#### Toolbox

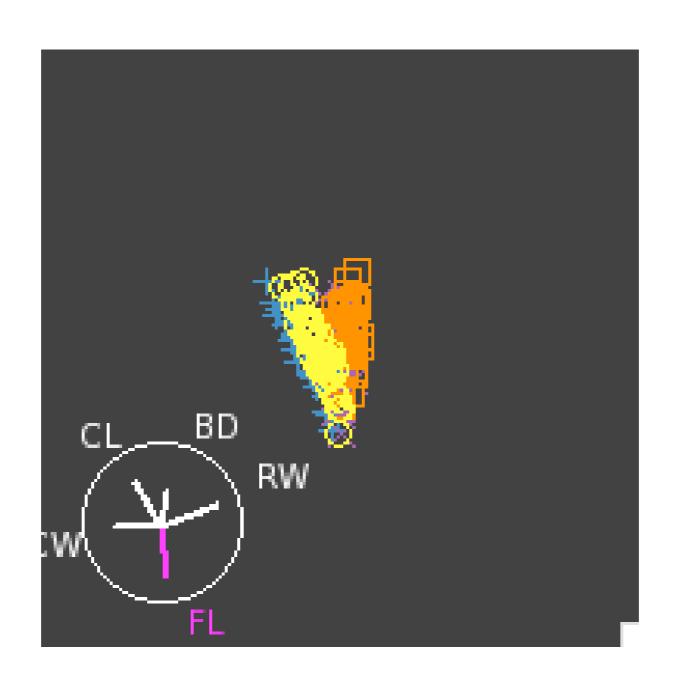
A set of direct manipulations that we apply to a set of plot types

# Toolbox: plot types

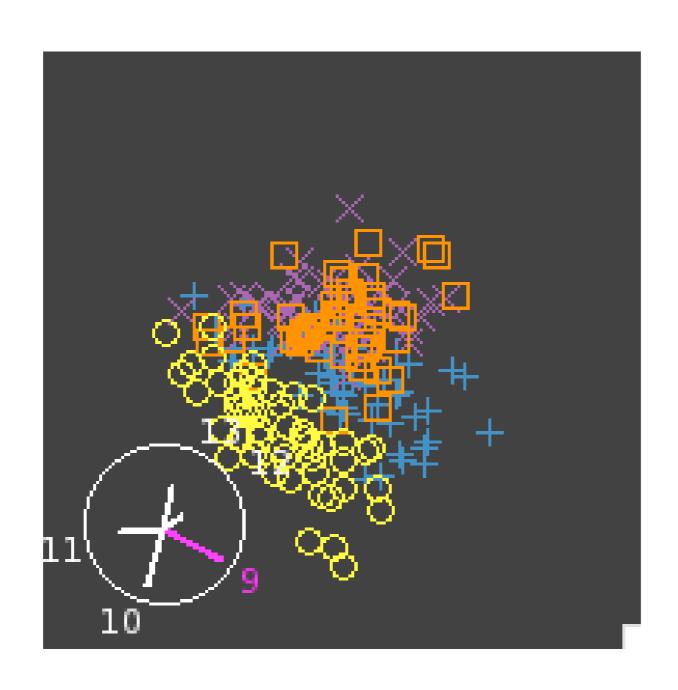
Dotplot	10 15 20 10 15 20 frontal lobe
Histogram	0 10 15 20 frontal lobe
Barchart	Thur Fri Sat Sun Thur Fri Sat Sun day day
Scatterplot	18- 16- 2- 14- 10- 10- 8- 6- 10- 15- 20- -1- -2- 10- 15- 20- -3- -2- 10- 12- -2- 10- 10- 10- 10- 10- 10- 10- 10
Parallel coordinate plot	0.8 - 0.6 - 0.4 - 0.2 - 0.5 sex frontal lobe rear width carlength car width body depth
Scatterplot matrix	frontal lobe and the state of t

Grand tour	
Guided tour	
Manual controls	

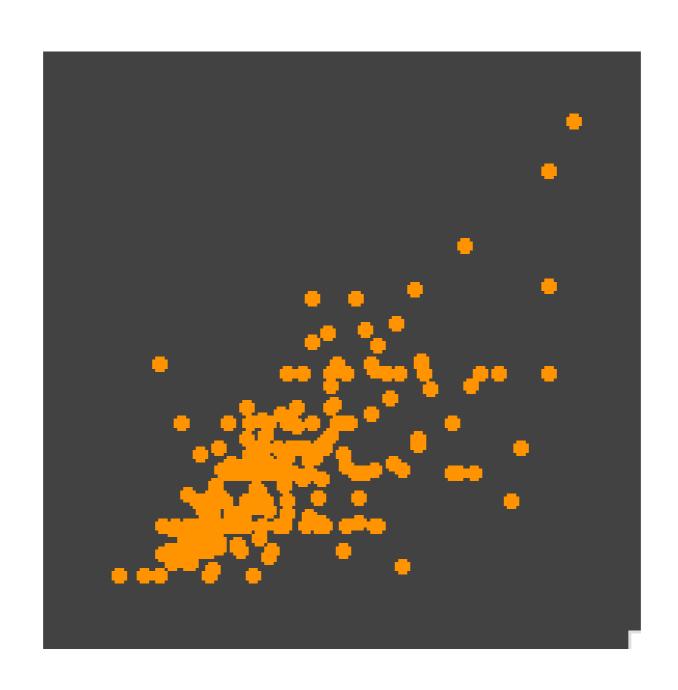
## Grand tour



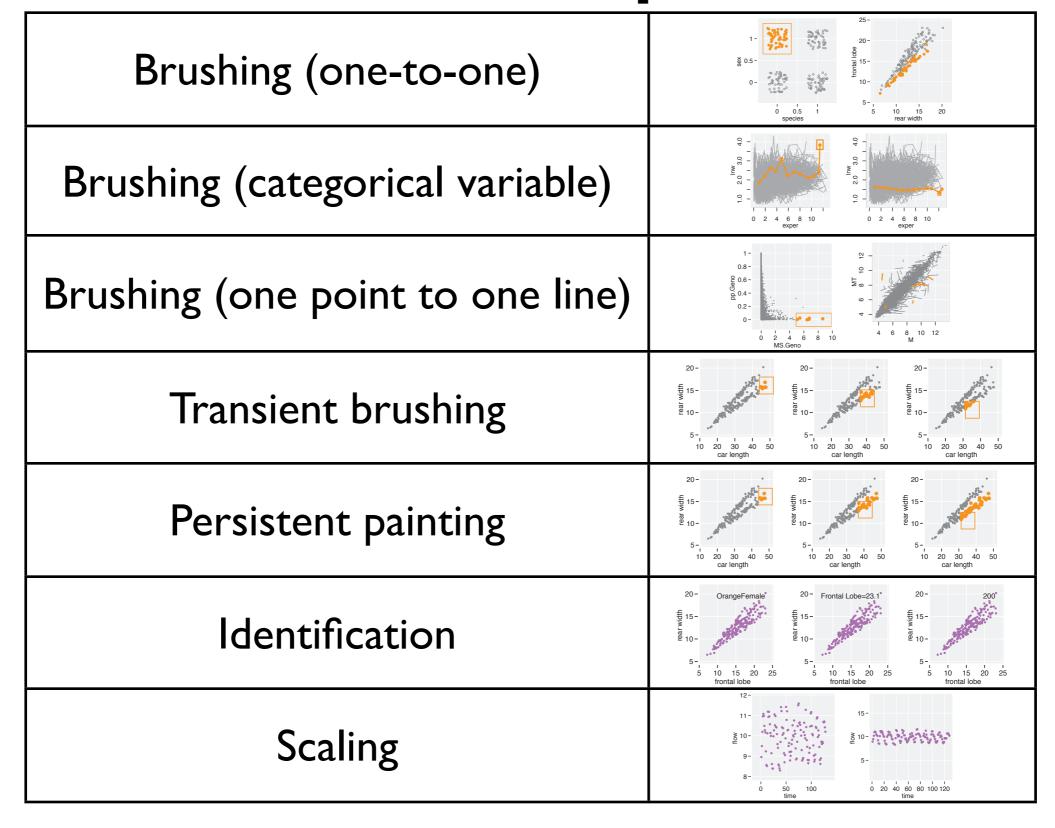
## Guided tour



## Manual controls



# Toolbox: Manipulations



## Your turn

#### 1. Open the olive oils data

- a. Generate a barchart of area and a scatterplot of eicosenoic vs. linoleic. Highlight South-Apulia. How would you describe the marginal distribution in linoleic and eicosenoic acids for the oils from South Apulia relative to the other areas?
- b. Generate a grand tour of oleic, linoleic, arachidic, and eicosenoic. Describe the clustering in the 4D space in relationship to difference between the three regions.

# 2. Open the wages data, and use linking by subject to identify a man:

- a. whose wage is relatively high after 10 years of experience.
- b. who had a high salary at the start of his workforce experience and a lower salary subsequently.
- c. who has had a relatively high wage, and who has a graduate equivalency diploma.

# Timeline

20 mins	Toolbox
30 mins	Missing values
45 mins	Supervised Classification
45 mins	Unsupervised Classification
30 mins	Inference