

# FACETING

From Munzner's book

# Visualizing Big Data



# Faceting

**Facet (verb) = to split**

# Faceting

**Facet (verb) = to split**

In visualization, it means:

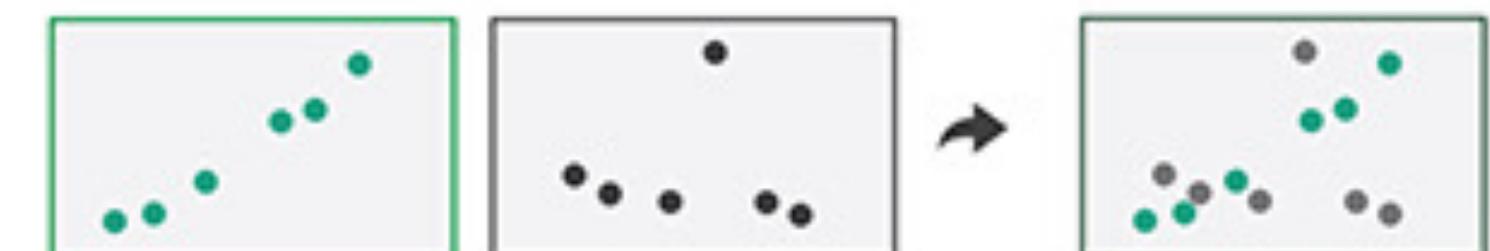
split into multiple views

or separate into layers

④ Partition into Side-by-Side Views



④ Superimpose Layers



# Faceting

**Facet (verb) = to split**

In visualization, it means:

split into multiple views

or separate into layers

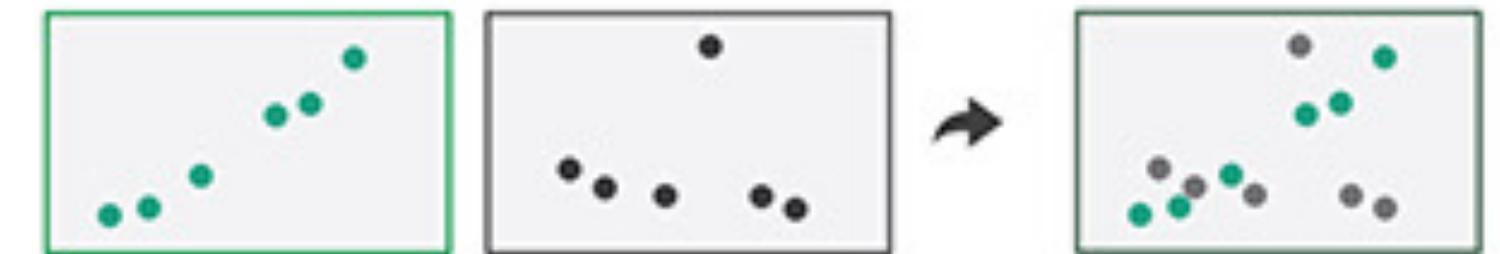
**Why?**

- complexity reduction
- rely on vision instead of memory retrieval

④ Partition into Side-by-Side Views



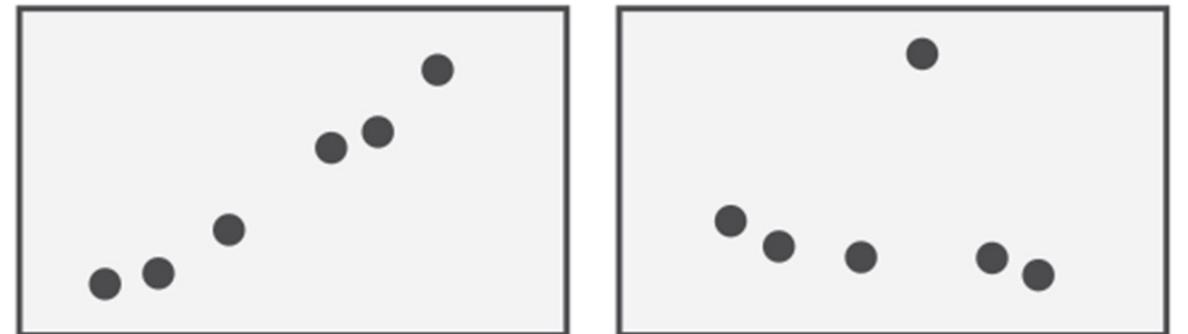
④ Superimpose Layers



# Faceting

## Side-by-Side Views

- Partition into Side-by-Side Views



### Pro:

- Easy to compare

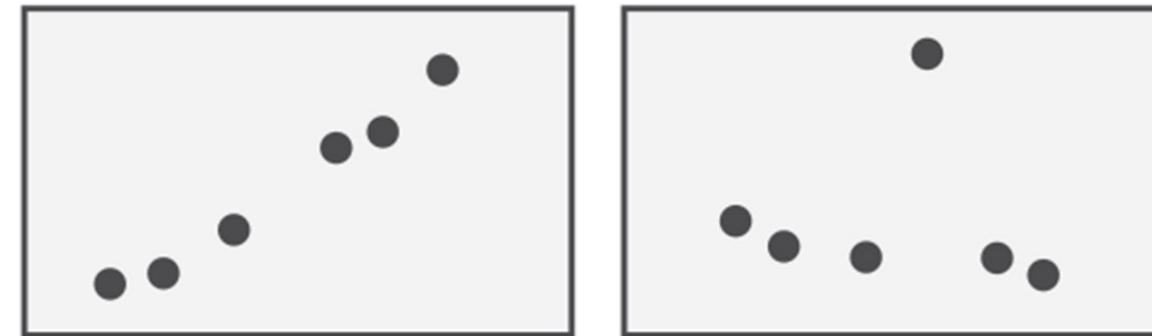
### Con:

- Takes up more space on the screen

# Faceting

## Side-by-Side Views

### → Partition into Side-by-Side Views

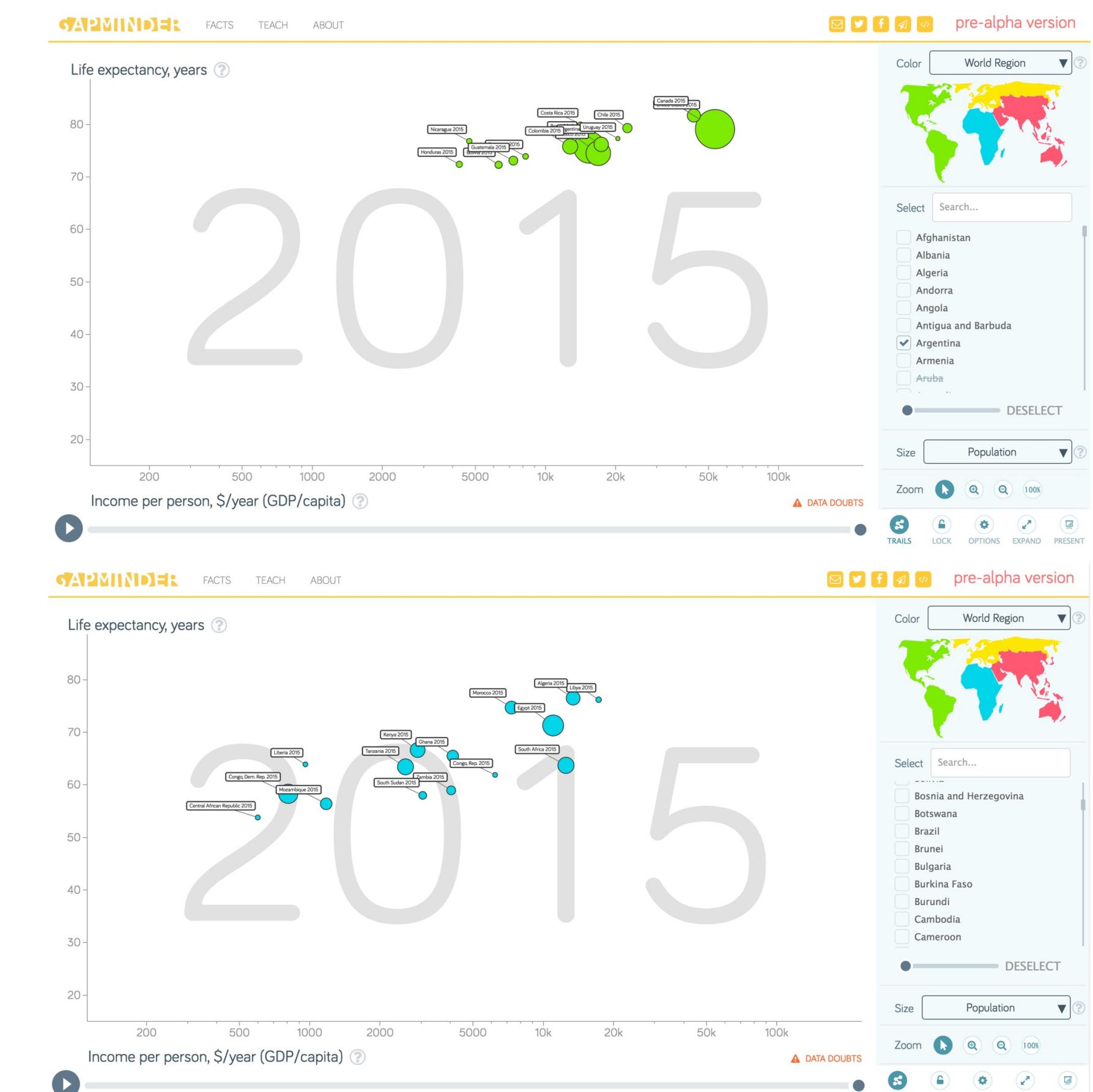


**Pro:**

→ Easy to compare

**Con:**

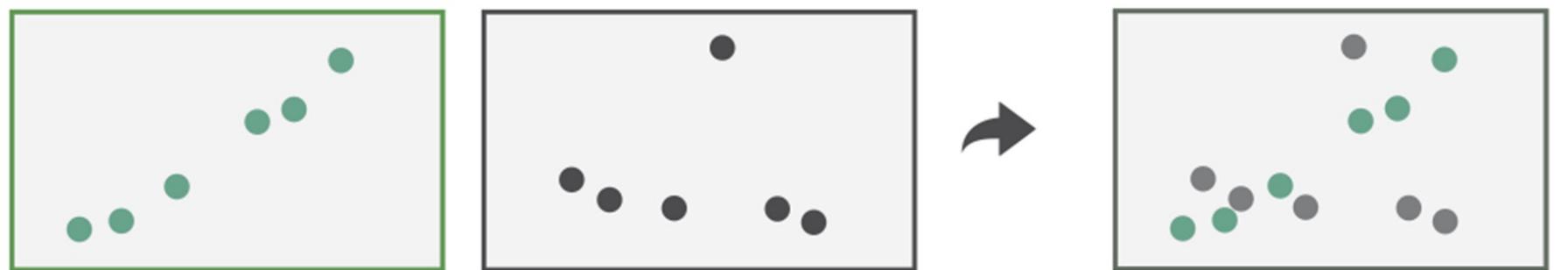
→ Takes up more space on the screen



# Faceting

## Superimposed Layers

### → Superimpose Layers



### Pro:

- Requires less screen space
- Easy to compare

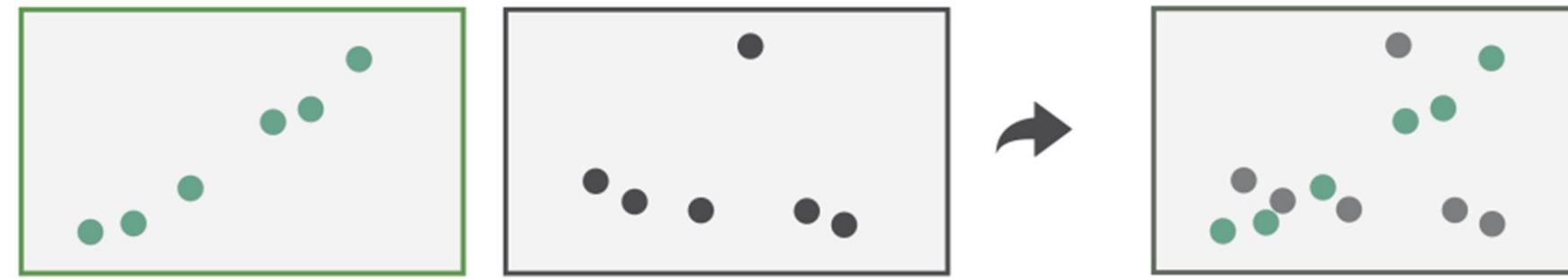
### Con:

- Limits encoding options
- Can get messy

# Faceting

## Superimposed Layers

### → Superimpose Layers

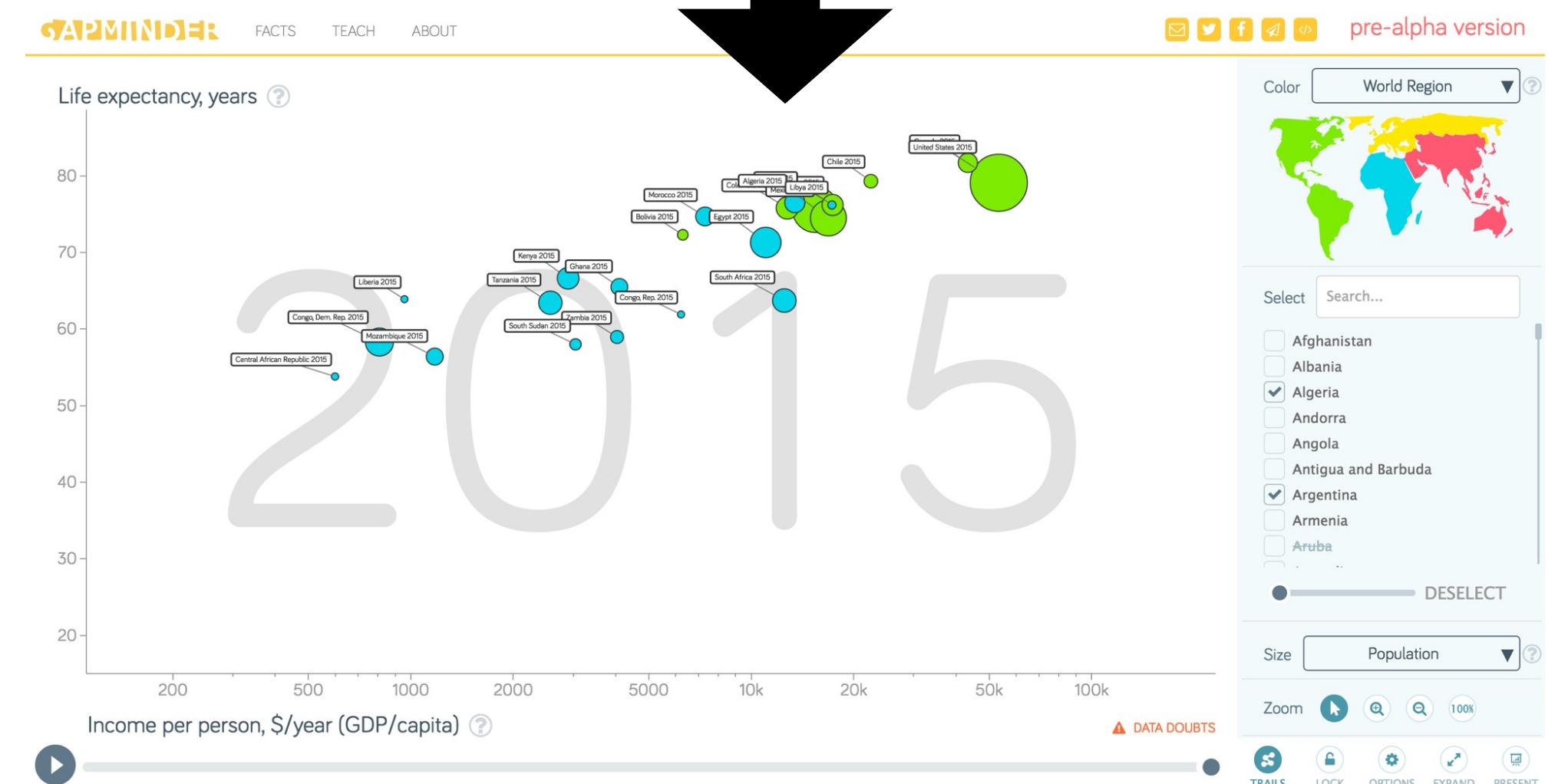
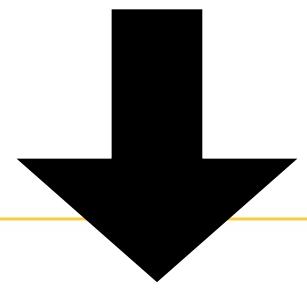
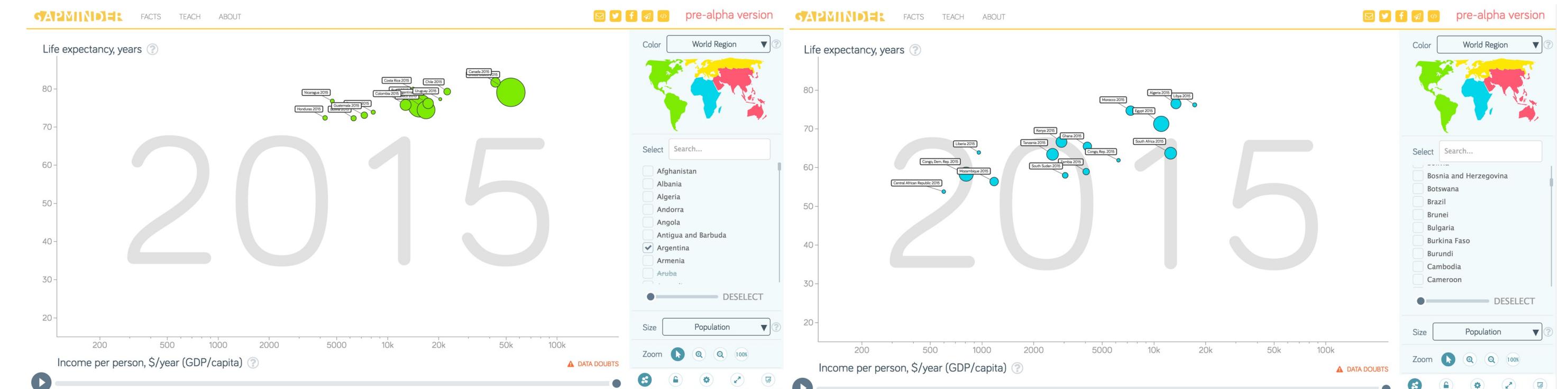


### Pro:

- Requires less screen space
- Easy to compare

### Con:

- Limits encoding options
- Can get messy

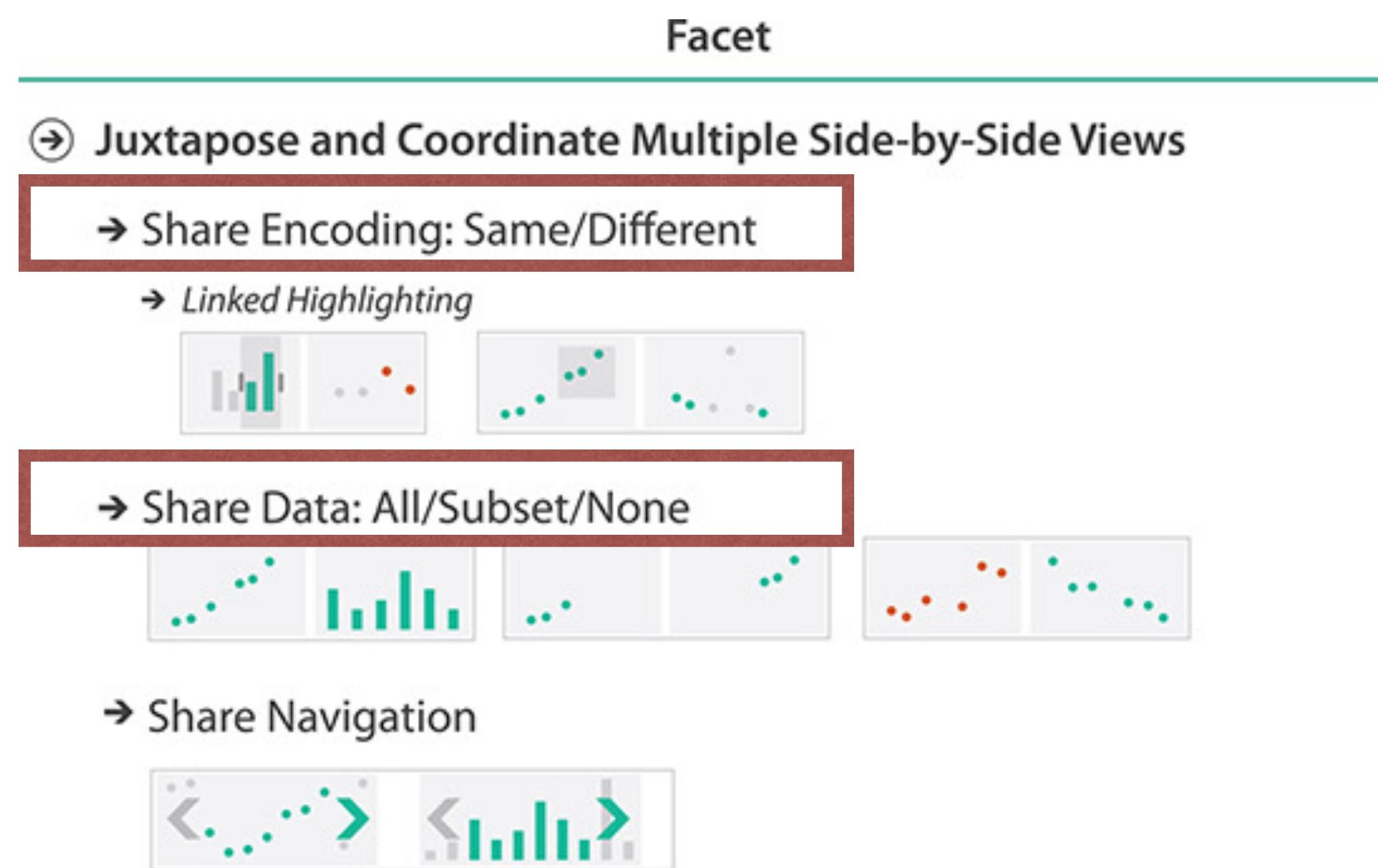


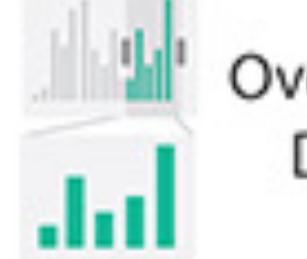
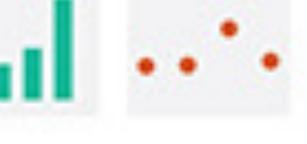
# Faceting

**Coordination** → In addition to arranging views side-by-side vs. superimposed we need to choose how to coordinate them (or not)

# Faceting

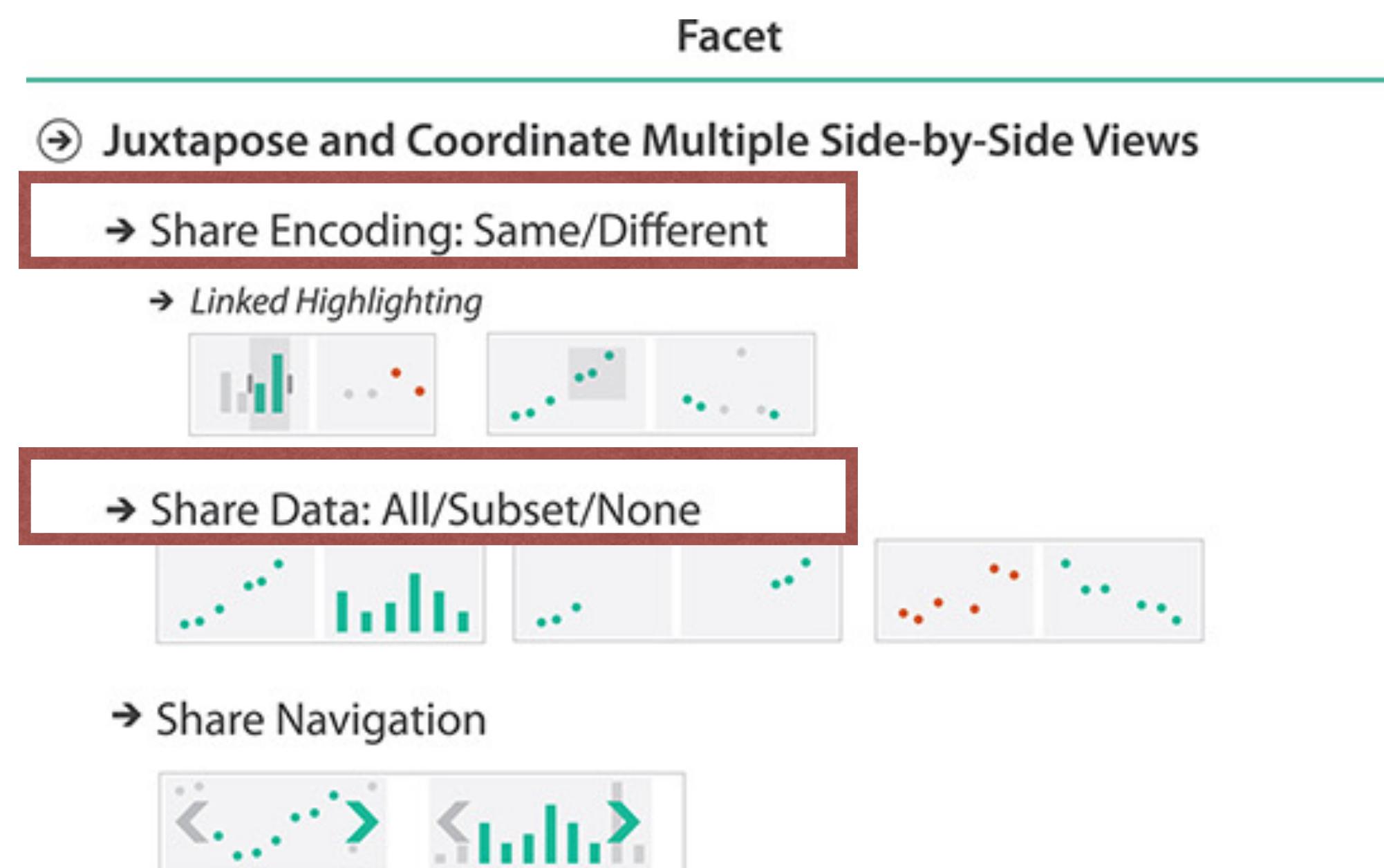
**Coordination** → In addition to arranging views side-by-side vs. superimposed we need to choose how to coordinate them (or not)



Encoding	Data		
	All	Subset	None
Same	Redundant	 Overview/ Detail	 Small Multiples
Different	 Multiform	 Multiform, Overview/ Detail	No Linkage

# Faceting

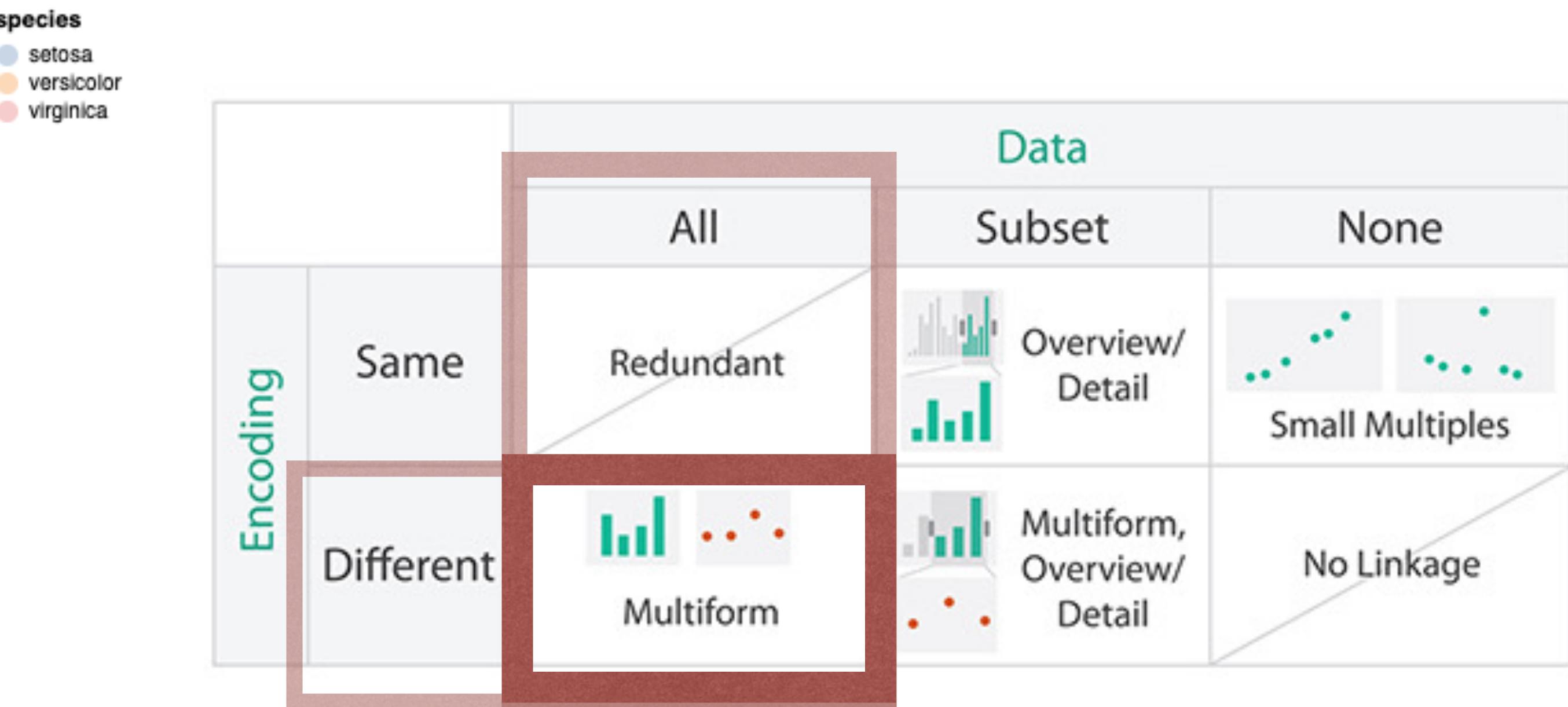
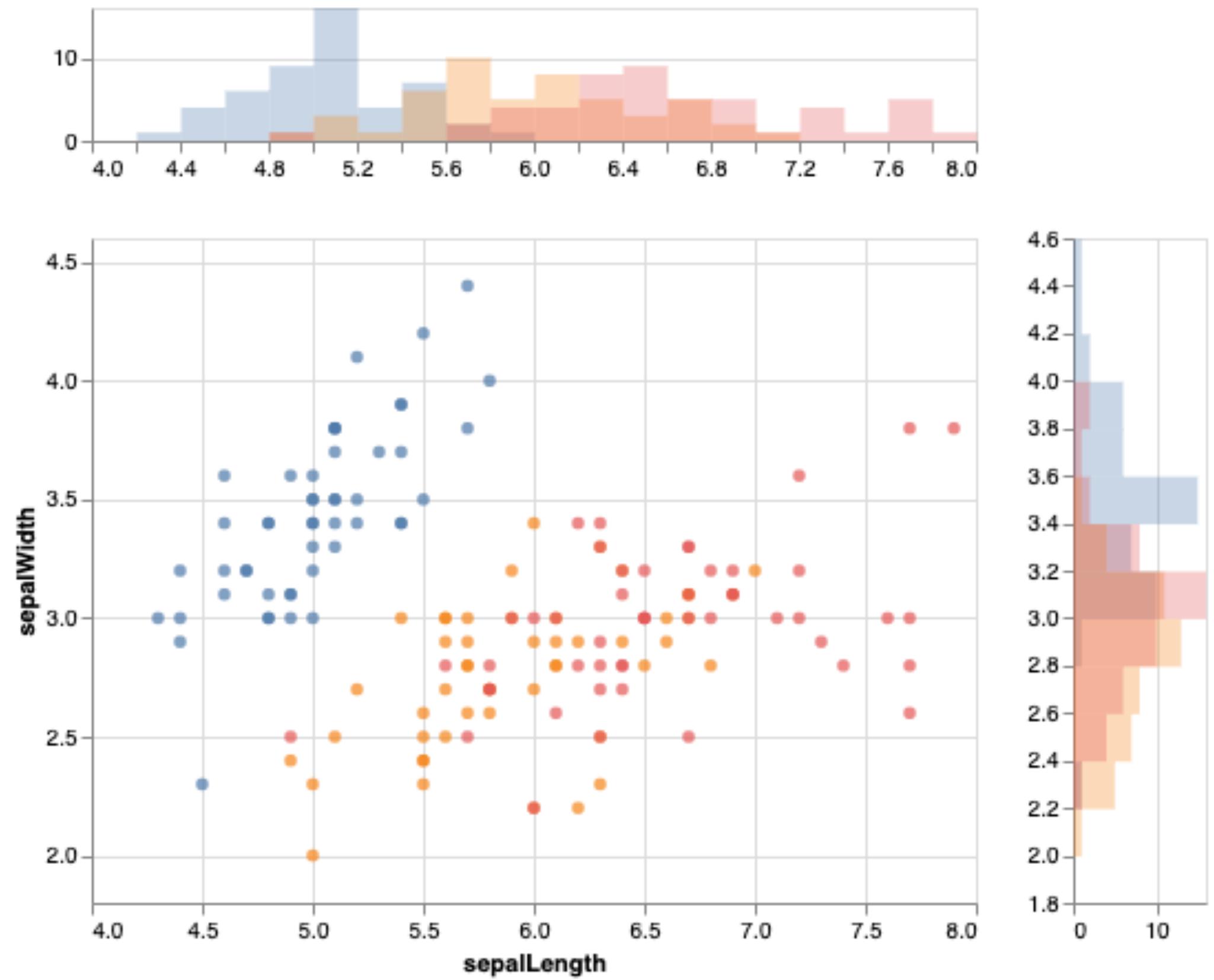
**Coordination → Multiform**



Encoding	Data	All	Redundant	
		Same	Subset	None
Different	Overview/Detail	 	Small Multiples	
	Multiform, Overview/Detail	 	No Linkage	

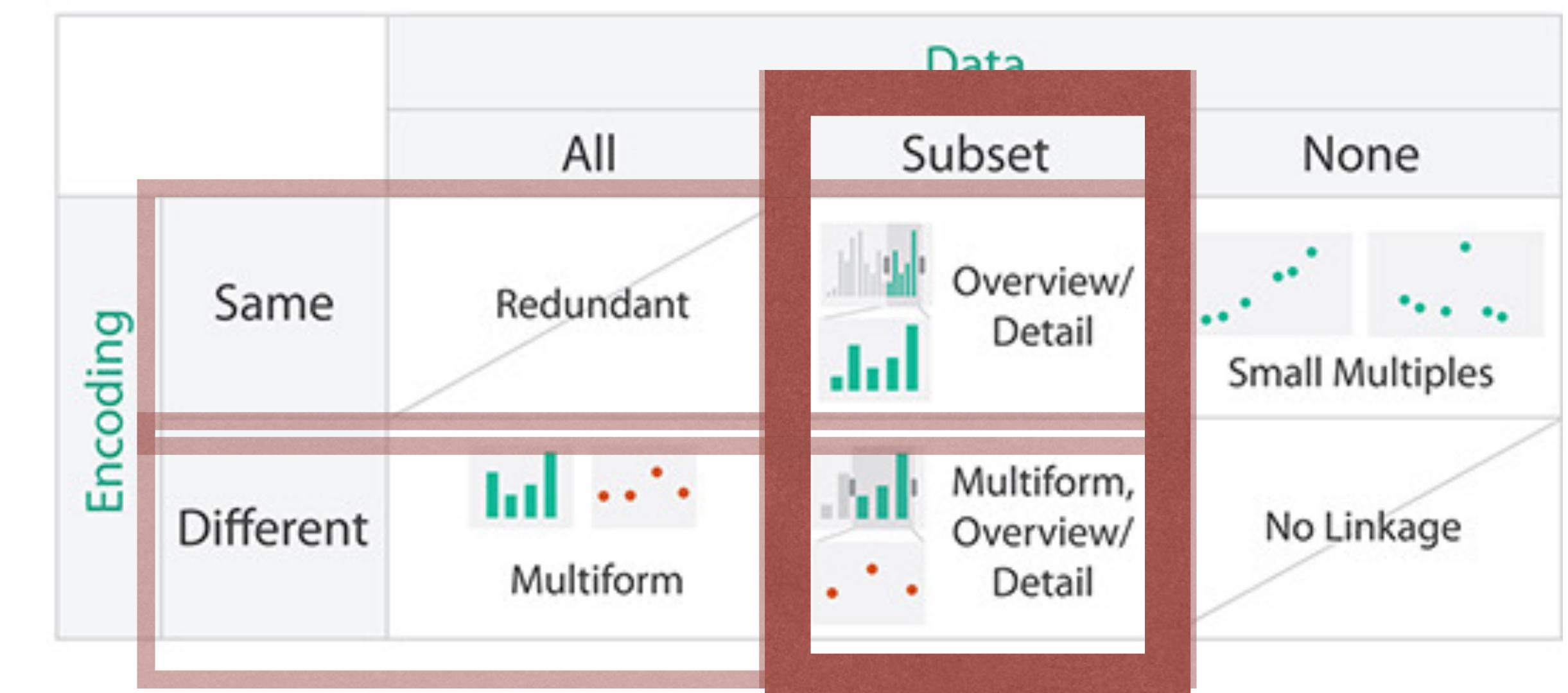
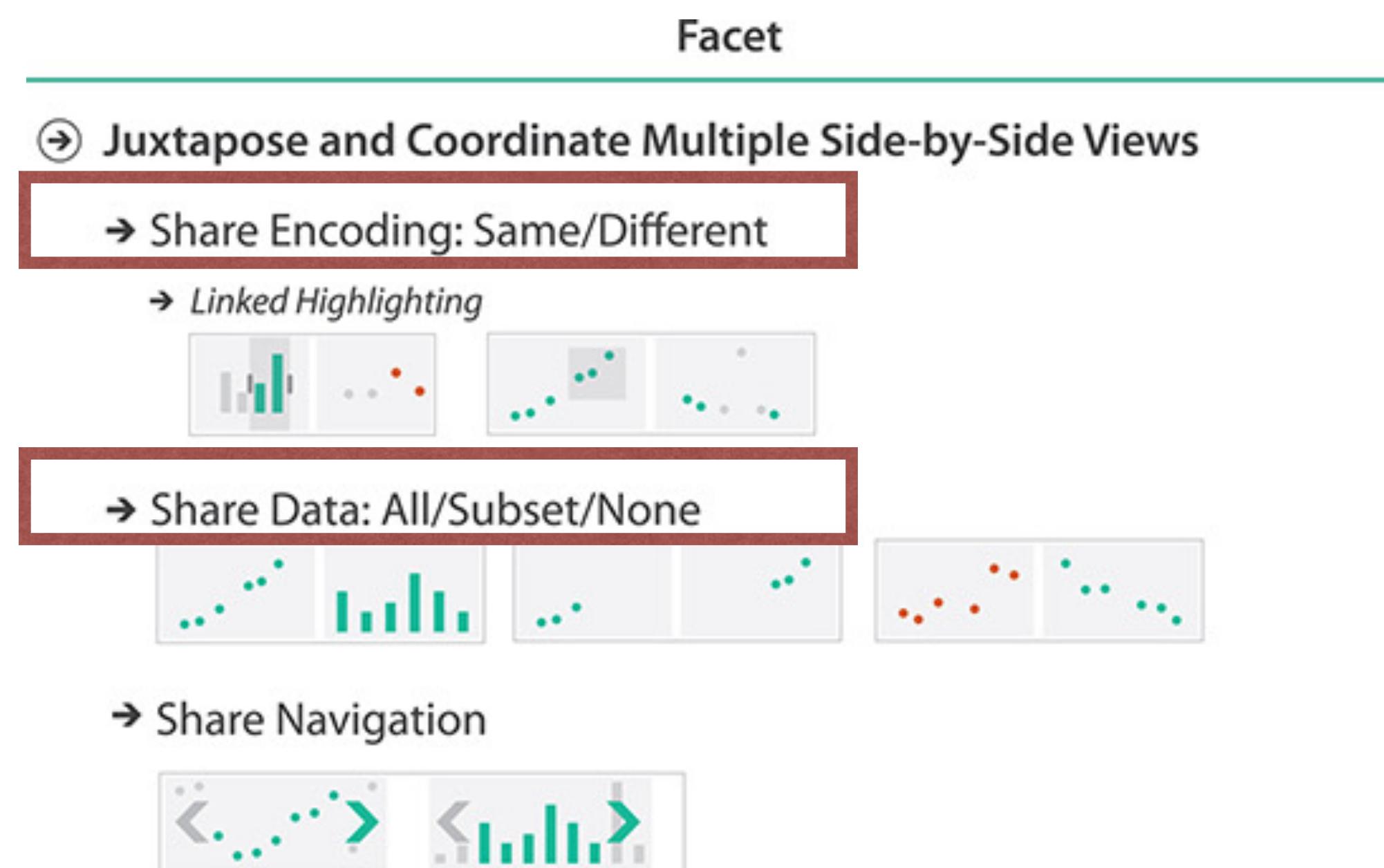
# Faceting

**Coordination → Multiform**



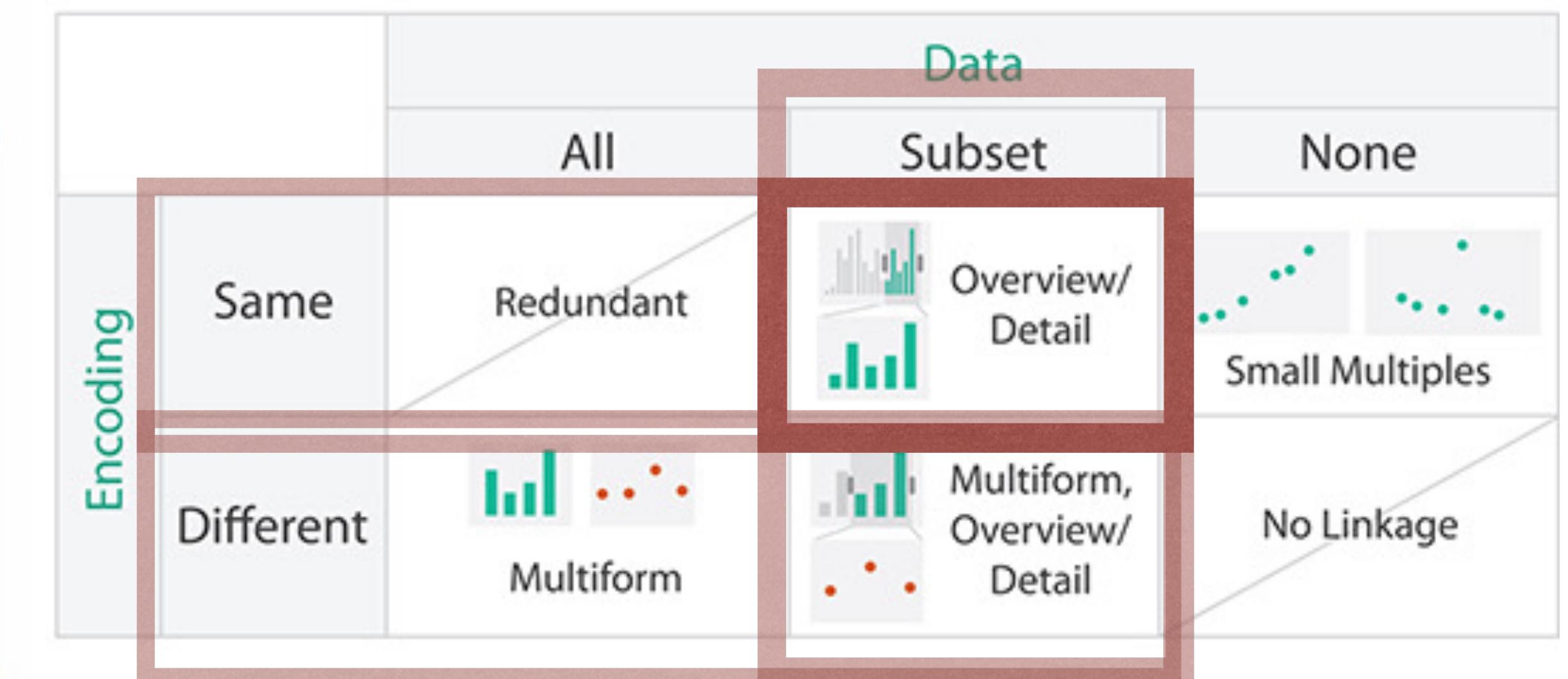
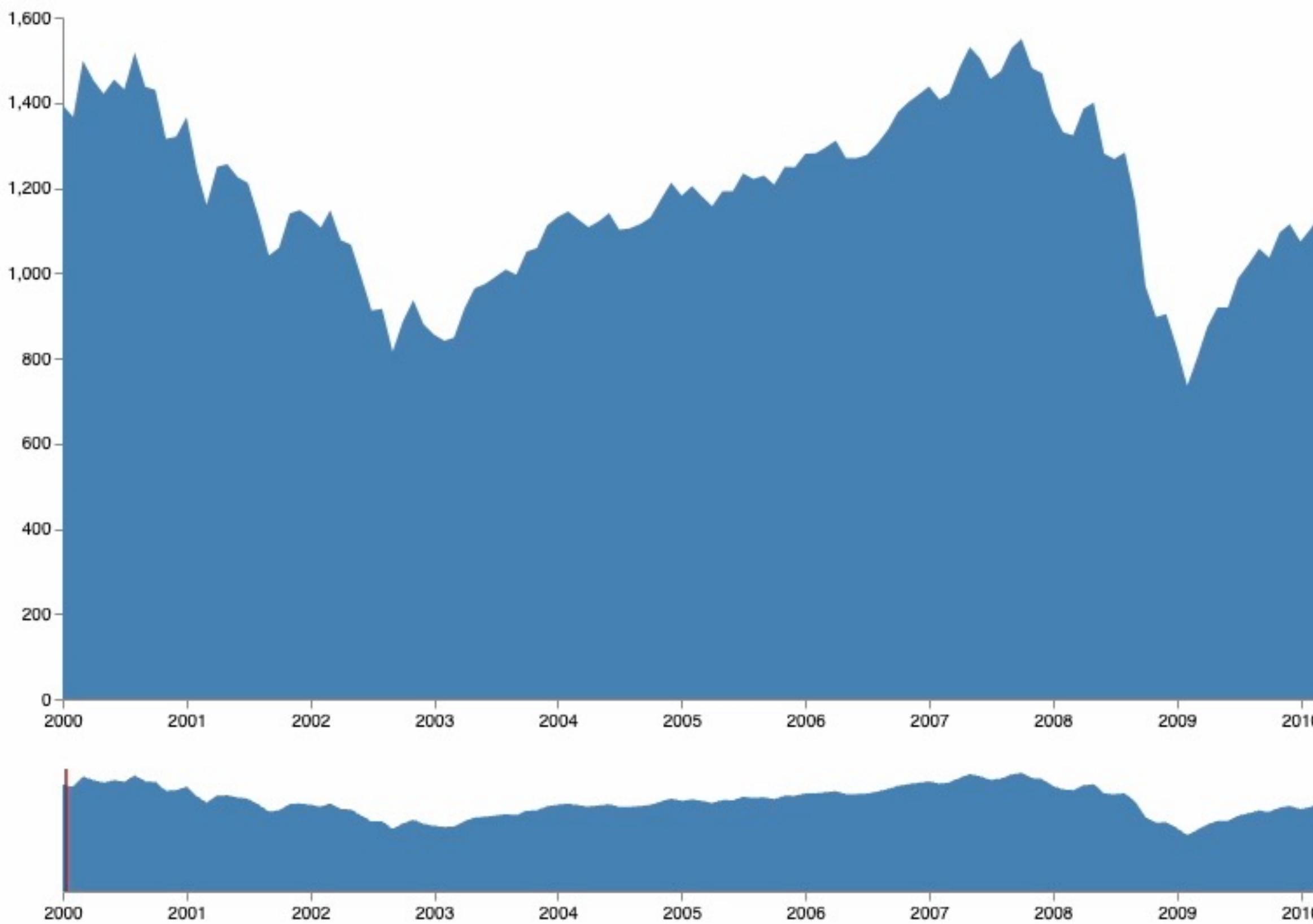
# Faceting

**Coordinate → Overview/Detail**



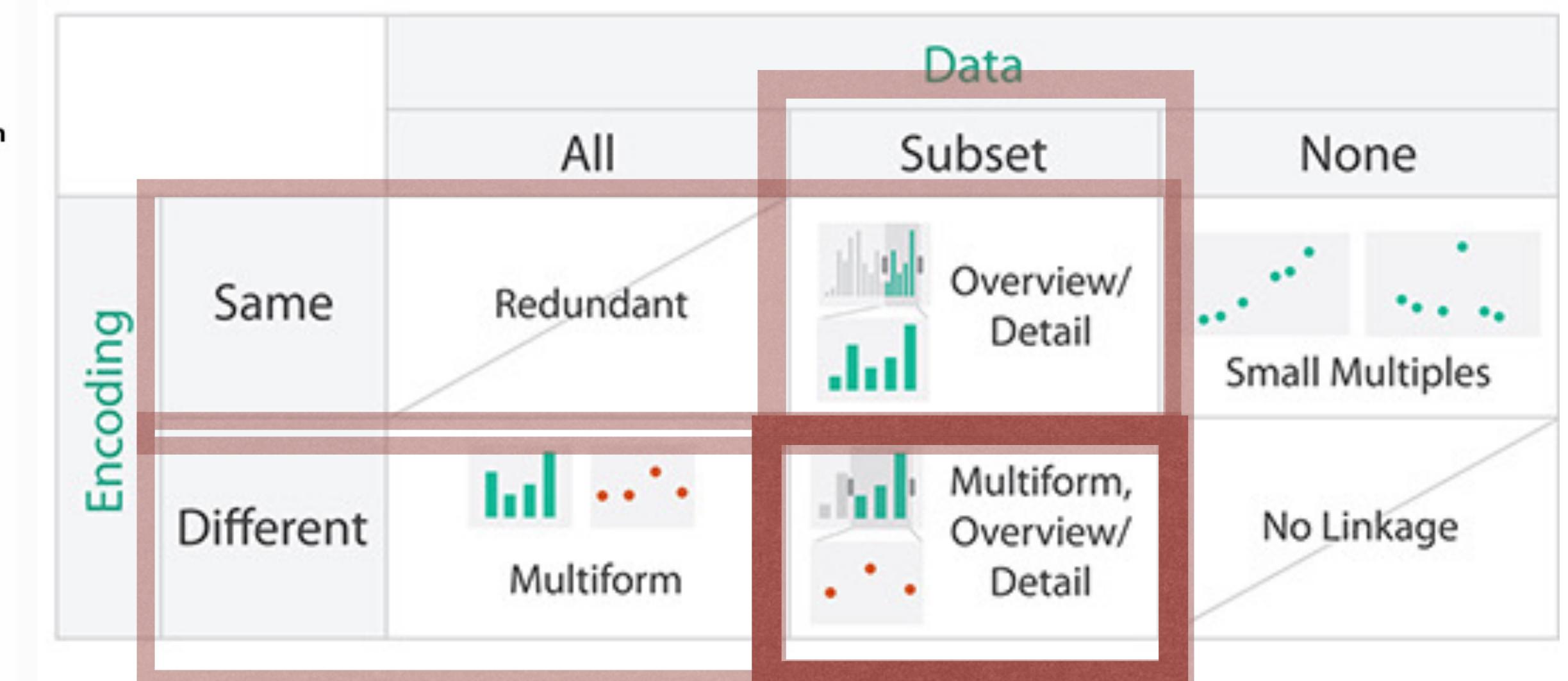
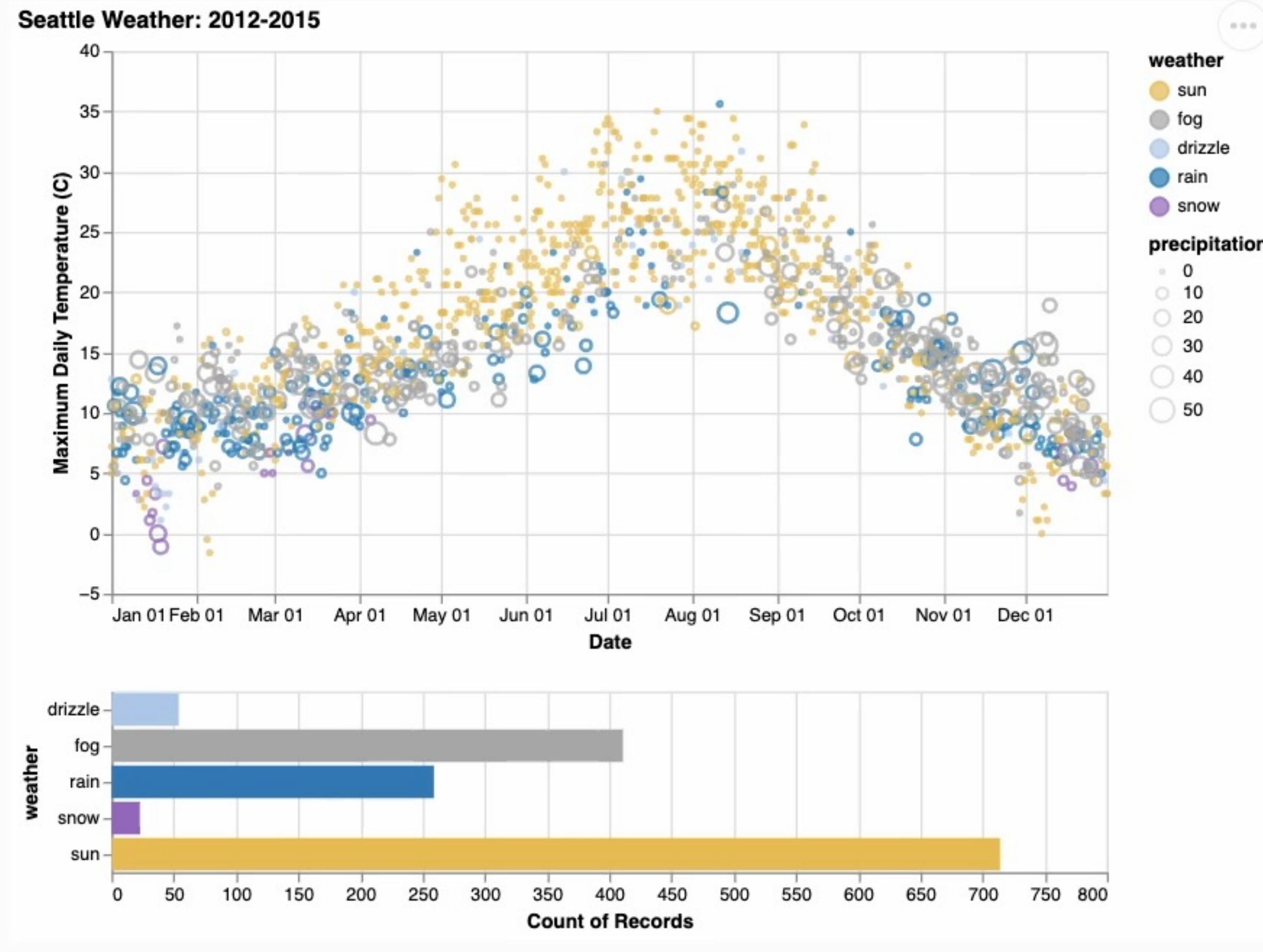
# Faceting

**Coordinate → Overview/Detail**

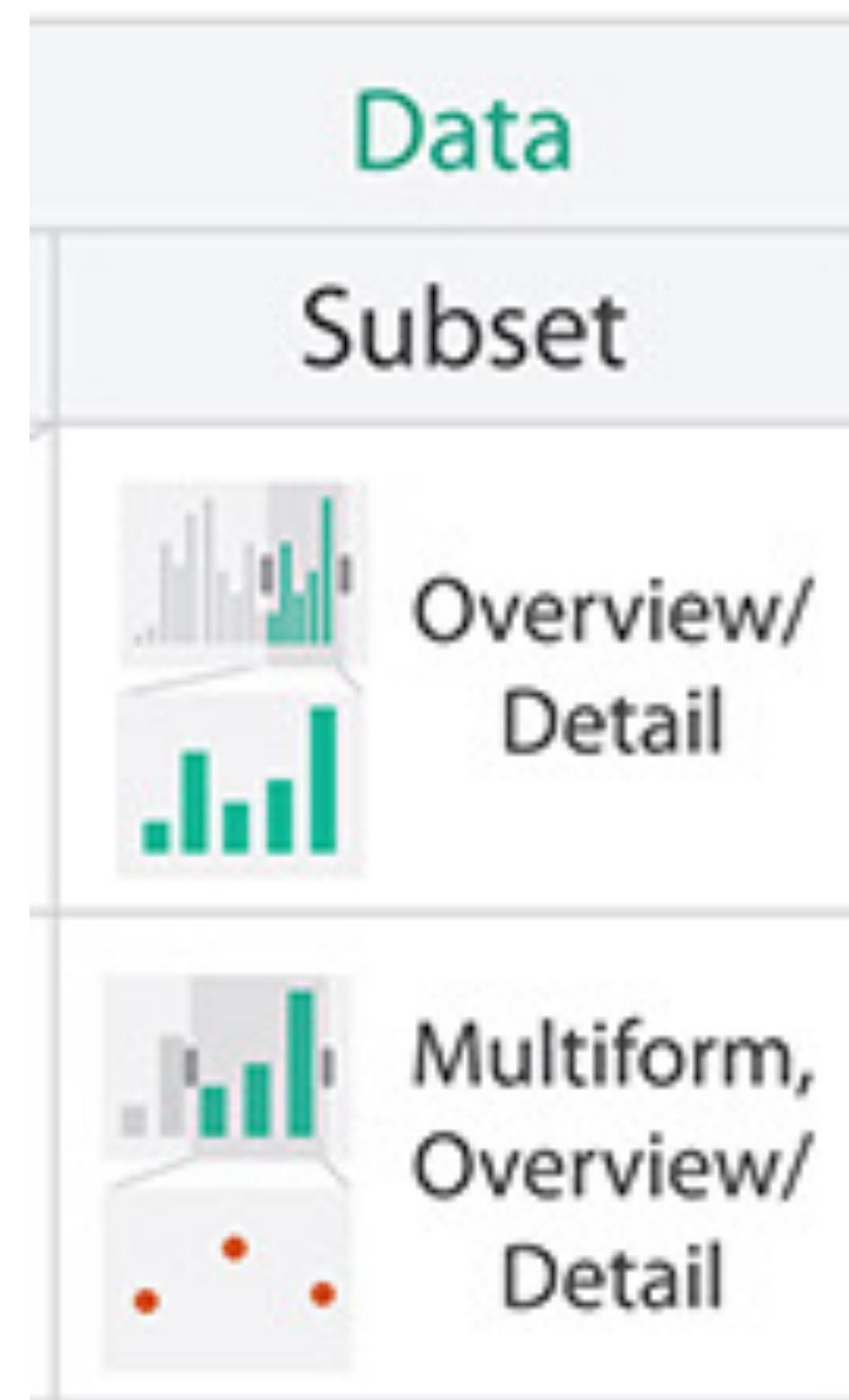


# Faceting

**Coordinate → Overview/Detail**



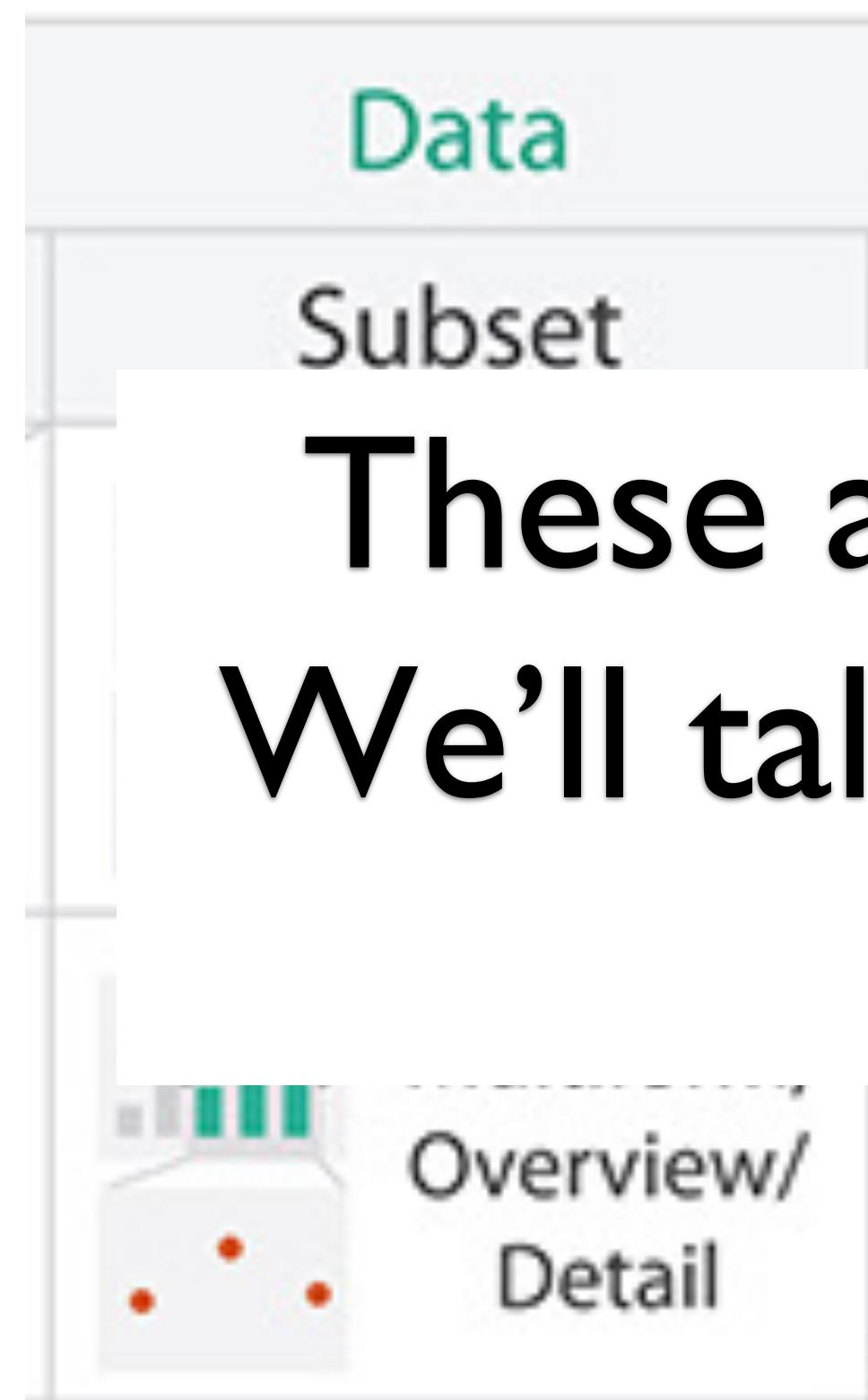
# Overview/Detail



Overview first, zoom and filter, then details-on-demand  
Overview first, zoom and filter, then details-on-demand

- Ben Shneiderman

# Overview/Detail



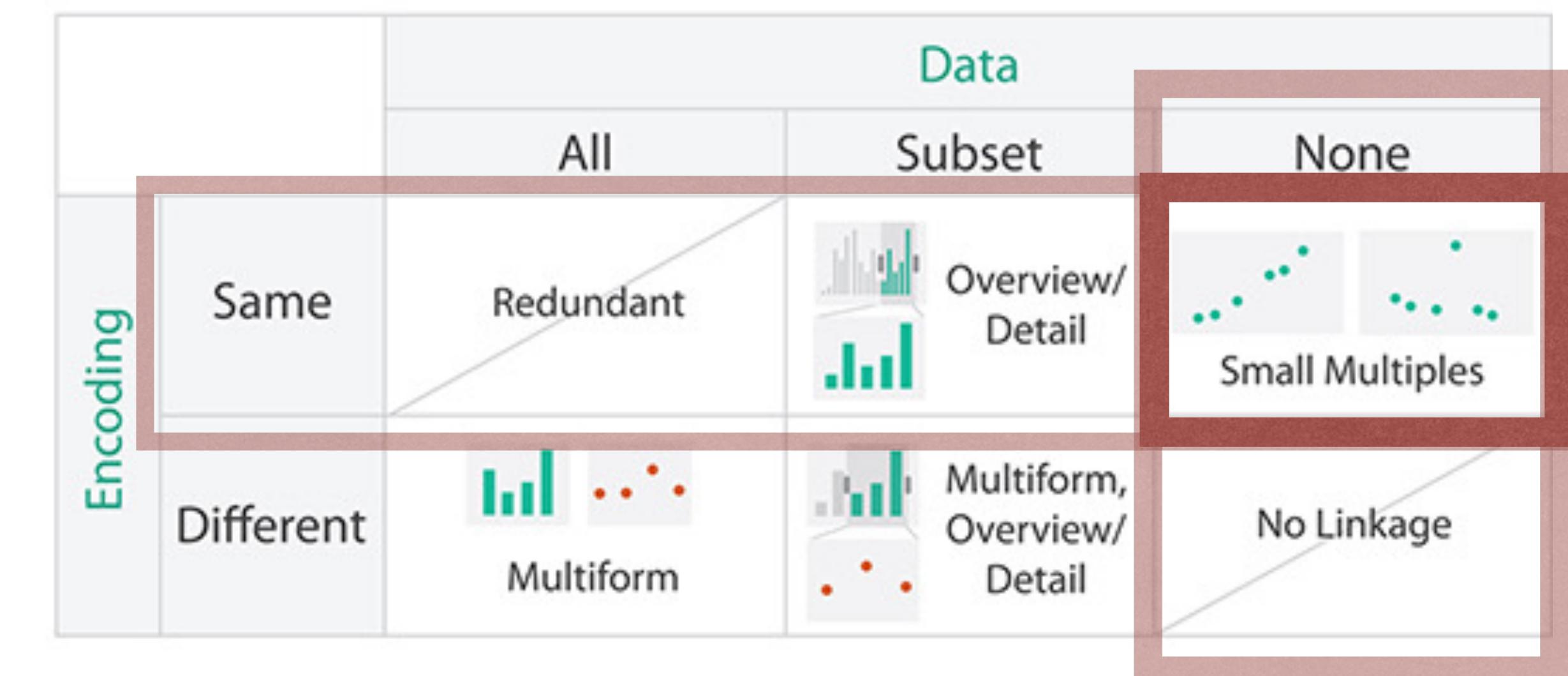
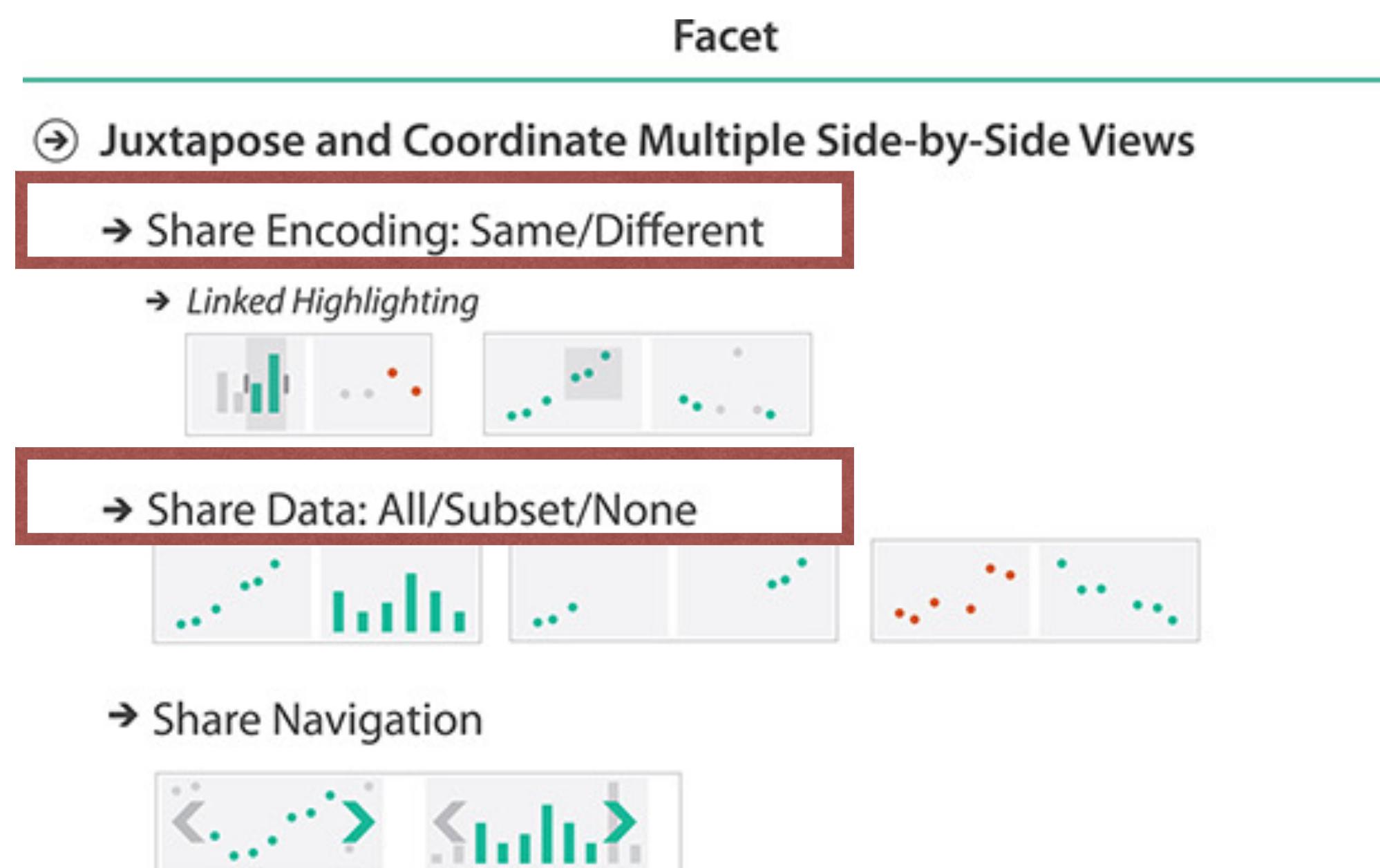
**These are Focus + Context Designs.  
We'll talk more about this approach in  
future lectures.**

OVERVIEW FIRST, ZOOM AND FILTER, THEN DETAILS-ON-DEMAND

- Ben Shneiderman

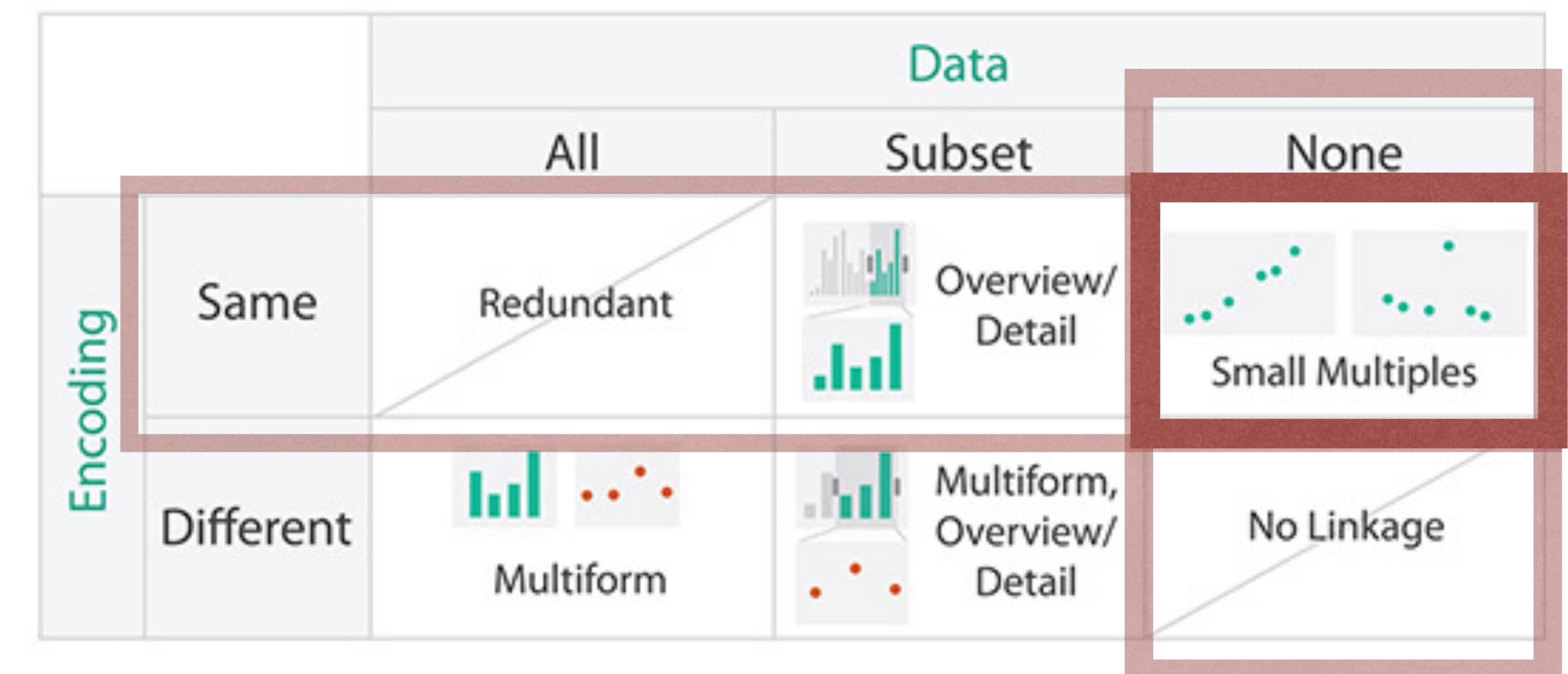
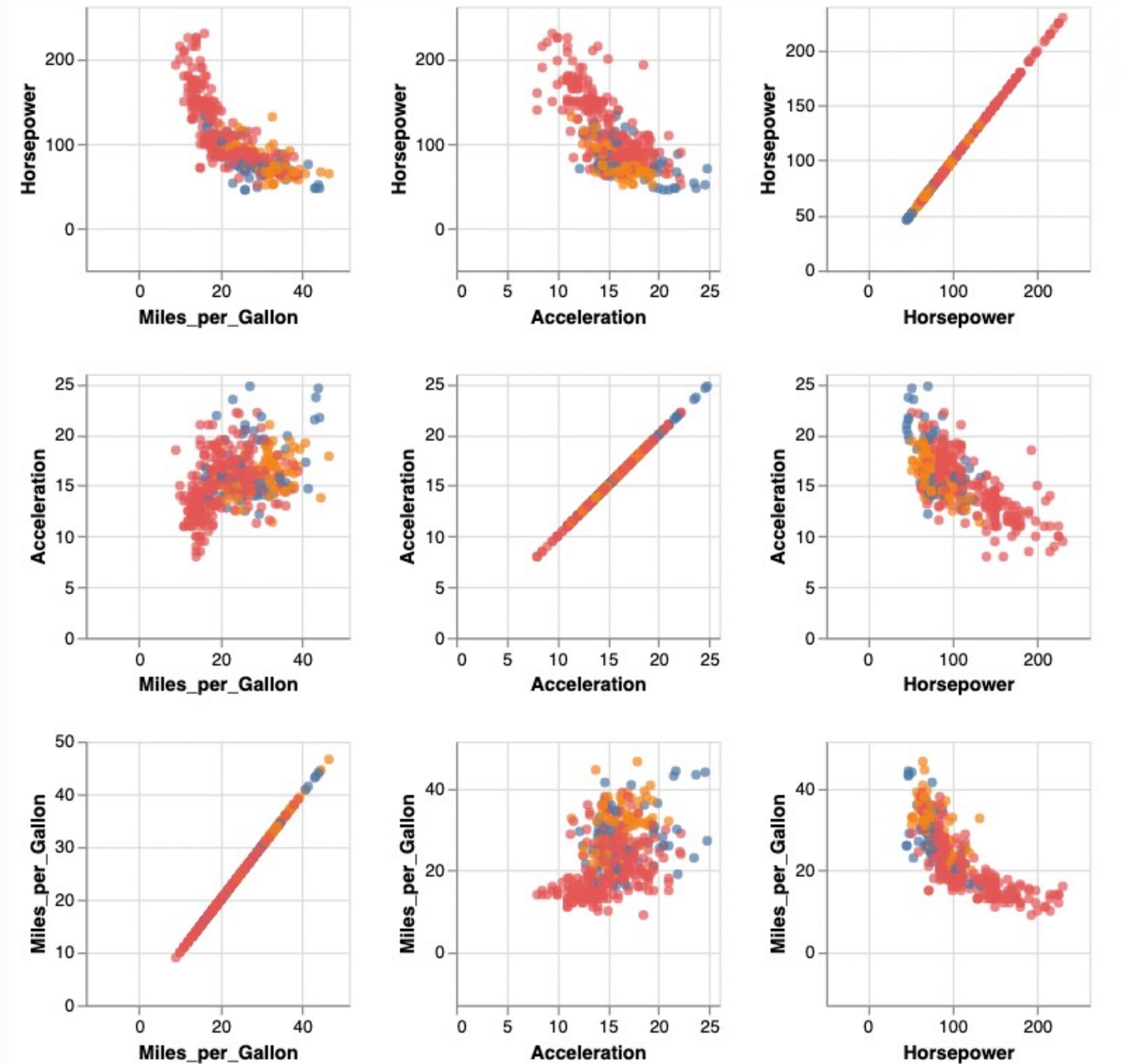
# Faceting

**Coordinate → Small Multiples**



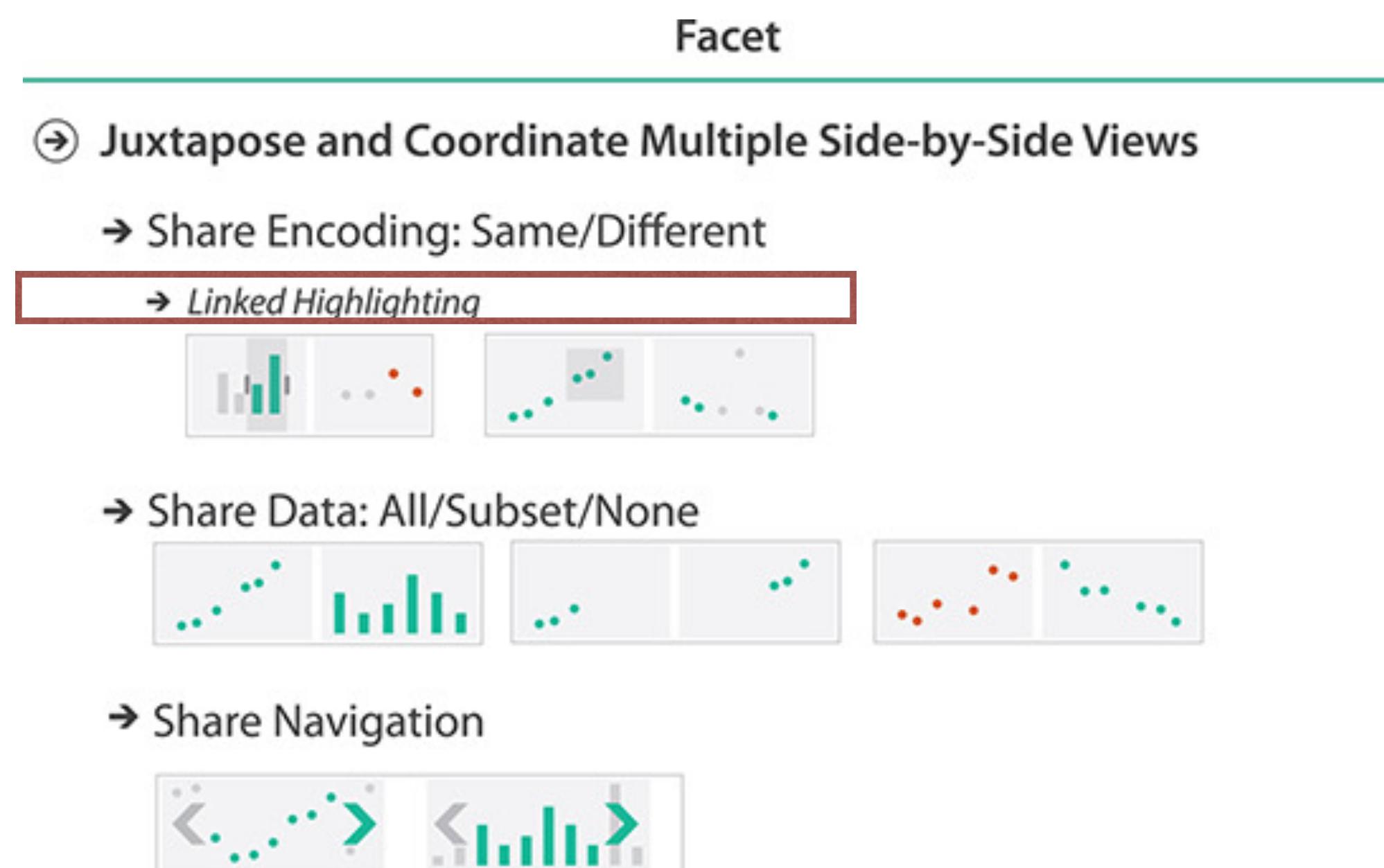
# Faceting

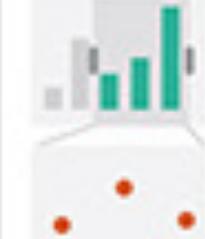
**Coordinate → Small Multiples**



# Faceting

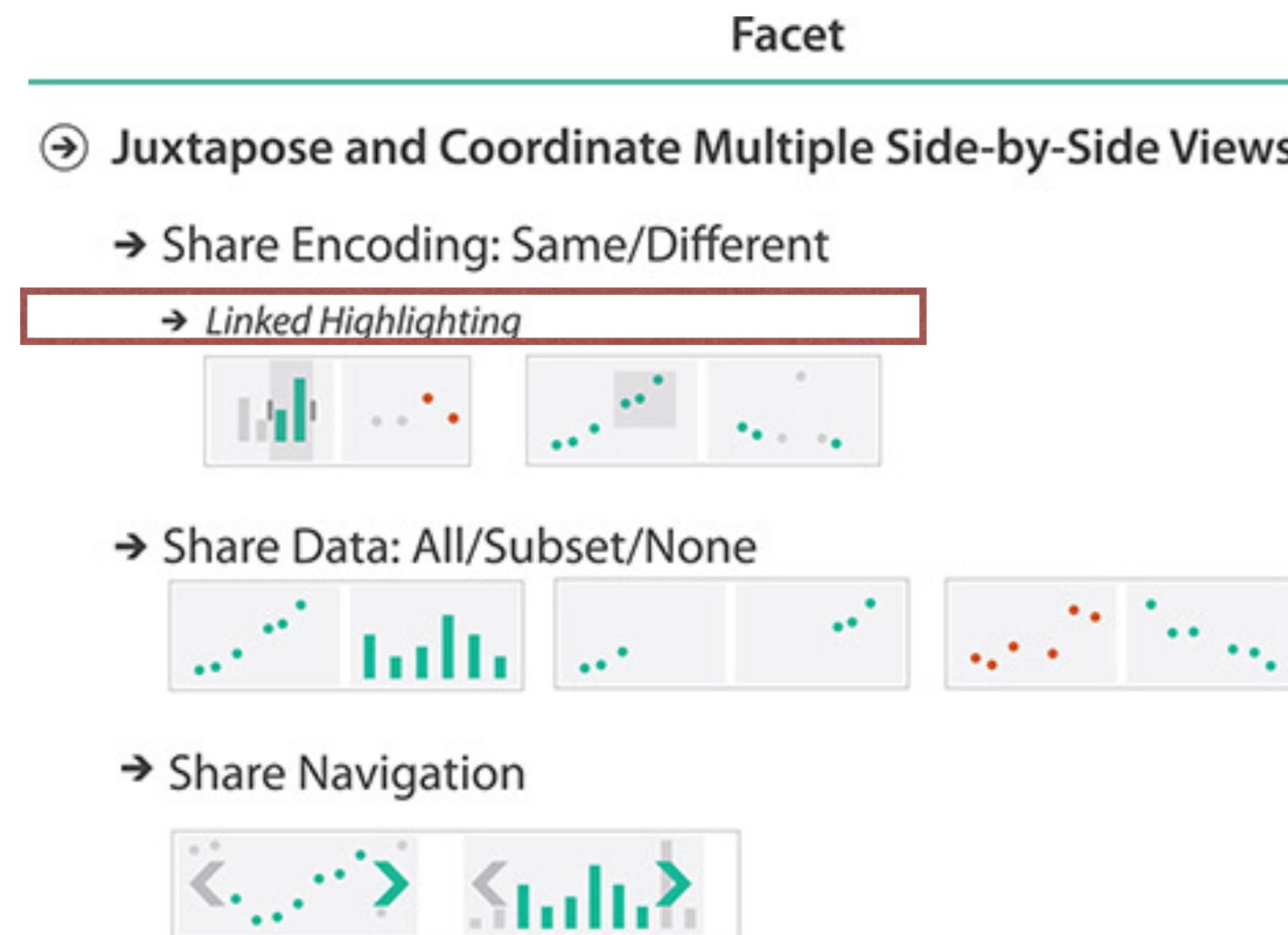
**Coordinate → Linked Highlighting**



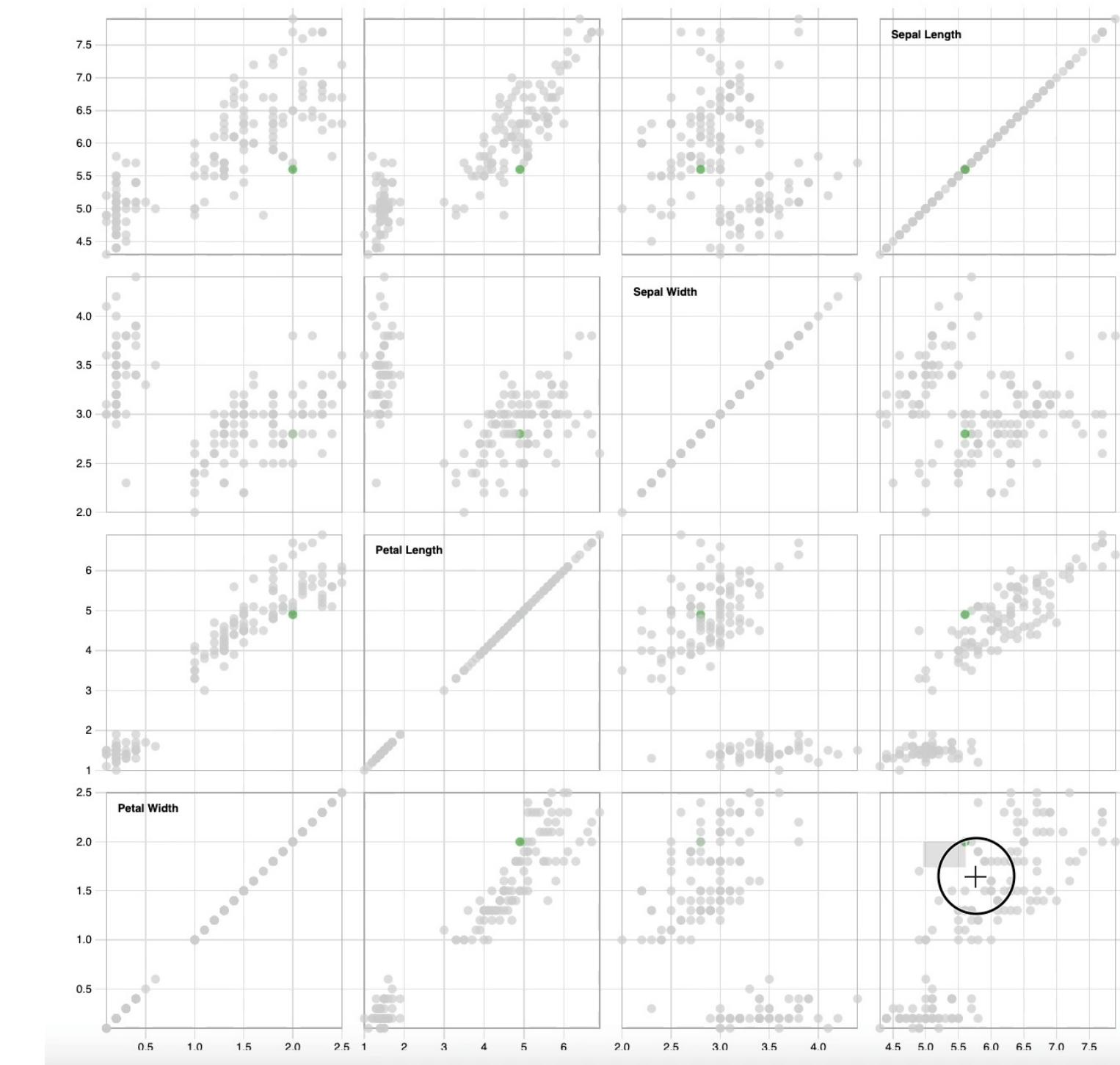
		All	Subset	None
Encoding	Same	Redundant	 Overview/ Detail	 Small Multiples
	Different	 Multiform	 Multiform, Overview/ Detail	No Linkage

# Brushing and Linking

## Coordinate → Brushing and Linking



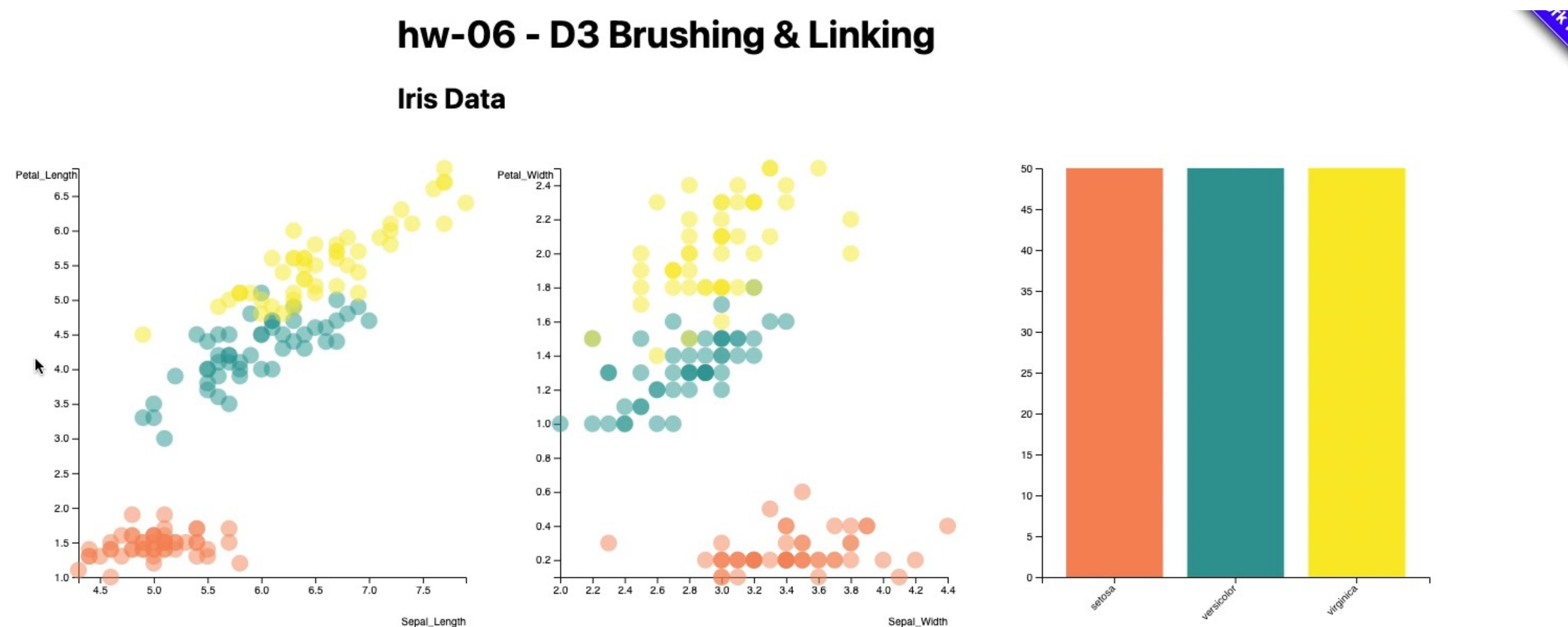
Scatterplot Matrix Brushing



<https://bl.ocks.org/mbostock/4063663>

# Brushing and Linking

**Coordinate → Brushing and Linking**



# Navigation

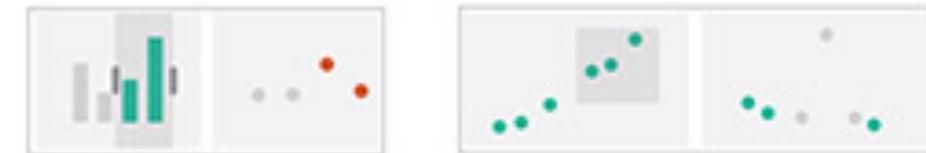
# Coordinate

Facet

### → Juxtapose and Coordinate Multiple Side-by-Side Views

→ Share Encoding: Same/Different

#### → *Linked Highlighting*



→ Share Data: All/Subset/None



→ Share Navigation



# Navigation

## Coordinate

### Facet

#### ④ Juxtapose and Coordinate Multiple Side-by-Side Views

→ Share Encoding: Same/Different

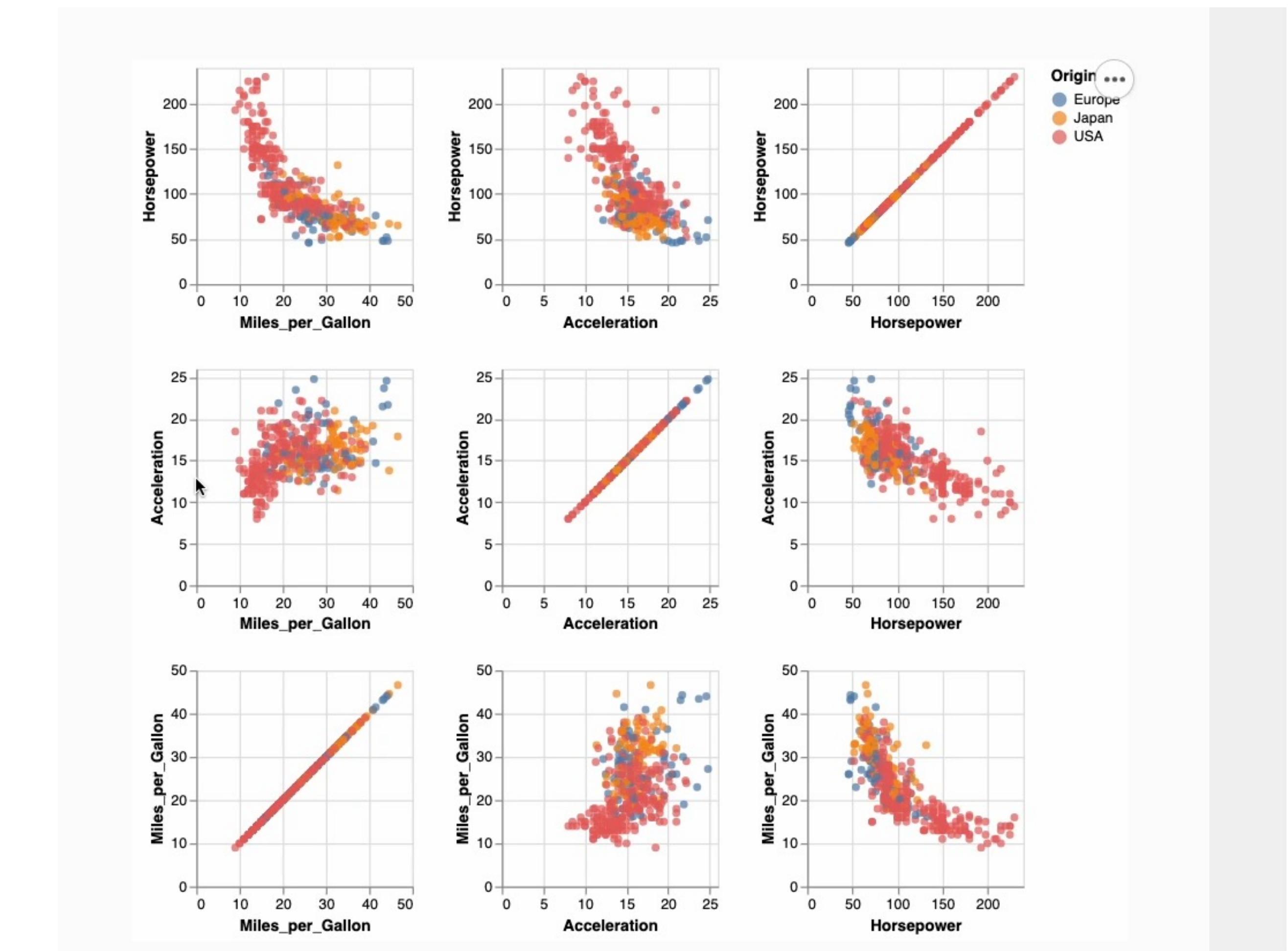
→ *Linked Highlighting*



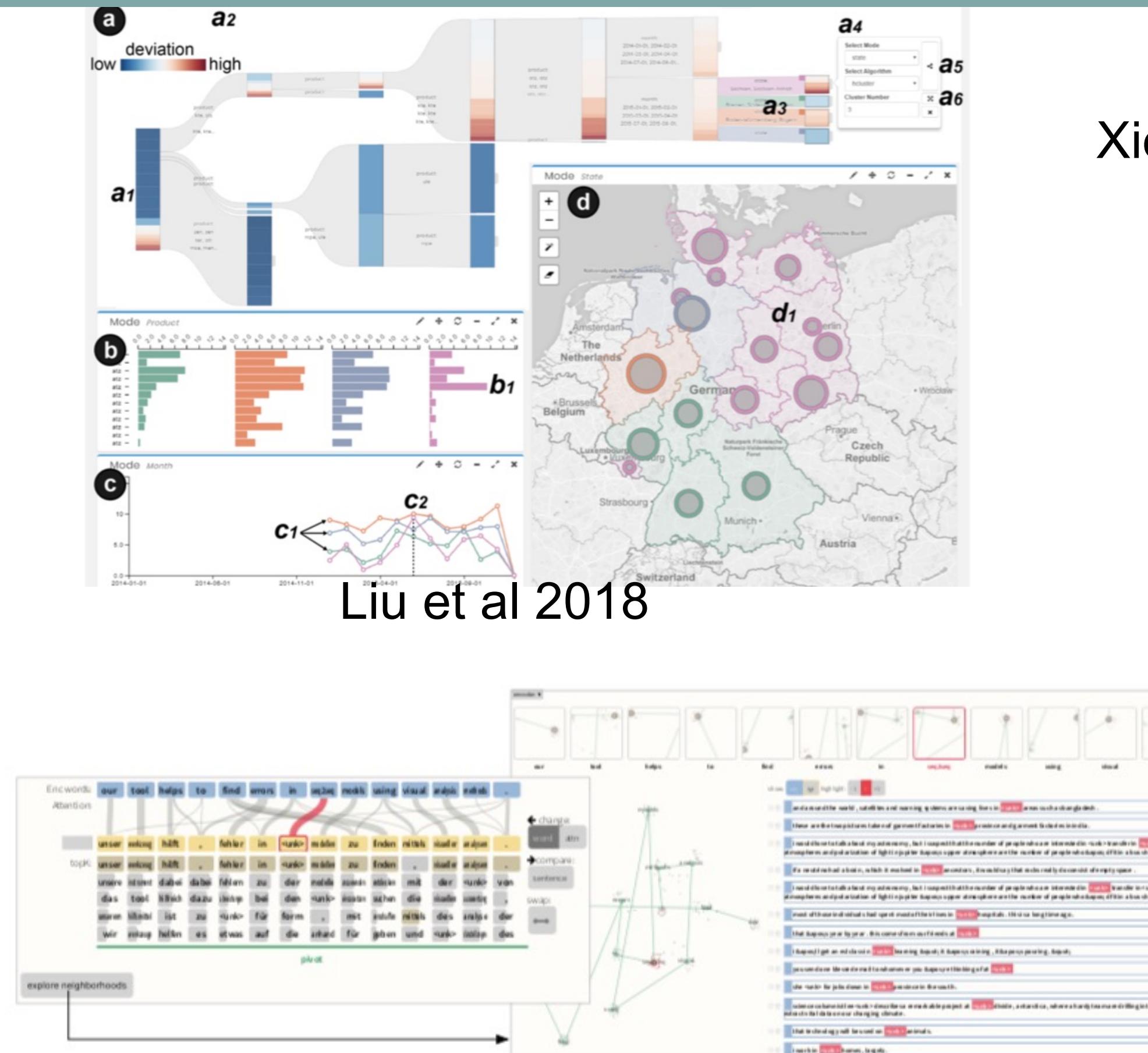
→ Share Data: All/Subset/None



→ Share Navigation

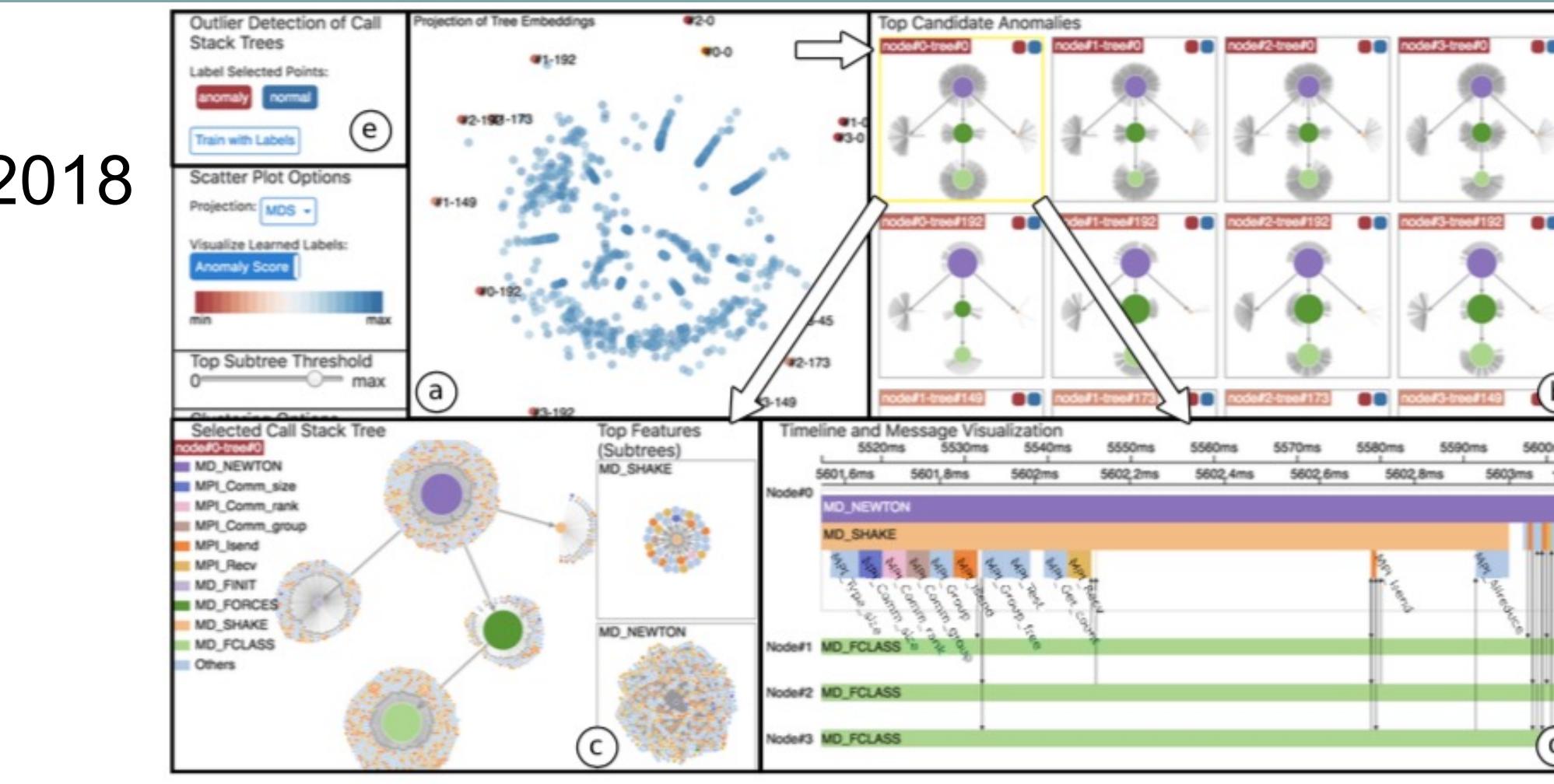


# Caveats



Strobelt and Gehrmann et al 2018

Xie et al 2018



Wang et al  
2018



Let's take a break! Stretch, go for  
a walk, be social ☺  
Be back here in 10 mins.

# Summary

## **Today we:**

- Reviewed Interaction
- Reviewed Faceting

**ic-11 is DUE today.**

**hw-06 is DUE before next class.**