Which Visualization?

A Quick Reference

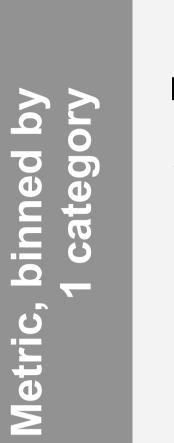
You have the following data (sample): **Discrete Categories,** Ordered categories,

and Continuous Metrics

Here's how to plot them

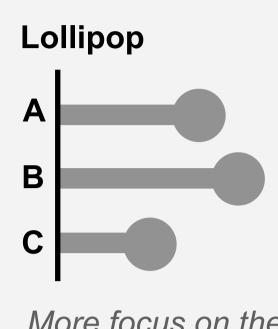
Categories		Ordered Ca	ats	Continuous	Metrics		
City	Airline	Class	PriceBracket	Month	Distance	FlightTime	Price
Alphaville	XeroTrip	Coach	\$	1	300	120	250
Betastan	YoloFly	Business	\$\$	2	500	185	1,525
Chicago	ZeusAir	First	\$\$\$	3	650	240	4,023
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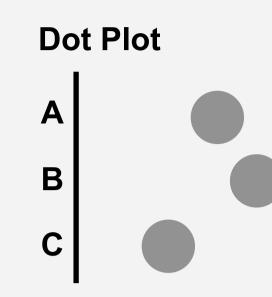
Discrete Categories **Ordered Categories Continuous Metrics**



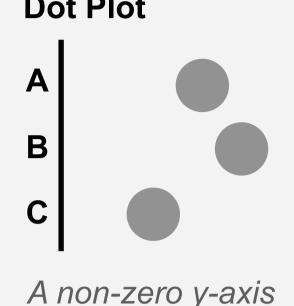
... by 2 categories



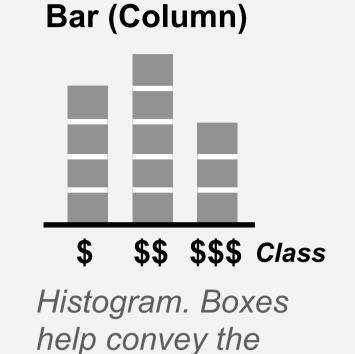




A non-zero y-axis base may be less



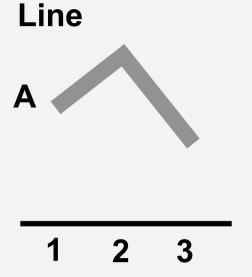
misleading here





Bar (Column)



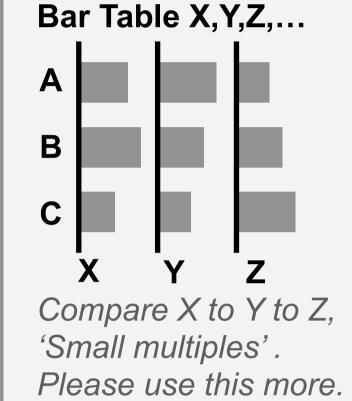


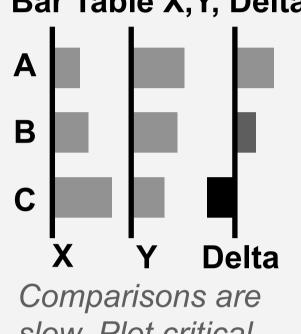
labels, while columns awkwardly turn text

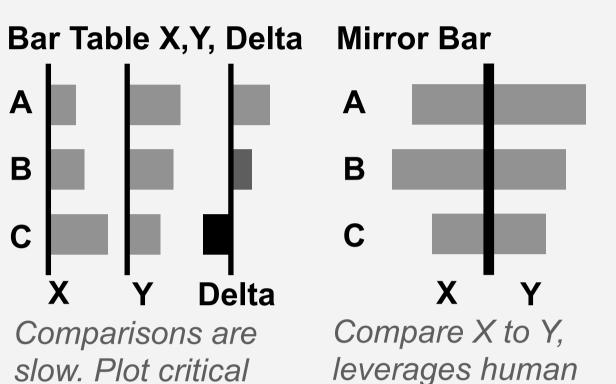
More focus on the positions of tops. Fun factor +1

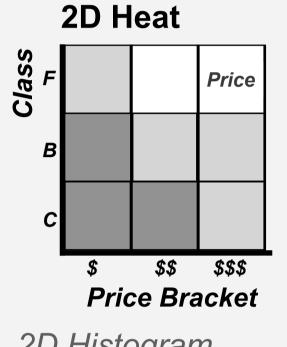
Column, not Row

A non-zero y-axis Adds continuity to base may be less x-axis. misleading here

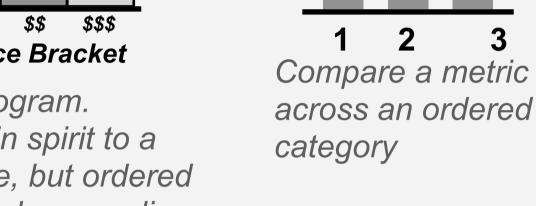


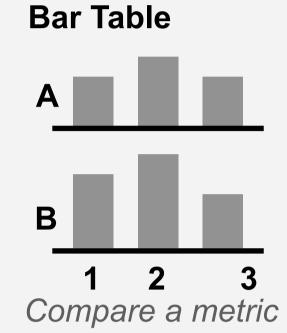






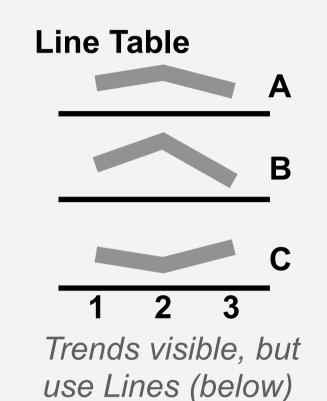
underlying bins





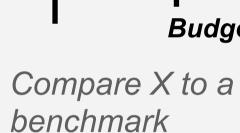
Distance 2 3 Now one is continuous-er

Bar Line Table



to compare heights

Benchmark Bar Budget



slow. Plot critical Deltas explicitly **Benchmarks Bar** Α В

Ys Xs Compare X to Y. Fancier version called a 'Bullet graph'

Interleaved Bar

Compare X to Y

(not recommended)

symmetry perception

2D Histogram. Similar in spirit to a bar table, but ordered cats + color encoding

Slopegraph

With two values, slope encodes

Dual Axis Price Distance

Use (above) instead. Crossings here are salient, but meaningless

Lines

Compare many. Getting spaghetti? Split into subset or Line-Table (above)

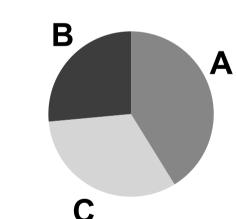
binned by 1 category





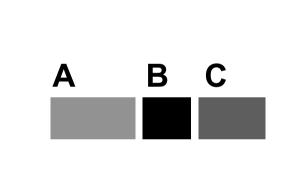


Pie



Screams 'Percentages!'

Stacked Bar (Row)



More precise and flex, but less screaming

Stacked Bar (Col)

Interleaves two

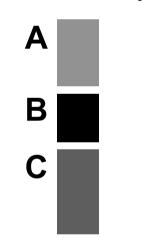
categories into one

spatial dimension.

Typically better to

use Bar Table

(above) instead



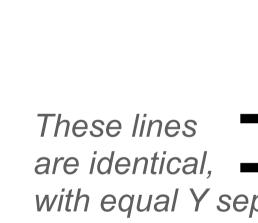
Now I'm standing

Waterfalls are vertical stacked bars that narrate financial



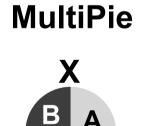
delta

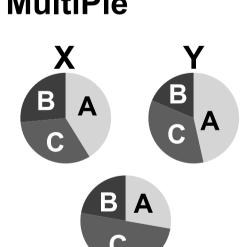
Waterfall

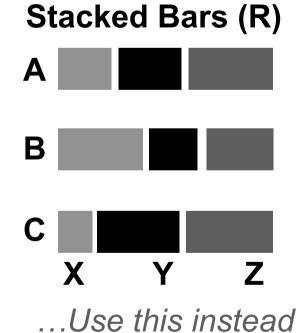


with equal Y separation at each X slice, but it doesn't look that way!

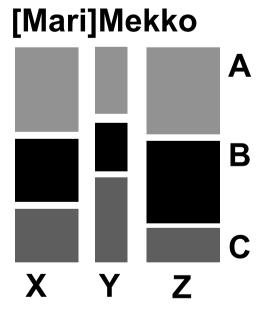
Beware of an illusion for these: seeing differences (lines), or category values (stacked area) can be difficult and even misleading

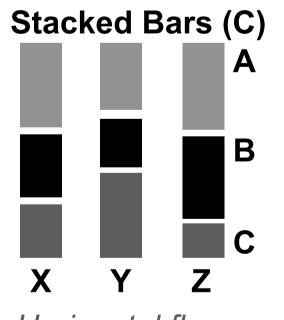








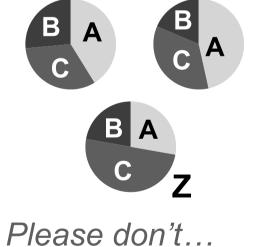




... with lines

No legends. Instead, directly label actual values





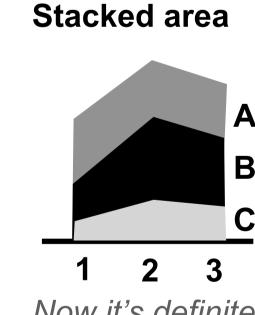
(not recommended)

Treemap

Horizontal flow implies an ordering

Scatter **Price**

Added lines suggest continuity, help depict changes

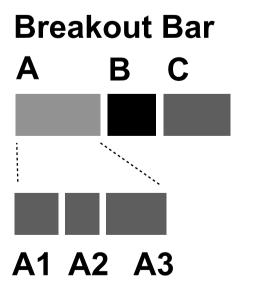


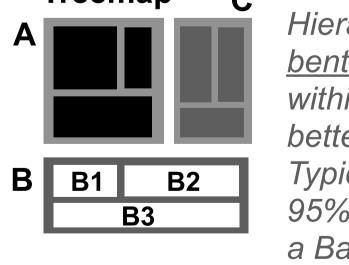
Now it's definitely continuous

Let's zoom in here. Use different colors. Global at top or left.

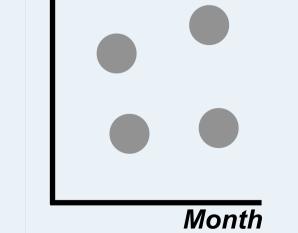
Just look at it.

Look at this number.

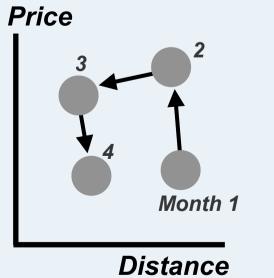




Hierarchy, ~3 levels max of bento boxes going all Inception within other bentos. Size+Color better code different metrics. Typically <u>misused</u>. 95% sure you actually wanted a Bar Table (above)

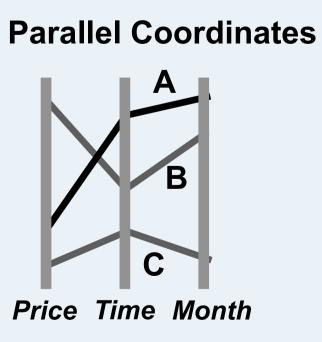


An elegant graph, from a <u>civilized age</u>

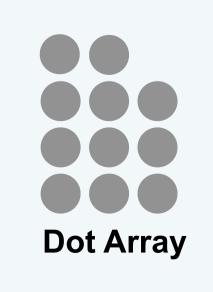


Connected Scatter

A scatterplot, connected into a journey over time

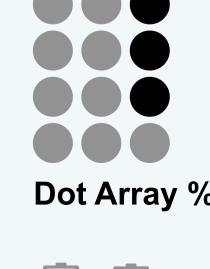


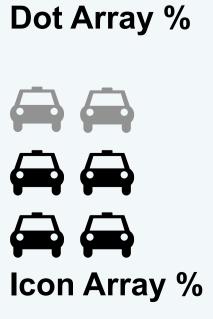
Beyond 2 perpendicular Cartesian axes, Parallel format allows more axes



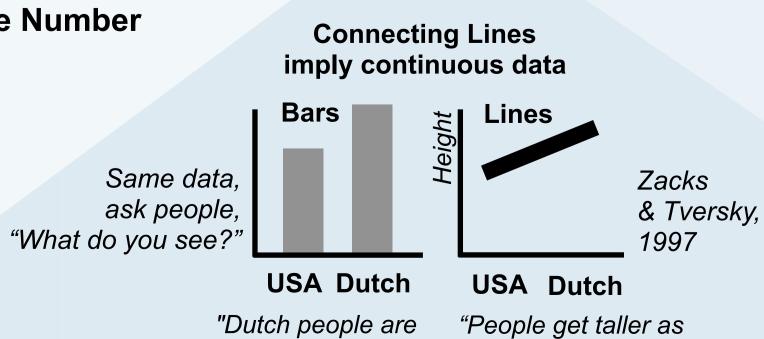
Icon Array

(ISOTYPE)





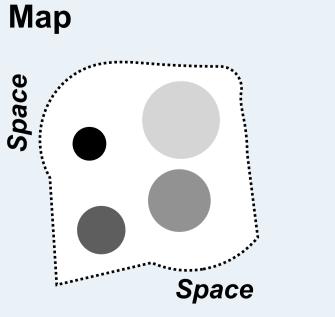




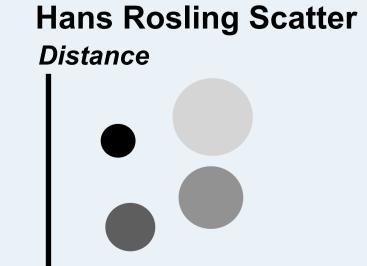
they get more Dutch"

taller than Americans"

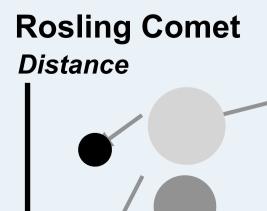




Maps and Roslings share the same DNA Color = Flight Time Size = Price



Month Watch Rosling's TED talk. Take XY scatter and adds two more metrics (color and size), and then moves in time



Month Show two or more X+Y history values for comparison

over time