

Visualizing Composite Data on the Lexis Surface

What share of a population features attribute i at period t and age x ?

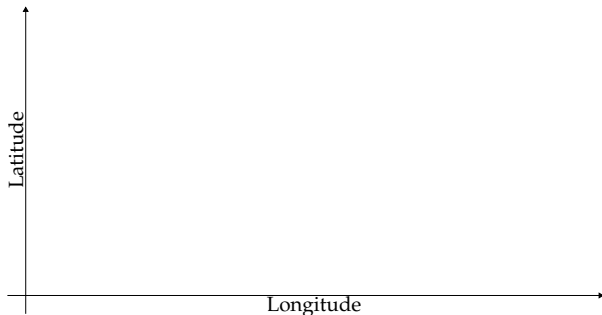
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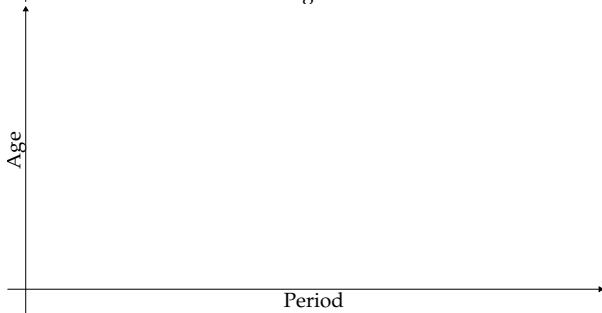


European
Doctoral School
of Demography

Predefined Visual Spaces

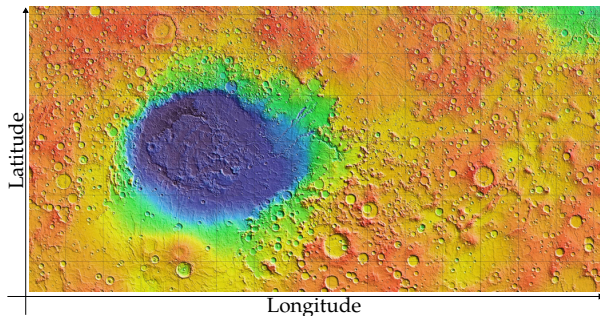


A spatial map.



A temporal map.

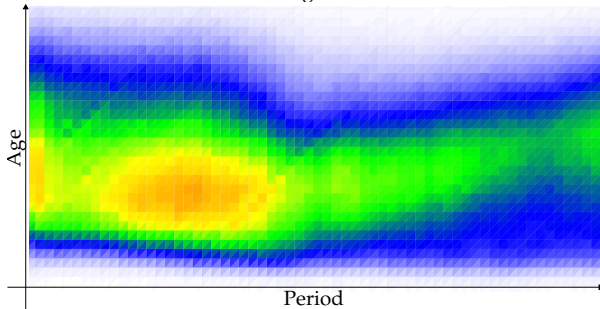
Predefined Visual Spaces



A spatial map

The surface of Mars
with elevation
encoded by colour.

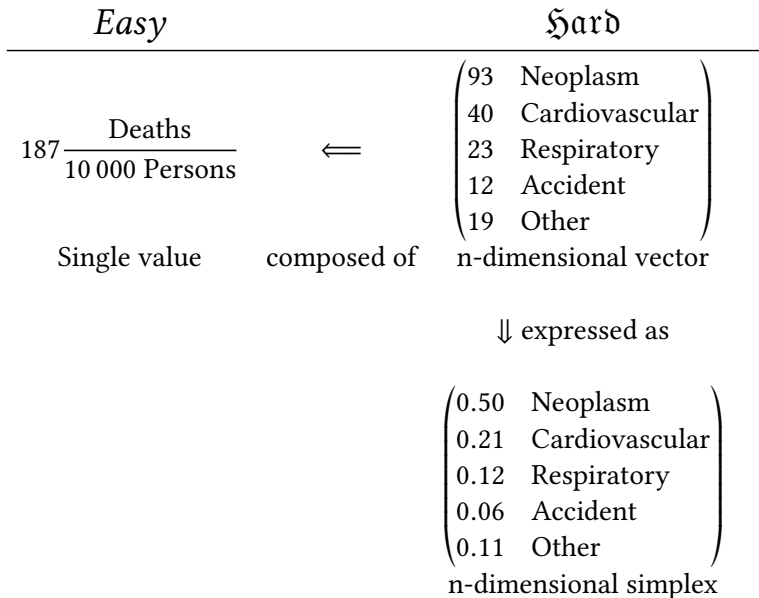
NASA 2000.



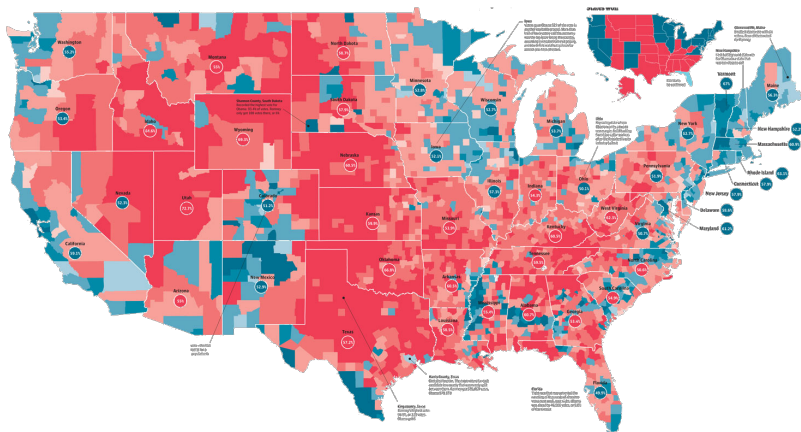
A temporal map

Fertility rates in
Scotland since 1945
with rate encoded by
colour. *Modified from
Riffe 2011.*

Plotting Data: Magnitudes vs. Compositions



Binary Compositions on a Surface



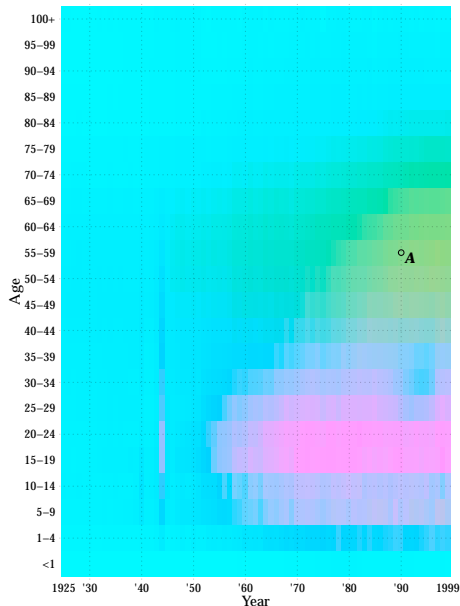
Divergent colour scale

US presidential election 2012.

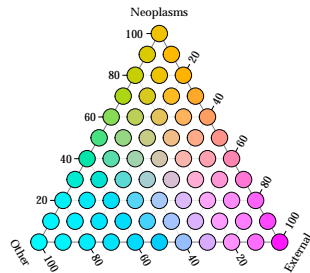
Proportion of people voting for Democrats vs. Republicans.

Guardian Graphics 2012.

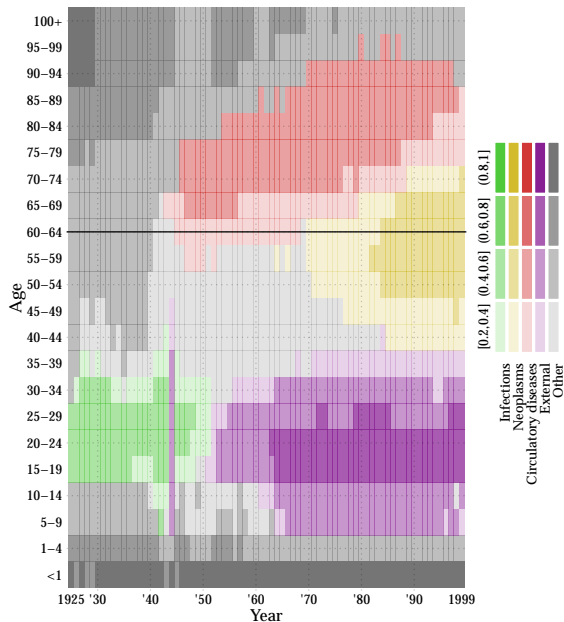
Ternary Compositions on a Surface



Ternary-balance-scheme
 Proportion of people dying from a given cause by time and age. *France, total population.*



N-dimensional compositions on a surface

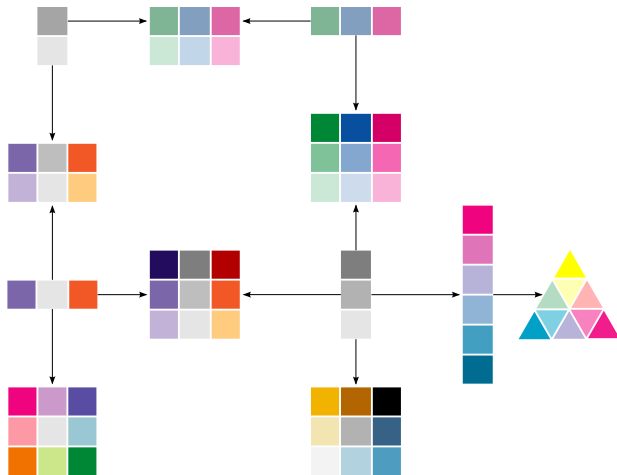


Qualitative sequential scheme

Proportion of people dying from the most prominent cause in a given time and age.

France, total population.

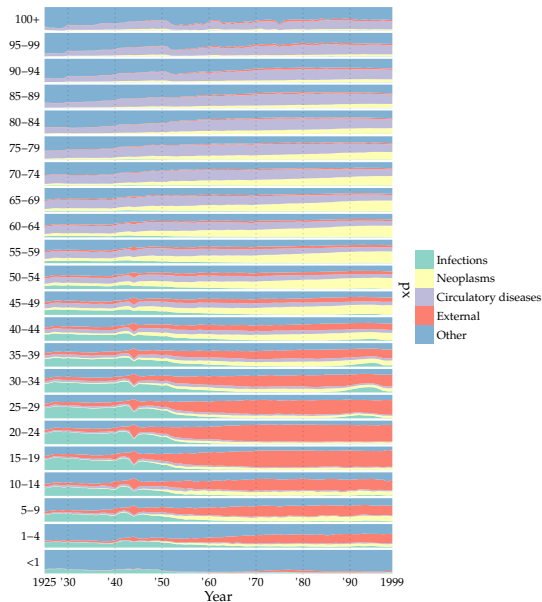
Interlude: Brewers Typology of Colour Schemes



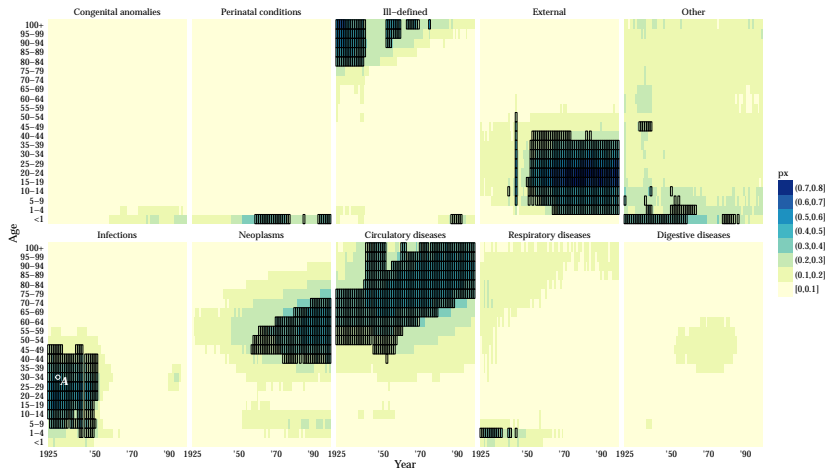
Colour scheme typology

Basic colour
schemes and
combinations of
them. *Redrawn from
Brewer (1994).*

Cont'd: N-dimensional Compositions on a Surface



Cont'd: N-dimensional Compositions on a Surface



Small-multiples

Proportion of people dying from a given cause by time and age. *France, total population.*

References

Jonas Schöley and Frans Willekens (2015).
“Visualizing compositional data on the Lexis
surface”. In: *PAA 2015 conference paper*
<https://github.com/jschoeley/viscomplexis>

References

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- Guardian Graphics (2012). *US election 2012 results visualised*. Online 2015–01–15. URL: <http://www.theguardian.com/news/datablog/2012/nov/07/us-elections-2012-results-map>.
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- Riffe, Tim (2011). *Equilateral Lexis Triangles?* Online 2015–01–15. URL: <https://sites.google.com/site/timriffepersonal/DemogBlog/equilaterallexistriangles>.
- Schöley, Jonas and Frans Willekens (2015). “Visualizing compositional data on the Lexis surface”. In: *PAA 2015 conference paper*.