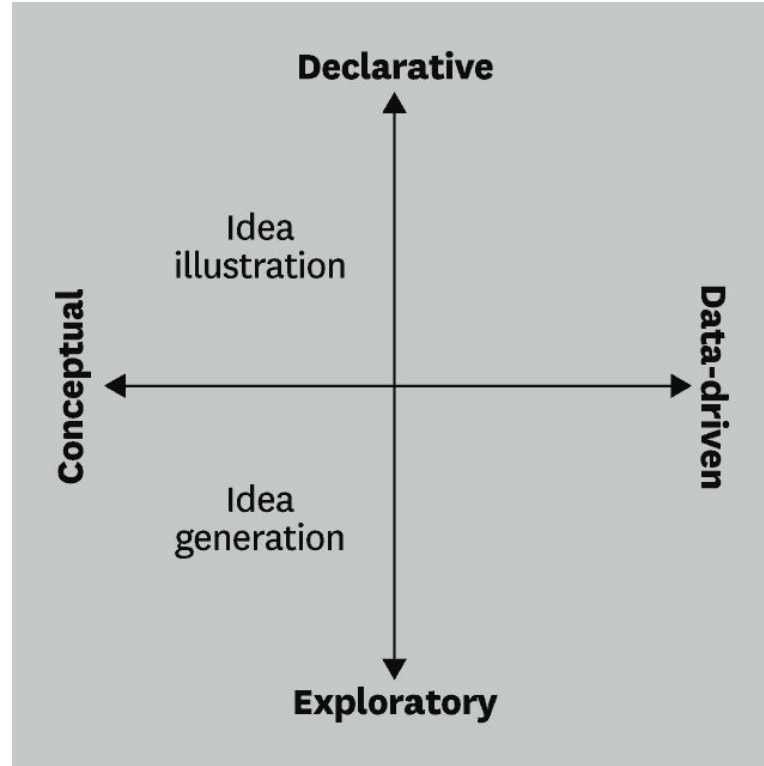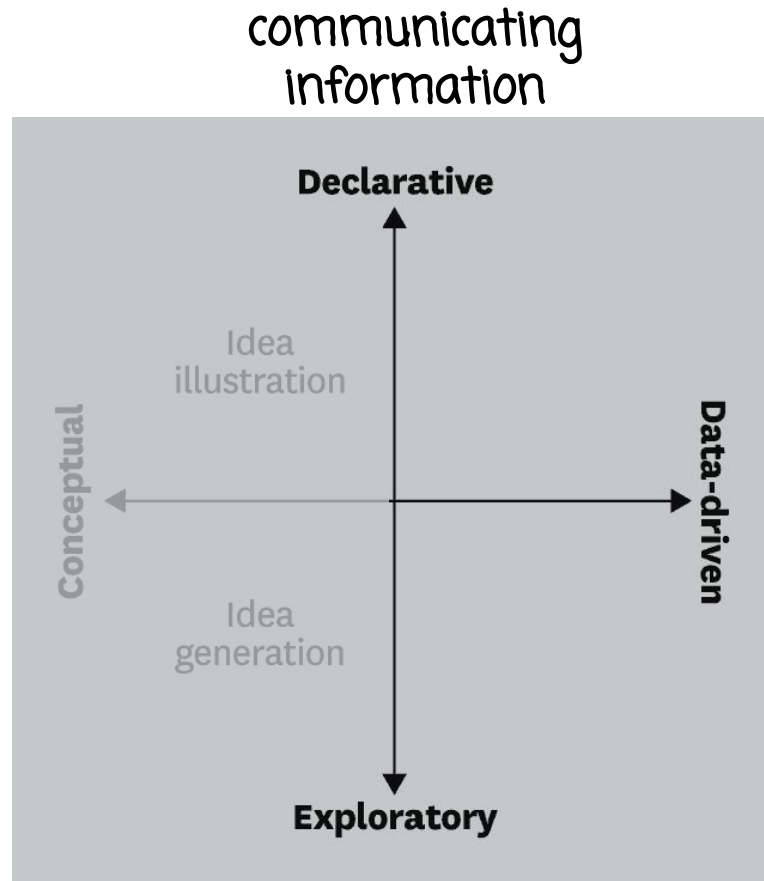
#1

USA Today

Wildfire hazard potential rating
1 - Very low   Water
2 - Low   Unburnable land
3 - Moderate
4 - High
5 - Very high

# of Unique Words Used Within Artist's First 35,000 Lyrics

3,000 words   4,000   5,000   6,000 words

All   Just   Find an Artist

7,000 words

The Pudding

National Geographic

PLASTIC WASTE ENTERING THE OCEAN FROM RIVERS PER YEAR FROM THE TOP 3,000 WASTE-PRODUCING RIVERS, METRIC TONS

Xi, China
Pasig, Philippines
Imo, Nigeria
Brantas, Indonesia
Yangtze River, China
Cross, Nigeria and Cameroon
Amazon, Brazil, Peru, Colombia and Ecuador
Ganges, India

Asia   Everywhere else

5,000   50,000   100,000

Jacob Wasilkowski

4:15am
SUN   MEDIUM   FAST

The simulation kicks in, based on data from the American Time Use Survey.

Religion
Sports
Volunteering
Leisure
Phone calls
Pre. Care Services
Shopping
Traveling
Non-Household Care
Personal Care
Household Care
Eating & Drinking
Work
Education
Housework

Flowing Data

A

Shear Stress (Pa)

B

C

D

Shear Stress (Pa)

Harvard Research

World population living in extreme poverty, 1820-2015

Extreme poverty is defined as living at a consumption (or income) level below 1.90 "international $" per day. International $ are adjusted for price differences between countries and for price changes over time (inflation).

Our World in Data

7 billion
6 billion
5 billion
4 billion
3 billion
2 billion
1 billion
0

1820   1850   1900   1950   2000 2015

Number of people not in extreme poverty

Number of people living in extreme poverty

Source: World Poverty in absolute numbers - OWID based on World Bank (2016) and Bourguignon and Morrisson (2002)

Donald J. Trump
@realDonaldTrump

Greatest Top Five Monthly Jobs Gains in HISTORY. We are #1!

Top Five Monthly Jobs Gains

Aug 00   Aug 02   Mar 44   Sep 44   May 99

12:31 PM · Jun 5, 2020 · Twitter for iPhone

21.8K Retweets   72K Likes

Swiss Info

DIAMONDS WERE A GIRL...
Average price of a one-carat D-flawless

$60,000
$50,000
$40,000
$30,000
$20,000

1978   1979   1980   1981   1982

Nigel Holmes

Source: The Diamond Registry

Dima Yarovinsky

IAGREE

Ideas

stats, data

Source : Harvard Business Review

Source : Harvard Business Review

communicating information

Declarative

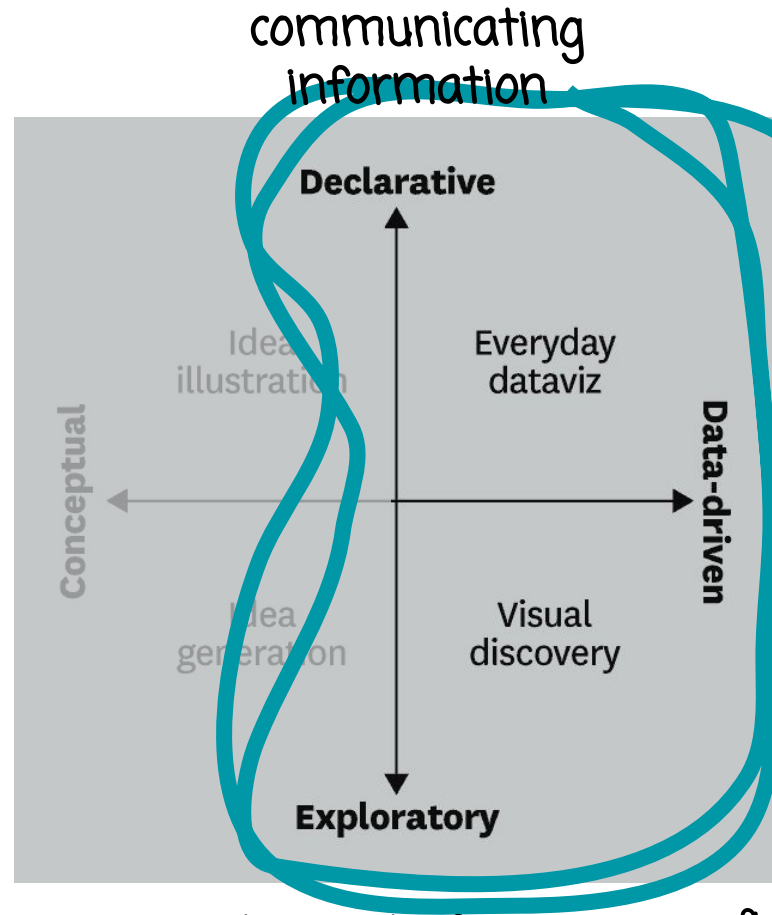Idea illustration

Conceptual

Data-driven

Idea generation

Exploratory

trying to figure something out → confirmation → discovery

Source : Harvard Business Review

#1

communicating
information

Declarative

Idea
illustration

ual

Data-driven

We can also differenciate the
exploration you do on your
own, for yourslef and
creating an exploratory graph
for users
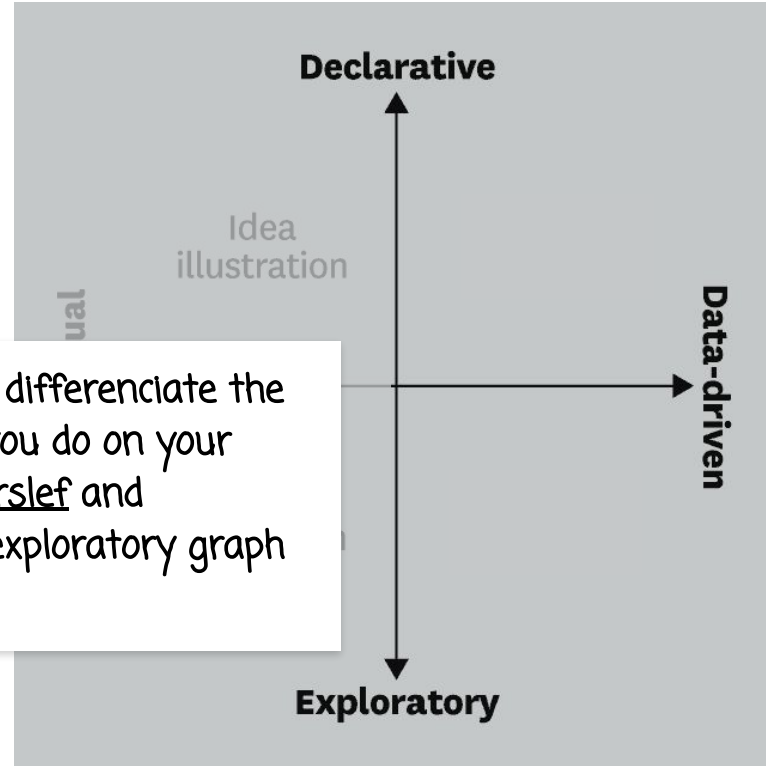
Exploratory

trying to figure → confirmation
something out → discovery

communicating
information

Declarative

Idea
illustration

Everyday
dataviz

Conceptual

Data-driven

Idea
generation

Visual
discovery

Exploratory

trying to figure
something out

confirmation

discovery

28

Declarative

Idea illustration

Everyday dataviz

Conceptual

Data-driven

Idea generation

Visual discovery

Exploratory

Source : Harvard Business Review

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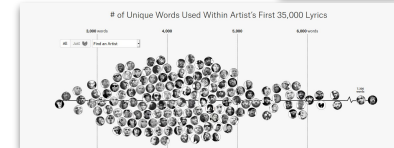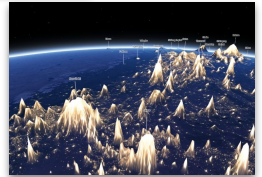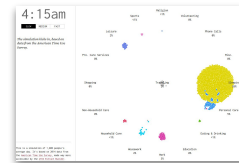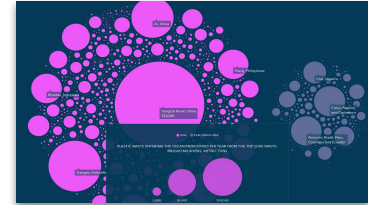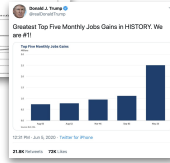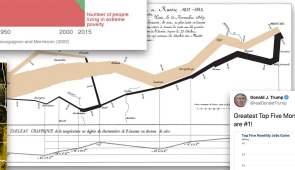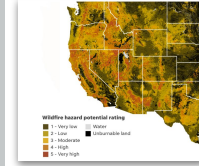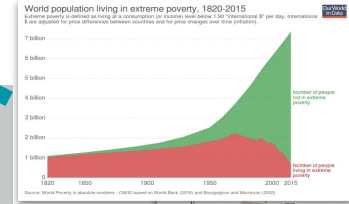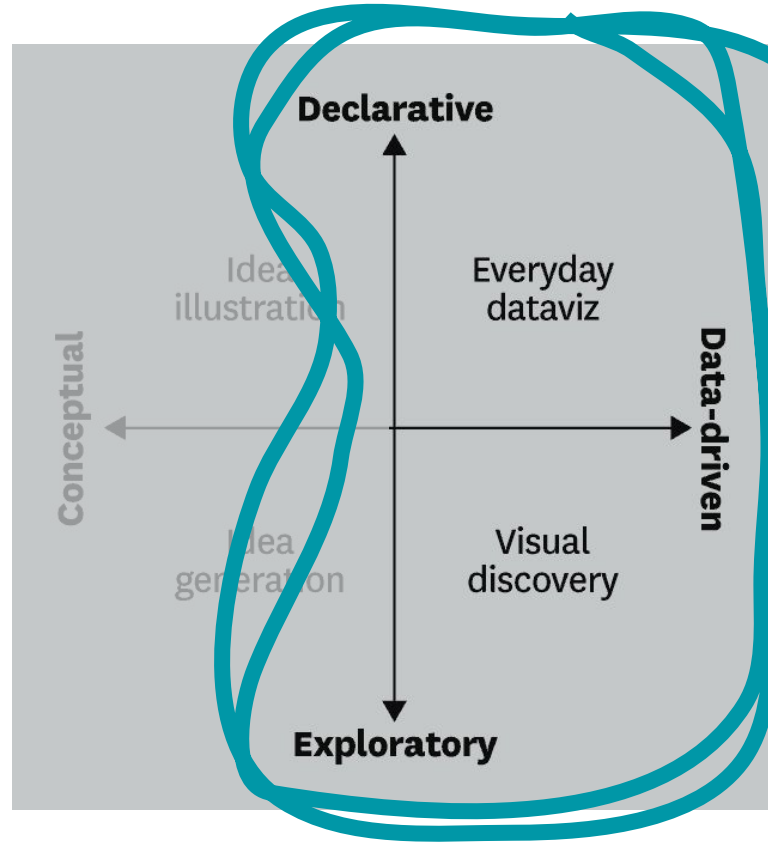
super badass uses of **preattentive** feature to provide an helpful **cognitive help** understand (complex) topics

+

from **declarative** to **exploratory** depending on what you want to achieve

30

Whats is it ?

Data visualization refers to the techniques used to communicate data or information by encoding it as visual objects.

Wikipedia

super badass uses of **preattentive** feature to provide an helpful **cognitive help** understand (complex) topics

**but wait.
what for ? why ?
goals ?**

from **declarative** to **exploratory** depending on what you want to achieve

31

#1

@lisacrost

Attention & Beauty

Under-standing

Implication

Goals of Data Vis

@lisacrost

create & write about Data Vis, currently for Datawrapper

http://lisacharlotterost.de/
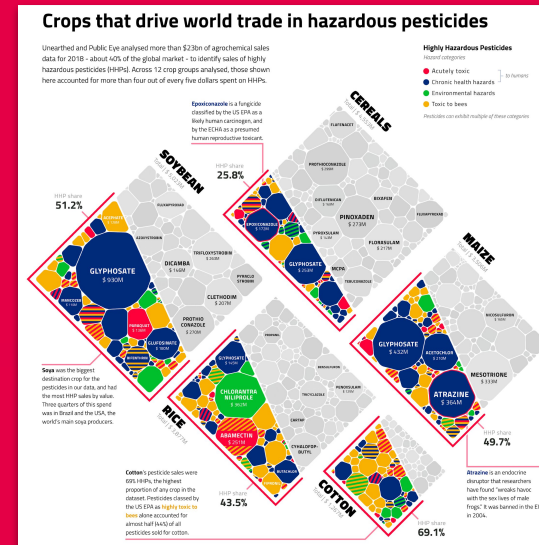
Source : Lisa Charlotte Rost

#1

@lisacrost

Attention
& Beauty

Goals of
Data Vis

1. Get them to read
2. Attract different
   learning types
3. Go with the hype
4. Create beauty

@lisacrost

create & write
about Data Vis,
currently for
Datawrapper

http://lisacharlott
erost.de/

34

Source : Lisa Charlotte Rost

#1

@lisacrost

Attention & Beauty

Goals of Data Vis

1. Get them to read
2. Attract different learning types
3. Go with the hype
4. Create beauty

Crops that drive world trade in hazardous pesticides

@lisacrost

create & write about Data Vis, currently for Datawrapper

http://lisacharlotterost.de/

Source : Lisa Charlotte Rost, Nadieh Bremer with Hazardous Pesticides

#1

@lisacrost

Attention & Beauty

Under-standing

Goals of Data Vis

1. Get them to read
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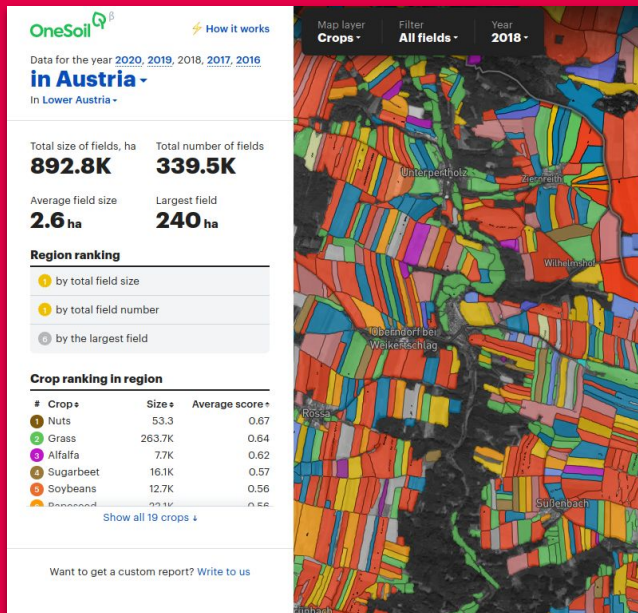1. Understand
2. Explain
3. Get people to explore

@lisacrost

create & write about Data Vis, currently for Datawrapper

http://lisacharlotterost.de/

Source : Lisa Charlotte Rost

#1

@lisacrost

Under-standing

1. Understand
2. Explain
3. Get people to explore

@lisacrost

create & write about Data Vis, currently for Datawrapper

http://lisacharlotterost.de/

Source : Lisa Charlotte Rost, One Soil - Fields

@lisacrost

Attention & Beauty

Under-standing

Implication

Goals of Data Vis

1. Get them to read
2. Attract different learning types
3. Go with the hype
4. Create beauty

1. Understand
2. Explain
3. Get people to explore

1. Prove
2. Correct views
3. Evoke feelings
4. Evoke actions
5. Go meta

@lisacrost

create & write about Data Vis, currently for Datawrapper

http://lisacharlotterost.de/

Source : Lisa Charlotte Rost

38
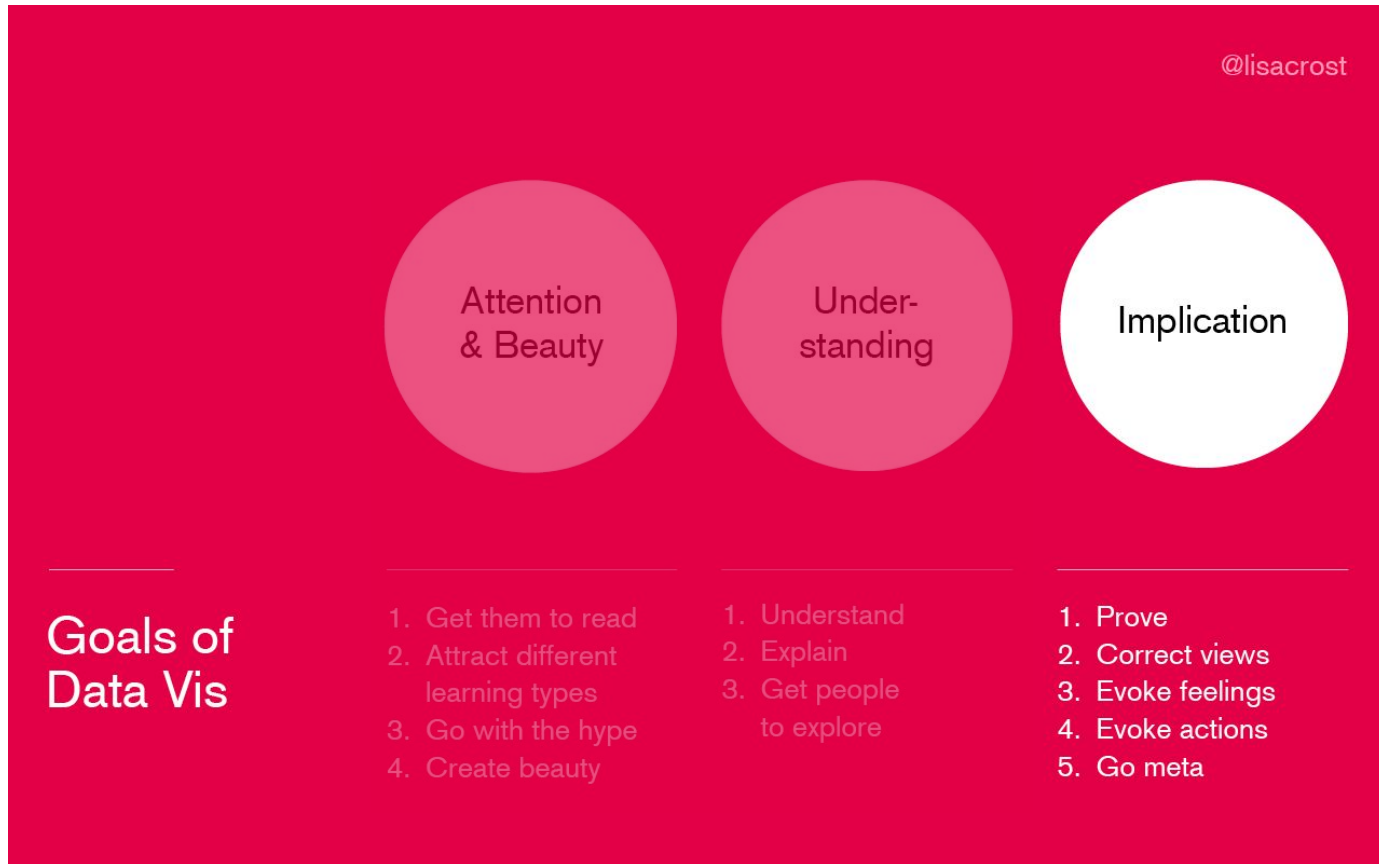
#1

@lisacrost

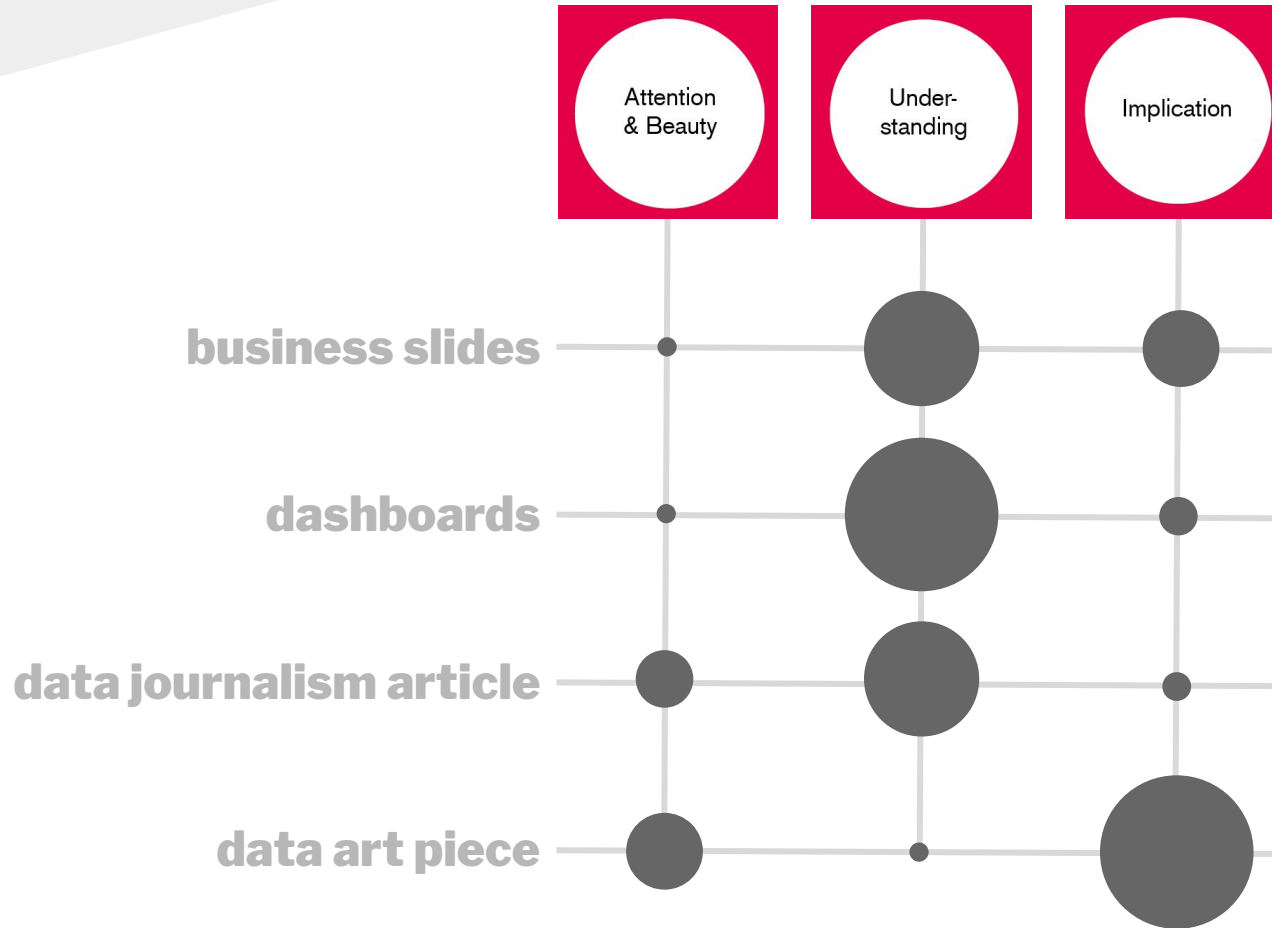
Implication

Goals of
Data Vis

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@lisacrost

create & write about Data Vis, currently for Datawrapper

http://lisacharlotterost.de/

Source : Lisa Charlotte Rost, Periscopic - Guns

39

Source : Lisa Charlotte Rost

#1
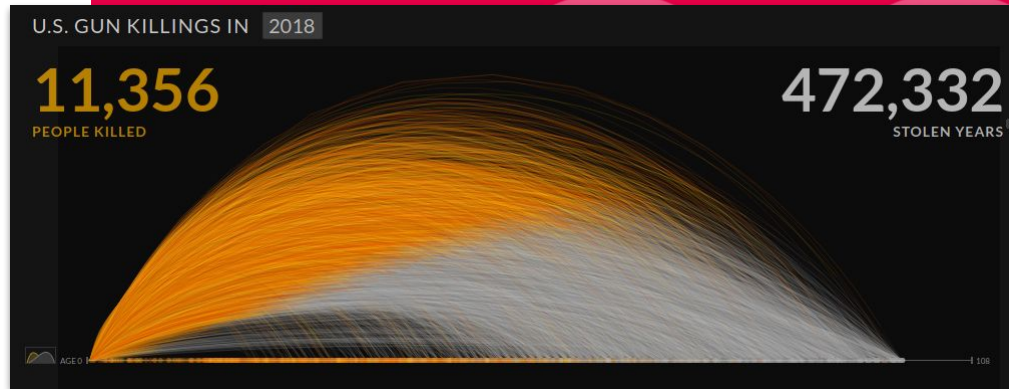
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Implication

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2. Correct views
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4. Evoke actions
5. Go meta

GOALS

MEANS ?

To be continued Day 3

Source : Lisa Charlotte Rost