

I. Whats is it ?

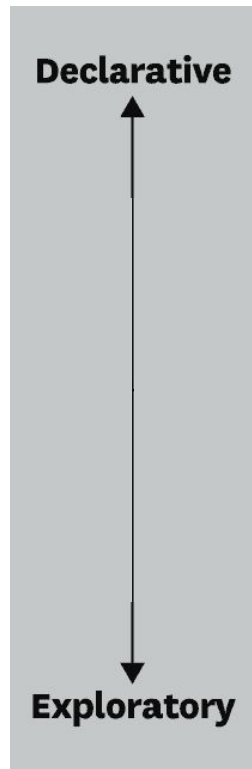
II. Why do we visualize ?

III. Visualisation Functions

IV. Starting to explore with datavis



# HOW ?





#1

# visualisation functions

**chart  
type**

as visual statistical tests to  
see relationships between  
variables in data

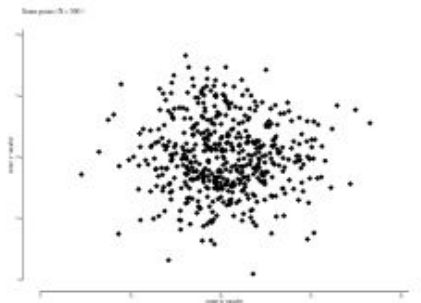


#1

# visualisation functions

**chart  
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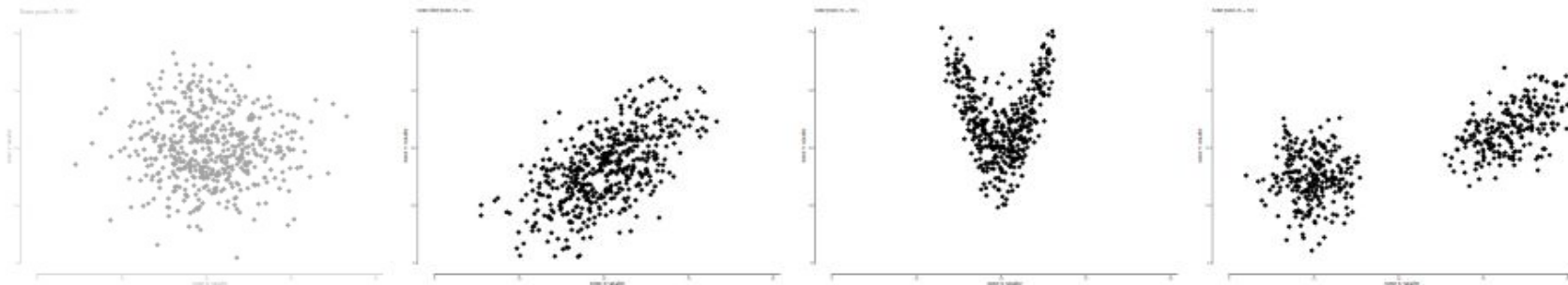


#1

# visualisation functions

**chart  
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#1

# visualisation functions

**chart  
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as visual statistical tests to  
see relationships between  
variables in data

↓  
**Exploratory**

**Declarative**  
↑



#1

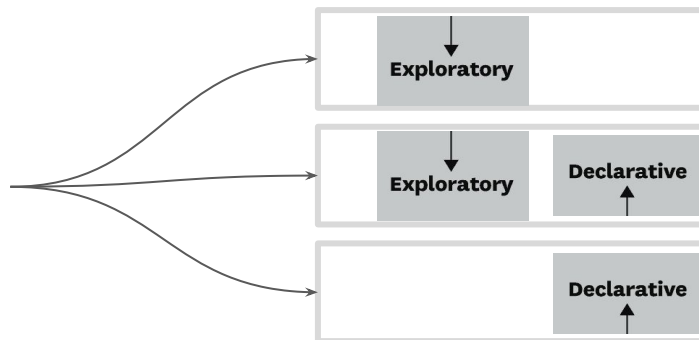
# visualisation functions

**chart  
type**

as visual statistical tests to  
see relationships between  
variables in data



data visualisation  
projects can be ...





**question**

What are you trying to understand ?

**data  
relationships**

Are you looking for  
comparisons, relationships,  
distribution, composition ?

**data  
types**

Numerical, Categorical, Both,  
Maps, Network, Time Series

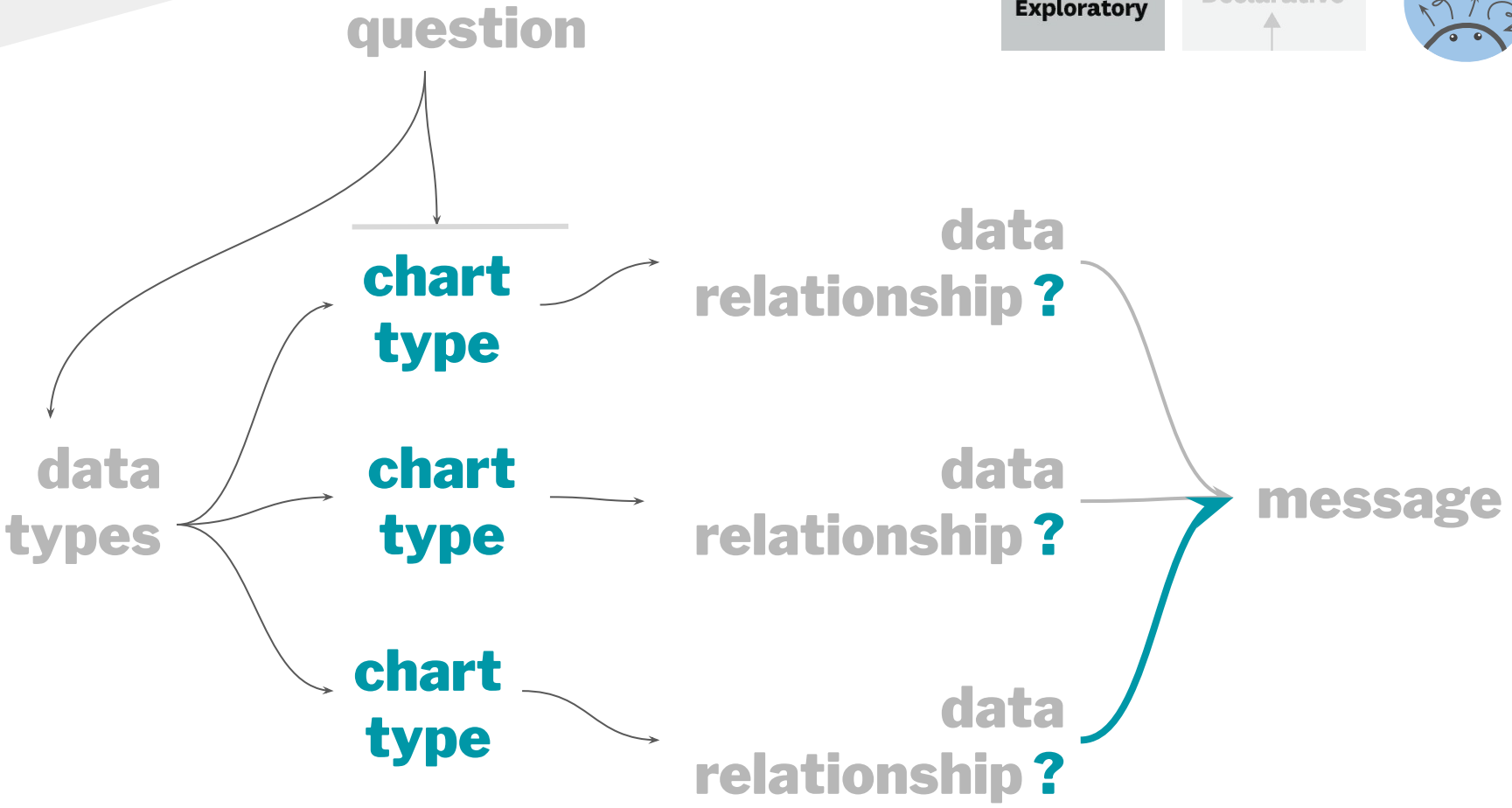
**message**

What do you want to show ?



↓  
Exploratory

↑  
Declarative



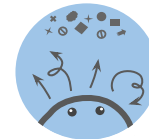


**question and  
message**

**data  
relationships**

**data  
types**

**chart  
type**



**question and  
message**

**data  
relationships**

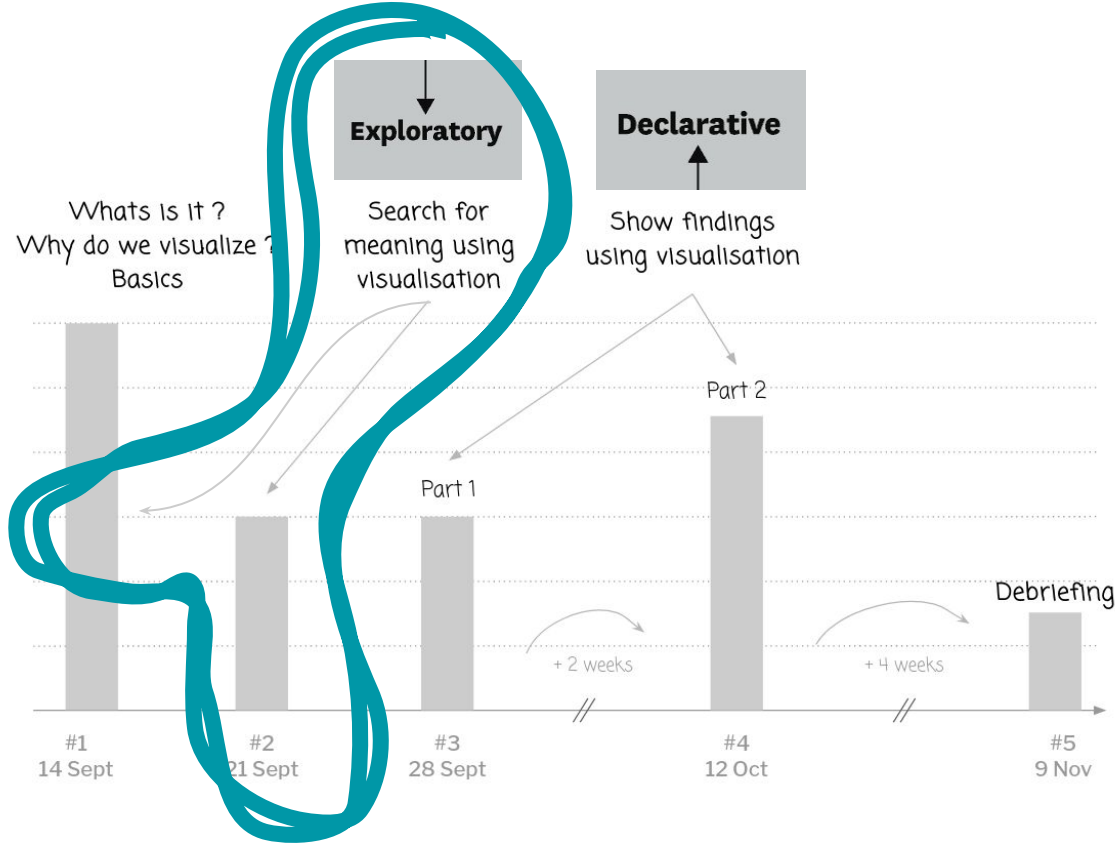
**data  
types**

**chart  
type**

"There are no "good" nor "bad" graphics (...), there are graphics answering legitimate questions and graphics that do not answer question at all "  
Bertin (1981)

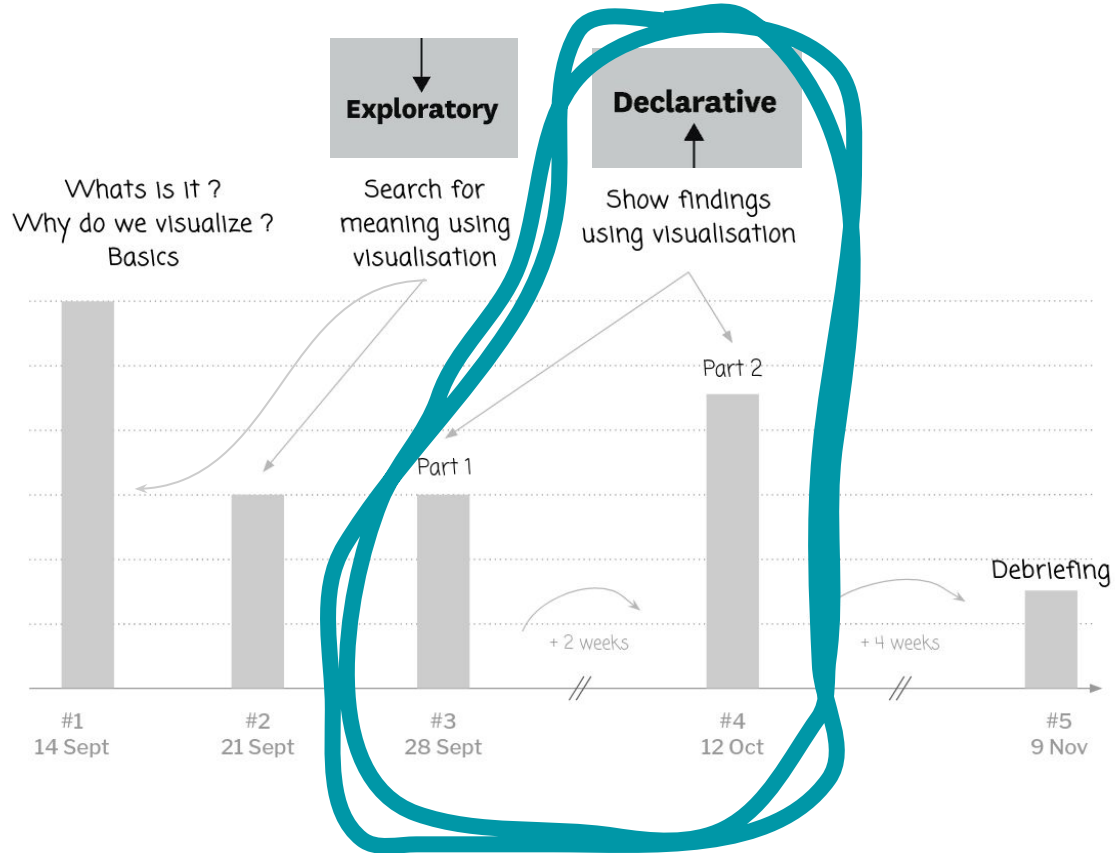


#1



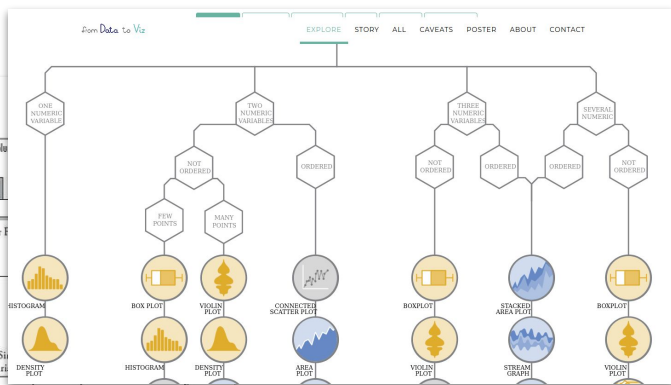
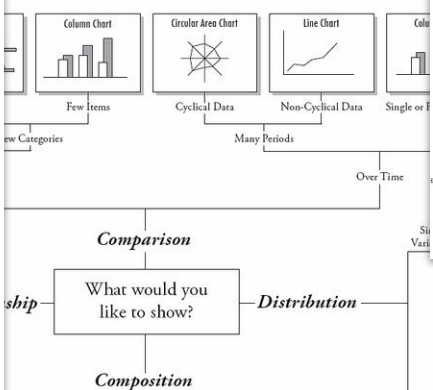
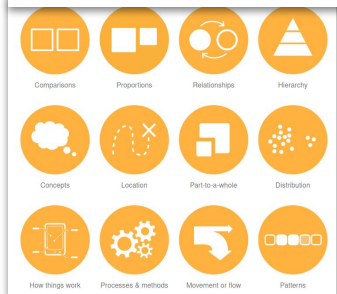


#1



# #1

## tools to choose chart types

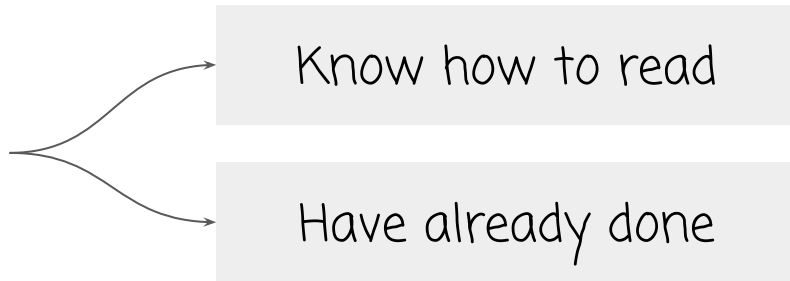


## From data to viz - Yan Holtz

[illegible]



**What  
charts  
do you  
know ?**



# III. Visualisation Functions

#1

Know how to read

Have already done



Source: [From data to viz](#) - [Yan Holtz](#)



I. Whats is it ?

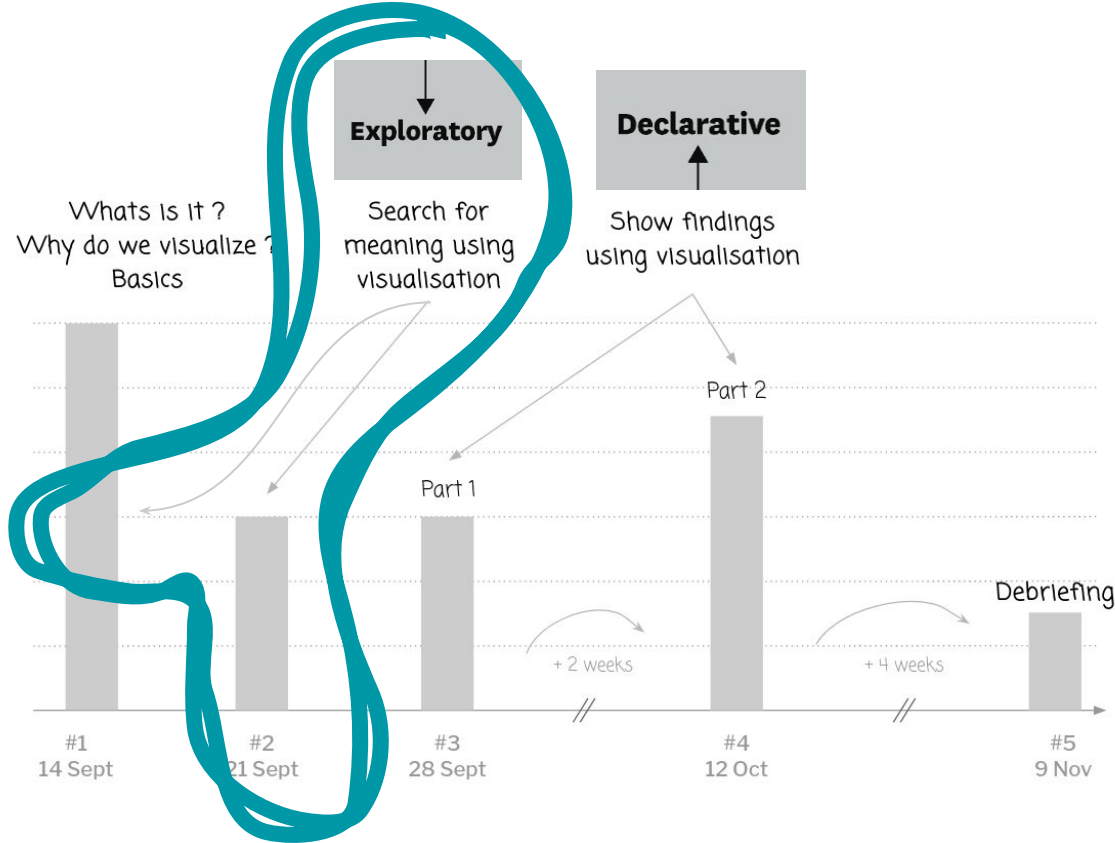
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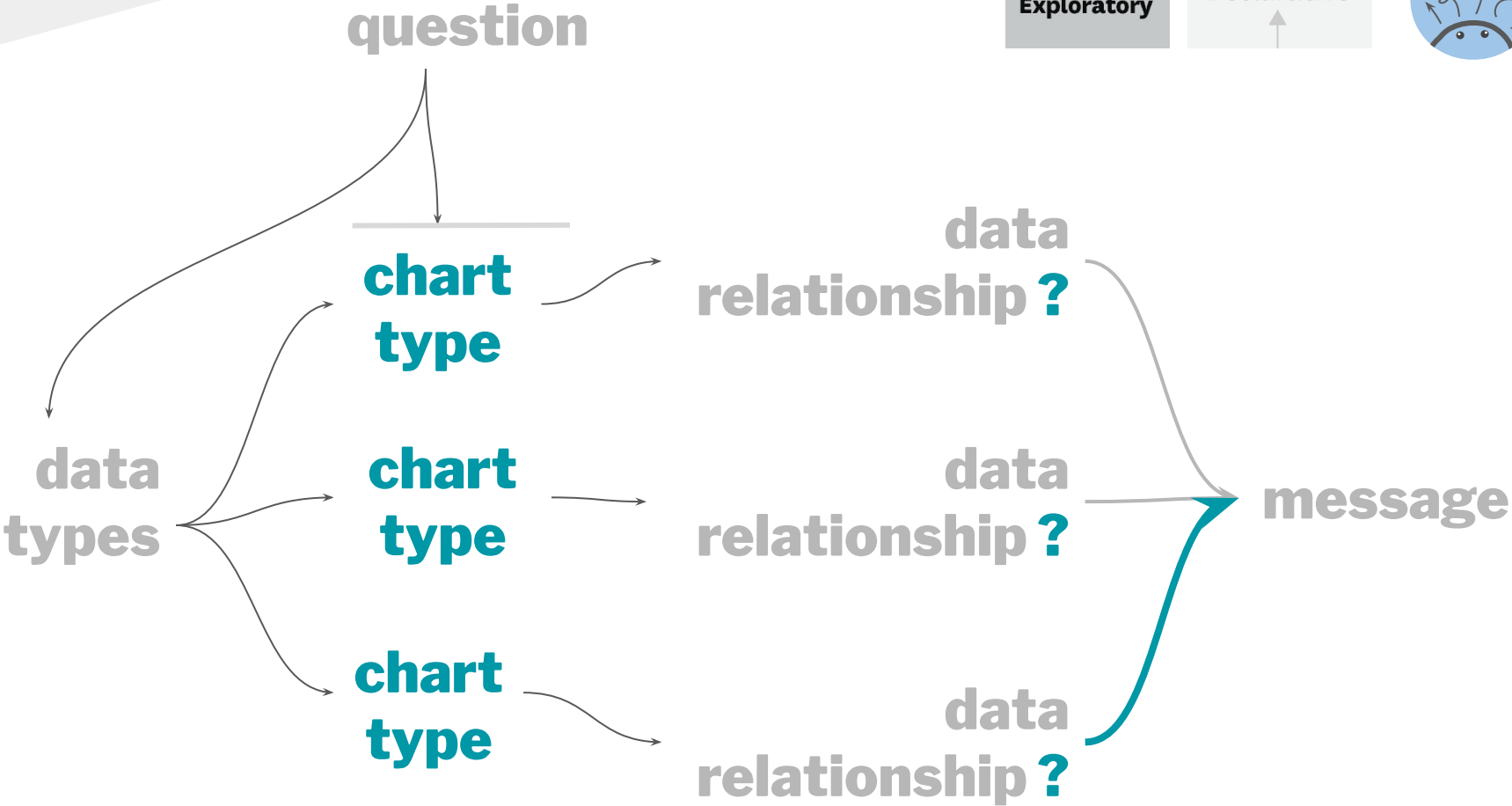


#1



↓  
Exploratory

↑  
Declarative



↓  
**Exploratory**

↑  
**Declarative**



**WAIT BUT WHY  
VISUALIZE WHEN  
YOU HAVE STATS?**

X Mean:	54.26
Y Mean:	47.83
X SD :	16.76
Y SD :	26.93
Corr. :	-0.06

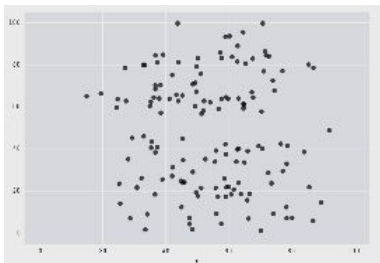
Exploratory

Declarative



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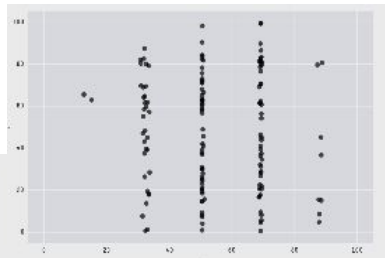
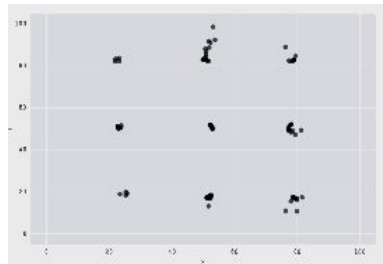
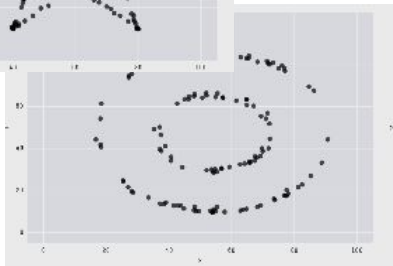
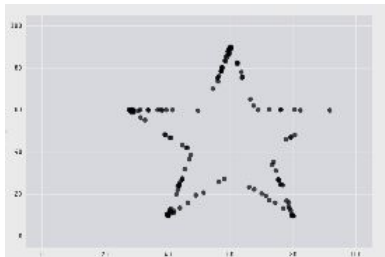
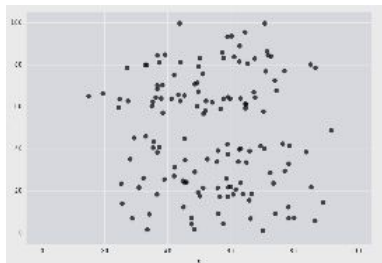
Exploratory

Declarative



# WAIT BUT WHY VISUALIZE WHEN YOU HAVE STATS?

```
X Mean: 54.26
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Y SD  : 26.93
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```



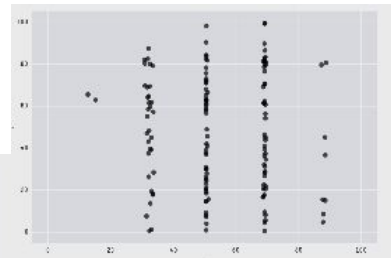
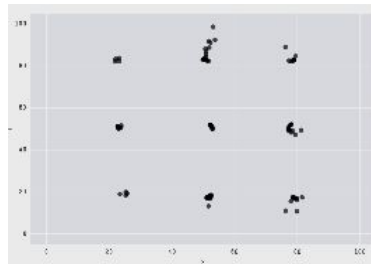
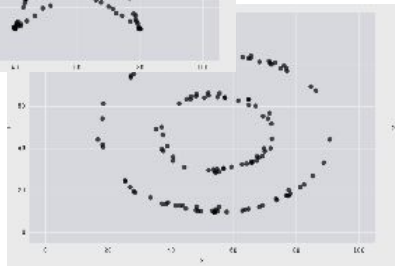
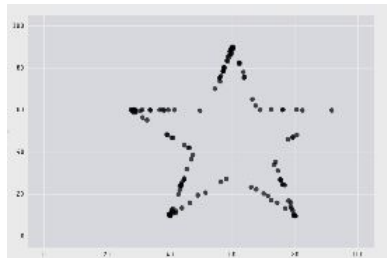
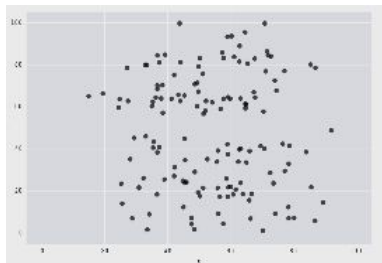
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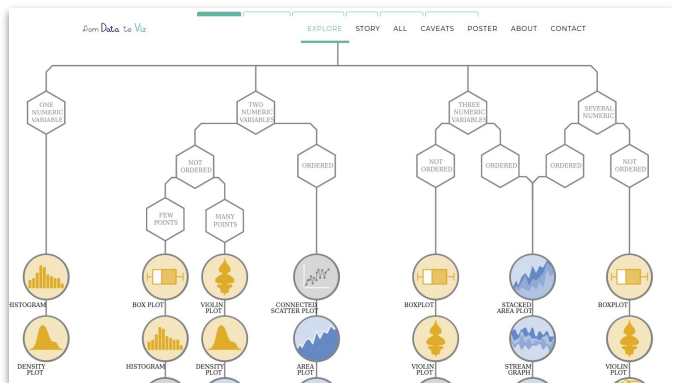
#1

Let's do our first graphs and explore chart types and functions !

World Happiness Report up to 2020  
Bliss scored agreeing to financial, social, etc.

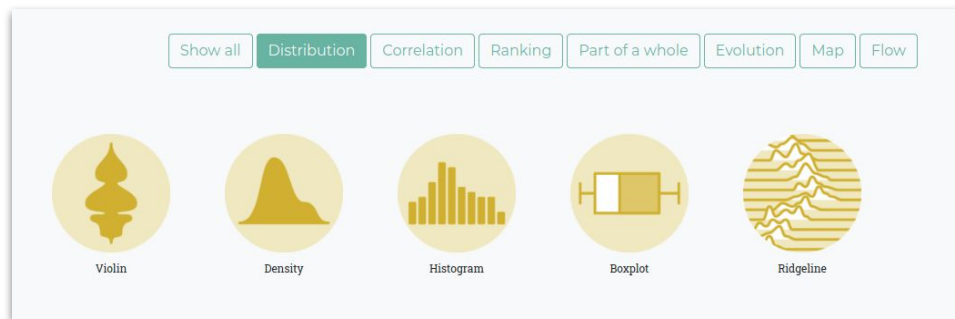


## data types



## data relationship

## chart type







#1

**Preliminary : tools info & environment setup**

**Step 1 : Context and data overview**

**Step 2 : Exploring each variable**

**Step 3 : Exploring variables relationships**

**Step 4 : Finally, to be more critical**

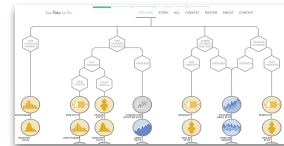


1h 15

15 minutes

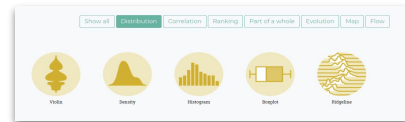


## data types



## chart type

## data relationship



## World Happiness Report up to 2020

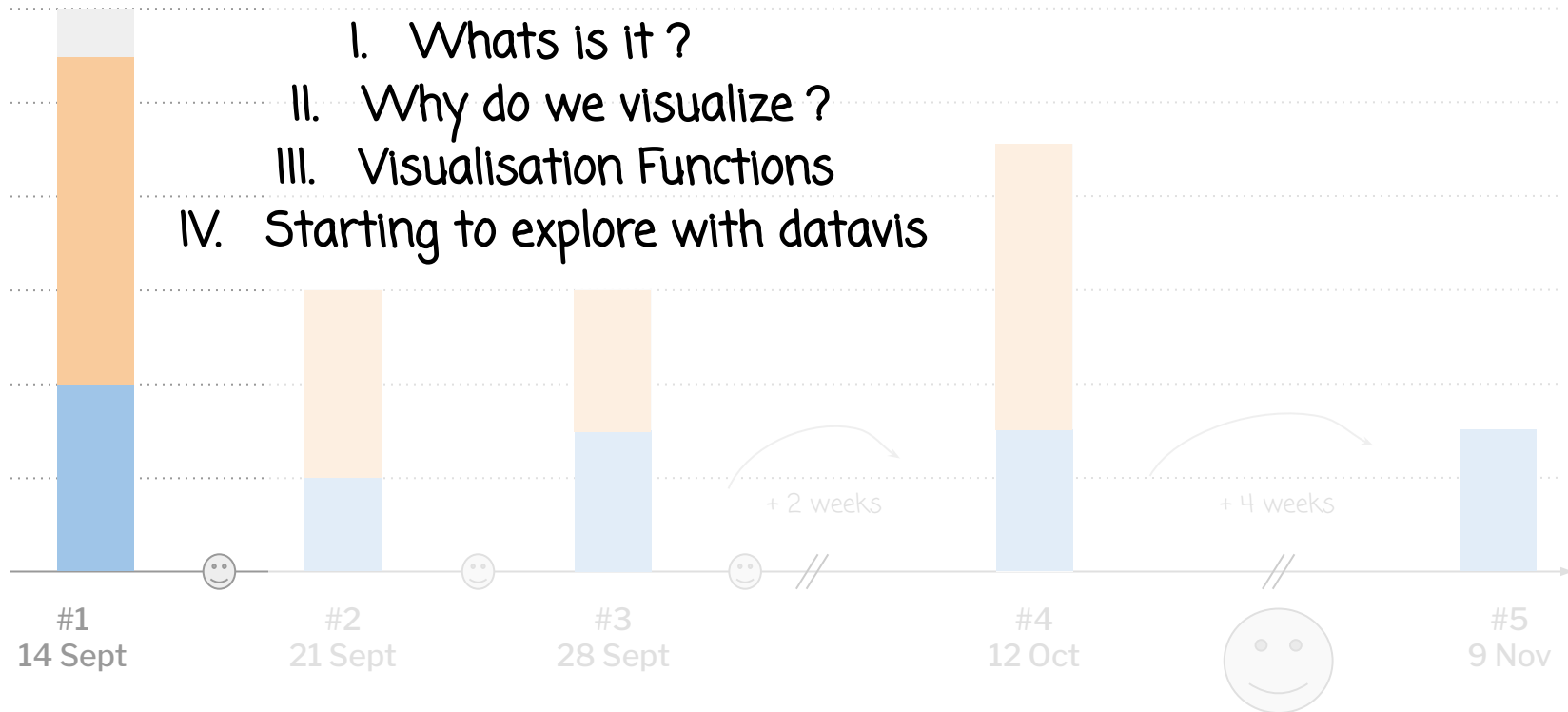
Bliss scored agreeing to financial, social, etc.



# DAY SUMMARY

#1

- I. Whats Is it ?
- II. Why do we visualize ?
- III. Visualisation Functions
- IV. Starting to explore with datavis





# HOMEWORK

## Overview

**Skills** : literacy, critical overview

**Time** : ~ 1 hour

**Submission** via Moodle

*any kind of submission (text, drawing ..) and file (.doc, .pdf ...)*

## Practice

**1 - Choose one visualisation you like or find interesting from the following source or from somewhere else**

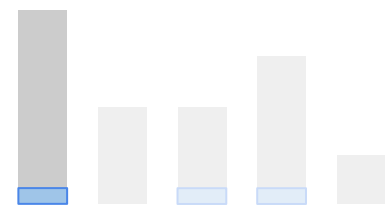
**2 - How ? How do you think this chart/visualisation was made ?**

Encoding

Chart choice

**3 - Why ? What do you think are the goal(s) of this chart/visualisation ?**

**4 - Reflect**



Thibault Nidelet

**Chargé de recherche à l'INRA**

# WHAT'S NEXT

#1

Search for meaning using  
visualisation

