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The Great Gerrymander of 2012

By SAM WANG

HAVING the first modern democracy comes with bugs. Normally we would expect more seats in Congress to go to the political party that receives more votes, but the last election confounded expectations. Democrats received 1.4 million more votes for the House of Representatives, yet Republicans won control of the House by a 234 to 201 margin. This is only the second such reversal since World War II.

Using statistical tools that are common in fields like my own, neuroscience, I have found strong evidence that this historic aberration arises from partisan disenfranchisement. Although gerrymandering is usually thought of as a bipartisan offense, the rather asymmetrical results may surprise you.

Through artful drawing of district boundaries, it is possible to put large groups of voters on the losing side of every election. The Republican State Leadership Committee, a Washington-based political group dedicated to electing state officeholders, recently issued a progress report on Redmap, its multiyear plan to influence redistricting. The $30 million strategy consists of two steps for tilting the playing field: take over state legislatures before the decennial Census, then redraw state and Congressional districts to lock in partisan advantages. The plan was highly successful.

I have developed approaches to detect such shenanigans by looking only at election returns. To see how the sleuthing works, start with the naïve standard that the party that wins more than half the votes should get at least half the seats. In November, five states failed to clear even this low bar: Arizona, Michigan, North Carolina, Pennsylvania and Wisconsin.

Now let's do something more subtle. We can calculate each state's appropriate seat breakdown — in other words, how a Congressional delegation would be constituted if its districts were not contorted to protect a political party or an incumbent. We do this by randomly picking combinations of districts from around the United States that add up to the same statewide vote total. Like a fantasy baseball team, a delegation put together this way is not constrained by the limits of geography. On a computer, it is possible to create millions of such unbiased delegations in short order. In this way, we can ask what would happen if a state had districts that were typical of the rest of the nation.

In North Carolina, where the two-party House vote was 51 percent Democratic, 49 percent Republican, the average simulated delegation was seven Democrats and six Republicans. The actual outcome? Four Democrats, nine Republicans — a split that occurred in less than 1 percent of simulations. If districts were drawn fairly, this lopsided discrepancy would hardly ever occur.

Confounding conventional wisdom, partisan redistricting is not symmetrical between the political parties. By my seat-discrepancy criterion, 10 states are out of whack: the five I have mentioned, plus Virginia, Ohio, Florida, Illinois and Texas. Arizona was redistricted by an independent commission, Texas was a combination of Republican and federal court efforts, and Illinois was controlled by Democrats. Republicans designed the other seven maps. Both sides may do it, but one side does it more often.

Surprisingly absent from the guilty list is California, where 62 percent of the two-party vote went to Democrats and the average mock delegation of 38 Democrats and 15 Republicans exactly matched the newly elected delegation. Notably, California voters took redistricting out of legislators' hands by creating the California Citizens Redistricting Commission.

Gerrymandering is not hard. The core technique is to jam voters likely to favor your opponents into a few throwaway districts where the other side will win lopsided victories, a strategy known as "packing." Arrange other boundaries to win close victories, "cracking" opposition groups into many districts. Professionals use proprietary software to draw districts, but free software like Dave's Redistricting App lets you do it from your couch.

Political scientists have identified other factors that have influenced the relationship between votes and seats in the past. Concentration of voters in urban areas can, for example, limit how districts are drawn, creating a natural packing effect. But in 2012 the net effect of intentional gerrymandering was far larger than any one factor.

We can quantify this effect using three different methods. First, Democrats would have had to win the popular vote by 7 percentage points to take control of the House the way that districts are now (assuming that votes shifted by a similar percentage across all districts). That's an 8-point increase over what they would have had to do in 2010, and a margin that happens in only about one-third of Congressional elections.

Second, if we replace the eight partisan gerrymanders with the mock delegations from my simulations, this would lead to a seat count of 215 Democrats, 220 Republicans, give or take a few.

Third, gerrymandering is a major form of disenfranchisement. In the seven states where Republicans redrew the districts, 16.7 million votes were cast for Republicans and 16.4 million votes were cast for Democrats. This elected 73 Republicans and 34 Democrats. Given the average percentage of the vote it takes to elect representatives elsewhere in the country, that combination would normally require only 14.7 million Democratic votes. Or put another way, 1.7 million votes (16.4 minus 14.7) were effectively packed into Democratic districts and wasted.

Compared with a national total House vote of 121 million, this number is considerable. In Illinois, Democrats did the converse, wasting about 70,000 Republican votes. In both cases, the number of wasted votes dwarfs the likely effect of voter-ID laws, a Democratic concern, or of voter fraud, a Republican concern.

SOME legislators have flirted with the idea of gerrymandering the presidency itself under the guise of Electoral College reform. In one short-lived plan, Virginia State Senator Charles Carrico sponsored legislation to allocate electoral votes by Congressional district. In contrast to the current winner-take-all system, which usually elects the popular vote winner, Mr. Carrico's proposal applied nationwide would have elected Mitt Romney, despite the fact that he won five million fewer votes than Mr. Obama. This is basically an admission of defeat by Republicans in swing states. Mr. Carrico's constituents might well ask whether these changes serve their interests or those of the Republican National Committee.

To preserve majority rule and minority representation, redistricting must be brought into fairer balance. I propose two plans. First, let's establish nonpartisan redistricting commissions in all 50 states. In Ohio, one such ballot measure failed in November, in part because of a poorly financed campaign. Maybe those who prodded voters to turn out could support future initiatives.

Second, we need to adopt a statistically robust judicial standard for partisan gerrymandering. In the Supreme Court's Vieth v. Jubelirer case, in 2004, Justice Anthony M. Kennedy voted against intervention in chicanery in Pennsylvania, but left the door open for future remedies elsewhere if a clear standard could be established.

The great gerrymander of 2012 came 200 years after the first use of this curious word, which comes from the salamander-shaped districts signed into law by Governor Elbridge Gerry of Massachusetts. Gov. Gerry's party engineered its electoral coup using paper maps and ink. But the advent of inexpensive computing and free software has placed the tools for fighting politicians who draw absurd districts into the hands of citizens like you and me.

Politicians, especially Republicans facing demographic and ideological changes in the electorate, use redistricting to cling to power. It's up to us to take control of the process, slay the gerrymander, and put the people back in charge of what is, after all, our House.

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