By carefully drawing lines to concentrate certain kinds of voters in one area of a map and disperse them across other areas, “gerrymandering” can undermine representative voting in favor of entrenched political power. New applications of data science and a burgeoning national reform effort have the potential to make redistricting a more fair and transparent process.

How does redistricting work and who’s in charge?

- The U.S. Constitution dictates that we hold a Census every ten years to enumerate population, in order to give each state its share of Representatives. Then it's up to each state to divide into an appropriate number of districts with nearly equal populations.
- In most states, the legislature is responsible for commissioning redistricting maps, and control of that process is jealously guarded by the majority. AZ and CA pioneered the use of independent redistricting commissions, and other states are now following suit.

Can you tell a gerrymander by looking at it?

- The word comes from a Congressional district in Massachusetts that was approved in 1812 by then-Governor Elbridge Gerry, and was thought to favor his own party. A famous political cartoon represented it as a dragon-like monster—Gerry's Salamander became the "Gerry-Mander," and that word became associated with twisty, eccentrically-shaped districts.
- Today, the problem is that modern mapping tools and analytics allow operatives to make a districting map that looks just fine, but still has extreme partisan or racial advantage locked in [1].

What are some promising ideas for reform?

- There's a national reform effort to create commissions and/or appoint non-partisan demographers to help redraw district lines. In 2018 alone, five new states passed redistricting reform measures [2].
- In the past, people have looked to scores and metrics to serve as reliable stand-alone indicators of gerrymandering, but it's never been easy to find a convincing baseline for normal districting or a well-defined threshold that would indicate gerrymandering.
- Today, teams of mathematicians are helping courts, elected officials and independent commissions to evaluate newly proposed redistricting plans, to identify subtly or wildly unfair maps, and to implement fair guidelines [3,4,5].
- At the same time, math and statistics professional societies are working to articulate best practices for redistricting in all 50 states [5,6].

In the run-up to the 2020 Census and subsequent round of redistricting, teams of experts will work to equip commissions and everyday citizens with the basic tools they need to assess districting plans in context. To read about what one local team is doing to improve the redistricting process, visit mggg.org.
[1] “NC GOP: a gerrymander is ‘a strange looking monster drawing’” Paul Specht, 2018-1-10, Politifact


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