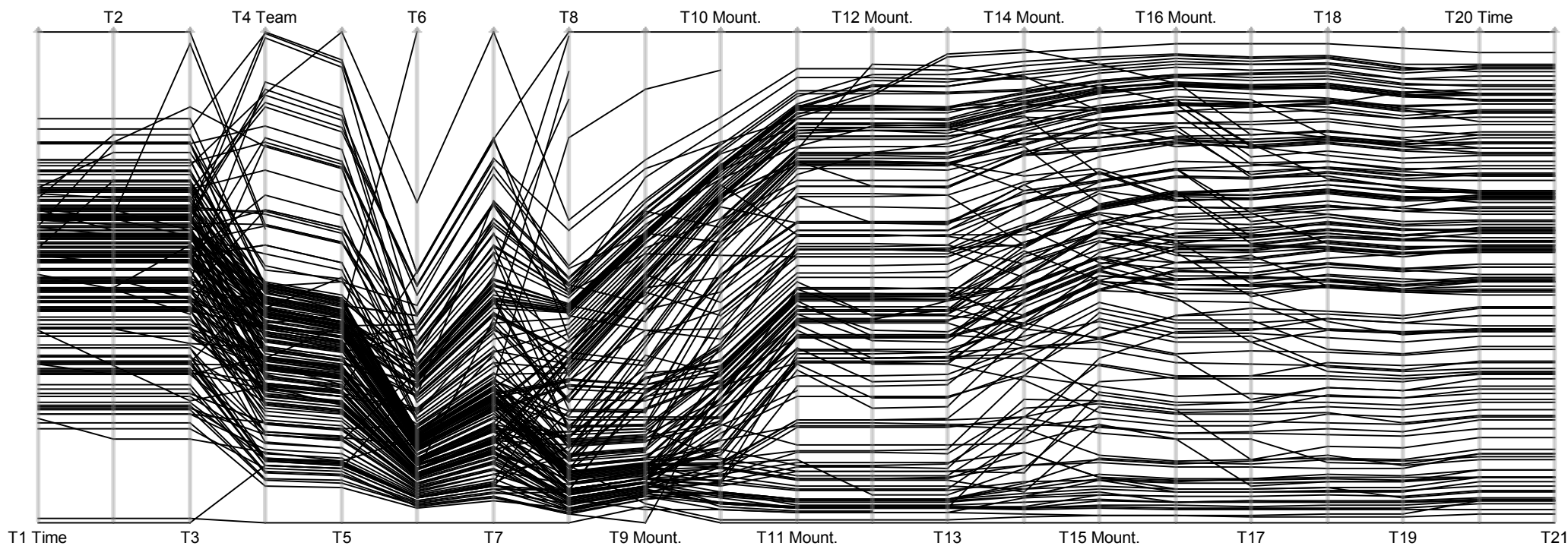


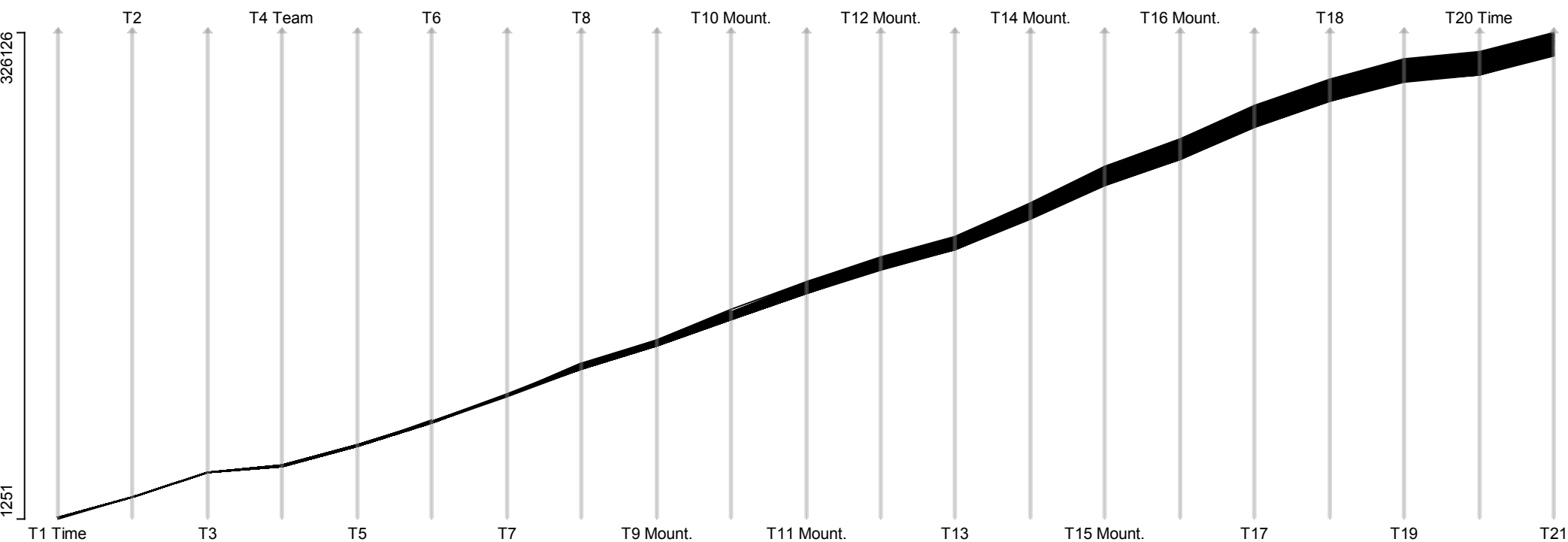
PCPs: Scalings & Alignments

- The default scaling for PCPs is to use the full range from an axis' minimum to its maximum – this is neither robust nor obvious
- Besides a common scale for all axes, axes may be aligned
- Example: Tour de France ➔ individual scale and no alignment



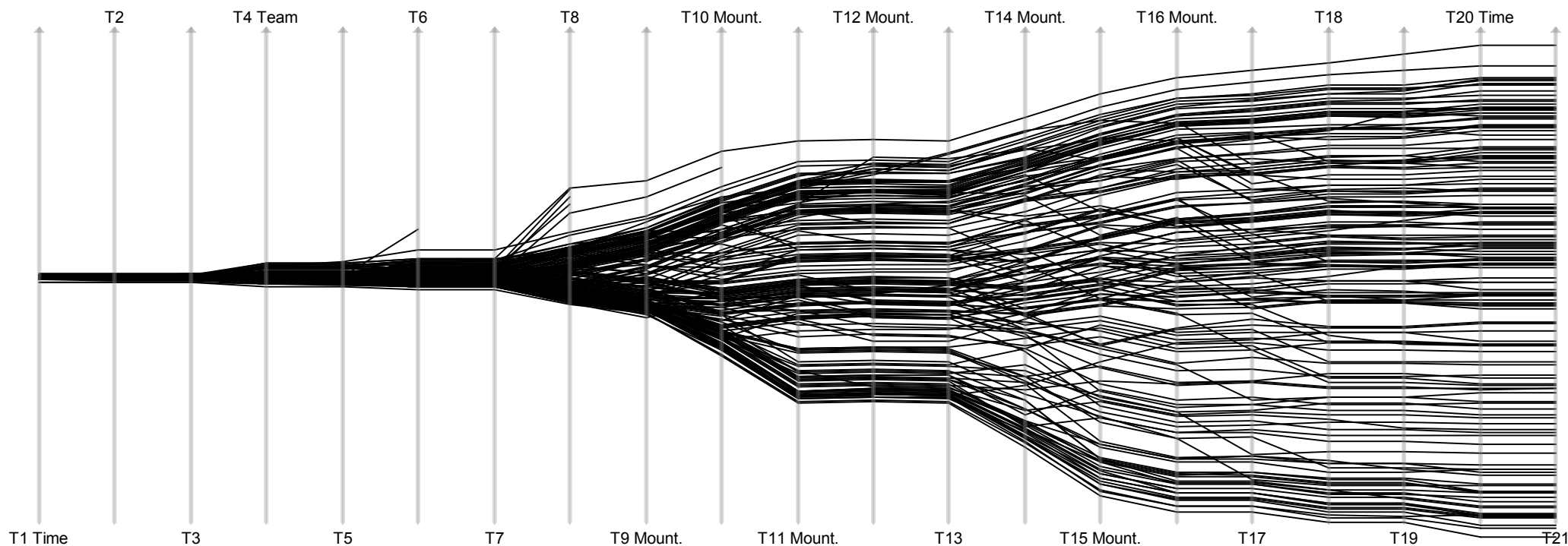
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- Besides a common scale for all axes, axes may be aligned
- Example: Tour de France ➔ common scale and no alignment



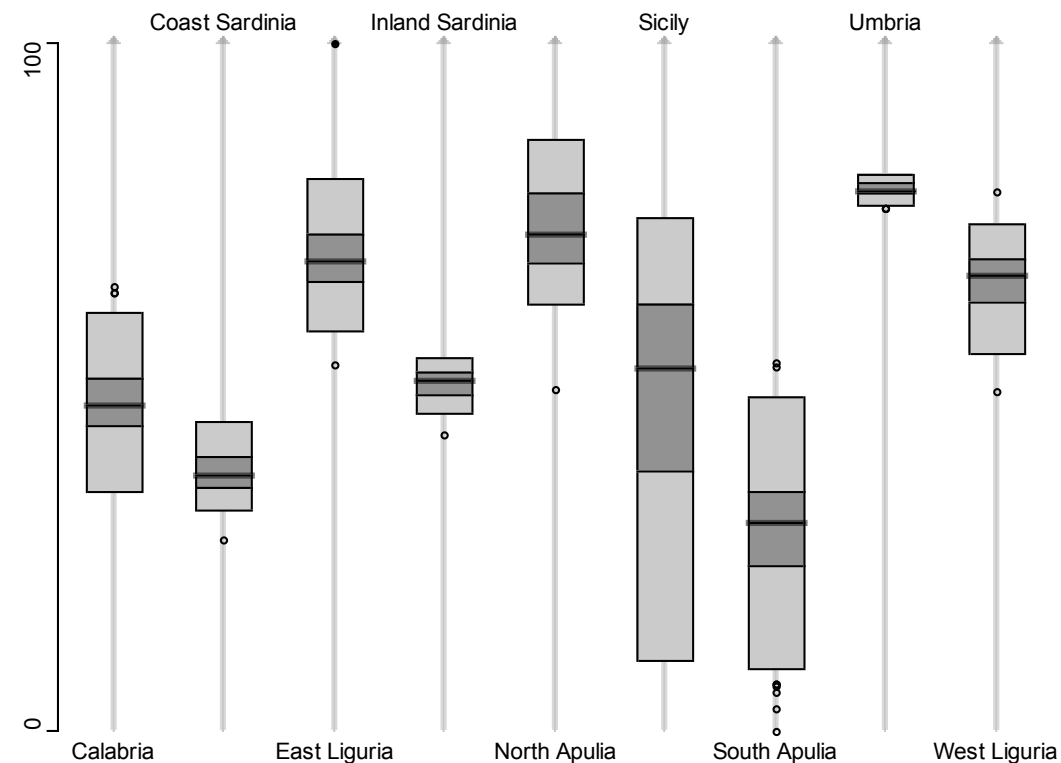
PCPs: Scalings & Alignments

- The default scaling for PCPs is to use the full range from an axis' minimum to its maximum – this is neither robust nor obvious
- Besides a common scale for all axes, axes may be aligned
- Example: Tour de France ➔ common scale aligned at medians



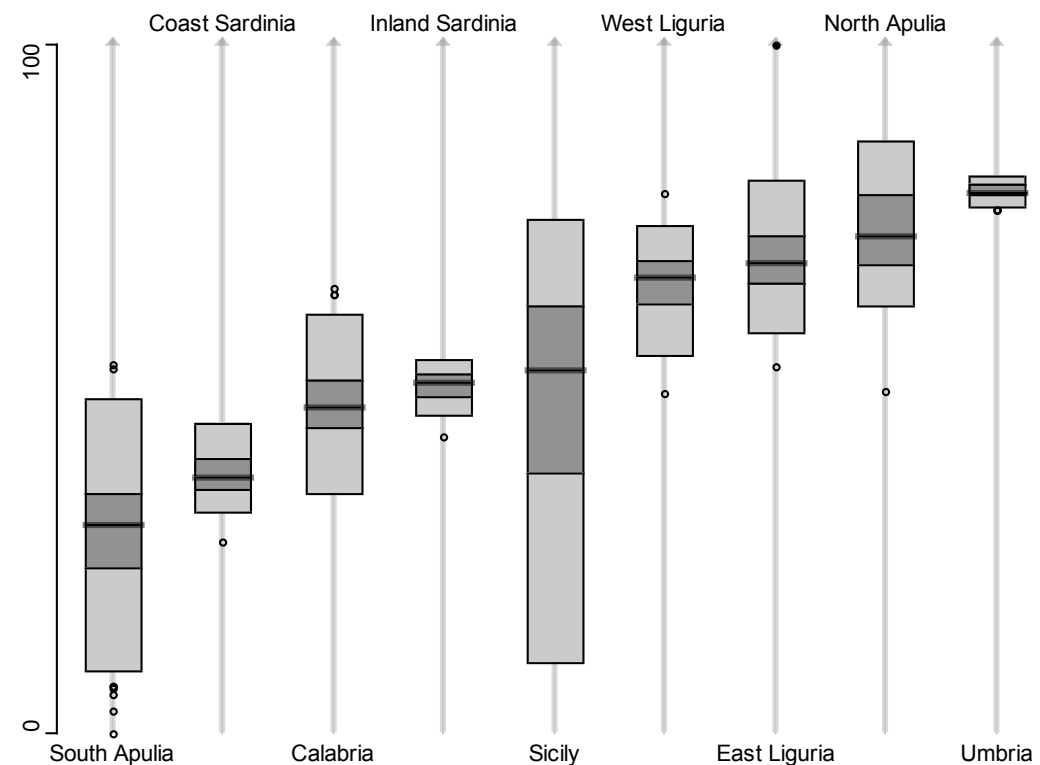
Trellis Displays: “Old Hat?”

- Trellis Displays aka Lattice Graphics in R form a systematical grid-like layout for conditional plots
- Boxplots y by x (by chance) are a trellis plot, where the y variable is conditioned on the x variable shown via boxplots on a common scale
- The important feature is the common scale, along which we can compare classes without losing focus
- Again: Order matters
➔ lexicographic



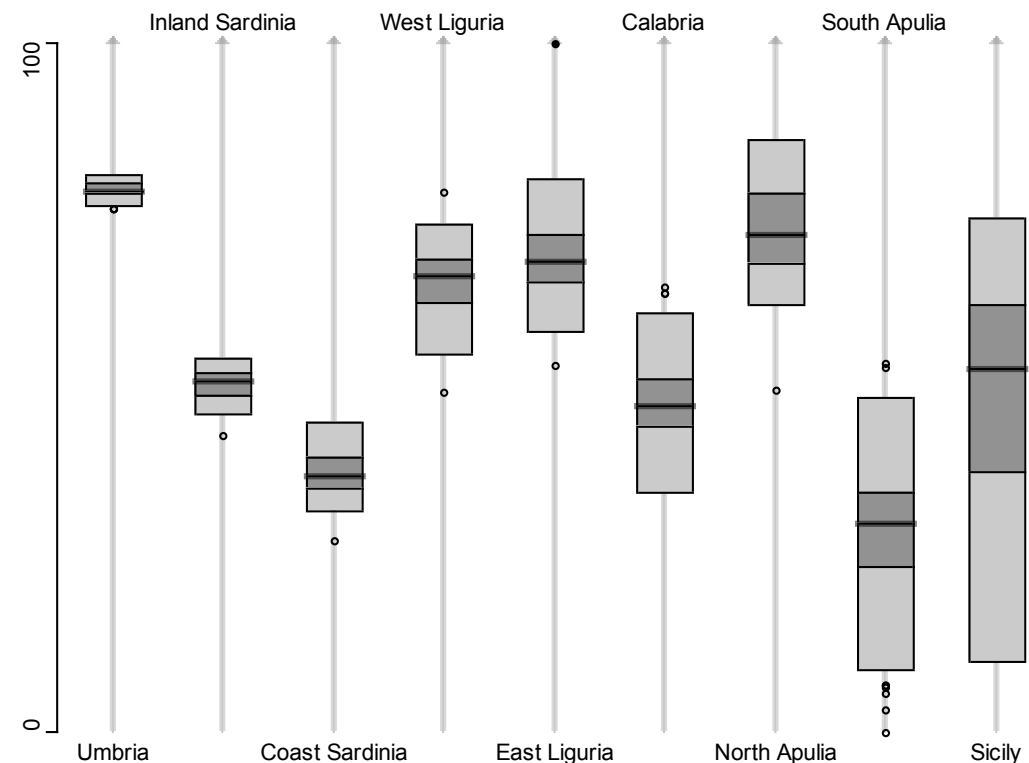
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➔ by median



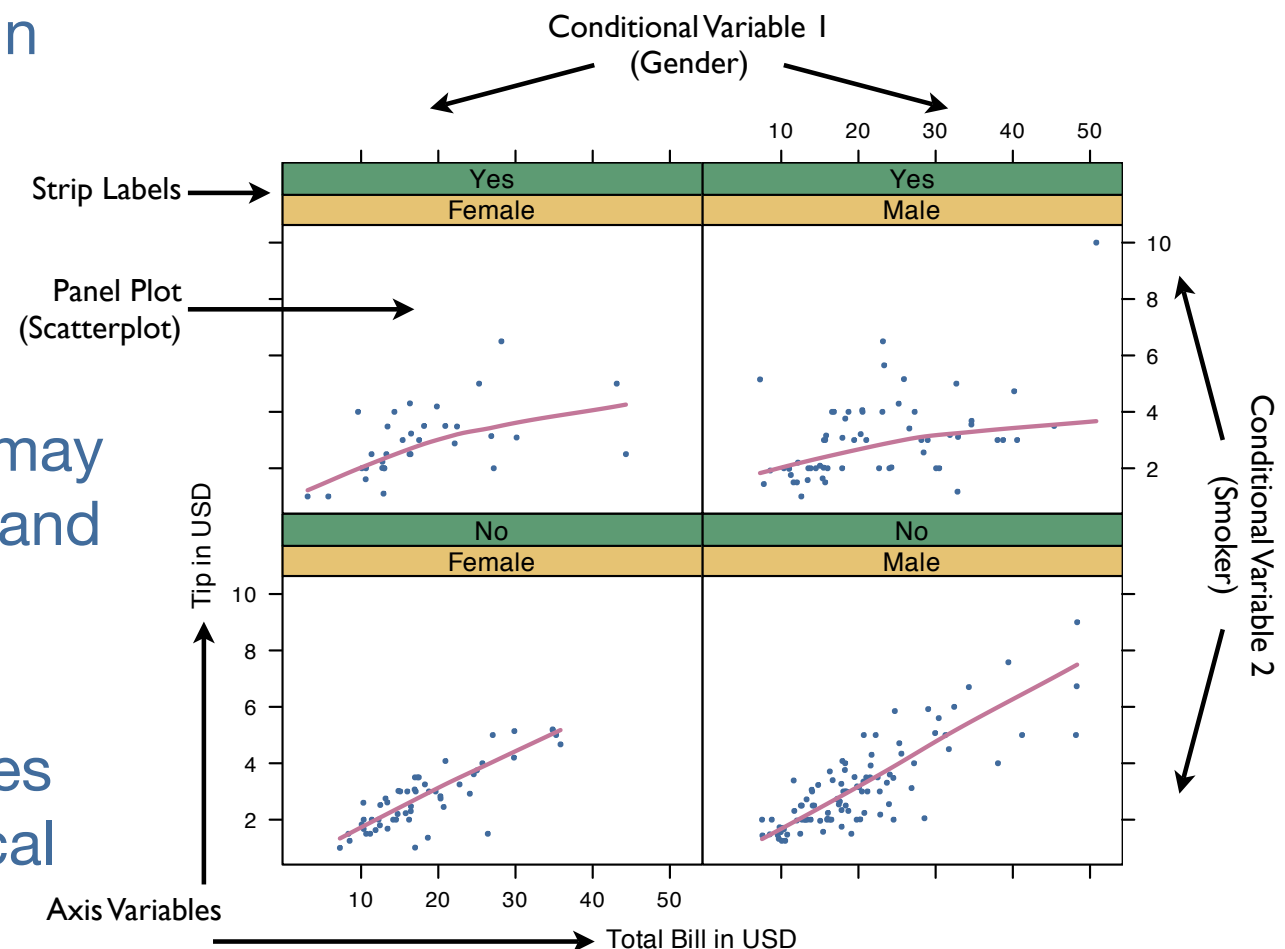
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➔ by inter-quartile-range



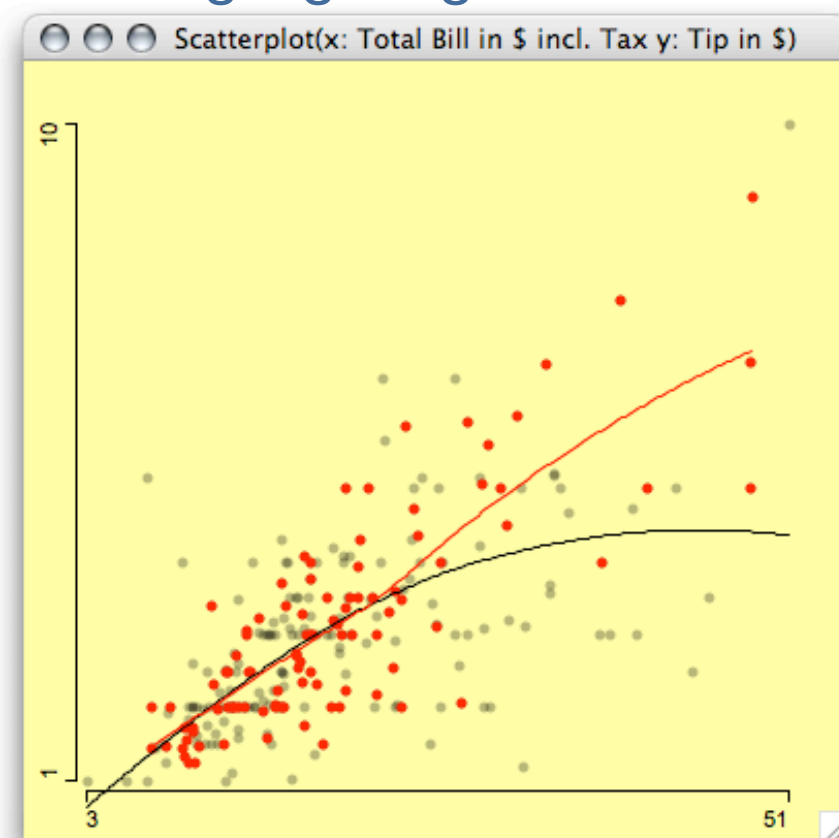
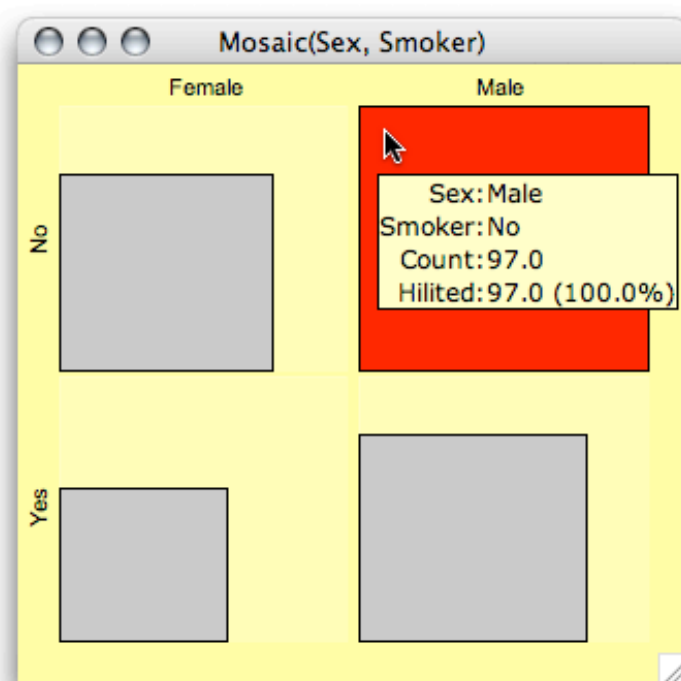
Trellis Displays: Construction

- In the most extreme case, Trellis Displays may visualize up to 7 variables.
- Up to two variables in the panel plot
- Three conditioning variables form rows, columns and pages
- Two more variables may be coded via shape and color
- Note: Conditioning variables need to be categorical



Trellis Displays: Interactive Equivalent

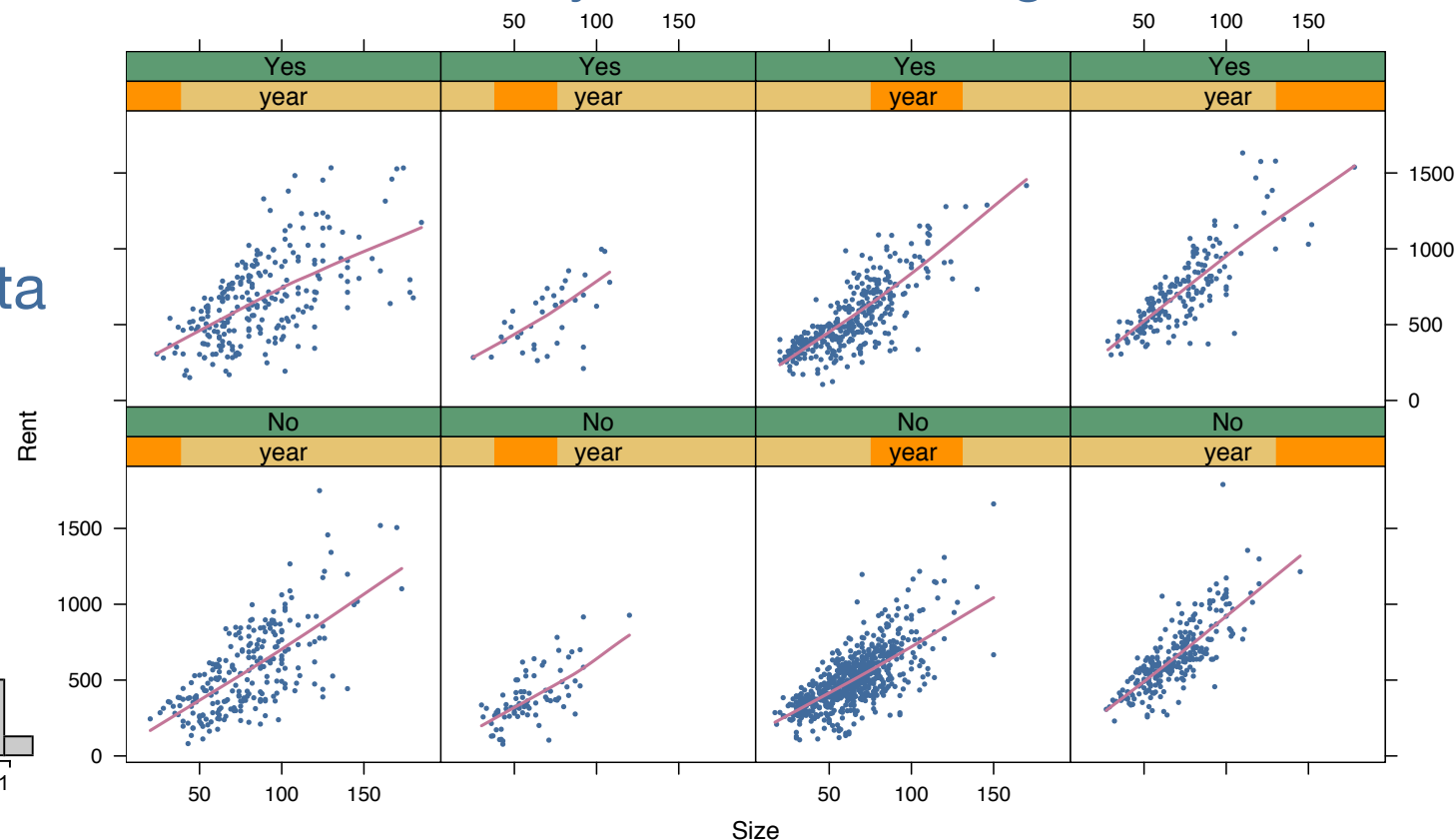
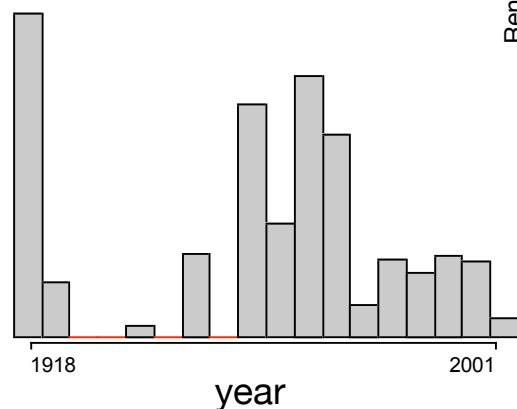
- Trellis Displays show static plot panels for each combination of levels of conditioning variables
- With interactive graphics we can generate these plots “on the fly” by selecting the subgroup and monitor the highlighting in the panel plot



- **Example**
tipping data

Trellis Displays: Visualization of Models

- When fitting models, Trellis Displays can be quite versatile for checking the model fit for various subsets and looking at potential interactions
- When continuous variables artificially are made categorical we should know the distribution
- Example: Munich rent data



Trellis Displays: Interaction vs. Trellis

- Automatic categorization of continuous variables can be misleading
- When using the interactive equivalent, we are far more flexible in choosing “the right” intervals to condition on
- In these cases we may use the brush to look at many intervals in short succession
- Knowing the distribution of the conditioning variables is important

