

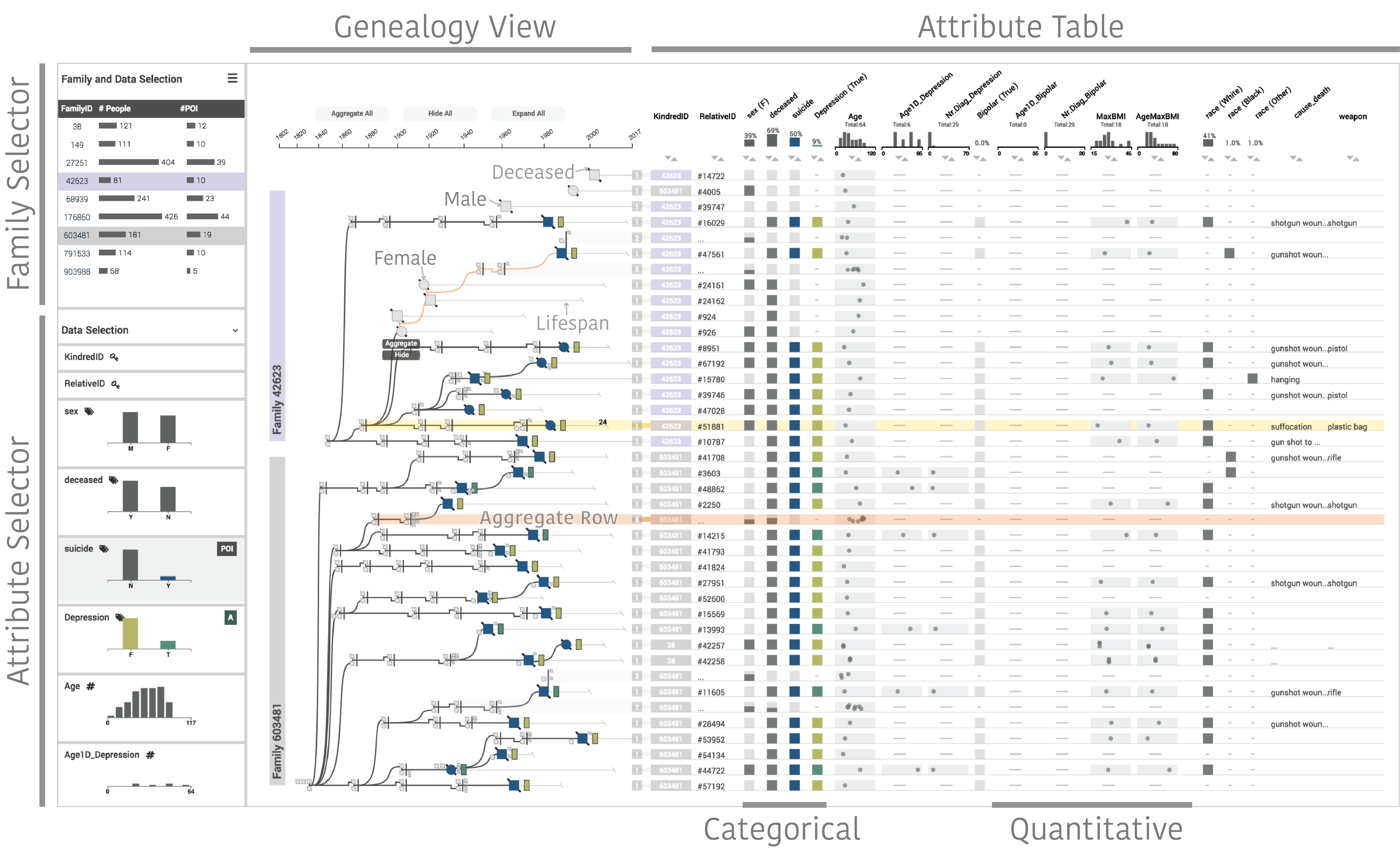
Lineage : Visualizing Multivariate Clinical Data in Genealogy Graphs

Carolina Nobre, Nils Gehlenborg, Hilary Coon, and Alexander Lex

<https://lineage.caleydoapp.org/>

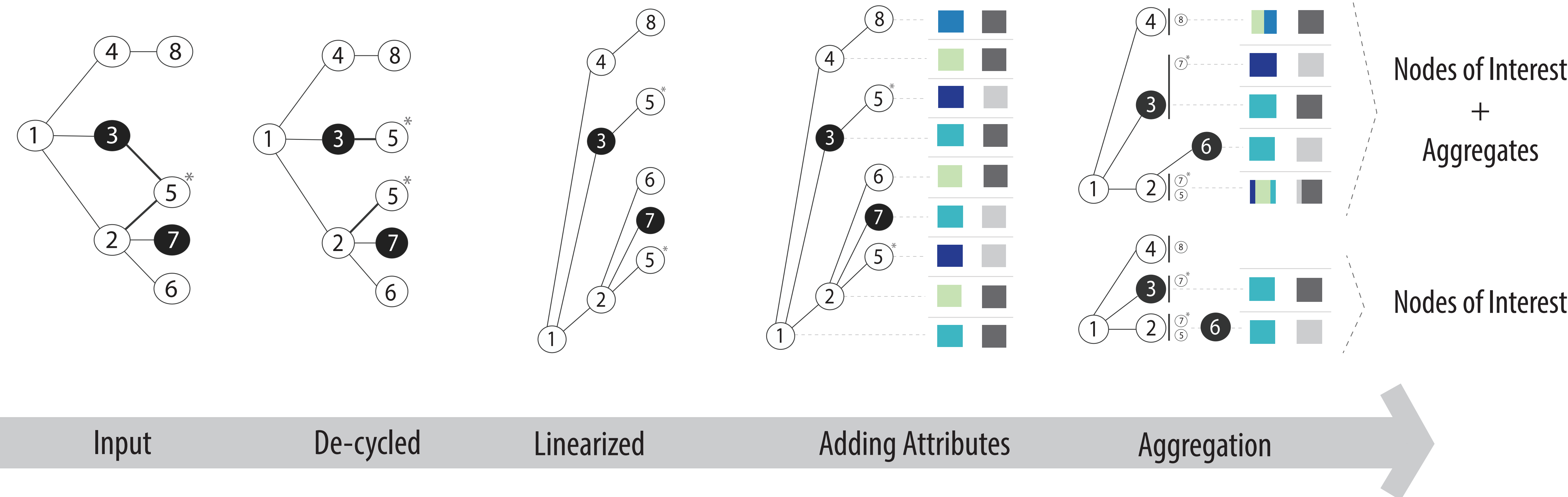
1 Simultaneously studying attributes and family relationships

The majority of diseases that are a significant challenge for public and individual health are caused by a combination of hereditary and environmental factors. In this poster, we introduce Lineage, a novel visual analysis tool, designed to support domain experts that study such multifactorial diseases in the context of genealogies. We also introduce data-driven aggregation methods to effectively visualize genealogies of multiple families with hundreds of members across several generations.

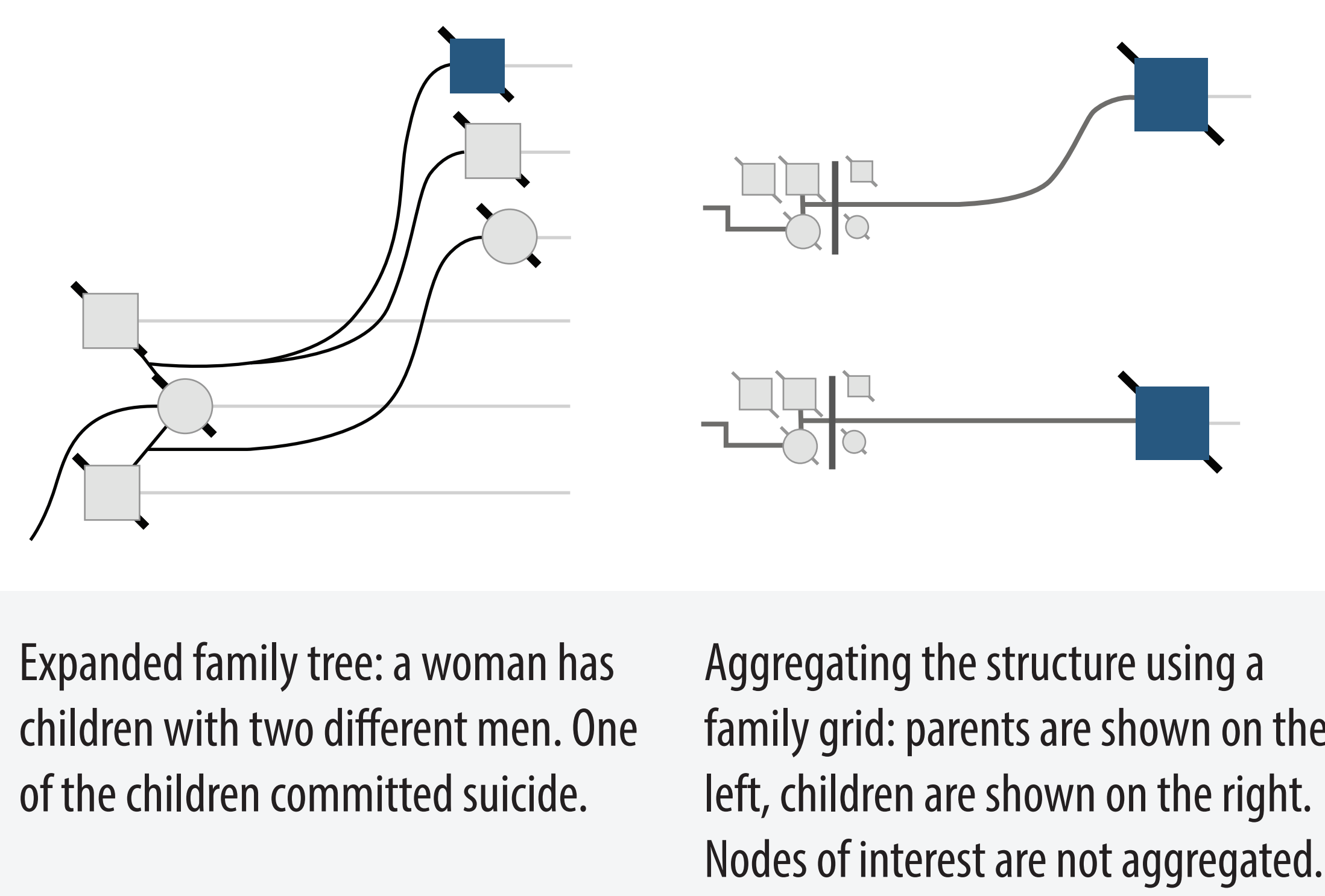


Lineage visualizing the genealogy of two families, totalling 262 individuals. The genealogy view shows the family relationships in a linear tree layout, where each node corresponds to a row in the associated table. Squares represent males and circles represent females. Crossed out nodes represent people who are deceased. Suicide cases are highlighted in blue. A glyph next to the nodes indicates whether individuals were diagnosed with depression. Some branches are aggregated (e.g., see orange highlight) to represent multiple people in the same row in both the tree and the table view.

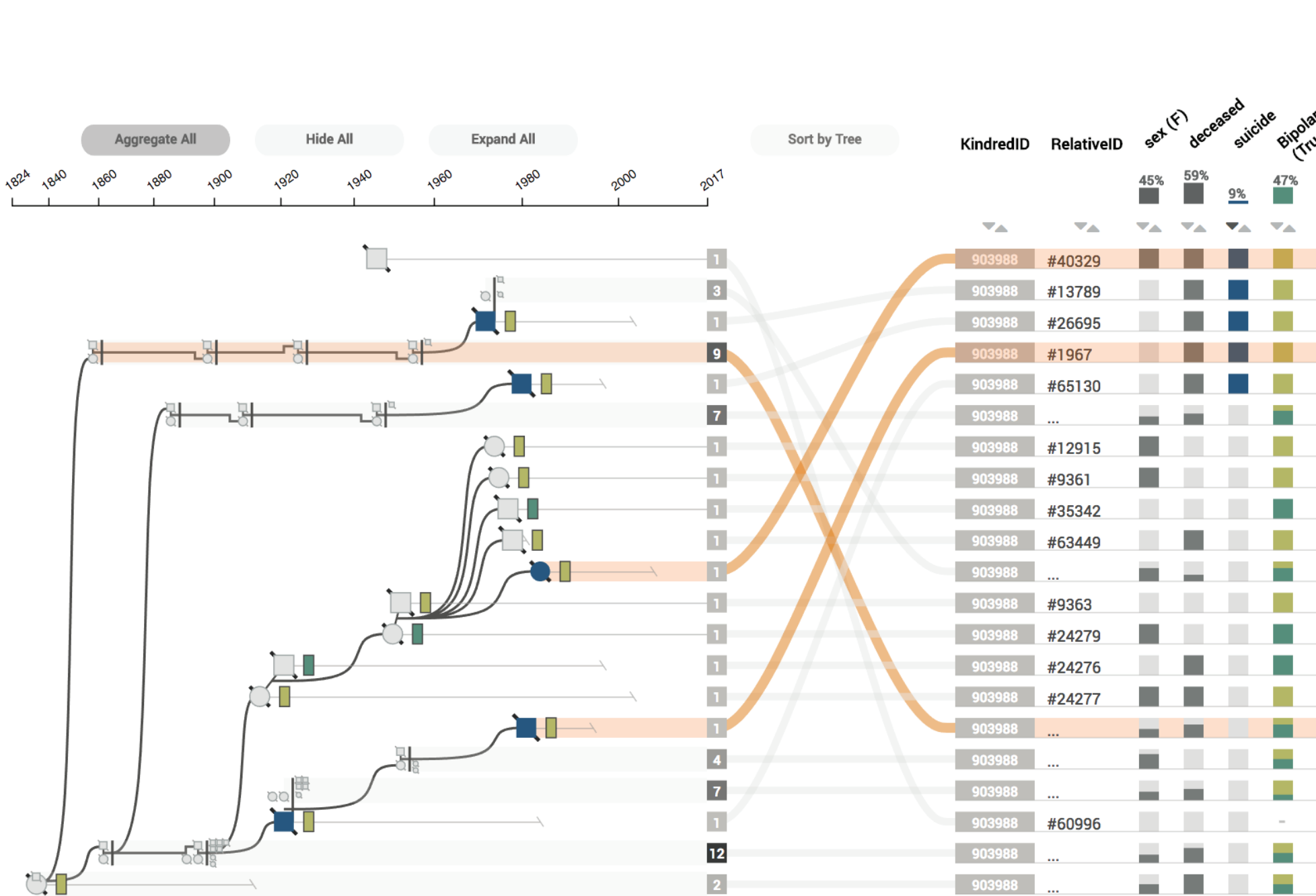
2 Linearizing and Aggregating a MultiVariate Tree



3 Representing Families



4 Sorting by Attributes



When sorting the table, the connection between the table and graph is preserved with a slope chart. In this example, the table is sorted by suicide, which causes the rows in the table to be in a different order than the rows in the graph. User-selected rows are highlighted in orange.

We thank Asmaa Aljuhani and Annie Cherkaev for their help with this project. This work was supported in part by the US National Institutes of Health (U01CA198935, R00 HG007583, R01MH099134) and the DoD — Office of Economic Adjustment (OEA), ST1605-16-01.