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In 1986, the U.S. Supreme Court declared political gerrymandering *justiciable*, which means that a plaintiff can ask the courts to throw out a legislative redistricting plan if the plan treats one of the parties unfairly. Since then, however, political gerrymandering has never been *justished* (OK, that's my word!), meaning that no plan has ever in fact been thrown out, nor has the Court established the standard that redistricting plans must meet.

So that was 1986. What was happening in 1987? Well, the most important thing going on then, from my point of view, was that I really wanted a job. The university down the road gave me an interview and the chance to give a job talk.[1] I discussed an article that was to be published that year in the *American Political Science Review* with my graduate school buddy Robert Browning.[2] In that article, we proposed a mathematical standard for partisan fairness and a statistical method to determine whether a redistricting plan meets that standard. We called the standard *partisan symmetry*.

As it has turned out, I am proud to say that since our article and my job talk, virtually all academics writing about the subject have adopted partisan symmetry as the right standard for partisan fairness in legislative redistricting.

Then, a little more than a decade ago, the Supreme Court actually said in an opinion (roughly!), hey you academics out there, if there were some standard that you all agreed on, we would love to hear about it. This led me to think, job talk time again!

So in the next redistricting case that reached the Court, my friend Bernie Grofman and I, along with a few others, filed an amicus brief telling the Court all about partisan symmetry.[3] By that time, partisan symmetry was not merely the near universally agreed upon standard among academics; it had also become the standard used by most expert witnesses in litigation about partisan gerrymandering. In fact, in many cases, including the one for which we filed the brief with the Supreme Court, experts on *both* sides of the same cases appealed to partisan symmetry.

The Supreme Court explicitly discussed our brief in three of its opinions, including the plurality opinion. All of the justices' discussions in their opinions of our brief, and the parti-

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1. Thanks to the members of the search committee: Jim Alt, Mo Fiorina, and Bob Putnam!

2. Gary King and Robert X. Browning, "Democratic Representation and Partisan Bias in Congressional Elections," *American Political Science Review* 81 (1987): 1252–1273, copy at http://j.mp/2n5Y11v.

3. Gary King, Bernard Grofman, Andrew Gelman, and Jonathan Katz, "Brief of *Amici Curiae* Professors Gary King, Bernard Grofman, Andrew Gelman, and Jonathan Katz in Support of Neither Party," U.S. Supreme Court in *Jackson v. Perry*, 2005, copy at http://j.mp/2gw1W1R.

san symmetry standard, were positive. It appeared that, if a redistricting plan were ever overturned, the standard adopted by the Court would have to involve partisan symmetry. But the justices in that case did not go so far as to overturn the redistricting plan before it, or to explicitly adopt a standard for future cases.[4]

Since 1987, data on voters have gotten better. The science has advanced. Statistical methods used to determine whether a plan meets the standard have improved. With high accuracy, we can now determine whether an electoral system meets the partisan symmetry standard after a set of elections, after just one election, or, without much loss of accuracy, before any elections have been held at all. These methods have been rigorously tested in thousands of elections all over the world. The standards are clear and the empirical methods are ready.[5]

4. Bernard Grofman and Gary King, "The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering after *LULAC v. Perry*," *Election Law Journal* 6 (1) (2008): 2–35, copy at http://j.mp/2ow4pQ8.

5. Gary King, "Representation Through Legislative Redistricting: A Stochastic Model," *American Journal of Political Science* 33 (1989): 787–824, copy at http://j.mp/2o46Gkk; Andrew Gelman and Gary King, "Estimating the Electoral Consequences of Legislative Redistricting," *Journal of the American Statistical Association* 85 (1990): 274–282, copy at http://j.mp/2nRBBOO; Andrew Gelman and Gary King, "A Unified Method of Evaluating Electoral Systems and Redistricting Plans," *American Journal of Political Science* 38 (1994): 514–554, copy at http://j.mp/2oT1ZqA; Stephen Ansolabehere and Gary King, "Measuring the Consequences of Delegate Selection Rules in Presidential Nominations," *Journal of Politics* 52 (1990): 609–621; Gary King, "Electoral Responsiveness and Partisan Bias in Multiparty Democracies," *Legislative Studies Quarterly* XV (1990): 159–181, copy at http://j.mp/2o4k5Jc; Andrew Gelman, Jonathan Katz, and Gary King, "Empirically Evaluating the Electoral College," in *Rethinking the Vote: The Politics and Prospects of American Electoral Reform*, ed. Ann N. Crigler, Marion R. Just, and Edward J. McCaffery (New York: Oxford University Press, 2004), 75–88, copy at http://j.mp/2ovY86M.

Now along comes a new Supreme Court case, *Gill v. Whitford*. With a few colleagues, I filed a new brief in that case, reminding the justices about partisan symmetry and clarifying some other issues.[6] The case has not yet been decided, but judging from the oral arguments last month, partisan symmetry is again a central focus. By the way, I highly recommend listening to the oral arguments;

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they were remarkably sophisticated and intense, quite like a high-level seminar at a leading university. (Although beware, and much to my chagrin, all references to "Professor King's brief" in the oral arguments were to the brief I filed a decade ago, with no mention of the one I filed in this case!)

But let me say something about partisan symmetry: how it is really simple, and why you should support it too. A good example comes from the case presently before the Court. At issue is a redistricting plan passed by the state of Wisconsin in 2011.

In the 2012 election, Republicans received 48 percent of the votes statewide and, because of the way in which the districts were drawn, more than 60 percent of the seats in the state assembly. It may seem strange that the Republicans received a minority of the

6. Heather K. Gerken, Jonathan N. Katz, Gary King, Larry J. Sabato, and Samuel S.-H. Wang, "Brief of Heather K. Gerken, Jonathan N. Katz, Gary King, Larry J. Sabato, and Samuel S.-H. Wang as *Amici Curiae* in Support of Appellees," Filed with the Supreme Court of the United States in *Beverly R. Gill et al. v. William Whitford et al.*, 2017, 16–1161, copy at http://j.mp/2iJAMZl.

votes and a majority of the seats, but strange does not make it unfair. What makes it vividly unfair is the next election in Wisconsin: In 2014, the Democrats happened to have a turn at receiving about 48 percent of the votes. Yet, in that perfectly symmetric voting situation, the Democrats only received 36 percent of the seats. Moreover, we know from considerable scholarship in political science that this is not going to change. In all likelihood, no matter how many elections are held in which the Democrats happen to receive about 48 percent of the votes, they are not going to come close to having 60 percent of the seats – for as long as the districts remain the same. That's unfair. And the reason it is unfair is because it is asymmetric.

This is a dramatic Republican gerrymander. But remember we have analyzed thousands of elections and know that the Democrats have done just as much damage when they are able to control the redistricting process.

To be clear, any translation of votes to seats is fair – as long as it is symmetric. For example, some states require redistricters to draw plans that make competitive elections likely – so 52 percent of the votes might produce 75 percent of the seats rather than say 55 percent, which is fair so long as the other party would also get 75 percent of the seats if they also got 52 percent of the votes.

Other states require redistricters to draw plans that favor incumbents, perhaps so that members of Congress from their state will have more seniority and thus influence,

which will yield a result closer to proportional representation, with seat proportions closer to vote proportions.

In fact, I think I can convince you that you have already invented a symmetric electoral system when you go out to dinner with a group and need to choose a restaurant. The decision rule most people choose is called the *Unit Veto* system whereby any one person can veto the outcome. This decision rule is fair because it is symmetric – it is not only Bob or Sally who can veto the choice; *any* member of the group can. This is an extreme system, one we probably would not choose for electing members of a legislature, but it is one of the numerous possible symmetric and thus fair electoral systems.

The point is not only that partisan symmetry is the obvious standard for a fair electoral system. It is also that, if the Court adopts partisan symmetry, it will still be leaving considerable discretion to the political branches in each state, something that the Court sees as essential.

Partisan symmetry leaves redistricters lots of other types of discretion in drawing districts as well. One is compactness, which many states and federal law require. The paper I wrote with my graduate students Aaron Kaufman and Mayya Komisarchik, and distributed at this event, provides a single measure of compactness that predicts with high accuracy the level of compactness any judge, justice, or legislator sees in any district.[7] There are also criteria based on maintaining local communities of interest, not splitting local political subdivisions, having equal population, not racially gerrymandering, and many others. Partisan symmetry may be related to some of these in some

states but the standard does not absolutely constrain any one of these criteria.

In fact, a huge number of other factors are also chosen by redistricters, most of which no court, constitution, or legislature has ever tried to regulate, and few of which have even been written about. Moreover, these other factors could not be more important to those responsible for redistricting. None are constrained by partisan symmetry.

Partisan symmetry is a widely accepted mathematical standard for partisan fairness in legislative redistricting. Statistical methods have been invented to easily determine whether redistricting plans meet this standard.

Here is an example. To learn about redistricting and to obtain access to data, I occasionally sign on as a statistical consultant. I estimate the deviation from partisan symmetry for every proposed redistricting plan, determine the degree of racial bias, and compute compactness, among other things.

During this process, one of the legislators was raging mad about the proposed plan, just fuming. Well, one of the things I do whenever I am near partisans and have access to data is to compute the probability that they will win the next election. It turns out these predictions are straightforward and highly accurate. Knowing these predictions helps reveal the motives, interests, and desires of most everyone. (And don't judge: no matter how noble the goals of politicians, if they don't first attend to their own reelection, they won't be able to do anything else.)

So I looked up my forecasts for this apoplectic legislator and said, "what are you upset about? You are going to win this election with about 75 percent of the vote." At that point, he was pacing and insisting, "Look at the plan, look at my district!"

So I said, "Yes, but you are going to be reelected. What do you want, 85 percent of the vote? What is the big deal?" He then explained, "Look at this line," pointing to one of the boundaries of his district. "Do you see where it excludes this little area and then continues? That's my kids' school. And this? That's where my wife works. And this? That's my mom's house!" He then pointed to the map on the wall of the entire state and said, "Previously I had a nice compact district where I could drive to see any constituent. Now the district is splayed halfway across the state, and it will take me all day flying to get anywhere! They are just trying to annoy me. They are trying to get me to resign!"

And they were trying to get him to resign. So we looked into it – systematically, across many elections and many redistricting plans.[8] It turns out that, during redistricting, incumbents are much more likely to resign, and that causes the partisan division of seats in the legislature to be more responsive to changes in voter preferences, at least compared to no redistricting. Redistricting is a nasty process, probably the most conflictual form of regular politics this country ever sees, with a good number of fist fights, examples of hardball politics, and many really unhappy bedfellows. Imagine if some guy you

7. Aaron Kaufman, Gary King, and Mayya Komisarchik, "How to Measure Legislative District Compactness If You Only Know it When You See it," working paper, 2017, copy at http://j.mp/2u9OWrG.

8. Andrew Gelman and Gary King, "Enhancing Democracy Through Legislative Redistricting," *American Political Science Review* 88 (1994): 541–559, copy at http://j.mp/2ow4XoP.

don't know in a basement playing with maps once a decade could get you fired! As a result, legislators often prefer to retire over the risk of getting drawn into a district with another incumbent, perhaps having to run against your friend, or ending a successful career being humiliated at the polls in a new district dominated by opposition party voters.

In fact, lack of redistricting does not mean no change. Voters move, die, come of age, immigrate, emigrate, and come to the polls in different numbers. Over time, without redistricting, nothing constrains the electoral system from moving far from partisan symmetry. Some states become horribly biased on their own, without moving district lines.

In contrast, if you control a state's redistricting, you are likely to restrain yourself to some degree. Why? Well, you can gerrymander in your favor, moving your state far from symmetry, but if you go too far and wake the sleeping judicial giant, you might have the entire process taken away from you. If that happens, you lose not only the opportunity to win a few more seats for your party, but also the opportunity to have completely free reign over everything that may otherwise make your life, and that of your party members, miserable.

So redistricting increases responsiveness and reduces partisan bias relative to no redistricting at all. In that sense, aspects of messy partisan redistricting battles can be good for democracy.

But it also means that the Supreme Court can play a fundamental role and reign in much of the excesses of gerrymandering without much trouble. All they need to do is to eliminate the worst cases by adopting the partisan symmetry standard, and to outlaw the worst excesses. If the Court takes this minimal action, redistricters – jealous of their prerogatives – will stay well away from the line. Any line, even one that is not bright white, will greatly increase the fairness of American democracy. The problem here is not some foreign power meddling in our election system; the problem is on us as Americans. And the institution in American politics to fix the problem is the Supreme Court; it is the only institution capable of fixing this problem. We certainly know from two hundred years of partisan redistricting battles that no legislature will save the day.

So as I wait with the rest of the country for this Court decision, I feel a little like I am in the same position I was thirty years ago – hoping someone will like my job talk.