Data Combinations and Dimensions

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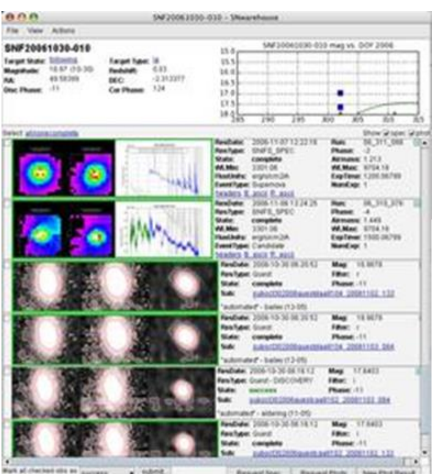
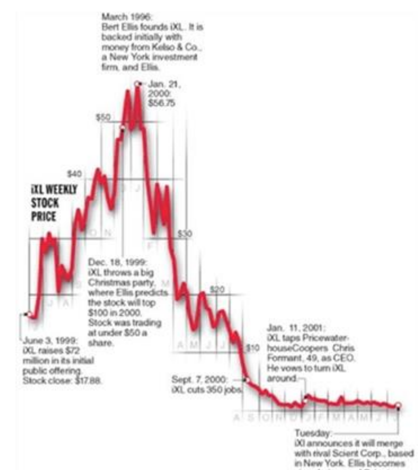
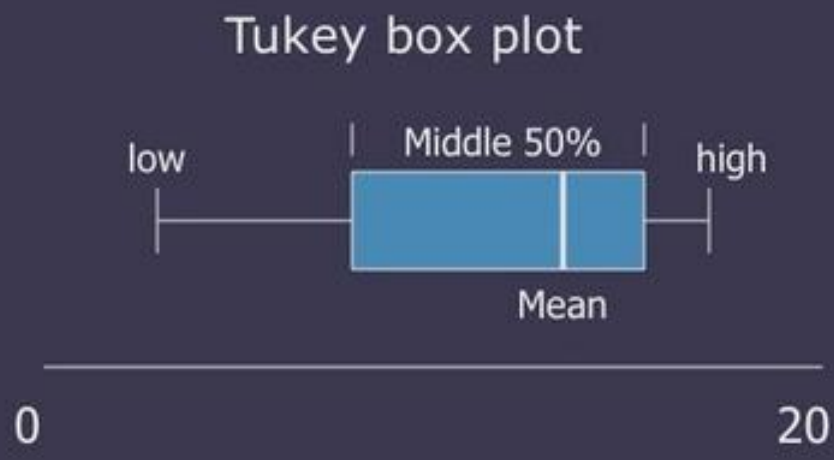




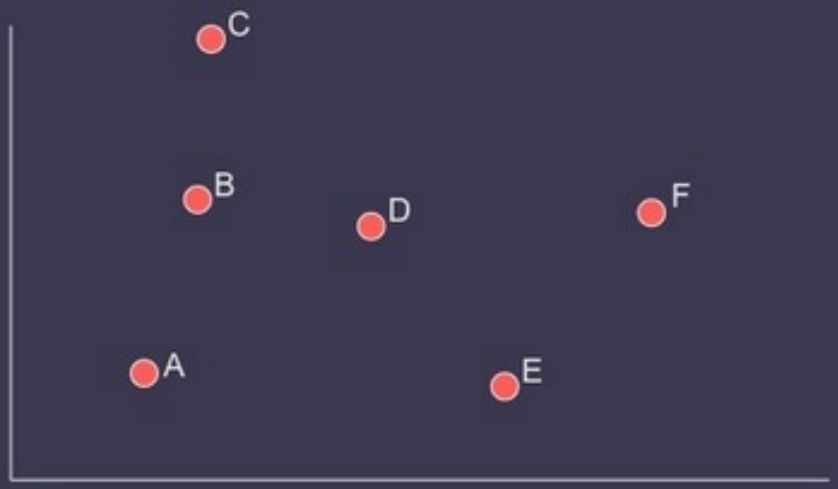
Univariate data



[slide from Maneesh Agrawala]

Bivariate data

	A	B	C	
1				
2				



Scatter plot is common

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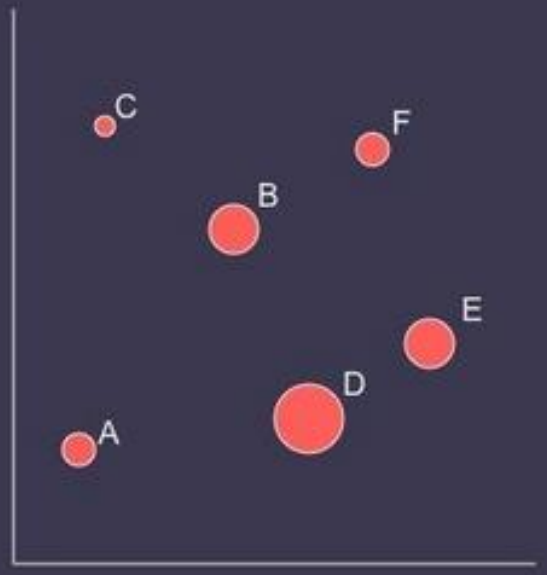
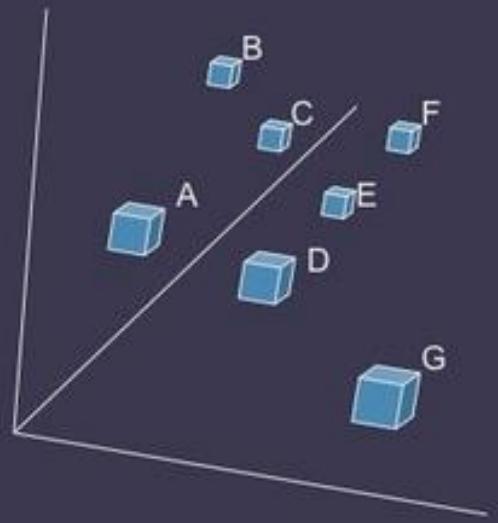
Trivariate data

	A	B	C	
1				
2				
3				



3D scatter plot is possible



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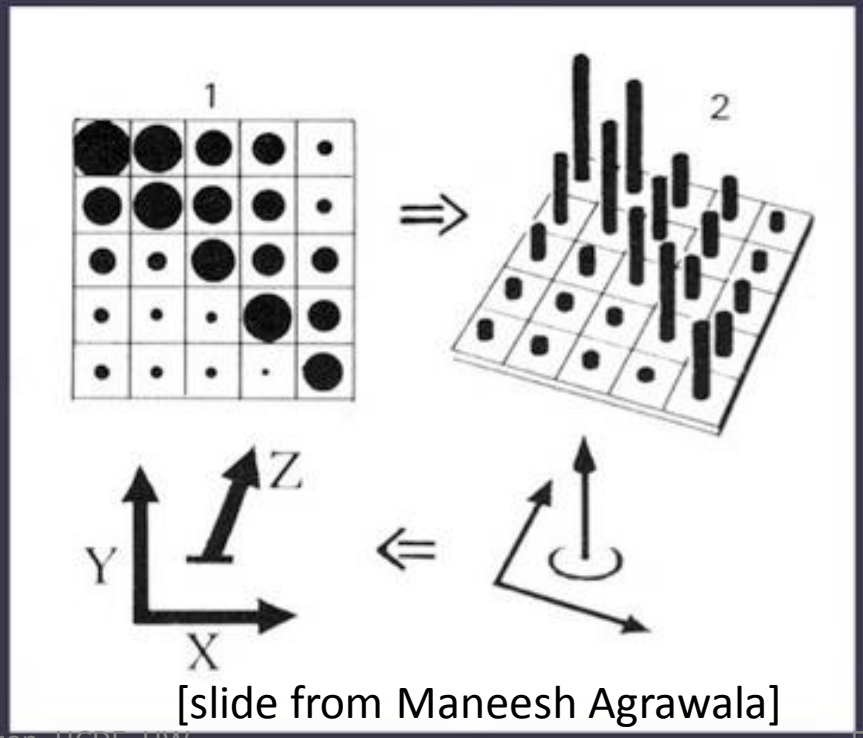
Three variables

Two variables [x,y] can map to points

- Scatterplots, maps, …

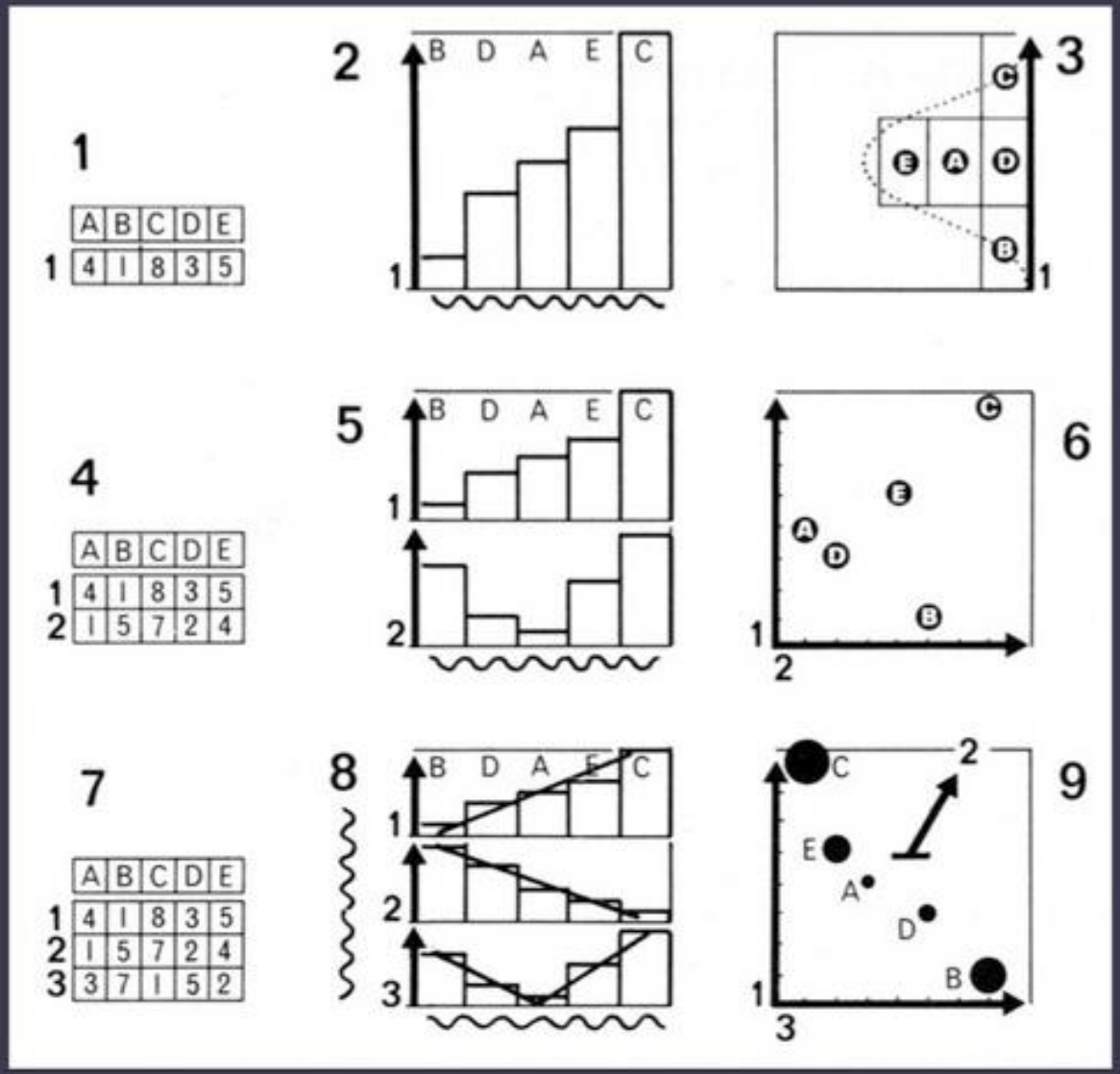
Third variable [z] must use …

- Color, size, shape, …



[slide from Maneesh Agrawala]

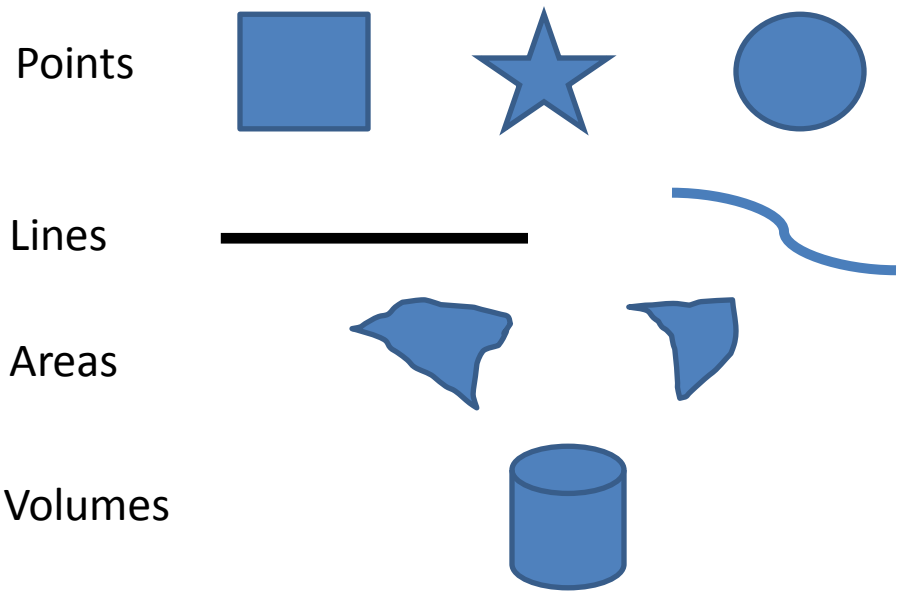
Large design space (visual metaphors)



[Bertin, Graphics and Graphic Info. Processing, 1981]

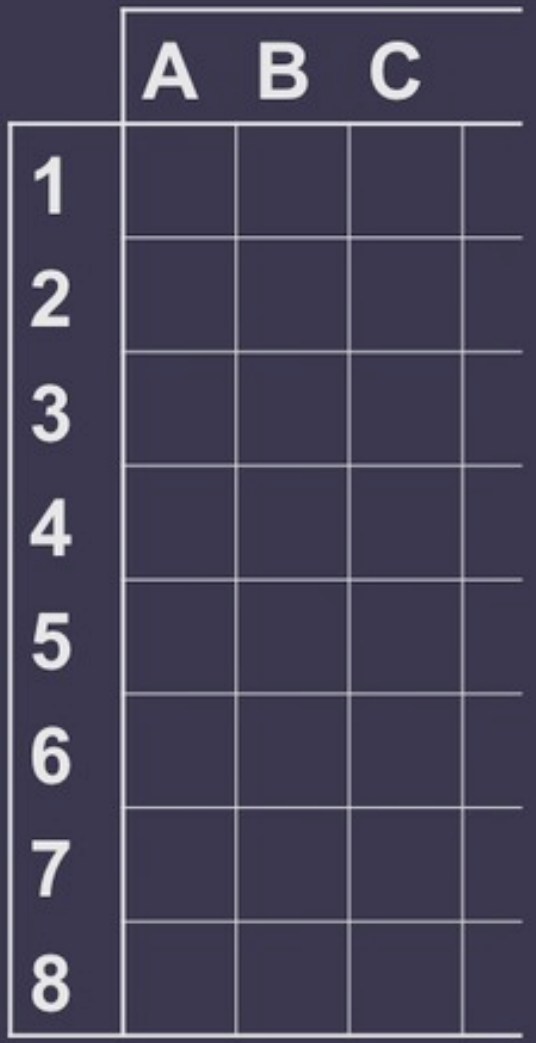
Marks

- Points (0D)
- Lines (1D)
- Areas (2D)
- Volumes (3D)



Multidimensional data

How many variables can be depicted in an image?



[slide from Maneesh Agrawala]

Multidimensional data

How many variables can be depicted in an image?

	A	B	C	
1				
2				
3				
4				
5				
6				
7				
8				

"With up to three rows, a data table can be constructed directly as a single image … However, an image has only three dimensions. And this barrier is impassible."

Bertin

[slide from Maneesh Agrawala]