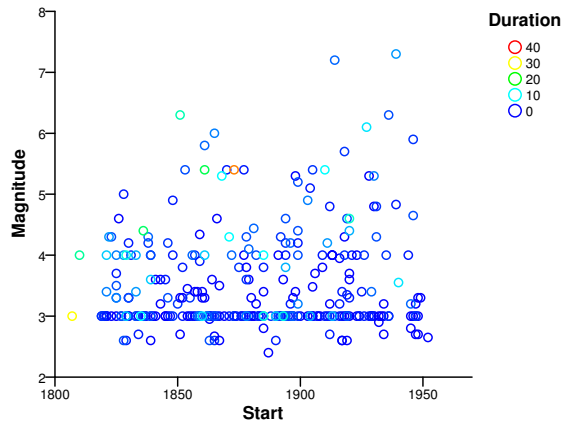


**Fig. 5.4** Deadly Quarrels by Year. This stacked dotplot shows the starting year of each quarrel listed in Richardson’s collection, with years binned by decade. The magnitude of the quarrels, measured in deaths on a log scale with base ten, have been mapped to point sizes, and the durations mapped to color. Even with these additional variables, the figure still shows no strong patterns that might explain why wars start.

**Fig. 5.5** Deadly Quarrels by Year. This scatterplot shows the relationship between quarrels’ start dates and magnitudes. The magnitudes are the most clearly displayed aspects of the data. The two world wars (with magnitude greater than 7; more than  $10^7$  deaths) can be seen at the top right of the figure. Another feature of the plot is the banding effect showing a bias towards recording magnitudes of exactly  $10^3$  and  $10^4$  deaths.



Unfortunately for Richardson, the data did not lead to any insight concerning the reasons wars started when they did, although additional data he collected on social, economic and other information on the participants did lead to some conclusions on

