Wilkinson’s *Grammar of Graphics* provides a set of concepts through which we can describe both the essential features and the specific details of any statistical graphic, that is, any graphic based on data. The goal of the *Grammar* is very broad, yet the idea is to give us a concise, well-organized, economical description of any graph. These concepts have served as the basis for graphical programming in a number of different computer languages: notable examples include SPSS where Wilkinson’s own implementation of the Grammar can be used, and R, where they are implemented in Wickham’s “ggplot2”. In other languages, these concepts remain useful as a way to organize our understanding of what these languages’ capabilities are.

1. Data
   1. Source – a Stata data set
   2. Given – in the data
   3. Derived – transformations and statistics calculated from the data
   4. Theoretical
2. Variables
3. Algebra – relations between the variables
4. Scale/level of measurement
   1. Categorical
   2. Continuous
5. Transformations and statistics that depend on relations in the data
6. Geometry
   1. Points
   2. Lines/Curves
   3. Areas/Polygons
   4. Other arbitrary shapes/schema
7. Coordinates
   1. Cartesian
      1. Reversed
      2. Log
   2. Polar
   3. Map projection
8. Aesthetics
   1. Color
   2. Size/Weight
   3. Labeling/legends
   4. Etc etc etc
9. Facets/subgraphs
10. Guides
    1. Legends
    2. Axes