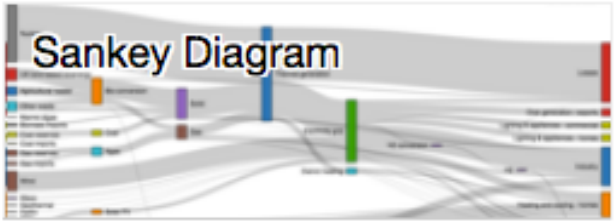
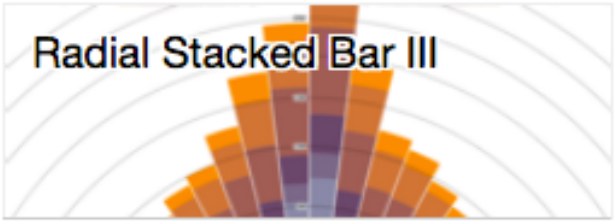
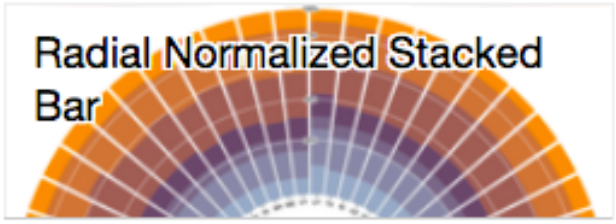
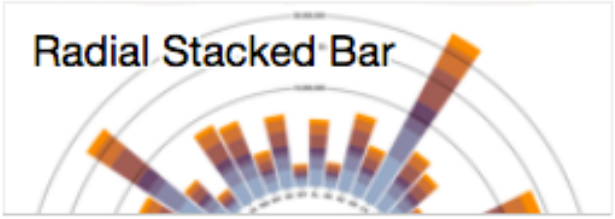
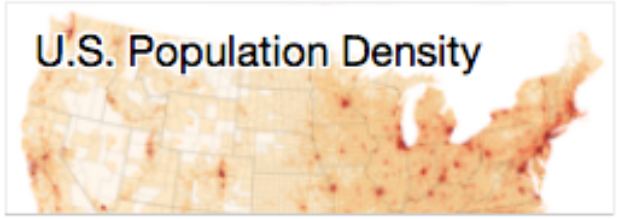
Other Chart Types











https://bl.ocks.org/mbostock

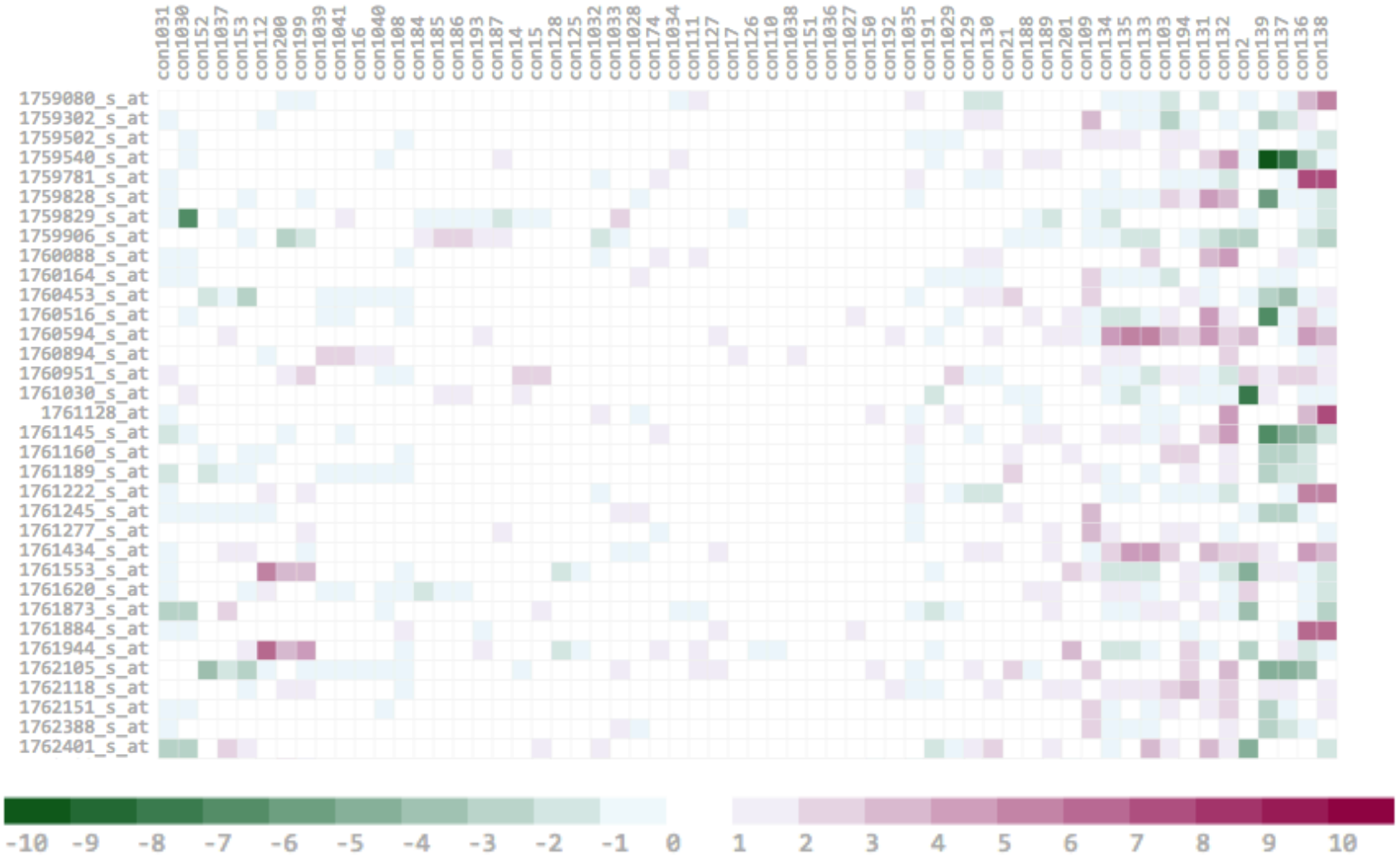
What is the data? (data type & structure)

Why is the user using the vis tool? (tasks)

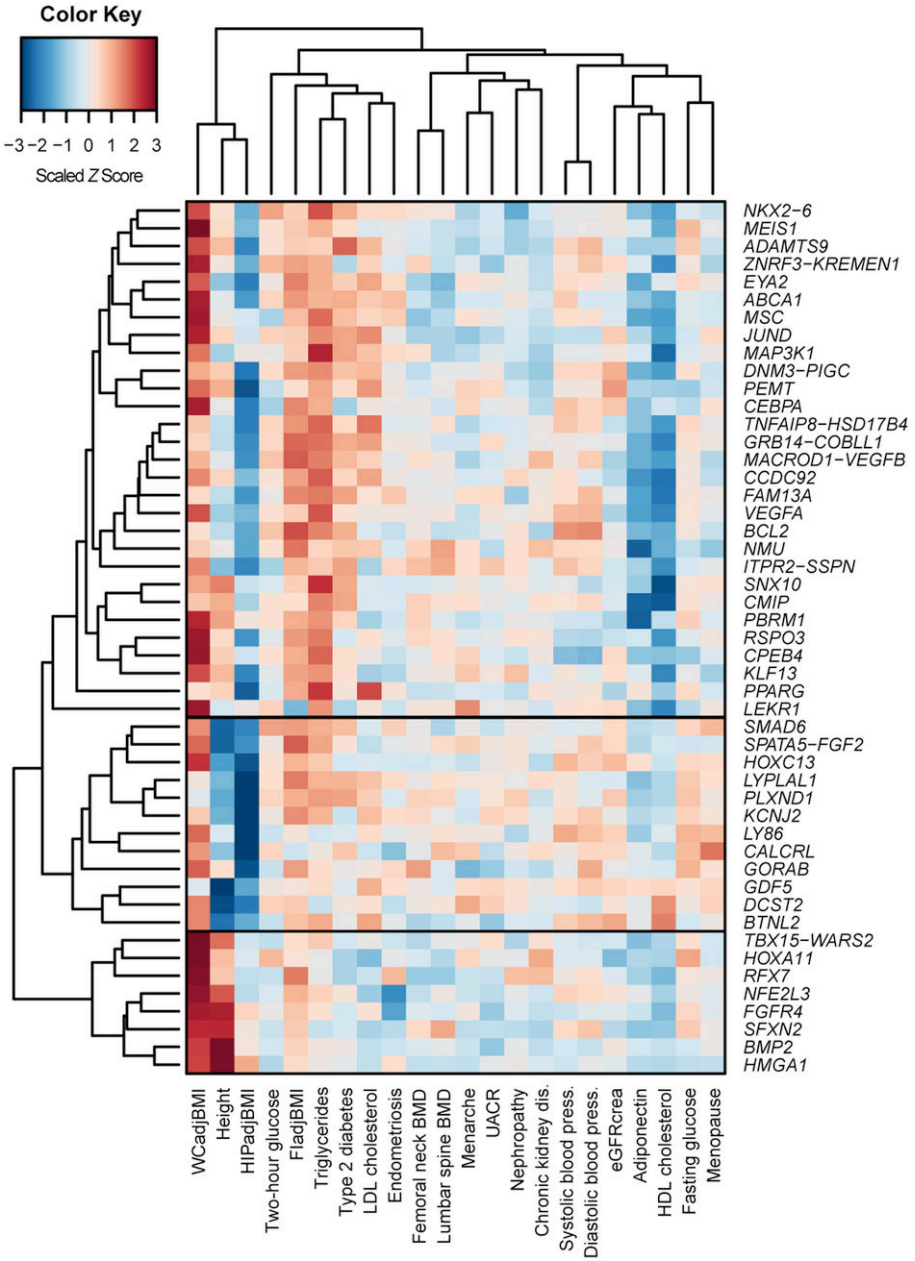
How are the visual encodings & interactions constructed?

Munzner, T., 2014. Visualization analysis and design. CRC press.

Heatmap

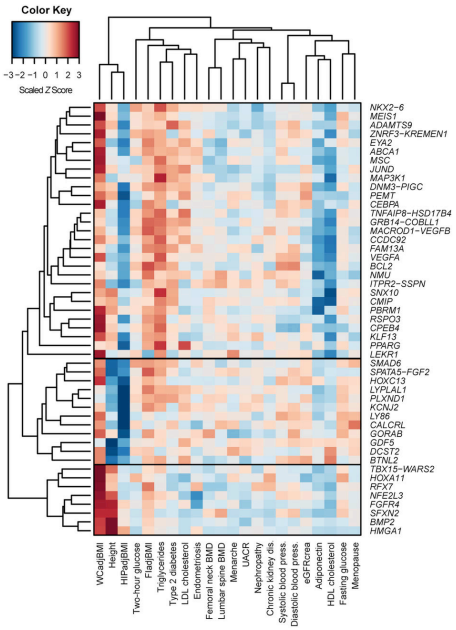


http://bl.ocks.org/ianyfchang/8119685



Source: Shungin, D. et al. (2015). New genetic loci link adipose and insulin biology to body fat distribution. Nature, 518(7538), 187.

Cluster Heatmap



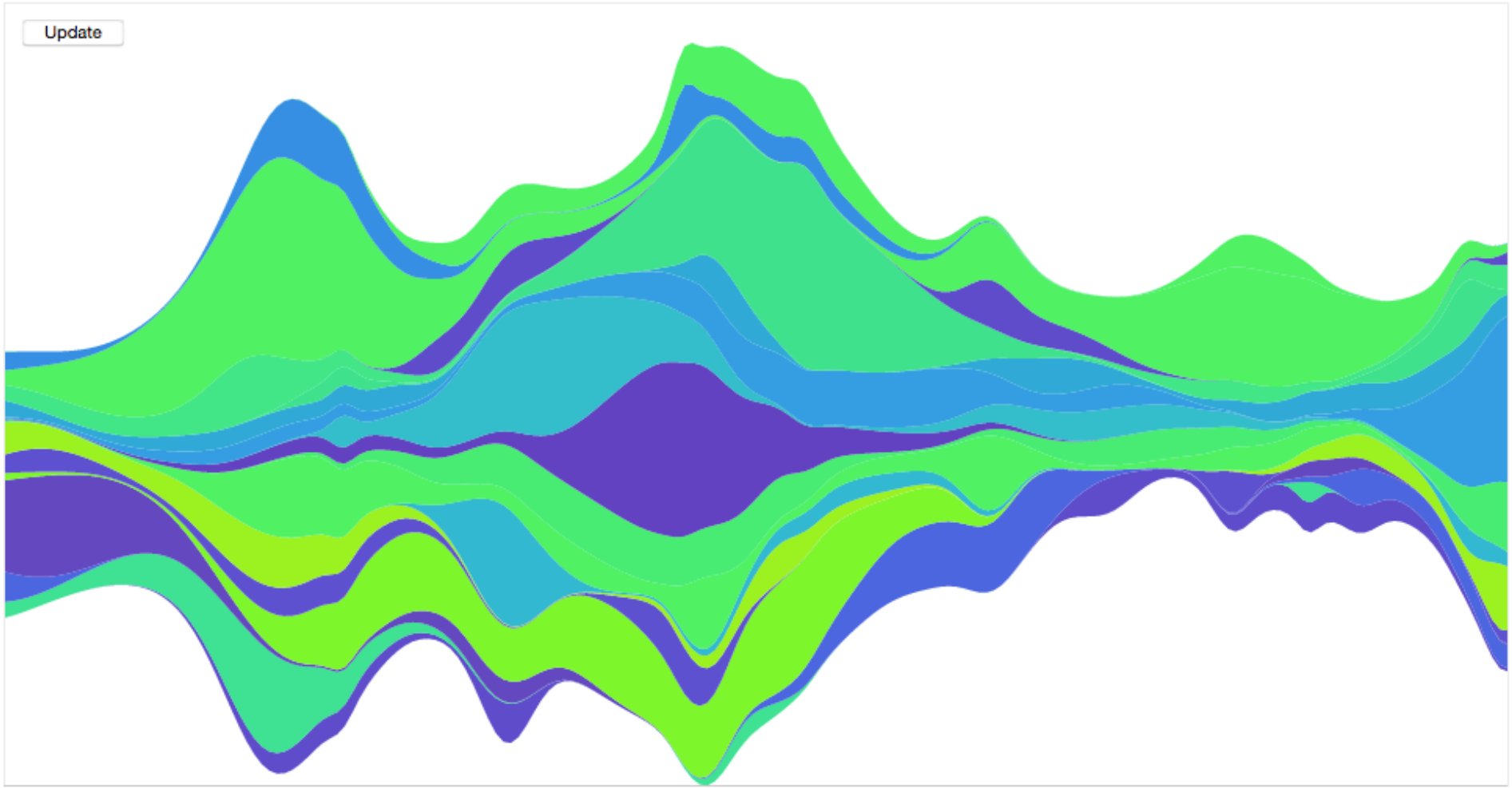
What: 2 categorical attributes (locus, trait), 1 quantitative association

Why: provide overview, find clusters, find outliers

How: alignment of area marks, diverging color map (hue & brightness) for association,

dendrogram uses connection lines for hierarchy of parent-child nodes

Streamgraph



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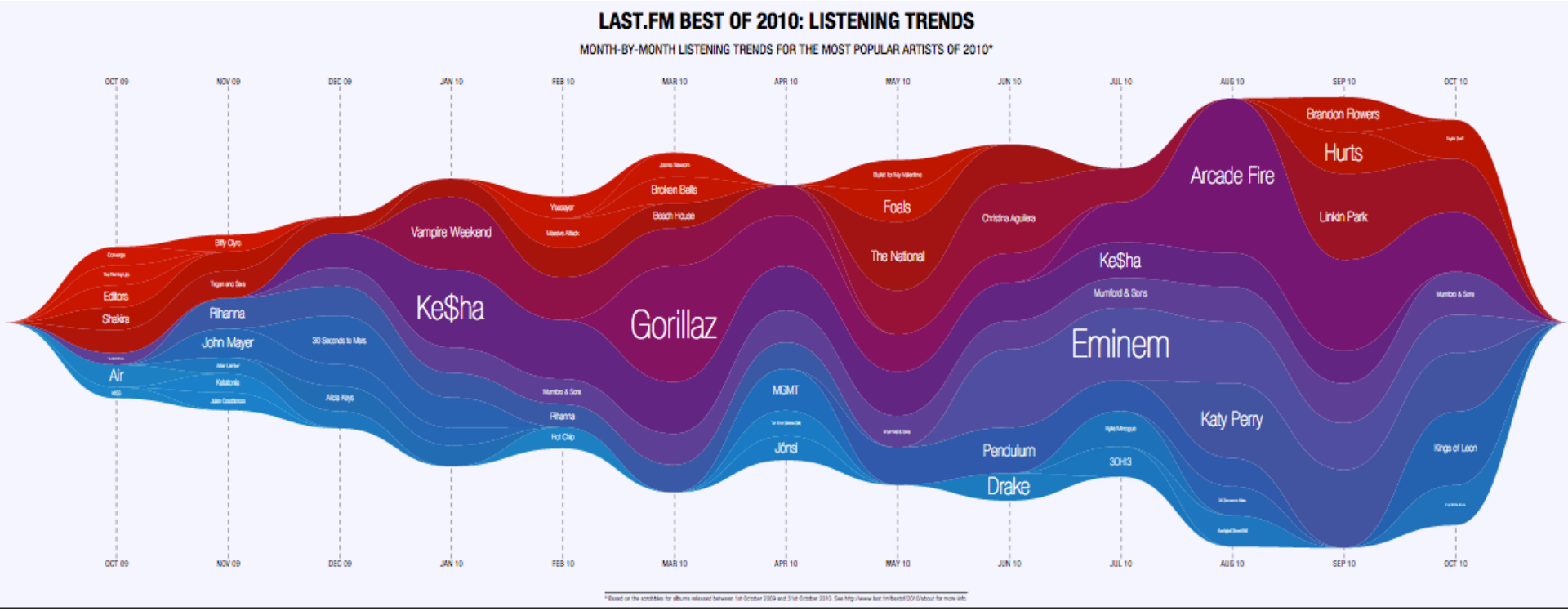
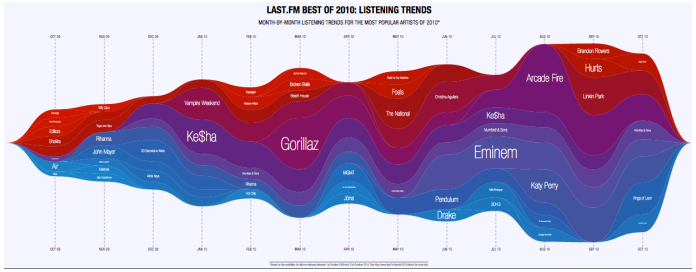


http://cdn.last.fm/blog/posts/bestof2010_streamgraph.pdf



What: multidimensional:

1 quantitative (songs shared), 1 temporal quantitative or ordinal (month & year),

1 categorical (artist)

Why: provide general trends,

compare artists, be visually pleasing / engaging

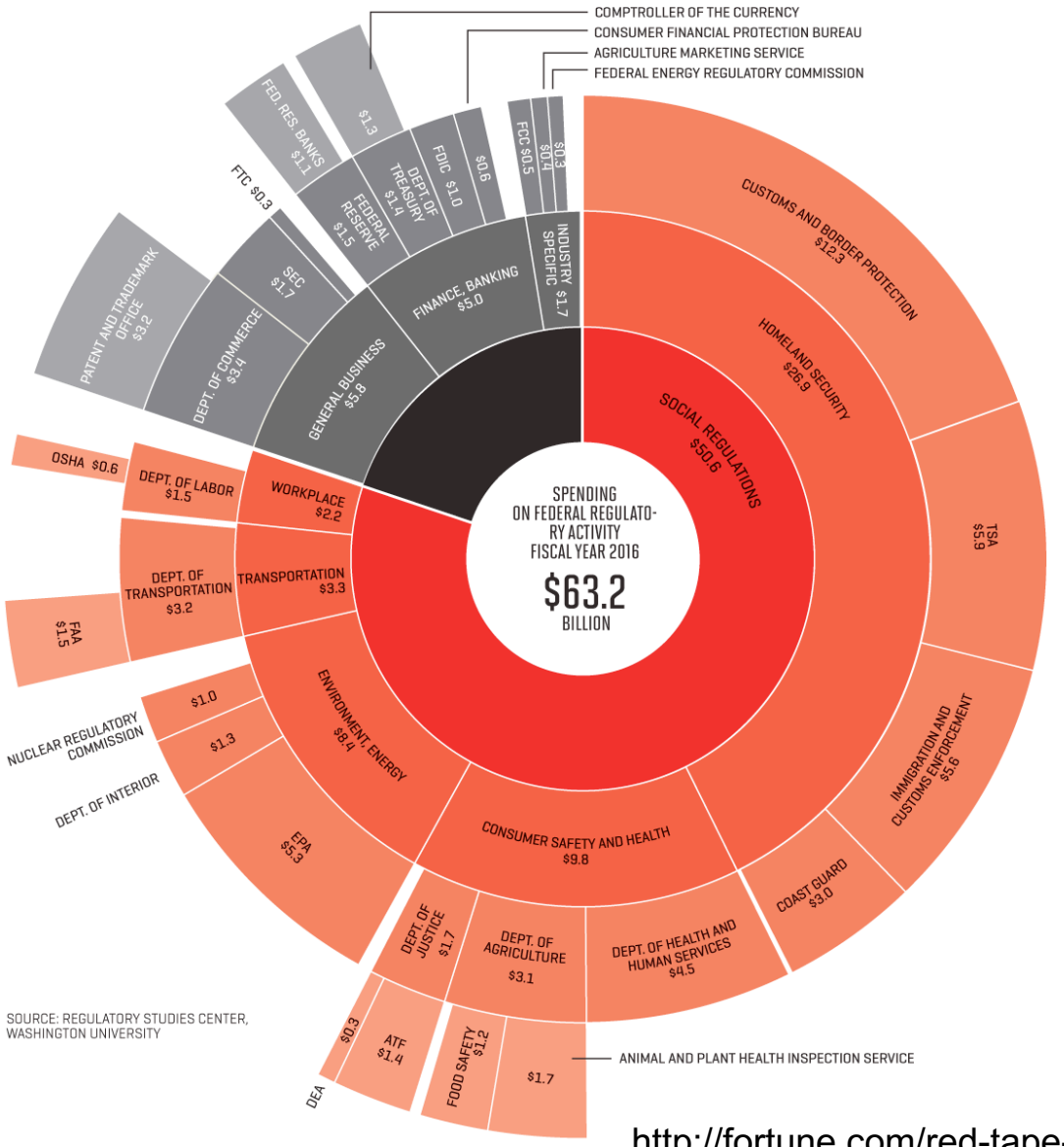
How: derived height & area for count, hue for categorical, position for temporal

Sunburst

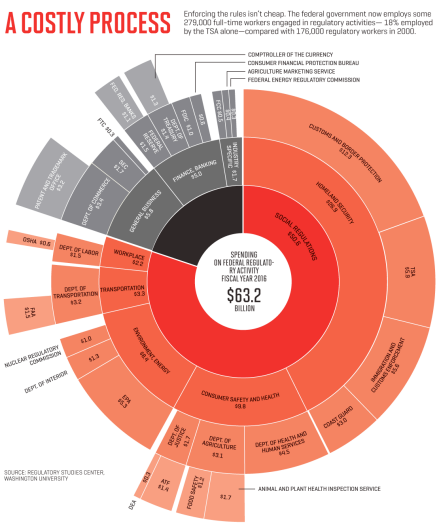
https://bl.ocks.org/kerryrodden/7090426

A COSTLY PROCESS

Enforcing the rules isn't cheap. The federal government now employs some 279,000 full-time workers engaged in regulatory activities— 18% employed by the TSA alone—compared with 176,000 regulatory workers in 2000.



http://fortune.com/red-tape-business-regulations/



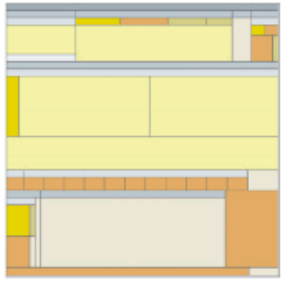
What: 1 quantitative ($ spent),
1 categorical & hierarchical
(department or category of spending)

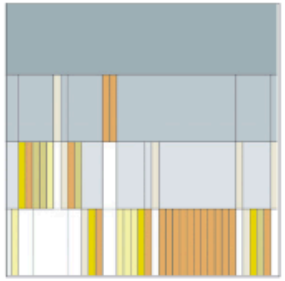
Why: overview,
find relationships, compare amounts

How: connection, hue, brightness used for hierarchical categories, length / area for quantitative

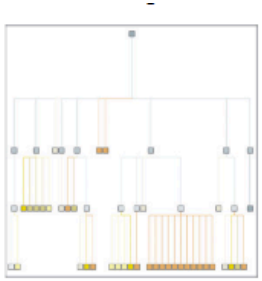
What: file folder hierarchy

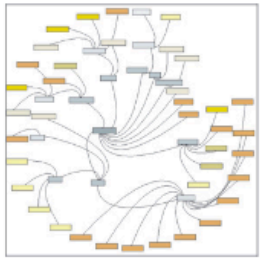
Why: determine structure & attribute relationships

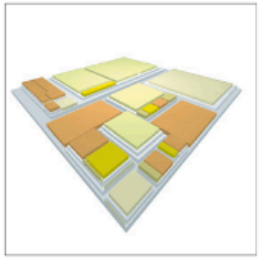

TreeMap


IcicleTree

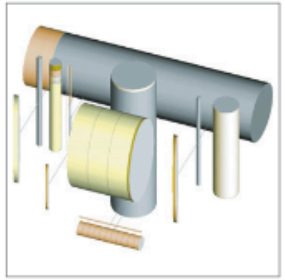

SpaceTree

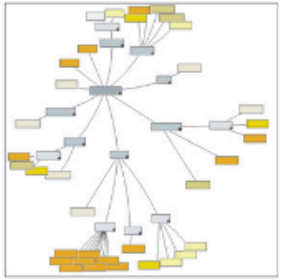

Dendogram Tree


Polar View

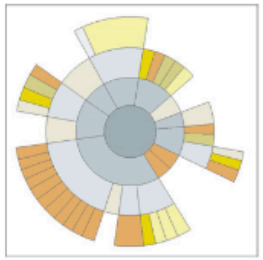

StepTree


Windows Explorer


BeamTrees


StarTree


Botanical Viewer


SunBurst

Cawthon, N. and Moere, A.V., 2007, July. The effect of aesthetic on the usability of data visualization. In Information Visualization, 2007. IV'07. 11th International Conference (pp. 637-648). IEEE.

	Rate of Correct response (%)	Correct response time (seconds)	Error response time (seconds)	Rate of Abandonment (%)	Abandon. Response time (seconds)
TreeMap	.32	35.0	37.3	.38	34.5
Botan.Viewer	.43	39.6	40.6	.32	35.3
SunBurst	.84	23.2	47.1	.07	37.8
IcicleTree	.81	22.0	41.2	.12	42.4
SpaceTree	.73	20.8	40.9	.06	52.1
Win. Explorer	.79	21.8	38.0	.08	38.6
BeamTree	.28	27.7	35.6	.55	29.9
StarTree	.81	23.4	43.5	.07	50.8
Dendo.Tree	.74	25.7	43.2	.11	43.2
Polar View	.69	27.6	37.2	.15	35.0
StepTree	.42	39.0	40.6	.35	29.6

[Cawthon & Moere., 2007]

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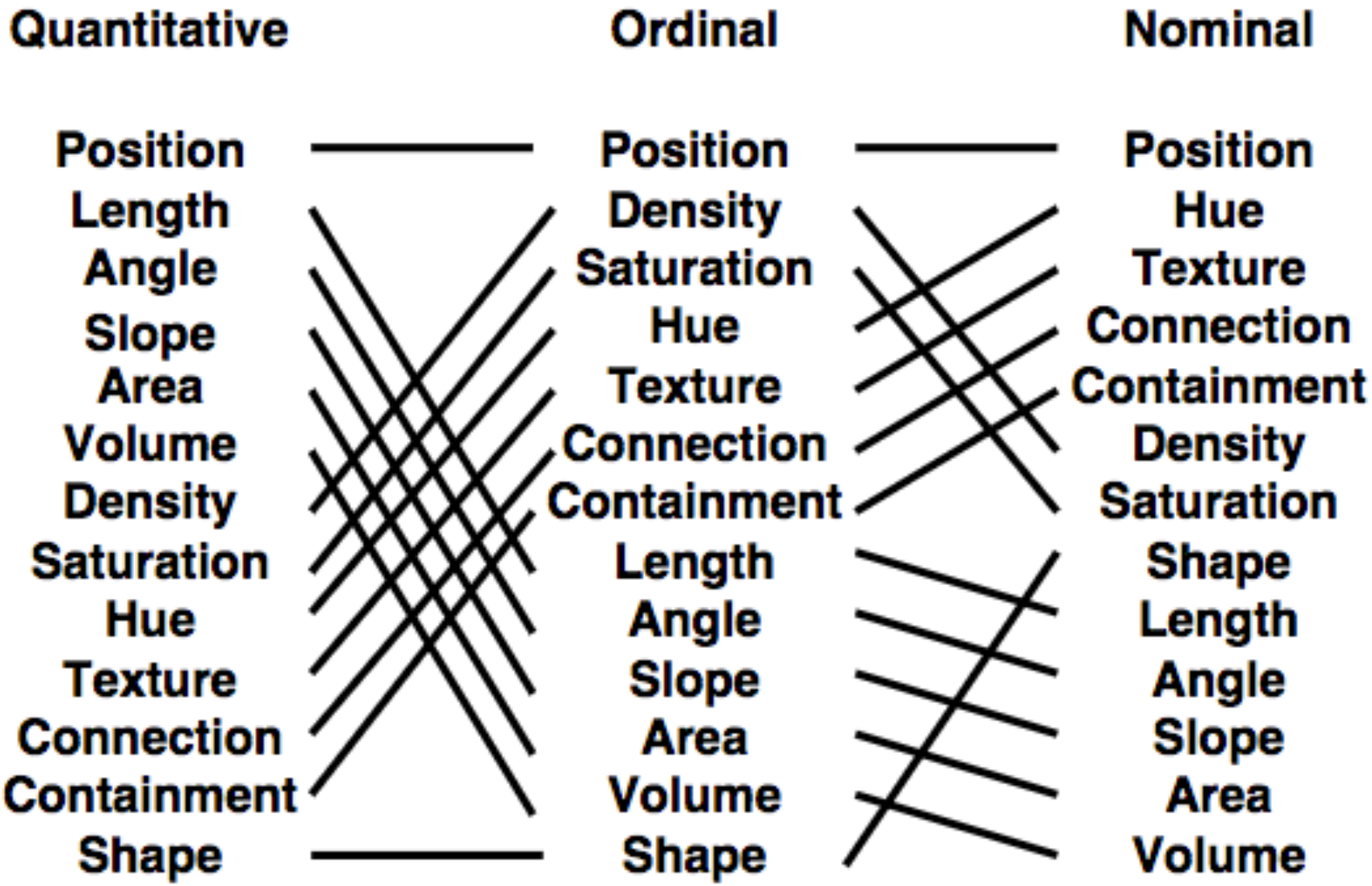

[Mackinlay, 1987]

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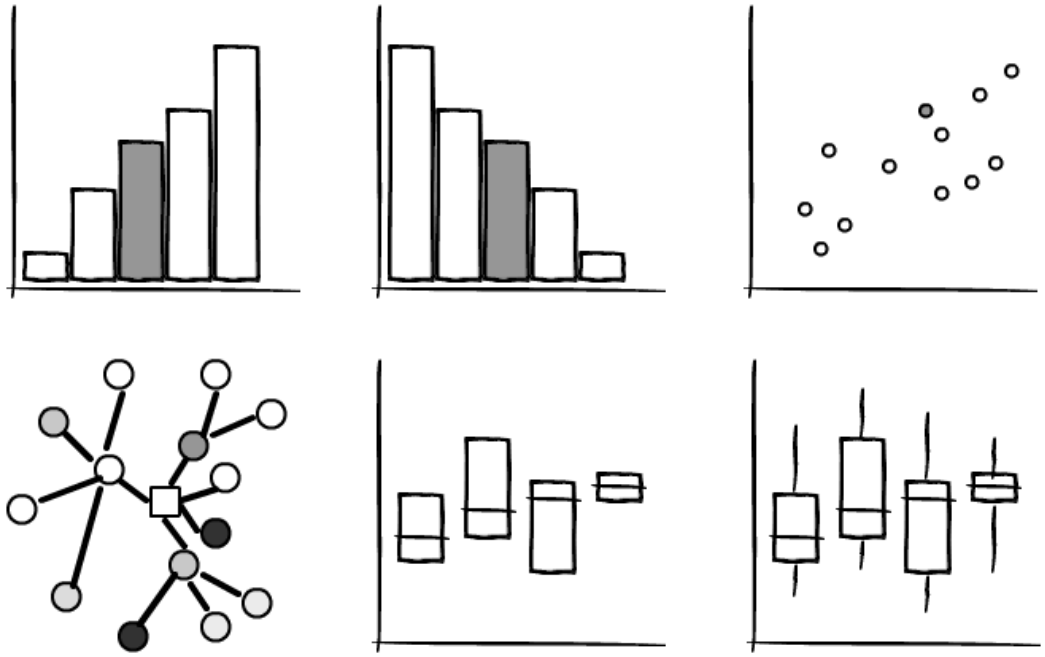
- Come up with a list of tasks
- Design a vis mock up (pen & paper, digital)
- Have users sit down and try to perform the tasks with the mock up



Picture Source: https://mockupstogo.mybalsamiq.com/projects/diagrams/story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