1135-A0-160 **Moon Duchin***, Tufts University, Boston, MA. *Political Geometry: Voting districts, "compactness," and ideas about= fairness.*

The U.S. Constitution calls for a census every ten years, followe= d by freshly drawn congressional districts to evenly divide up the populati= on of each state. How the lines are drawn has a profound impact on how the= elections turn out, especially with increasingly fine-grained voter data a= vailable. We call a district gerrymandered if the lines are drawn to rig a= n outcome, whether to dilute the voting power of minorities, to overreprese= nt one political party, to create safe seats for incumbents, or anything el= se. Bizarrely-shaped districts are widely recognized as a red flag for ger= rymandering, so a traditional districting principle is that the shapes shou= ld be "compact"-since that typically is left undefined, it's hard to enforc= e or to study. I will discuss "compactness" from the point of view of metr= ic geometry, and I'll overview opportunities for mathematical interventions= and constraints in the highly contested process of electoral redistricting= . To do this requires a rich mix of law, civil rights, geometry, political= science, and supercomputing. (Received August 05, 2017)