

UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

\* \* \* \* \*

WILLIAM WHITFORD, et al.,

Plaintiffs,

-vs-

Case No. 15-CV-421-BBC

GERALD NICHOL, et al.,

Madison, Wisconsin

May 27, 2016

Defendants.

8:34 a.m.

\* \* \* \* \*

STENOGRAPHIC TRANSCRIPT OF FOURTH DAY OF COURT TRIAL  
HELD BEFORE THE HONORABLE JUDGE KENNETH RIPPLE,  
THE HONORABLE JUDGE BARBARA B. CRABB, and  
THE HONORABLE JUDGE WILLIAM GRIESBACH,

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15  
 16 \* \* \* \* \*

17  
 18 **I-N-D-E-X**

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(Proceedings called to order.)

THE CLERK: 15-CV-421. *Whitford v. Gerald Nichol* called for a fourth day of court trial.

JUDGE RIPPLE: A very good morning to everyone. Before we begin, let's ask counsel if there are any matters, housekeeping matters we need to take up and resolve at this point.

MR. POLAND: Your Honors, plaintiffs do have one that Mr. Hebert will address.

MR. HEBERT: Your Honors asked earlier this week when we had some testimony about the GAB and the

1 legislative -- whether we could reach a stipulation as to  
2 the state agency and we have reached a stipulation. We  
3 will file it with the clerk's office today.

4 JUDGE RIPPLE: Thank you. And that stipulation  
5 will be accepted and it will be very good to have that in  
6 the record when it makes its journey eastward.

7 MR. HEBERT: No other housekeeping matters from  
8 us.

9 JUDGE RIPPLE: Thank you. Mr. Keenan.

10 MR. KEENAN: The defendants just have a couple  
11 things related to documents. There were several  
12 documents used yesterday which didn't have exhibit  
13 numbers and it was requested they be added with exhibit  
14 numbers, so I'll just list those three documents.  
15 Exhibit 575 is the party A/party B 200 votes example that  
16 was used with Dr. Mayer. We've listed 580 as Professor  
17 Mayer's *Baldus* report, which was put up on the screen.  
18 And then 581 is the census document that had the formula  
19 that we went over with Professor Mayer. Some of those  
20 may be used again with Professor Goedert later today.

21 There are also four new exhibits that we provided to  
22 the plaintiffs that will be used with Mr. Trende, so  
23 those will just come up as in the examination. We just  
24 provided those to the plaintiffs now. That was our main  
25 housekeeping matter.

1 JUDGE RIPPLE: All right. So those exhibits are  
2 -- have they been entered in?

3 MR. KEENAN: No, I haven't moved them in. We'll  
4 discuss them as we go. I understand the plaintiffs will  
5 probably object to them. They can object now or at that  
6 time when they're used.

7 MR. HEBERT: We can wait, Your Honor. That way  
8 you'll see the context of the objection as well.

9 JUDGE RIPPLE: All right. Good. Thank you. I  
10 think the floor is then yours, sir.

11 MR. KEENAN: The defendants call Sean Trende.

12 JUDGE RIPPLE: Mr. Trende.

13 **SEAN TRENDE, DEFENDANTS' WITNESS, SWORN,**

14 JUDGE RIPPLE: Good morning, Mr. Trende.

15 THE WITNESS: Good morning, Your Honor -- Your  
16 Honors.

17 DIRECT EXAMINATION

18 BY MR. KEENAN:

19 Q Now, would please state and spell your name for the  
20 record, please.

21 A My name is Sean Trende. S-e-a-n, T-r-e-n-d-e.

22 Q Mr. Trende, where did you graduate from college?

23 A I graduated from Yale University.

24 Q And what degrees did you get there?

25 A I had a bachelor's degree with a double major in

1 history and political science.

2 Q And what did you go on to do when you graduated;  
3 education after that?

4 A I did. I went to Duke University. I earned a JD.  
5 And Duke University had a joint degree program at the  
6 time. I also earned a master's degree in political  
7 science while earning my JD.

8 Q As part of the master's program in political  
9 science, what types of statistical classes did you take?

10 A So I took two courses. There's a standard -- all  
11 Ph.D. programs have standard statistical tracks that the  
12 graduate students take and I took the first two semesters  
13 of the Duke University Ph.D. track in statistics.

14 Q How did that differ from what someone would have  
15 taken if they went for the full Ph.D. track in terms of  
16 the statistics courses?

17 A My understanding was at the time it was three  
18 semesters of statistics required for the Ph.D.

19 Q And when did you graduate from those programs?

20 A I graduated in 2001.

21 Q What did you do after graduation?

22 A I clerked for Chief Judge Deanell Tacha, that's  
23 T-a-c-h-a, the Tenth Circuit Court of Appeals.

24 Q And what years about was that?

25 A That would have been 2001 to 2002.

1 Q Can you just go through your professional history  
2 after clerking?

3 A So I worked at the DC office of Kirkland & Ellis  
4 from 2002 to 2005. Then I got married and we wanted to  
5 move, so we moved to Richmond. I worked for Hunton &  
6 Williams there. And then in 2009 I went to a small firm,  
7 David, Kamp & Frank that allowed me to actually get into  
8 court. I was in court almost every day and it was great.

9 Then my oldest son was diagnosed with autism. My  
10 wife is also a practicing attorney and one of us needed  
11 to have the job flexibility to take my son to and from  
12 therapies and kind of -- I mean I use the term  
13 providentially cautiously, but it wakes you up. I got  
14 the offer to write for Real Clear Politics a month and a  
15 half after we got that diagnosis and that allowed me to  
16 do those things.

17 Q You mentioned Real Clear Politics. What is Real  
18 Clear Politics?

19 A So Real Clear Politics is a online website. We  
20 aggregate polling and news data and we also produce  
21 original data for audiences.

22 Q What's your position at Real Clear Politics?

23 A I'm the senior elections analyst.

24 Q What do you do as the senior elections analyst?

25 A I'm sort of the right-hand man to the CEO, John

1 McIntyre. I follow -- my job is to basically know  
2 everything that's going on with elections so that when he  
3 asks me something or if I get asked something in an  
4 interview, I have the answer at my fingertips. I produce  
5 original content for them. I do a lot of research and  
6 following of databases and the like.

7 Q How long have you been the senior elections analyst  
8 at Real Clear Politics?

9 A I don't remember exactly when I got the title,  
10 whether it was when I started with them. I think it was  
11 when I started full time in 2010, but it might have been  
12 when I did some part-time writing in 2009.

13 Q What type of writing do you do for the site?

14 A It's mostly what would be considered kind of  
15 long-form journalism. Most of my pieces run into the  
16 2000-word ranges, although sometimes you can cover what  
17 needs to be covered in shorter time periods. But it's  
18 almost entirely covering U.S. elections. I do some  
19 Supreme Court coverage toward the end of the term just to  
20 kind of keep those skills fresh.

21 Q And what kind of things do you write about or what  
22 would you -- how would you describe your -- the articles  
23 you write?

24 A Well, they tend to be -- they aren't journalism  
25 pieces. I'm not going out and interviewing candidates.



1 They're more data analysis of what's going on with  
2 elections. I do a lot of work in demographics, how  
3 political coalitions are shifting over time. Those are  
4 probably my most prominent writings.

5 Q Do you do anything with respect to the rating of  
6 congressional districts?

7 A Yes. So Real Clear Politics, as does a lot of what  
8 Charlie Cook and people like Stu Rothenberg, Larry  
9 Sabato, the tracking and rating of Senate and House races  
10 and then presidential races this year as well.

11 Q What do you do with respect to those kind of things?

12 A So I am in charge of assigning the writings. I work  
13 with the CEO on Senate races, but the House races are my  
14 own, and it's a matter of kind of figuring out where  
15 things sit on the ground, if you will, looking at the  
16 fundamentals of the district, how the districts lean in  
17 terms of partisanship, how they were drawn, and then  
18 figuring out how that interacts with the candidates that  
19 are running.

20 Q Do you write for any other publications other than  
21 Real Clear Politics?

22 A I am still a senior columnist for Crystal Ball,  
23 Larry Sabato's Crystal Ball. Larry Sabato is a professor  
24 at the University of Virginia; haven't published for them  
25 in awhile because it's been a crazy year, but there's an

1 article under submission and planning on getting going  
2 with that again as the election draws nearer.

3 Q What is Crystal Ball?

4 A So it's his name for his website, which is similar  
5 to the type of stuff that I do at Real Clear Politics.  
6 It rates the competitiveness of Senate and House races.  
7 It's a little different than the Real Clear Politics  
8 audience. Because Dr. Sabato is a political scientist,  
9 his audience tends to be a little bit more technical and  
10 academic.

11 Q Have you authored any other publications?

12 A So I wrote a book, *The Lost Majority: Why the*  
13 *Future Government is Up for Grabs - and Who Will Take It.*  
14 It was an analysis of the 2010 elections. You go back to  
15 2008 and a lot of people thought after the election of  
16 Barack Obama that we were kind of entering a period of  
17 one-party Democratic rule and that didn't pan out. And  
18 so the book kind of analyzes the question of why and it  
19 was ultimately a revisionist take on a realignment theory  
20 along the lines of what David Mayhew of Yale University  
21 had written.

22 I'm also -- I coauthored the 2014 *Almanac of*  
23 *American Politics*, which is this kind of standard text  
24 for understanding congressional districts and the people  
25 who represent them. I had about 15 states where I had to

1 do kind of in-depth dives into the demographics and how  
2 the states were changing, what their histories were and  
3 so forth. And then I've authored two chapters in books  
4 published by Dr. Sabato.

5 JUDGE RIPPLE: Excuse me just a minute.

6 THE WITNESS: Yes, Your Honor.

7 (Pause)

8 JUDGE RIPPLE: Counsel, you can proceed now.

9 BY MR. KEENAN:

10 Q I just want to go back to the book that you  
11 published, *The Lost Majority*. What kind of research did  
12 you do for that book?

13 A Actually I used my JSTOR account, J-S-T-O-R, which  
14 is the academic database I can get through my Yale  
15 University alumni and just actually started with the  
16 *Journal of Politics* in about 1920 and went through to  
17 find everything I could find with elections and  
18 realignment theory, and then went through *American*  
19 *Political Science Review* -- I'm blanking out -- the  
20 *Journal of American Politics*, *Our Journal of Politics*,  
21 and read everything that was in the literature about  
22 realignments and political coalitions.

23 I did a lot of county-level analysis of how  
24 demographics or how political coalitions had shifted over  
25 time in the states to see how that interacted with the

1 Democrats' ability to win the House.

2 Q And what kind of conclusions did you draw from that  
3 research?

4 A Well, it was fairly obvious that the Democrats --  
5 part of the problem -- there were a lot of problems the  
6 Democrats had in 2010, but part of the problem was that  
7 especially if you compared back to Bill Clinton's 1996  
8 win, which was a similar national win to President  
9 Obama's, about eight points -- seven or eight points the  
10 Democrats' geographic coalition had shrunk. It had grown  
11 in the cities, you know. It had become more prominent in  
12 urban areas, but in rural areas in particular, the tide  
13 had kind of receded. So they had a deeper coalition, but  
14 it was a narrower coalition.

15 Q What kind of effects did that have for the  
16 Democratic party that you found?

17 A Well, it's in more detail in the report, but it just  
18 made it more -- it made it more difficult for them to win  
19 these congressional districts that necessarily covered  
20 geographic areas. And you can compare the number of  
21 districts in areas won by President Clinton to those won  
22 by President Obama, even when they were winning  
23 nationally by the same amount. And it's plain to see  
24 that this shift in geography had hurt them.

25 Q Are you aware of whether your book is relied upon in

1 political science departments?

2 A Well, I haven't -- obviously I haven't done a  
3 national test of syllabi. I know that Professor Mayhew  
4 at Yale has used my book in his course. I've received  
5 correspondence from professors saying that they've used  
6 it. I know that it's been used at Hope College in Ohio  
7 Wesleyan. So those are three that I know for certain.

8 Q You also mentioned the *Almanac for American*  
9 *Politics*. Can you just explain what that is?

10 A So this is a book that was started in 1971 by  
11 Michael Barone. It was actually designed as a guidebook  
12 for student protesters to target their demonstrations of  
13 congressmen. It went through the districts and gave an  
14 overview of the districts and it was actually meant to  
15 give an idea of who was receiving money from defense  
16 contractors. But it's kind of grown into this deep --  
17 each congressional district receives kind of a deep dive  
18 treatment as to its history, its geography, how its  
19 economy is based, and then there's also profiles of all  
20 435 Democratic congressmen. And my work was focused on  
21 the first half of that, doing the deep dives into the  
22 congressional districts for the states which I was  
23 assigned.

24 Q And how is the *Almanac of American Politics* regarded  
25 amongst people that write about politics?

1 A I think Chuck Todd referred to it as the Bible for  
2 political analysts. It's widely cited. It's the premier  
3 and I think now only source of its kind.

4 Q Who's Chuck Todd?

5 A He's the chief political analyst -- he's the host of  
6 *Meet the Press*.

7 Q You also mentioned some chapters in books published  
8 by Dr. Sabato. Could you explain a little bit more what  
9 you wrote there?

10 A So the first chapter I wrote was after the 2012  
11 elections. And his books are a collection of chapters by  
12 commentators in academics and each chapter covers a  
13 discrete topic in the election. My first chapter in 2012  
14 was whether 2012, the demographics we had seen in it,  
15 represented a realigning election, a permanent shift in  
16 American politics. And I said well, first I don't really  
17 believe in realignments, following Mayhew and some other  
18 professors, the modern -- consider the modern take on it.  
19 But even if we take the test that was set up for  
20 realignments, 2012 doesn't count.

21 2014 was more of a look at the electoral college,  
22 how the competitiveness of states interacts with the  
23 popular vote and what we might expect to see in 2016. Of  
24 course that was a pre-Donald Trump analysis, which kind  
25 of mixes up the apple cart, I think.

1 Q Do you do speaking engagements?

2 A I do. I speak for a variety of think tanks.

3 Academic institutions and private banks and consultant  
4 groups ask me to give speeches on elections.

5 Q Is your work relied upon by others who write about  
6 politics?

7 A Absolutely. It's widely cited, not only by  
8 commentators, but also by academics.

9 Q Can you provide some examples?

10 A I know Alfred Cuzán at the University of Florida has  
11 used it. He asked me to hurry up and write a third part  
12 of a statistical analysis I was writing on regression  
13 analysis so he could use it in his course. I did a  
14 three-part series on statistics that he was using to  
15 teach from. I know that -- and I know, like I said,  
16 Dr. Mayhew has used my book in his course.

17 Q And what about, not academics, but some just people  
18 who write about politics for a living?

19 A Absolutely. I think it's been cited in every major  
20 news publication, cited on the news, yes.

21 Q Do you do television and media appearances?

22 A I do media appearances for anyone who invites me.  
23 Oddly I've never been on CNN, but I've been on MS-NBC and  
24 Fox News.

25 Q What kind of things do you talk about when you're

1 doing these media appearances?

2 A Demographics and elections. In off years,  
3 odd-numbered years it tends to be more big picture  
4 demographic-type stuff. In even-numbered years,  
5 obviously the focus is more on the House race or horse  
6 race.

7 Q Have you provided expert testimony in any other  
8 cases?

9 A I have.

10 Q Can you explain what those cases were?

11 A So in -- my first case was 2012 in North Carolina  
12 state court, a redistricting, a racial gerrymandering  
13 litigation there. My report was accepted without  
14 objection and they did the case on the papers. I  
15 testified in the North Carolina -- not the voter ID  
16 portion -- the early voting litigation. And I testified  
17 in Ohio for a similar litigation.

18 Q You mentioned a North Carolina early voting case.  
19 Has there been a decision in that case?

20 A There has.

21 Q When did that decision come out?

22 A The decision came out probably a month ago.

23 Q Did the decision rely on any of the opinions you  
24 submitted in the case?

25 A Yes, it did.



1 MR. KEENAN: I understand there's a *Daubert*  
2 motion pending. I would tender Mr. Trende as an expert  
3 in the study of elections and the history of elections.  
4 I understand the Court is probably going to take that  
5 under advisement, but we would do that now.

6 MR. HEBERT: Your Honor, in response to that, we  
7 will have questions about this witness's qualifications  
8 during cross and I understand the Court is carrying that  
9 motion until a later date. So we would ask the Court to  
10 reserve a ruling.

11 JUDGE RIPPLE: That's correct, and the Court  
12 will reserve a decision on the *Daubert* motion until a  
13 later date. Mr. Keenan, you can proceed with the  
14 witness.

15 BY MR. KEENAN:

16 Q Mr. Trende, what is the partisan index?

17 A So the partisan index -- this was discussed a little  
18 bit in the plaintiffs' case, but the partisan index is a  
19 way to compare elections that might have occurred in  
20 different environments. I think the easiest way to  
21 conceive of this, in 1984 Ronald Reagan narrowly wins  
22 Massachusetts. And so if you only look at that number,  
23 you say wow, Massachusetts was a swing state in 1984.  
24 And then you would look at -- shift to 1996 or 2008 when  
25 Bill Clinton and Barack Obama were winning 60 percent of

1 the vote in Massachusetts and say wow, that state really  
2 swung over time. But, of course, that's not right.

3       What happened was in 1984 was a very good Republican  
4 year and so states that were heavily Democratic were kind  
5 of at the median or were 50/50 states. And so what you  
6 do to control for these swings in the national  
7 environment -- there's different ways you can do it, but  
8 the simplest way is to just simply subtract out the  
9 national vote share. So you say yes, Ronald Reagan won  
10 51.2 percent of the vote in Massachusetts in 1984, but he  
11 was winning nationally by 59 percent. So Massachusetts  
12 was eight points more Democratic than the country as a  
13 whole.

14       You go to 1996 when Bill Clinton is winning 60  
15 percent of the two-party vote in the state and you say  
16 okay, but he was winning 54 percent of the vote,  
17 two-party, and when I say two-party, I mean excluding  
18 third-party candidates. It's the standard way to deal  
19 with the third-party candidates. Nationally he was  
20 winning 54 percent of the two-party vote, so that state  
21 was D plus 6 in 1996.

22       And if you do that with Massachusetts, you actually  
23 find a fairly stable partisan index of about eight points  
24 more Democratic than the country as a whole, which of  
25 course we know that's how Massachusetts really is top to

1 bottom. It's a solidly Democratic state.

2 The same thing is true, you can do it the other way  
3 with Republican states. In 1996, South Dakota was fairly  
4 close and in 2008 Montana was fairly close. They both  
5 went Republican. But that's because those were good  
6 Democratic years where the Democrats were doing well  
7 nationally. Those states were still substantially more  
8 Republican than the country as a whole. So it just  
9 allows to make sure you're doing an apples-to-apples  
10 comparison when you're comparing presidential elections.  
11 You want to take a further level of abstraction and start  
12 controlling for sea level, with the national vote share  
13 being the sea level.

14 Q Do you use the partisan index in your work?

15 A Oh, absolutely. It's kind of a foundational way to  
16 do those comparisons across elections.

17 Q In what ways do you use it in your work?

18 A Well, as I said, it's a way to kind of normalize for  
19 the national vote and so -- regularly use it for  
20 assessing the competitiveness -- it's not quite right to  
21 say I use it to assess the competitiveness of  
22 congressional districts. It's a test of partisanship.  
23 It's the partisan voting issue -- index, not the  
24 competitiveness voting index. And so it's a way to  
25 determine the partisan lean of political units and then

1 you can use that info in turn as part of your analysis of  
2 the competitiveness of the congressional district.

3 And of course when you understand what the partisan  
4 index is, there's no reason it can't be applied to other  
5 units of political -- other political subdivisions to see  
6 how counties compare to the country as a whole or even  
7 demographic groups to the country as a whole.

8 MR. KEENAN: I was going to ask permission to  
9 approach Mr. Trende with two documents. One is just a  
10 copy of his report that he can refer to once we get into  
11 it, and then also as part of his examination we are going  
12 to look at some of the stipulated facts that have been  
13 agreed to by the parties in the pretrial report. So I'm  
14 going to be providing him with a subsection of that very  
15 long document that contains stipulated vote totals in  
16 Wisconsin's history. This document is paragraphs 257  
17 through 287 of Docket 125, the joint pretrial report.  
18 May I provide copies of those to the witness?

19 JUDGE RIPPLE: The document has been marked as  
20 an exhibit?

21 MR. KEENAN: Exhibit 547. His report.

22 JUDGE RIPPLE: Thank you. You can approach the  
23 witness and hand him those documents. I assume counsel  
24 has a copy?

25 MR. HEBERT: Yes, we do, Your Honor.

1 BY MR. KEENAN:

2 Q And if we could pull up Exhibit 547, Mr. Trende's  
3 report. Look at paragraph 79. Actually perhaps we could  
4 go back a page and look at paragraph 78. Mr. Trende,  
5 could you explain what paragraph 78 and the chart in  
6 paragraph 78 represent?

7 A So paragraph 78 is the partisan index of Wisconsin  
8 over the past, I guess, 40 years -- 36 years. And so  
9 again, this kind of illustrates the utility of the  
10 partisan index. You look at Wisconsin, which was a very  
11 close state in 2002. I think it was two points. In 2012  
12 or 8, it was a 12-point state. In 2007 it was somewhere  
13 between. So you would look at that and say wow, this  
14 state is really shifting radically between the parties.  
15 But the answer to that is well, no, 2004, 2008 and 2012  
16 took place in very different national environments. So  
17 when you control -- when you normalize for that  
18 presidential vote share, you see that the state has  
19 actually been fairly stable. It's moved up and down with  
20 the national tide, a point or two more Democratic than  
21 the country as a whole.

22 Q If you look at the dot for 1988, what does that  
23 represent?

24 A So 1988 is the Dukakis/Bush election. And it was  
25 back in the late 80's in particular, the state was pretty

1 Democratic. You can see it reached a peak of six points  
2 more Democratic than the country as a whole before  
3 becoming a little bit more of a swing state in the 90's.

4 Q If we could change to the stipulated facts in the  
5 pretrial report and look at paragraphs 259 and 260.

6 These paragraphs contain some vote totals for the 1988  
7 presidential election in Wisconsin and the country as a  
8 whole. Can you explain how you would go about  
9 calculating the partisan index of Wisconsin in 1988?

10 A Absolutely. I have a calculator on my phone. I  
11 have done my best to ensure the ringer is turned off and  
12 I don't think anyone will call me. I don't know if  
13 there's a legal pad. Can I just -- the lawyer in me just  
14 cannot write on documents in front of me.

15 Q Sure.

16 A Thanks, Brian. So if you're trying to calculate the  
17 partisan index, the first thing you need to know is the  
18 national share of the two-party vote. And so what you  
19 would do is you would add -- you need to know the  
20 Wisconsin share of the two-party vote. So you would take  
21 Michael Dukakis's 1,126,794 votes and you would divide  
22 that by Dukakis's vote 1,126,794 plus George H.W. Bush's  
23 vote 1,047,499 and that sum would give or that  
24 dividing -- I'm blanking on the quotient -- would give  
25 you the -- would give you Dukakis's share of the

1 two-party vote, which is 51.8 percent.

2 And then you would do the same thing nationally.

3 You would say okay, what was the two-party vote

4 nationally and so you'd do that analysis and it's --

5 Michael Dukakis won 46.1 percent of the two-party vote.

6 And so then to calculate the partisan index, you would

7 subtract it. So you'd subtract out the national vote

8 total, 51.8 percent minus 46.1 percent is 5.7 percent.

9 So Democratic PVI of approximately six points.

10 Q What does that tell you about Wisconsin in 1988

11 then?

12 A It tells me that it was a pretty Democratic state at

13 the time. It was about as Democratic as Maine is today.

14 Q If we could turn back to 157 in Mr. Trende's report.

15 And now -- 547, and look at paragraph 79. There's a map

16 here in paragraph 79. Can you explain what that map

17 does?

18 A So this shows the partisan index at the county

19 level. And again, this allows you to normalize for

20 national conditions to see how the counties in Wisconsin

21 stack up against the national vote shares. So what you

22 can see is that the northwestern portion of Wisconsin is

23 pretty blue, and then you see these patches also of heavy

24 Democratic strength, Dane County and the south middle.

25 You have Milwaukee County. Menominee County up in the

1 northeast. Those were places where -- and I had to, in  
2 order to make this actually show anything useful, I had  
3 to cap the PVI's on the -- or the partisan indexes on the  
4 map at plus or minus 10 percent. So once you get dark  
5 blue, it's heavily Democratic. Dark red is heavily  
6 Republican. Those are counties -- Menominee County was a  
7 partisan index 27-point Democratic lead. Douglas County  
8 in the north was 22. Milwaukee was Democrat plus 15.  
9 Ashland up in the north was Democrat plus 15, and Dane is  
10 Democrat plus 14, so heavily Democratic leaning.

11 Q Just to be clear, what does the blue represent and  
12 what does the red represent?

13 A The blue is how heavy -- it's a scale -- how heavy  
14 the Democratic lean of counties is and the red is a scale  
15 of how Republican the scale is. And if it's white, it  
16 means it's close to 50/50 in terms of normalized for the  
17 national vote share.

18 Q Looking at this map, what does it tell you about the  
19 State of Wisconsin in 1988?

20 A Well, if you look at it, the Democrats actually had  
21 a broad coalition at the time. They were competitive in  
22 most areas of the state. They did have some clustering  
23 occurring in Dane and Ashland, Superior, Milwaukee, but  
24 they had strength in the rural areas as well, especially  
25 in the northwest where David Obey was untouchable at the



1 time.

2 Q If we could flip forward to paragraph 80 with the  
3 map portion. What did you do to study Wisconsin over  
4 time in terms of its political leanings?

5 A So what I did is I generated -- first I looked for  
6 years that had similar partisan indices because we want  
7 to compare apples to apples as much as possible. And it  
8 just so worked out that there were three states or three  
9 years, 1996, 2004 and 2012 that were evenly spaced where  
10 Wisconsin's partisan index was almost identical. So  
11 again, you have a very nice apples-to-apples comparison  
12 looking at those four -- those three years.

13 And so then what I wanted to do, I computed the  
14 partisan index for each county over time and it kind of  
15 allows you to visually see how the Democrats' geographic  
16 reach recedes into a few key counties.

17 Q If we look at the map in 1996, what does this tell  
18 you about Wisconsin's distribution of partisans?

19 A So as we saw when I did the time series from 1980 to  
20 2012, Wisconsin's overall partisan index drops between  
21 '88 and 1996. It becomes a swing state overall. And so  
22 we can see that the state is redder, it's less blue  
23 especially -- I'm going to test this -- in the  
24 northwestern part of the state. But there's still some  
25 real Democratic strength there. And we see there is some

1 reddening here, but these other counties, Dane,  
2 Milwaukee, and then Menominee do become more blue --  
3 bluer.

4 MR. KEENAN: If we could turn back to those  
5 stipulated facts. We will look at paragraphs 265 to 268.  
6 We could just -- not look at 268 right now, 265 through  
7 7.

8 Q So if you just explain, like, the first step you do  
9 in calculating a county's partisan index in this 1996  
10 year.

11 A Well, for a county partisan index you would have to  
12 look at 268.

13 Q Well, can we -- what about the national vote share?  
14 Maybe we could just do that first and then go to the  
15 counties.

16 A So the national vote share is the same exercise that  
17 we kind of went through before. You would look at Bill  
18 Clinton's vote, which is 1,071,971, you divide it by the  
19 total number of votes cast, that 1,071,971 plus Bob  
20 Dole's 845,029, and it turns out that Bill Clinton won  
21 the state with 55.9 percent of the two-party vote.

22 Q Then we're going to move on to the counties. What  
23 are you going to end up doing with Bill Clinton's 55.9  
24 percent of the vote?

25 A Well, nothing. You would look at the national vote

1 share --

2 Q Okay.

3 A -- in paragraph 266. So nationally Clinton wins  
4 54.7 of the two-party vote. You divide that with Bob --  
5 you go through the same exercise to get that 54.7 percent  
6 of the two-party vote nationally. So you keep that  
7 number in mind. What you do is you do the same exercise  
8 for the counties. So, for example, in paragraph --

9 Q Just hold on. Let's go down --

10 A I get excited. Sorry.

11 Q -- to the chart and let's do this exercise for Dane  
12 County.

13 A Sure.

14 Q Here we see Dane on the somewhat bottom of the  
15 screen here.

16 A So Dane County, Bill Clinton wins 109,347 votes.  
17 Okay? And what you're going to do is you're going to  
18 take that 109,347 and you're going to divide it by --  
19 you've hopefully computed the two-party total, 168,834,  
20 and it comes up with him winning 64.7 percent of the  
21 two-party vote. Now, that's just the absolute vote  
22 total. You have to normalize, you have to take account  
23 of the fact that this was a good Democratic year, and so  
24 nationally the environment is such that he's winning 54.7  
25 percent of the vote. It comes out. You subtract that

1 and it comes out to D plus 10.

2 Q So what does that tell us about Dane County?

3 A Dane County is Democratic.

4 Q And then why don't we go down to the next page and  
5 run the same exercise for Milwaukee County.

6 A So Milwaukee County, it's the same exercise. Bill  
7 Clinton wins 216,620 votes. You divide that by 336,027  
8 votes to get the two-party vote total, and I'll do that.  
9 216,620 divided by 336,027, 64.4 percent. You subtract  
10 the national vote share of .547, you get a Democratic  
11 plus 10, plus 9.7.

12 Q Let's just take one other example. Let's look at  
13 Marathon County. Can you do this for Marathon County?

14 A So Marathon County, you have Bill Clinton wins  
15 24,012 votes. You divide that by the two-party vote  
16 total of 43,886, and so Bill Clinton wins that state --  
17 that county with 54.7 percent of the vote. Of course,  
18 that's almost identical to his national vote total. It  
19 comes out as a wash.

20 Q Okay.

21 A And so Marathon is kind of a swing county.

22 Q Would that be like a 0 perhaps?

23 A Yeah. The label would be even.

24 Q Okay. Let's go back to Exhibit 547, the 1996 map  
25 that we were just looking at. So could you just perhaps

1 point out those counties on the map and then show how the  
2 numbers we just calculated relate to the colors here?

3 A So there is your Dane County. There's Milwaukee  
4 County. And I believe this is Marathon County. And so  
5 you can see that Dane and Milwaukee are down. I think I  
6 accidentally drew that line into Ozaukee, but it's the blue  
7 county there. And then Marathon is that almost box  
8 county, the rectangular county in the middle of the state  
9 that's white.

10 Q Let's move ahead to 2004. That's paragraph 81.  
11 It's going to be the next page of the report. Go down to  
12 the next page, please, and blow up the map. Can you  
13 explain what this map is?

14 A So this is the next year that there was a similar  
15 partisan index overall to Wisconsin and so it shows how  
16 the Democratic coalition shifted and the Republican  
17 coalition shifted, and kind of the key thing is that this  
18 area -- and even this area continues to get redder. Now,  
19 this area -- I just drew a bunch of arrows, I'm sorry --  
20 becomes very blue and as we do the calculations, you'll  
21 see some of these other areas also become very blue. So  
22 you can really see visually the Democrats' coalition, the  
23 tide receding into these key counties for them.

24 Q Let's go back to the stipulated facts. Now we're  
25 going to look at paragraph 573 and 4.

1 A 573?

2 Q Sorry. 273.

3 A Okay.

4 Q Okay. So in 273, what does this show us here,  
5 paragraph 273?

6 A So 273 is the overall -- 273 shows us the two-party  
7 vote calculation for George W. Bush and John Kerry in the  
8 2004 elections. It's the same total. You come up with  
9 51.24 percent/48.76 percent.

10 Q Okay. And then how are we then going to end up  
11 using that?

12 A It's the same way. You will subtract that out from  
13 the county two-party vote total. Again, that's to allow  
14 you to compare meaningfully 1996, a very good Democratic  
15 year, to 2004, more of a 50/50 year, and see the  
16 underlying distribution of the partisans.

17 Q When you said Wisconsin partisan index, the state  
18 partisan index was similar between the years. What does  
19 that mean even though the '96 and 2004 elections were  
20 different in terms of the national outcome?

21 A Well, again, I kind of use the analogy that  
22 Wisconsin is kind of consistently moving up and down with  
23 the national environment. The economy is very good for a  
24 Democrat and the Democratic president is popular as in  
25 1996. The country as a whole becomes more Democratic and

1 Wisconsin has followed that. It was a point more  
2 Democratic than the country as a whole.

3 In 2004, you had a modestly popular Republican  
4 president and an economy that was doing okay. The  
5 country was overall more Republican than it was in 1996  
6 and Wisconsin moved in a similar direction, it was about  
7 a .2 more Democrat than the country as a whole.

8 Q Let's look at the chart here with the vote totals  
9 and we'll look at Dane County again.

10 A Okay.

11 Q Why don't you calculate the partisan index for Dane  
12 County in 2004.

13 A So you take John Kerry's 181,052, you divide it by  
14 the two-party vote total of 271,421, and you get 66.7  
15 percent. So John Kerry won 66.7 percent of the two-party  
16 vote. But you have to subtract out that nationally John  
17 Kerry was winning 48.8 percent of the two-party vote. I  
18 did that wrong. And in that year, Dane County was 17.9  
19 percent more Democratic than the country as a whole.

20 Q How did that compare with 1996?

21 A So it's about eight points more Democratic in 2004  
22 than it was in 1996.

23 Q And let's do the same exercise for Milwaukee County.

24 A So Milwaukee County, 297,653 divided by 477,940 --  
25 try that again. 297,653 divided by 477,940. 62.27

1 percent for Kerry.

2 Q And so then what's the partisan index of Milwaukee  
3 County?

4 A So you go back, you subtract out 48.767, you get  
5 13.6.

6 Q And then how did that compare with 1996?

7 A It was D plus 10 in 1996, so Milwaukee County became  
8 about four points more Democratic.

9 Q Although not quite as much change as with Dane  
10 County.

11 A That's correct.

12 Q Now, the City of Milwaukee Election Commission also  
13 tabulates its vote totals separately, so we have a  
14 convenient total right under that for the City of  
15 Milwaukee itself. Can you calculate the partisan index  
16 for the City of Milwaukee in 2004?

17 A Sure. So 198,907 votes for Kerry divided by  
18 274,653, for both candidates combined you get 72.4  
19 percent for John Kerry. You subtract out -- make sure I  
20 have the right number -- 48.76, you get D plus 23.7.

21 Q Okay. So what does that say about the City of  
22 Milwaukee compared to the County of Milwaukee?

23 A It's more Democratic than the county as a whole by a  
24 substantial margin.

25 Q Okay. And let's do Marathon County again.



1 A Okay. So Marathon County was 30,899 votes for John  
2 Kerry divided by 67,293. 67,293. You get John Kerry  
3 wins 45.9 percent of the vote in Marathon County. And to  
4 turn that into the partisan index again, you control for  
5 the national environment, you subtract out 48.76, .4876,  
6 and at that point the County is -- has a 2.8 percent  
7 Republican lean, so it's R plus 2.8.

8 Q And how did that compare with 1996?

9 A It was even in 1996. So Marathon has become about  
10 three points more Republican.

11 Q Let's go back to Exhibit 547 and we'll look at the  
12 map we were just looking at in paragraph 81. You  
13 mentioned that you had to scale these colors. Can you  
14 explain what that means in terms of Dane County and  
15 Milwaukee County in this map?

16 A Well, again, you have these counties, like, actually  
17 Menominee County is like D plus 30. And so if I were to  
18 scale this over the entire course -- the entire spectrum  
19 of counties, you would basically see a dark blue for  
20 Menominee County, maybe a red for Ozaukee County, and  
21 everything else would look white and it's because they're  
22 such outliers. So to make it so you can actually see  
23 what's happening in the state as a whole, I kind of cap  
24 the scale at negative 10 and plus 10. So once it becomes  
25 the darkest shade of blue, it's very Democratic or very

1 Republican and you can then see the movement in the  
2 middle.

3 Q Okay. Let's move forward to 2012. This is  
4 paragraph or actually sorry, let's stop. We'll go to  
5 paragraph 83. There's a map on the next page. Can you  
6 explain what that map shows?

7 A So this just shows the county-by-county change from  
8 1996 to 2004 and so this illustrates what we were just  
9 talking about that Dane County becomes a lot bluer,  
10 Milwaukee becomes with four points bluer, Menominee  
11 County a lot bluer. These three counties up here with  
12 Superior, Ashland and Bayfield in them become a little  
13 bit bluer. And then you just see the rest of the state,  
14 the rural areas. There's some more in the southwest, but  
15 overall the state, the counties, the geography becomes a  
16 lot redder.

17 Q Okay. Now, let's move forward to paragraph 84.  
18 Let's just focus on the top chart there. Can you explain  
19 what this chart represents?

20 A So this is fast forwarding again to the next year  
21 where we have an overall partisan index of somewhere  
22 between D plus 1 and D plus 2, which is 2012. And so  
23 this year shows 2012 and we can see kind of -- this is  
24 the current configuration where you have a heavily  
25 Democratic cluster up in the northwest, you have

1 Milwaukee County, Menominee, and then a cluster around  
2 Dane County. And everything else -- the southwest corner  
3 has become bluer, and you can see that -- keep want to  
4 say Gunderson, but I guess it's Keen's district becoming  
5 very Democratic. Obviously Dane County would have a hard  
6 time electing Scott Klug to Congress today, but the rest  
7 of the state has become pretty Republican.

8 Q Okay.

9 A And the interesting thing is that we've kept the  
10 overall partisan index of the state constant, so it's not  
11 like the state's political orientation as a whole has  
12 changed a lot. It's just been tradeoffs. Those clusters  
13 I had circled became more Democratic, but it's been  
14 offset by the rest of the state becoming more Republican.

15 Q Let's go to the stipulated facts. Go to paragraph  
16 280. Just explain what's referenced here in paragraph  
17 280.

18 A 280 shows -- paragraph 280 shows the two-party vote,  
19 again excluding third parties for presidential election  
20 in 2012. So President Obama wins re-election with 51.96  
21 percent to Governor Romney's 48.04 percent.

22 Q So now we're going to move on to the individual  
23 counties. Could we go down and look at Dane County.

24 A Of course.

25 Q Could you calculate the partisan index for Dane

1 County?

2 A So Dane County, President Obama wins 216,071 votes  
3 and you would divide that by the two-party vote total  
4 which is 299,715 votes. So President Obama wins 72  
5 percent of the vote -- 72.1 percent of the vote in Dane  
6 County.

7 Q Then how do we go about calculating the partisan  
8 index for that?

9 A Well, you have to subtract -- we have to take into  
10 account that this is now a better Democratic year, better  
11 environment than Republicans had in 2004. It's not quite  
12 as good as Democrats had in 1996. So to allow us to make  
13 the comparison, you subtract out the national vote total  
14 for President Obama, which is .5196, and so now Dane  
15 County is 20 points more Democratic than the country as a  
16 whole.

17 Q How does that compare from '96 to 2004 to 2012?

18 A About a 10-point shift towards the Democrats.

19 Q In '96 what was it?

20 A In '96 it was 10, in 2004 it was 17.9, and then here  
21 in 2012 it's D plus 20.

22 Q And then let's look at Milwaukee County first.

23 A So it's the same exercise. 332,438 votes divided by  
24 487,362 votes. President Obama wins 68.2 percent of the  
25 vote in Milwaukee County. You would subtract out

1 President Obama's -- what did we say, I think I know the  
2 answer -- 51.96, minus .5196, and you have D plus 16.

3 Q So how does that compare from '96 to 2004 to 2012?

4 A So 2004 to 2012, it's about a two-point shift  
5 towards the Democrats for the county as a whole and from  
6 1996 it's about a six-point shift towards the Democrats.

7 Q Let's look at the City of Milwaukee subtotal there.  
8 Can you do the same exercise?

9 A 227,384 divided by 283,937 would give us President  
10 Obama winning 80.1 percent of the vote. We subtract out  
11 51.96 and you're left with D plus 28.

12 Q How does that compare to -- 2004 was the only year  
13 we've been able to do this City of Milwaukee comparison?

14 A In 2004 we said, I think, 23.6, call it 24 rounded,  
15 so about four points towards the Democrats.

16 Q And that's after it was already 23 points favored to  
17 the Democrats?

18 A Yeah. The City of Milwaukee became about four  
19 points more Democratic from 2004 to 2012.

20 Q So what do these changes between '96 and 2012 in  
21 Milwaukee and Dane County tell you about the Democratic  
22 Party in Wisconsin over that time?

23 A Well again, it's increased its vote shares in these  
24 heavily populated areas. And since we looked at years  
25 where the partisan index of the state as a whole were the

1 same, we know that that increased vote share in these  
2 urban areas has to be offset somewhere else, which is the  
3 nonurban areas as we'll see in the maps.

4 Q Okay. If we could look at -- let's go back to 547.

5 A We can see that if we do Marathon County.

6 Q Oh, yeah. I forgot to have you do Marathon County.  
7 Let's do Marathon County if we're going to complete our  
8 exercise here.

9 A So Marathon County is 32,363 votes for President  
10 Obama. You divide that by the two-party vote of 68,980.  
11 You end up with President Obama winning 46.9 percent of  
12 the two-party vote. You subtract out his .5196 and you  
13 end up with the Marathon County having a lean now, a  
14 Republican lean, of 5 exactly.

15 Q And how does that compare over this time period  
16 we've been looking at?

17 A Well, it goes from being evenly matched in 1996 to  
18 having a 3-point lean, Republican lean in 2004, to having  
19 a 5-point Republican lean in 2012. So it goes from being  
20 pure swing territory to being an area that has a  
21 substantial Republican lean. When we do congressional  
22 district analysis, we find that once you get to a  
23 partisan index of plus 5 or minus 5, that's where the  
24 district ceases to be competitive more or less these days  
25 and they're no longer winnable for both the parties.

1 Q Go back to Exhibit 547 and look at paragraph 84.  
2 But we'll look at the second map here at the bottom.  
3 What does this map show?

4 A So this is the partisan index change from 2004 to  
5 2012. Again, the bluer counties showed more of a shift  
6 from 2004 to 2012 and the redder counties showed more of  
7 a Republican shift from 2004 to 2012.

8 Q And then if we could go to the next paragraph,  
9 paragraph 85. There's another map that we'll look at.  
10 What does this map show?

11 A So this is the overall shift from 1996 to 2012,  
12 again, the two years that have the same overall statewide  
13 partisan index. And so it kind of reflects everything  
14 that we've talked about so far. Dane County has become  
15 much more Democratic, gone from an area that can elect a  
16 very moderate Republican in Congress to one where we  
17 think it's mostly impossible in normal circumstances.  
18 Milwaukee County has become substantially bluer.  
19 Menominee has become bluer. We have some slight blueness  
20 up here. The rest of the state, including Marathon  
21 County, has mostly become redder.

22 Q Going to paragraph 86, did you analyze the  
23 comparison between President Obama's vote and Bill  
24 Clinton's vote and how that compared across the counties  
25 in the state?

1 A Yeah. To try to give some further perspective to  
2 this, going back to 1988 or going back to 1992, the  
3 largest Democratic vote margins in the state came from  
4 Dane, Milwaukee and Rock Counties, and so I wanted to see  
5 kind of how these -- how much of the Democrats' vote is  
6 accounted for in the different years to again illustrate  
7 the Democrats' vote share coming into these counties.

8 And so in 1996, you can look at them and he carries  
9 these three counties combined with 64 percent of the  
10 vote. But he also carries the rest of the state overall  
11 with 52 percent of the vote. So there's a difference of  
12 12 percent between these kind of three core Democratic  
13 counties and the rest of the state. But he's still  
14 winning the state.

15 Fast forward to 2012. Barack Obama wins the state  
16 with a lower vote total in Wisconsin and nationally, but  
17 he carries these three counties with 69 percent of the  
18 vote. So even though his overall vote total is falling,  
19 it's going up in these three Democratic counties. He's  
20 doing better in Madison and Milwaukee and Janesville.  
21 Moreover, he's losing the rest of the state to Mitt  
22 Romney, 47 percent to 53 percent. So the gap between  
23 these three core Democratic counties and the rest of the  
24 state has gone from 12 points to 22 points.

25 Q Now, we've been talking about presidential election



1 results and this is a case about state legislative  
2 election results. What conclusions can we draw from  
3 looking at the presidential vote totals as they would  
4 apply to state legislative elections?

5 A Well, as plaintiffs' experts demonstrated, there's a  
6 correlation between Democratic vote share and state  
7 legislative vote totals. And so as the president's vote  
8 share increases in an area, the legislator's vote  
9 share -- the Democrats are going to have better  
10 opportunity to win. And as they demonstrated, as an area  
11 becomes more Republican, the Republicans are going to  
12 have a better opportunity to win.

13 Now, since we don't have proportional representation  
14 in this country where you get your congressional seats  
15 allocated on your percentage of the vote -- there's a fun  
16 academic debate over whether we should, but we don't;  
17 there's a geographic basis to our representation. And so  
18 if you don't have an ability to win in a rural area in  
19 this country, which covers a lot of geography, if it is  
20 even marginally red, if it goes from being marginally  
21 blue to marginally red, it becomes more difficult to win  
22 areas. If your core urban precincts go from being 10  
23 points more Democratic to 20 points more Democratic,  
24 you're going to win anyway. But if the rest of the state  
25 goes from being a slight Democratic lean to a slight

1 Republican lean, you start to lose seats out there.

2 Q Now, through this time period we're looking at, '96,  
3 2004 and 2012, what was happening with the Democratic  
4 statewide vote totals as opposed to these county  
5 analyses?

6 A I'm sorry?

7 Q The Democratic statewide vote from '96, 2004 and --  
8 let's just compare '96 and 2012. How is the comparison  
9 between the statewide vote for Clinton and Obama?

10 A Oh, President Obama in 2012 did, I think -- he did a  
11 little bit worse than President Clinton.

12 Q Okay. But where was the nature of where those votes  
13 came from?

14 A Well again, the partisan index of the state doesn't  
15 change, and so you can see, as I said in paragraph 86,  
16 President Obama's vote total goes up in these three core  
17 counties of Milwaukee, Dane, and Rock. But in the rest  
18 of the state, he actually flips from President Clinton  
19 winning the rest of the state to President Obama losing  
20 the rest of the state.

21 Q Let's look at paragraph 87. There's a map here  
22 Can you explain what this map represents?

23 A Sure. So this takes us to a different level of  
24 analysis. We're going from the county level down to the  
25 ward level, and unfortunately I don't have -- didn't have

1 ward-shape files going back to the 80's so I couldn't  
2 reproduce the analysis there. But you can again see at  
3 the ward level there's a cluster here, there's a  
4 Democratic cluster here, Menominee, the Lake Superior  
5 shoreline. But the rest of the state, there isn't a  
6 whole lot of red to draw upon when you're drawing your  
7 congressional districts.

8 JUDGE CRABB: Did you mean red?

9 MR. KEENAN: You said red. Do you mean blue?

10 THE WITNESS: Yeah, the rest of the state  
11 there's not a blue to draw upon. I'm sorry, Your Honor.

12 BY MR. KEENAN:

13 Q We do see a cluster of red there, correct, in the  
14 Waukesha area extending upwards; correct?

15 A Correct.

16 Q So is it your opinion that Republicans have no  
17 clusters in the State of Wisconsin?

18 A No, no, absolutely not. It's one of the more  
19 jarring things as an elections analyst how red the  
20 Milwaukee suburbs are. It's not something you really see  
21 outside of the south. I would love to know the reason  
22 for it, why Milwaukee suburbs are so red and Chicago's  
23 are more purple.

24 But setting that aside, the issue isn't so much that  
25 Republicans have a cluster and Democrats have a cluster,

1 it's that the rest of the state has -- now has a slight  
2 Republican lean to it. So what would have been swing or  
3 slightly Democratic-leaning districts in this area are  
4 going to tend to be more Republican.

5 Q If we could just go back to paragraph 84. We'll  
6 look at the 2012 map of the counties. The top one,  
7 sorry. Now, Wisconsin's counties have different  
8 populations; correct?

9 A That's right.

10 Q Okay. And does this map provide any sort of, like,  
11 numerical estimate as to what the precise level of  
12 concentration of Democrats is?

13 A No. I mean the county lines are stable over time so  
14 it allows you to make that sort of comparison. And you  
15 know that as the Democrats go into these counties,  
16 they're not getting wiped out of Wisconsin, they're just  
17 going into more heavily clustered urban areas. You can  
18 make maps that take account -- that distort the county  
19 lines to let you see the state as a whole. I don't think  
20 they're very useful because everything is so blurred that  
21 you can't make sense of heads or tails. But again, I  
22 don't doubt that the overall amount of red and blue in  
23 Wisconsin has stayed the same over this time period. In  
24 fact, that's the point. They have similar overall  
25 partisan indexes.

1           The point is that the blue has become more  
2 geographically concentrated, meaning that these wards  
3 that are the building blocks of the districts are bluer  
4 makes it harder to draw a bunch of Democratic districts.

5 Q       Well then talking about Wisconsin, have you seen a  
6 similar trend like this in other areas of the country?

7 A       Absolutely.

8 Q       Can you provide some examples?

9 A       Well, if we go back, I have some similar maps that I  
10 used for my books that I utilized here.

11 Q       Maybe we could turn to paragraph --

12 A       Paragraph 66.

13 Q       -- 66, the maps.

14 A       So this is one of the more fascinating maps that I  
15 came across when I was doing my book research. What this  
16 shows is the counties that Bill Clinton won in blue in  
17 1996 and that Bob Dole won in red in 1996 and then  
18 compares it to Bush/Kerry and Obama -- Obama/McCain. And  
19 what makes the 1996 and 2004 comparisons so useful is  
20 that again, they're years where the president --  
21 Democratic presidents were winning by roughly the same  
22 margin nationally. So you have a control in place. And  
23 what you see is that you really have the same national  
24 margin. Bill Clinton has a pretty wide geographic reach  
25 in this area.

1 Q Mr. Trende, can I just interrupt? What states does  
2 this map represent?

3 A So this is -- sorry. Texas, Oklahoma, Arkansas,  
4 Louisiana, Mississippi, Alabama, Nevada and Kentucky.

5 Q Nevada? I'm sorry?

6 A Did I say Nevada? Tennessee, Kentucky. And so what  
7 we find is that Bill Clinton, when he runs for  
8 reelection -- and a lot of these -- back then a lot of  
9 these congressional districts are drawn by Democrats.  
10 They're meant to help Democrats. But he wins over -- he  
11 wins a majority of the congressional districts in the  
12 region and the Democrats are able to win half of the  
13 congressional districts.

14 Now, fast forward to 2008, and again, a lot of these  
15 lines are drawn by Democrats. Alabama was -- it's hard  
16 to believe today, but Alabama and Tennessee and Kentucky  
17 were Democratic gerrymanders. Louisiana and Arkansas as  
18 well. These are areas where Barack Obama only won about  
19 a quarter of the districts and that's part of why  
20 Democrats got wiped out in the region in the 2010  
21 elections, because these districts that were conceived of  
22 originally as being kind of Democratic districts suddenly  
23 had become red because the Democrats' vote coalition had  
24 shrunk into these blue centers.

25 Q So you've referenced both counties and districts.

1 What do the maps represent?

2 A The maps represent counties.

3 Q And you've talked about some statistics with respect  
4 to counties. Where did you get that information? Or  
5 with respect to congressional districts, where do you get  
6 that information from?

7 A That's in paragraphs 67 and 68 and that was taken  
8 from *Almanac of American Politics*.

9 Q If we also look at paragraph 70. What do you see  
10 here?

11 A So this is Virginia. It's a state that Bill Clinton  
12 lost by, I think, six points in 1996 and Barack -- by two  
13 points, and Barack Obama, I think, won by six. And so  
14 again, similar national environment. The state as a  
15 whole swings towards the Democrats, which surprises no  
16 one who's followed Virginia politics over the past couple  
17 decades. But again, you see President Obama's coalition  
18 doesn't have the geographic reach that President Clinton  
19 had. I mean by this point you get Blacksburg, which is  
20 Virginia Tech. There's some African American counties  
21 here. Charlottesville. Henrico and Richmond. And then  
22 northern Virginia.

23 These are areas -- some of them, you know, Bill  
24 Clinton didn't win Fairfax County. Barack Obama did.  
25 But Barack Obama sacrifices the western portion of the

1 state, which was -- and southern portion of the state  
2 which was able to elect Democrats and keep them in power  
3 for the 80's and 90's suddenly becomes a lot redder and  
4 those areas have switched to Republicans.

5 Q And again, what would this analysis tell us about a  
6 party's ability to win legislative seats?

7 A It's very tough. I mean Democrats got to draw the  
8 Virginia State Senate in 2011. They tried their best,  
9 but they could only draw one seat advantage for  
10 themselves and that disappeared when a member from rural  
11 Virginia retired.

12 Q Now, you've read Professor Jackman's report;  
13 correct?

14 A Yes.

15 Q Now, how do you see in his historical analysis of  
16 that efficiency gaps over time?

17 A I haven't looked at that report in awhile.

18 Q You were here for his testimony yesterday; right?

19 A I wasn't.

20 Q Sorry. We'll skip that.

21 A Unfortunately.

22 Q Well, let's shift to the nearest neighbor analysis.

23 A Yes.

24 Q And we'll go to Exhibit 547. First we'll start at  
25 paragraph 93, which is a prelude to the nearest neighbor



1 analysis. Blow up the chart here. What were you doing  
2 with this part of your report?

3 A So the idea was okay, I think it's plain just  
4 looking at the map what's happened over time and given  
5 what we've known nationally, what happened to the  
6 Democratic coalition, it makes sense and I think it does  
7 a nice job of answering Dr. Jackman's question of why you  
8 see this efficiency gap starting to emerge in the 90's.  
9 Well, it's because the Democrats' coalition starts to  
10 shrink inwards and it's harder for them not to waste  
11 votes. But how do you -- what's another way to measure  
12 this?

13 Well, we can look and see are these wards actually  
14 becoming farther apart and there's this idea of nearest  
15 neighbor analysis that measures the distance between one  
16 group and the closest similarly situated group. Now, a  
17 lot of times when you do it, you'll use average nearest  
18 neighbor, but looking at the map of Wisconsin and knowing  
19 how these wards are utilized, I figured that a mean would  
20 be distorted by outliers.

21 The first week of statistics you go through mean,  
22 median, mode, the descriptor statistics. And what you  
23 learn is that if you have a skewed distribution, an  
24 average is difficult to work with. But the classic  
25 example is income distribution. If you look at the

1 United States income distribution, it shows the average  
2 income actually being pretty high. You say wow, I had no  
3 idea. Well, what's happening there? Well, Bill Gates's  
4 income and the tech billionaires out in Silicon Valley  
5 and billionaires in general exert a tremendous amount of  
6 pull on that average and distort the average. So what  
7 you almost always see reported is median household  
8 income. Because the way to keep those extremes from  
9 exerting pull on the average and pushing you back, and  
10 you can kind of see the distribution toward the center,  
11 say, how is the center really doing.

12 So since looking at the map of Wisconsin, I could  
13 see that the Democratic coalition, these places in  
14 Menominee County and Ashland County are probably going to  
15 match up somewhere in Milwaukee and skew the average. I  
16 said let's use the median instead, drawing on, again, the  
17 basic statistics that I learned.

18 Q And I think -- my mistake. You jumped ahead. I  
19 wanted to start here at 93, the partisan lean of the  
20 average Democratic lean. What were you doing here?

21 A So here when you're just looking at the -- you're  
22 not concerned about districts, you're just saying has --  
23 you're asking yourself have wards in Wisconsin become  
24 more Democratic over time. So since we're not looking at  
25 distance, we're just looking at the overall distribution,

1 there was no reason not to utilize a median. And so what  
2 I did was I looked at the wards. I said okay, what's the  
3 average? How are these wards that have Democratic leans  
4 distributed and how are the wards that have Republican  
5 leans distributed? What I found was that over time, the  
6 average Democratic ward had become about two-and-a-half  
7 percent more Democratic than it was in 2002.

8 In 1995, I didn't quantify it because quite frankly  
9 I saw this weird uptick in 2014 that looked like an  
10 outlier and I didn't think it would be good.

11 Q Let's just --

12 A Okay. Let's just stick with --

13 Q Hold on. Can you explain what the vertical and  
14 horizontal axis mean on your chart here?

15 A Yeah. So the vertical -- in chart 93, the vertical  
16 axis is the average, and if it's negative, it's more  
17 Democratic; as it becomes positive it becomes  
18 increasingly Republican. And the horizontal axis, the  
19 x-axis is the year. And so that's what the axes mean.

20 Q Okay. Now, Professor Mayer criticized you for your  
21 selection in 2006. Do you recall some testimony about  
22 that?

23 A Yes.

24 Q Can you first explain which race you used in 2006 to  
25 establish the partisan lean?

1 A I used the Senate race in 2006, the Kohl, I think it  
2 was, Lorge Senate race.

3 Q And what were you using that for in terms of then  
4 looking at wards?

5 A So this is the partisan index of wards, so it's --  
6 this is actually normalized for the statewide vote. You  
7 can't normalize for the national vote in off-year  
8 elections because there is no national vote. So it's  
9 normalized for statewide elections. So what you would do  
10 is you would say okay, Herb Kohl wins a precinct by 50  
11 points or a ward by 50 points. He's winning statewide by  
12 50 points. This is a swing precinct. Its overall  
13 Democratic lean is 0.

14 Q Okay. Now, what do you understand Professor Mayer's  
15 criticism of you to be?

16 A Professor Mayer said that I should have used the  
17 more competitive gubernatorial race, the Green/Doyle race  
18 in 2006.

19 Q Do you find this criticism valid?

20 A I don't.

21 Q Why not?

22 A Because you've normalized. This is exactly why you  
23 want to do that normalization for the statewide vote.  
24 Because what we find is that -- this is actually a  
25 wonderful example. Even comparing the 7-point

1 Green/Doyle race to the 50-point Lorge/Kohl race, the  
2 ward distribution just shifts up and down and so this  
3 ward, this hypothetical ward that was 50 percent Doyle --  
4 50 percent Kohl when he's winning 50 percent statewide  
5 would be 53 Doyle when he's winning 53 percent statewide.  
6 The distribution just shifts and it allows you to kind of  
7 compare even to widely disparate elections.

8 Q Now, this graph goes up in 2006?

9 A Yes.

10 Q Does that become more Democratic or less Democratic?

11 A So the average Democratic ward in 2006, it shows it  
12 becoming less Democratic.

13 Q Well, have you recalculated this number using the  
14 governor's race rather than the senator's race?

15 A I have.

16 MR. KEENAN: Okay. If we could put up Exhibit  
17 578.

18 MR. HEBERT: And if I may object at this time,  
19 Your Honor. This is an exhibit that was prepared by  
20 Mr. Trende and we did -- as you know, the sequence here  
21 is that the plaintiffs did expert reports, the defendants  
22 then did expert reports, then we did rebuttal reports and  
23 then the depositions were taken of the experts.  
24 Mr. Trende has come up with this exhibit, which is kind  
25 of an amendment and correction to his report. They could

1 have sought leave to file a rebuttal report or a  
2 corrected report or an amended report and they failed to  
3 do so. I just want the record to reflect the objection  
4 of the plaintiffs to this.

5 MR. KEENAN: I just have to correct one thing  
6 there is that the timing of this was plaintiffs did  
7 experts, defendants did experts. Defendants' experts  
8 were deposed before the rebuttal reports and then there  
9 were the rebuttal reports.

10 Secondly, the plaintiffs have done this numerous  
11 times in this trial, so I don't see why there's a problem  
12 with the -- the plaintiffs have done it numerous times.  
13 I don't see how there could be a problem with the  
14 defendants doing it.

15 MR. POLAND: Your Honors, if I may address just  
16 that because it's not specific to this witness. There  
17 was a process that the Court put in place, and what the  
18 defendants have done so far with rebuttal testimony was  
19 pure rebuttal to what Mr. Keenan put on with Mr. Foltz in  
20 his examination, which was actually his case-in-chief.  
21 We did Mr. Foltz entirely during the plaintiffs'  
22 case-in-chief for the convenience of the parties and the  
23 Court. I think that's fine. But what Dr. Mayer came up  
24 with that was essentially new was truly rebuttal because  
25 it came up for the first time during Mr. Foltz's direct

1 examination by Mr. Keenan. So that was rebuttal. I  
2 think that the new things that we came up with yesterday  
3 that we sent to the Court were in response to the Court's  
4 questions. So I do want to just clarify that point.

5 JUDGE RIPPLE: We'll admit it subject to a later  
6 ruling after we've had a chance to examine the record and  
7 consult.

8 BY MR. KEENAN:

9 Q Okay. This is 578. What do we see here on the left  
10 -- we see the year on the far left. But then in the  
11 middle column what does that show?

12 A That's the average -- the dot that you see in  
13 paragraph 93 for 2006, the value of that dot is 7.5  
14 percent on the old calculation. And so if I were to use  
15 the gubernatorial race, I don't concede this as an error,  
16 but if you prefer to use the gubernatorial race this  
17 year, the average D precinct would be 9.8 percent. So  
18 there would still be a bump there. It would be less of a  
19 bump.

20 But that's kind of what's amazing. I was pleasantly  
21 surprised it worked out this well. By normalizing for  
22 the statewide vote, even in these two radically different  
23 elections the average precinct doesn't change that much.  
24 It still has a Democratic -- the average Democratic  
25 precinct has a Democratic lean of about, you know, 8

1 percent or 10 percent.

2 Q Okay. And was there also an error with respect to  
3 your 2014 numbers?

4 A Now that was a genuine error. When you're doing  
5 this in R, you're essentially writing a computer program,  
6 and as I was writing the program to calculate the vote  
7 share and then subtract out the map share, you have to  
8 keep going like year 2002, duh, duh, duh, subtract map  
9 2002 and then the two-party vote calculation.

10 For 2014, I think Dr. Mayer actually includes the  
11 code that was written. I subtracted out the 2012 map.  
12 It's a mistake.

13 Q Okay. But have you accounted for that?

14 A Yeah. So actually if you use the proper 2014 map  
15 normalization, it actually makes things a little worse  
16 for plaintiffs. This was an error in plaintiffs' favor.  
17 In fact, when you compare 2014 to 2002, and this kind of  
18 gets a little bit to Judge Griesbach's objection about  
19 trying to compare gubernatorial race over time to  
20 gubernatorial race over time, not any of the national  
21 stuff. In 2014, the average Democratic precinct under  
22 the old calculations was two-and-a-half percent more  
23 Democratic than it had been in 2002. When I recalculated  
24 in 2014, the average Democratic precinct is actually  
25 almost 3 percent more Democratic in 2014 than it was in



1 2012.

2           So over time -- it's still the case over time the  
3 average Democratic precinct has become more Democratic.

4 Q       Okay. Did you perform a similar analysis on  
5 Republican wards?

6 A       I did.

7 Q       Okay. What did you find with respect to Republican  
8 wards?

9 A       So I didn't quantify the change for Republican wards  
10 because I saw the 2014 uptick and that looks like an  
11 outlier. So all I said was we don't have a similar  
12 effect for Republican wards. We don't see a three-point  
13 shift over time and --

14 Q       Let's -- sorry. Let's go to Exhibit 547. Paragraph  
15 95.

16           MR. KEENAN: Sorry, let's go down. There's a  
17 similar graph of the Republicans.

18 Q       First, why don't you just -- let's explain the x-  
19 and y-axis and everything that's here.

20 A       This is the same chart for Republicans. You have  
21 year on the horizontal axis, you have the average  
22 Republican ward on the vertical axis, the y-axis, and you  
23 see it kind of shifting over time but not dramatically.

24 Q       So we see 0 at the top and 15 at the bottom.

25 A       So 0 --

1 Q What is positive -- what does getting bigger mean in  
2 this sense?

3 A So 0 would be the average Republican ward was  
4 actually neutral. Obviously it's not going to be that.  
5 And 15 would be the average Republican ward was 15 points  
6 more Republican than the state as a whole in a given  
7 year.

8 Q So the further down a dot is on this -- in this  
9 graph shows more Republican ward?

10 A That's right. I wanted it to kind of move in tandem  
11 with the Democratic scaling above. So you can argue for  
12 scaling it either way. I like this way.

13 Q All right. So you mention something about this  
14 uptick at 2014. What is that showing?

15 A It shows that in 2014, the average Republican ward  
16 suddenly shifts and becomes more Democratic, becomes  
17 neutral, and I thought that looks odd. So again, I  
18 didn't quantify the shift. Now I know why it looks odd.

19 MR. KEENAN: So let's put up Exhibit 579.

20 Q First, did the errors or the error in 2014 that we  
21 talked about on the Democratic side, did that apply to  
22 your Republican analysis?

23 A Right. 2006 and 2014, those objections were raised.

24 Q Okay. So then what change do you see when you  
25 corrected the numbers here?

1 A Well again, in 2006 you see almost no change when  
2 you exchange from the Kohl -- when you change from  
3 Kohl/Lorge to Green/Doyle. It's actually six-tenths of a  
4 point when you round it. I think it rounded out for some  
5 reason to seven-tenths. So almost no change, even  
6 comparing these widely disparate races. That's the value  
7 of doing the normalization.

8 Now, when you change 2014, you get rid of that  
9 uptick and so it does a little more what you would have  
10 expected it to do. But still the change in the average  
11 Republican precinct from 2002 to 2014 is just 1.1  
12 percent. It's a third of the change we saw in the  
13 average Democratic precinct. So the average Democratic  
14 precinct becomes three times as much more Democratic as  
15 the average Republican precinct over this time period.

16 Q What was the average Republican precinct in 2002?

17 A 11 percent more Republican in the state as a whole.

18 Q And then what do we see in 2010?

19 A 2010 it's 11 percent again.

20 Q And 2012?

21 A 12.1 percent.

22 Q And your corrected number here for 2014 is?

23 A Oh, 2012. I'm sorry. That was eleven-and-a-half  
24 and the corrected for 2014 is 12.1.

25 Q Okay. All right. Now, let's go to the nearest

1 neighbor analysis. Can you explain what you were trying  
2 to do there?

3 A Sorry, I got a little ahead of myself in explaining  
4 what the nearest neighbor analysis was. So this told me  
5 how things changed over time and it kind of validated  
6 what we had seen on the maps in the county level, that  
7 these Democratic areas became a lot more Democratic and  
8 the Republican areas kind of spread out. Well, what I  
9 wanted to then say is okay, over time let's bring the  
10 geography in. Over time, do we see the heavily  
11 Democratic areas becoming more clustered? And the same  
12 thing with the Republican areas, do they show a similar  
13 degree of clustering.

14 So what I used was a median nearest neighbor  
15 analysis. I think I explained why I used a median rather  
16 than a mean, an average at this point. And what this  
17 analysis does, it's a computer program and it will take,  
18 you know, ward A in Menominee, it will look at its  
19 partisan lean and then it will find the closest precinct  
20 that has a similar partisan lean. And then it will take  
21 ward B and do a similar thing and record it. And it will  
22 do that for all 6,600 counties. It will make what we  
23 call an i-by-j matrix. It's going to be a 6,600-by-6,600  
24 ward matrix, and it will record all of the average -- all  
25 the distances ward to ward. It will find the closest

1 neighbor for each ward and then it will take the median  
2 of that. So we can see as a general matter how far apart  
3 are the Democratic wards and how far apart are the  
4 Republican wards.

5 Q You mentioned wards of similar partisanship. Could  
6 you explain, like, how you group the wards?

7 A So I grouped -- we did the normalization. We turned  
8 it into partisan index and then we grouped them into  
9 quantiles, which is the decimal expression of  
10 percentiles. So 0 to 3 percent quantiles is a grouping,  
11 3 percent to 6 percent, 6 percent to 9 percent. I would  
12 have loved to have done it more granular than that, but  
13 the computer would have none of it because you're doing a  
14 million calculations already for each year.

15 So it allows you then to -- as you do those quantile  
16 groupings and you compare them over time, this is obvious  
17 from the R code, it gives you the distance.

18 Q Okay. If we could pull up --

19 A Oh, I'm sorry. On the group, we excluded -- the  
20 defendants excluded .45 to .55 because those are even  
21 parts and indexes. So those are things in the middle.  
22 They don't really -- they aren't really Democratic wards  
23 or Republican wards, those are swing wards. So we  
24 excluded those from the analyses.

25 MR. KEENAN: If we could go to Exhibit 547,

1 paragraph 99. And we'll look at the top graph here.

2 Q First, let's just set out what this is with the  
3 vertical axis/horizontal axis.

4 A Right. So this is the x-axis or the horizontal axis  
5 is the quantile. So the .05 is the 5 percent most  
6 Democratic wards and so forth and you can see the little  
7 circles represent quantile calculations. The vertical  
8 axis or the y-axis is the median nearest neighbor  
9 distance in miles for that quantile, and then we sorted  
10 them by years.

11 Q Okay. So what do we see on this graph in terms of  
12 the distances?

13 A Well, we see sort of what we expected given what we  
14 saw on the maps and from our analysis when we looked at  
15 the maps of the wards in other counties. If you look at  
16 the 2004 and 2002, those wards -- I guess there's two  
17 things you notice. First, those wards are farther apart  
18 than the 2014 wards. So that tells you that over this  
19 time period, the Democratic wards in each quantile grew  
20 closer together. What we also see is that as you go over  
21 quantile, so going from left to right, as the wards  
22 become more Republican, they become spread further out.  
23 So not only is the most heavily Democratic ward closer --  
24 group of wards closer together than the most heavily  
25 Republican or Republican-leaning Democratic wards or the

1 swing-year Democratic wards, I guess, but over the years  
2 they have become closer together.

3 Q If we could pull up Exhibit 114, which is Professor  
4 Mayer's rebuttal report. Professor Mayer has a criticism  
5 of you that your analysis doesn't take account for the  
6 fact that wards have varying sizes across the State of  
7 Wisconsin. Do you understand that?

8 A I do understand that.

9 Q Okay. How would you respond to that criticism?

10 A Well, I think that's part of the problem; right? I  
11 mean the Democratic -- the ward sizes correlate with  
12 urban areas and by saying that the Democrats are in these  
13 small wards, he's proven the point. The Democrats are in  
14 these core urban areas. You can't spread out and draw  
15 Republican-leaning districts.

16 Q We've put up on the screen Exhibit 114, page nine,  
17 Table A. This is Professor Mayer's calculation of the  
18 size of the wards in the state. What does this show you?

19 A Well again, the City of Milwaukee wards are very  
20 small. I agree. And the rest of the state has larger  
21 wards. Again, I agree. The problem is the Democrats are  
22 in these very small wards and have been increasingly in  
23 these very small wards, which makes it harder to draw a  
24 smaller precinct.

25 The other thing that I think is important is that

1 Dr. Mayer does a lot with 2012. He isn't looking at so  
2 much over the change over time. And why that's crucial  
3 is that these wards are consistent over a decade. Okay?  
4 And so if you see a change in the distances over the  
5 course of a decade, which we do see, and these wards are  
6 held stable, you can't explain change with a constant.  
7 These ward sizes are constant, yet we still see the  
8 Democrats' distances shrinking. And so it has to be  
9 something other than ward sizes. It's the fact that the  
10 Democrats are coming inwards, because again, these are  
11 constants, so you can't explain the change with the  
12 constant.

13 Q And how does smaller distances between wards relate  
14 to legislative districting?

15 A Well again, if you have these heavily Democratic  
16 wards packed together in the Democratic cities, you get  
17 this natural packing that occurs in the state. And so if  
18 all your vote or most of your vote goes into Milwaukee  
19 and Dane Counties, Milwaukee and Dane Counties are only  
20 entitled to a certain number of districts and Milwaukee  
21 and Dane Counties were leaning Democratic to begin with,  
22 so the Democrats were already doing quite well in those  
23 districts. It becomes harder -- it becomes progressively  
24 harder to draw Democratic precinct -- Democratic  
25 districts elsewhere in the state.



1 Q You mentioned there was a change over time within  
2 consistent wards. How do we see that on this graph here?

3 A Well again, you can see the 2008 ward right here in  
4 the middle, that line is lower than 2006 and 2004 and  
5 2002. 2010 is lower than 2008. So again, these were  
6 drawn with wards of the same size. You have these ward  
7 sizes held constant and yet nevertheless you see things  
8 -- you see the distances between Democratic wards  
9 shrinking. You can't explain that with ward sizes.

10 Q Let's move down the page. Did you have a similar  
11 analysis with respect to the Republican wards?

12 A Yes.

13 Q Okay. And can you explain what this graph shows  
14 here in paragraph 98 of your report?

15 A So this is the similar effect for Republicans or the  
16 similar analysis for Republicans. On the y-axis as we  
17 move rightward, the quantiles become increasingly swingy,  
18 I guess, to use a nonacademic term. If you go on the  
19 y-axis, the vertical axis, the distances grow larger.

20 Q Okay. And so what do we see here as we move from  
21 heavily Republican over to, like, more Democratic or less  
22 Republican wards?

23 A It's actually the opposite of what we see with the  
24 Democrats. As you become -- as you get to these heavily  
25 Republican wards, they become farther apart. And it's

1 not just that as you go from here to here they become  
2 farther apart, but as you go from year to year, they  
3 become progressively farther apart. So over the course  
4 of this time period, even similarly situated quantiles  
5 for Republicans have grown farther apart.

6 JUDGE CRABB: I have a question.

7 THE WITNESS: Yes, Your Honor.

8 JUDGE CRABB: You said that the Democrats are  
9 clustered into cities and as more and more of them come  
10 in, there are going to be more and more in the district  
11 and you can't increase the districts. But you're not  
12 saying that -- say two million people moved into Dane  
13 County. You're not suggesting that the number of  
14 districts in Dane County would still be the same.

15 THE WITNESS: Oh, no, Your Honor.

16 JUDGE CRABB: What are you saying?

17 THE WITNESS: Yes, Your Honor. Actually during  
18 a redistricting period they would be the same. If two  
19 million people moved into Dane County from 2002 to 2010,  
20 it would be the same. We still see that changing. There  
21 would be more districts put into Dane County. I don't  
22 know how many districts Dane County was entitled to in  
23 2012 versus 2002. What I do know is that Democrats were  
24 winning those districts in Dane County to begin with, so  
25 those votes that they get in, you're right, don't go into

1 an additional Assembly district or Senate district are  
2 basically naturally wasted votes because a district  
3 that's giving 60 percent of the vote to Democrats by the  
4 end of the decade is giving 70 percent of the vote to  
5 Democrats. So that's a natural waste.

6 JUDGE CRABB: When the new districting process  
7 takes effect and, say, you have a lot of western states,  
8 you have 50 or 60 percent of your population is living in  
9 urban areas.

10 THE WITNESS: Yes, Your Honor.

11 JUDGE CRABB: So how do you account, if you say  
12 a county can have only so many districts, how do you  
13 account for that?

14 THE WITNESS: Well, it's not -- in between  
15 redistricting years there can be a change. If you're  
16 looking at some place -- Milwaukee County is a better  
17 example where you don't have a population explosion. I  
18 was pleasantly surprised riding around Dane County  
19 yesterday how much new construction there is. It would  
20 still be a problem for the Democrats there.

21 Now, that might be, as Dr. Jackman said, an area for  
22 additional inquiry. But this is something that  
23 plaintiffs aren't accounting for. We know that there's  
24 this clustering and that the efficiency gap, ultimately  
25 this is a question about the utilization of the

1 efficiency gap. We know there's this clustering that's  
2 occurring or I think it's obvious there's this clustering  
3 occurring in Dane and Milwaukee County. Maybe it would  
4 be explained away by additional Assembly districts coming  
5 into these counties. But it's something that a measure  
6 of gerrymandering is going to have to account for and the  
7 efficiency gap just doesn't.

8 JUDGE CRABB: I thought the idea of  
9 redistricting was to try to eliminate the variances in  
10 districts. So you have a district that may be huge, but  
11 it has approximately the same number of people as this  
12 tiny city district in which people are in high rises and  
13 whatever.

14 THE WITNESS: I understand the point. This  
15 isn't just about people moving, it's about vote  
16 preferences changing over time. Now, it's -- it is a  
17 perfect -- I understand your point. It's a well --

18 JUDGE CRABB: I don't understand --

19 THE WITNESS: That's fair. So there's two  
20 things: First, it doesn't necessarily have to be two  
21 million people moving into Dane County to get this change  
22 in the --

23 JUDGE CRABB: I understand that. My question is  
24 your testimony seemed to indicate that there's nothing we  
25 can do. A lot of people move into one area. They're all

1 one party. There's nothing we can do about it. But my  
2 understanding of redistricting is that's when you try to  
3 do something about that so the districts are relatively  
4 the same number.

5 THE WITNESS: Yes, Your Honor.

6 JUDGE CRABB: Okay. So if you're up in  
7 Shullsburg, you may be in a district that's  
8 geographically huge, but you're going to be a district  
9 that has approximately the same number of people as of  
10 the date of redistricting as this little tiny area in  
11 Milwaukee or Madison.

12 THE WITNESS: Well, there's two answers. The  
13 first is I'm not sure -- my answer isn't that people are  
14 moving in and that's -- the Democrats move in to Dane  
15 County and that's what makes it more Democratic. I mean  
16 I suppose that's a hypothetical possibility. It's also  
17 vote preference is changing. The same people who live  
18 here change --

19 JUDGE CRABB: Of course.

20 THE WITNESS: -- their votes, so that would not  
21 affect the distribution of the Assembly or Senate  
22 districts. If people change their vote preferences,  
23 there are still a similar number of people living in the  
24 geographic area.

25 Now, people can also move in which would entitle an

1 area, as you say, to more Assembly districts. That's  
2 something -- the straightest answer is that is something  
3 that this analysis doesn't account for that could explain  
4 it away. I would love to see the data on it.

5 JUDGE CRABB: Okay.

6 BY MR. KEENAN:

7 Q Professor Mayer criticizes you for using the median  
8 distance rather than the mean. Why did you choose to use  
9 the median?

10 A Well again, as I said, the first week of statistics  
11 you're taught the difference between median, mean, mode,  
12 standard deviation, variance, the general descriptive  
13 statistics. The problem with using a mean is that  
14 outliers exert influence on it.

15 I use the example of income distribution. The few  
16 high income individuals skew the average income in the  
17 United States. They typically use a median. And you see  
18 the same thing in Wisconsin. There are -- when you look  
19 at the map, there are these clusters of Democrats across  
20 the state and so when you're pairing up something in  
21 Ashland County, there aren't a whole lot of other  
22 Democratic precincts around Ashland County that could  
23 easily match up with something in Menominee or Milwaukee  
24 or Dane, which is going to give you a longer distance  
25 than -- it's kind of a outlying distance. So instead of

1 average, I took the mean.

2 Q This is Exhibit 114, Professor Mayer's amended  
3 rebuttal report. This is page ten, Figure B, which he  
4 went over on his examination which shows his  
5 recalculation of your analysis but using the mean or the  
6 -- yes, the mean instead of the median. Could you  
7 explain what this shows?

8 A So what Professor Mayer has done is taken --  
9 replicated my analysis of median and then all -- for one  
10 year, and then also done a similar -- and then done a  
11 similar analysis using the mean nearest neighbor.

12 Q And what do you think that Professor Mayer's  
13 reconstruction of your analysis using the mean shows?

14 A Well, what you see is that even the average  
15 Republican ward is further apart than the average  
16 Democratic ward. It shifts things upward. It shifts  
17 things upward a lot by -- for the Democrats, which I  
18 think reflects the pull that the outliers have when you  
19 do an average as opposed to a median. But I also noticed  
20 that this isn't -- this might capture the shape in one  
21 year, but there's no analysis over time, which is what I  
22 do in my charts. I'm not looking at one year and seeing  
23 how the distribution changes, I'm seeing those  
24 distributions change from 2002 to 2014. They shifted  
25 downward for Republicans and upwards for Democrats, and

1 Dr. Mayer doesn't capture that in this chart.

2 Q Just to use this, what do you think this uptick here  
3 you reference, what does that show?

4 A Well, it shows that the average Republican ward is a  
5 lot further apart than the median Republican ward, which  
6 is probably the influence of outliers. And the average  
7 Democratic ward is a lot further apart than the median  
8 Democratic ward. Again, you probably have the influence  
9 of outliers there.

10 Q All right.

11 MR. KEENAN: If we could put up Exhibit 576.

12 All right.

13 Q This is a map. Could you explain what this map  
14 shows?

15 MR. HEBERT: For the record, let me object to  
16 this. I think this is one of your new exhibits?

17 MR. KEENAN: Right. So if you want to make your  
18 record.

19 MR. HEBERT: The same objection as earlier. And  
20 I also object to the form of the question. He just puts  
21 up a map and says what does this show. It would be good  
22 to know who did it and what, you know --

23 BY MR. KEENAN:

24 Q What is this map?

25 A This is a map that I did, drawing upon the same data



1 that I used to generate the ward map of Wisconsin. And  
2 what this is is it's filtering out the top 10 percent  
3 Democrat-lean precincts or wards in 2012.

4 Q And so what do you see when you look at this map  
5 showing the top 10 percent of Democratic wards?

6 A Well, this is what I'm talking about with the  
7 influence of outliers. So you have this extreme cluster  
8 of Democratic wards down in Milwaukee, the 10 percent  
9 heaviest Democratic wards in the state. You have this  
10 cluster in Madison, in Dane County. But when you're  
11 doing this nearest neighbor analysis, these wards in  
12 Ashland, Superior, Bayfield are going to have to get  
13 paired with something else. And so it's going to tend to  
14 get paired across like this. Maybe you get lucky and it  
15 pairs with, you know, a ward there or something in  
16 Menominee, but you have this potential for a skewed  
17 distribution, and I was taught when you have the  
18 potential for a skewed distribution, you use a median  
19 rather than a mean.

20 MR. KEENAN: Let's put up 577. This is a  
21 similar exhibit that was produced today, so I'll allow --

22 JUDGE RIPPLE: So noted.

23 BY MR. KEENAN:

24 Q Then can you explain what this map is?

25 A So this is the same analysis that I made coming from

1 the chart of the ward-level map that's in my report,  
2 paragraph 87, except it's filtered for the 10 percent  
3 most Republican wards in the state. And so, you know,  
4 there's a similar risk of outliers. It's not as dramatic  
5 as it is for Democrats because the distribution isn't  
6 quite as bunched up in a few different places. I'm  
7 having a fun time with this screen, I apologize. But  
8 there's still a potential for outliers, not as dramatic  
9 as with the Democrats, but again, median rather than  
10 mean.

11 Q Okay.

12 A If you don't have a skewed distribution, the median  
13 and mean should be more or less the same. So it only  
14 should make a difference if there's some outlying  
15 leverage exerted.

16 Q All right. We can take that exhibit down. You  
17 understand this case is about the efficiency gap;  
18 correct?

19 A That's right.

20 Q Do you have any opinions about whether the  
21 efficiency gap -- about the use of the efficiency gap to  
22 measure partisan gerrymandering?

23 A I think the efficiency gap is interesting. I read  
24 -- I really enjoyed this. It's cool stuff. But I don't  
25 think -- I think the efficiency gap tells us a lot about

1 wasted votes and a lot about the efficiency gap itself.  
2 I don't think it tells us much about gerrymandering. I  
3 think the real problem is the linkage between the  
4 efficiency gap and gerrymandering. It might be part of  
5 an explanation, but it can't be -- maybe, but that's  
6 tough to say.

7 Q And why do you say that?

8 A Well, there's a couple reasons. But the biggest  
9 reason is that it's underinclusive and it's  
10 overinclusive. And what I mean by that, and this is part  
11 3 -- parts 3 through 6 of my report, but underinclusivity  
12 and overinclusivity in part 3 is if you look at maps that  
13 just about everyone has agreed is a partisan gerrymander,  
14 there's a lot of them that the efficiency gap won't  
15 trigger scrutiny of. And if you look at maps that are  
16 plainly not partisan gerrymanders, the 1992 and 2002  
17 Wisconsin maps that were drawn by a court, some of the  
18 maps that are drawn in Iowa by dependent redistricting  
19 commissions, maps in New York that are drawn by Democrats  
20 that nevertheless put out huge Republican efficiency  
21 gaps, these show efficiency gaps going the opposite way  
22 of what you would expect. So it ignores maps that we --  
23 I think you would find everyone agreeing is a  
24 gerrymander, and it brings into its ambit maps that I  
25 think it's very hard to claim are gerrymanders.

1 MR. KEENAN: Let's focus on the underinclusive  
2 aspect here. If we could go to paragraph 117 of Exhibit  
3 547. Okay. If we could blow up this map of Georgia  
4 here.

5 Q What does this map represent?

6 A So this is the -- this is a map that I drew. I  
7 actually have drawn hand maps of every district going  
8 back to 1789 because I wanted to learn about how  
9 congressional districts were being drawn and how the  
10 parties have done gerrymandering over time. Even at  
11 times when they were required to follow county lines,  
12 they actually gerrymandered William McKinley out of his  
13 district in 1890 by drawing it from down into Canton into  
14 Holmes County. You don't actually know that until you  
15 actually draw the map and see what they did.

16 Anyway, this is Georgia in 2002. It's a map that  
17 was drawn by Democrats and virtually everyone agrees that  
18 this was an aggressive Democrat gerrymander that was  
19 intended to produce in a five-Democratic delegation in  
20 what was at the time a Republican-leaning state.

21 Q Is this a map of congressional districts or state  
22 legislative districts?

23 A This is congressional districts.

24 Q And so what does this map show then, if we can just  
25 look at a few of the districts.

1 A Sure. So you have this 13th district that kind of  
2 looks like -- it's been described as a sick chicken. You  
3 kind of have the head there, some legs there, a tail  
4 there that kind of wraps around Georgia -- around  
5 Atlanta. It's an African American plurality district,  
6 it's not a majority district. You do have African  
7 American majority districts in the 4th and the 5th.

8 You have, say, the 11th district out here, which  
9 actually starts up here, runs down. It runs down -- it  
10 runs down the west Georgia border. It has -- all you're  
11 missing there is a tongue in here, and there's another  
12 tongue in there. There's actually -- the hope was to  
13 draw a Democrat district, but it didn't work. The  
14 technical term for this is a dummy mander.

15 Q So what happened under elections in this plan?

16 A It actually elected a lot of Republicans.

17 Q And have you analyzed what it showed up in terms of  
18 being an efficiency gap measure?

19 A So this district -- this map, that everyone agrees  
20 is a Democratic gerrymander, and not just comply with  
21 racial terms, you have the 11th and you have the 12th,  
22 which is also not of the area district, it has a  
23 Republican efficiency gap of .01 -- I guess negative .01.

24 Q What does that tell you about using the efficiency  
25 gap to measure gerrymandering?

1 A It gets -- it's not just whether it's a gerrymander,  
2 it gets the sign wrong on this. This says it's a  
3 Republican-leaning map that the Republicans drew.

4 Q Okay. Now, you understand that the Stephanopoulos  
5 and McGhee article that's the basis for the efficiency  
6 gap suggest a different standard for using congressional  
7 districts versus state legislative districts; is that  
8 correct?

9 A That's right.

10 Q Okay. Do you think that -- how does that affect  
11 your analysis of using the efficiency gap to judge  
12 gerrymandering?

13 A Well, I thought I heard Dr. Mayer testify that for  
14 gerrymandering there's no difference between  
15 congressional districts and state legislative districts.  
16 So I don't know why you would utilize a different test.  
17 Maybe I misheard.

18 The other thing is that even if you have a different  
19 test, if it's, you know, plus or minus .07 percent for  
20 legislative districts and then two seats for  
21 congressional districts, the efficiency gap calculation  
22 is the same and so at the very least you would hope that  
23 Democratic-drawn gerrymanders would show Democratic  
24 efficiency gaps, which doesn't happen. This is a  
25 Republican efficiency gap map.

1 Q If we could go to paragraph 120, we'll look at  
2 another map. What does this map show?

3 A So this is the North Carolina -- and, of course, in  
4 the report there's a lot of other examples of this. But  
5 these maps are just, you know, really, I think, striking.  
6 This was a -- everyone agrees this is a Democratic  
7 gerrymander in North Carolina in 2002. It was a more  
8 successful gerrymander than the Georgia map in that it  
9 eventually got rid of Robin Hayes in the 8th District, it  
10 protected Mike McIntyre in the 7th District.

11 You can see this district right here is not a voting  
12 rights district. The 2nd, it's been described as a  
13 dragon in flight. You have the wings, you have the head,  
14 you have the tail. And it's meant to elect a Democrat.  
15 And yet in the 2002 election it presents with a marginal  
16 Republican lean. The efficiency gap is negative 2.6 or  
17 2.6 using Dr. Mayer's convention.

18 Q There's been some testimony about criticisms you had  
19 about imputation methods. Do you recall Professor Mayer  
20 had some response to criticism he thought you made? Have  
21 you made any criticism of Professor Mayer's imputation  
22 methods?

23 A No.

24 Q Can you explain what the criticism you actually were  
25 making was?

1 A Well, if you go to paragraph 132, if we can go there  
2 in my report, the point I'm making is Dr. Jackman's  
3 imputation strategy is problematic. Now, this is what I  
4 think Dr. Jackman's imputation strategy is. We didn't  
5 get the entire code until Friday, so I haven't been able  
6 to work through it. But from what I understood, he was  
7 taking votes from -- presidential votes from Assembly  
8 districts and imputing them to Assembly votes where he  
9 didn't have contested races. And it would make sense you  
10 would try to do that. And what I said was the only way  
11 that Dr. Mayer's approach ties into this in paragraph  
12 136, I say in and of itself it's not a problem if the  
13 imputation strategy is correct.

14 But what Dr. Mayer shows on his thing, on his chart  
15 is a line that represents a one-to-one ratio. So I  
16 knew -- I mean I say right here it's not a best-fit line.  
17 I know he's not drawing a regression-analysis line. It's  
18 a 45-degree line as he described in his testimony. And  
19 there's a dropoff in votes. And so if you're imputing  
20 presidential votes to Assembly districts, you're going to  
21 impute too many votes in districts that don't have  
22 Assembly races because there's a dropoff in them.

23 I don't talk about Dr. Jackman -- Dr. Mayer's  
24 regression analysis. I frankly don't know what his  
25 criticism was referring to.



1 Q All right. We'll just get into the rest of your  
2 report. We're coming to the end here so we can -- do you  
3 have any opinions on things that the efficiency gap  
4 metric ignores?

5 A Well again, this gets into No. 5, and Dr. Mayer  
6 interpreted this as being a criticism of him, but  
7 actually I think it's -- I agree with him. It's a  
8 compliment for him. I think he misread the report. When  
9 Dr. Mayer runs his efficiency gap analyses, he finds that  
10 a number of things affect the efficiency gap. So  
11 incumbency, candidate quality, campaign spending,  
12 recruiting advantages, those last two are in the  
13 literature, not in Dr. Mayer's report. But one of the  
14 problems with the simplified efficiency gap,  
15 Dr. Jackman's approach to the efficiency gap is that it  
16 doesn't take account of any of these things. And since  
17 we know that -- and the fact that Dr. Mayer actually  
18 takes account of these things when classifying his --  
19 when doing his revised efficiency gap calculations proves  
20 my point that if you just take the simple -- because we  
21 know that incumbency and candidate quality of these  
22 things can change votes and change the efficiency gap  
23 somewhat, the fact that the simple equation  $.5 S$  minus,  
24 et cetera, et cetera doesn't take any of this into  
25 accounts. It's missing things that can alter the

1 efficiency gap.

2 Q And then do you have any opinions about the  
3 efficiency gap sensitivity to changes?

4 A Well, yes. You can see I ran through an example, in  
5 point heading 6 of situations -- of a situation where if  
6 you just made a slight change in the state vote share and  
7 did a uniform swing, you could produce a big change in  
8 the efficiency gap. Now, I'm not saying this is what  
9 happened in Wisconsin. I'm just saying that if this is  
10 the national standard that's set up, you can have  
11 situations where efficiency gaps are just kind of  
12 determined by the roll of the dice of what kind of year  
13 the redistricting plus two, if you will, is, the  
14 2002/2012 is.

15 If it's a good Democratic year and a map that's  
16 allocated like this chart, you're going to have a  
17 different efficiency gap than if it happens to be a bad  
18 Democratic year. That make it is a little bit arbitrary.

19 Q I'm sorry, you had referenced a chart. We'll put it  
20 up here on paragraph 153. Could you just explain what  
21 this is?

22 A Yeah. So in this chart here if everyone votes as  
23 expects, you get a negative .06 efficiency gap. So this  
24 is kind of a neutral year where the percentages reflect  
25 what the data have suggested or your regression analysis

1 or however you calculate it.

2 Q Just to stop. So we have a series of the districts.

3 How many districts?

4 A There's 20 districts.

5 Q What do the columns represent?

6 A So this is just saying hypothetically if you  
7 estimate going into redistricting, that District 1 will  
8 give 10 percent to the Democrat and 90 to the Republican  
9 and so forth and so on. And District 20 would give 90  
10 percent to the Democrat and 10 percent to the Republican.  
11 If everyone votes as expected, you do your efficiency gap  
12 analysis, you get a negative .06 efficiency gap.

13 But let's say that the first year actually turns out  
14 to be a Republican wave year and Republicans fair two  
15 points better across the board. So the district they  
16 expected to be 90 percent Republican is 92 percent  
17 Republican, and District 12 that you expect to be 51  
18 percent Democrat/49 percent Republican becomes 49  
19 Democrat and 51 Republican. You do that across the  
20 board. You get a negative 1.9 efficiency gap. And so  
21 whether or not court scrutiny is triggered is subject to  
22 the vagaries of the National Election Cycle. If it's a  
23 wave year, you get a different answer than if it's a  
24 neutral year.

25 MR. KEENAN: We're going to put up Professor

1 Jackman's report, it's Exhibit 34. And Jackie, what's  
2 the table there? It's page 55, Table 1.

3 Q And just as we get -- move along, this is the list  
4 of the 17 unambiguous -- plans that are unambiguous as to  
5 the sign of their efficiency gap.

6 A Right.

7 Q And did you do some analysis of these 17 plans?

8 A Yes. So these plans I do some analysis of them  
9 actually in my report at paragraph 109. And what's  
10 interesting is that these unambiguous plans, only 7 of  
11 these 17 states were drawn in situations where there was  
12 unified partisan control.

13 Ohio in 1992 has a partisan board, so that's not  
14 what the legislative breakdown would show. And there's  
15 just some interesting, just anomalous things. For  
16 example, New York. Plan 3. 1992. The convention in  
17 New York is that the Republicans draw the state Senate  
18 districts because they control the state Senate and the  
19 Democrats draw the Assembly districts. Okay. The  
20 Democrats have drawn the Assembly districts since 1982  
21 and yet they always show these massive pro-Republican  
22 efficiency gaps. Okay? So part of that is just the  
23 concentration of New York City. You've got to draw a lot  
24 of heavily Democratic districts in New York City.

25 What's also interesting is that these heavily

1 Republican efficiency gaps continue to produce  
2 overwhelming Republican majorities in the Legislature.  
3 So there's not even a linkage between partisan control  
4 and the efficiency gap.

5 Q You said they produce Republican --

6 A Democratic majorities in the Legislature. So  
7 there's not even a linkage between partisan control and  
8 efficiency gaps.

9 Q All right. And then have you done an analysis about  
10 whether the efficiency gap might stay the same sign but  
11 the control of the Legislature still changes hands?

12 A Yes. So that's at the very tail end of my report,  
13 point heading 6. And you can see an example, for  
14 example, map 1, you can keep this chart up, map one in  
15 New York. Actually the Republicans, it's hard to believe  
16 today, but they had control of redistricting in 1972.  
17 They had the governorship in both Houses of the  
18 Legislature. They drew a map with a heavy Republican  
19 efficiency gap, and yet there's this radical shift over  
20 the decade from Republican control to Democratic control.  
21 So Democrats were not locked out of the Legislature.

22 And you can go through, the 2002 map here is counted  
23 as a Republican gerrymander. The Democrats win the state  
24 House in 2006 and 2008. The Wisconsin 2002 map is a --  
25 supposed to be Republican gerrymander, yet Democrats were

1 able to win control of the Assembly in 2008 as a  
2 court-drawn map, of course.

3 California's 1992 map is counted as a Republican  
4 gerrymander even though it's a court-drawn map. And yet  
5 Democrats managed to win unified control of the  
6 Legislature in '96, '98 and 2000. So we just don't see  
7 the sort of linkage we would expect to see between the  
8 efficiency gap and partisan control if the efficiency gap  
9 were really a good measurement of gerrymandering.

10 MR. KEENAN: I have no further questions.

11 JUDGE RIPPLE: I think then this would be a very  
12 good time for us to take a 15-minute break prior to the  
13 cross-examination by the plaintiffs. So the Court will  
14 stand in recess for 15 minutes.

15 (Recess 10:35-10:55 a.m.)

16 THE CLERK: This Honorable Court is again in  
17 session. Please be seated and come to order.

18 JUDGE RIPPLE: I think we're ready then for the  
19 plaintiffs' cross-examination of the witness.

20 MR. HEBERT: Thank you, Your Honor. Again, with  
21 the Court's permission, I'll stay seated for the cross.

22 CROSS-EXAMINATION

23 BY MR. HEBERT:

24 Q Let's start, Mr. Trende, with a comment you made on  
25 direct examination in response to a question about

1 Dr. Jackman's imputation strategy is problematic. Do you  
2 remember that testimony?

3 A Yes.

4 Q And your report is Plaintiffs' Exhibit 126 and one  
5 of the comments that you made on direct, if I understood  
6 you correctly, is that you really couldn't tell what the  
7 problem was because you didn't get the R codes until last  
8 Friday; is that correct? The statistical problem.

9 A I wouldn't phrase it quite like that. What my point  
10 was was I think I know how Dr. Jackman was doing it. I  
11 wasn't entirely sure because I didn't have the entire R  
12 code to go through. I couldn't make the R code work  
13 without some of the files until -- I didn't get them  
14 until Friday.

15 Q Okay. So you couldn't tell what the actual problem  
16 was? Is that what you're saying?

17 A If Dr. Jackman did his imputation the way that I  
18 believe he did it, then there's a problem. If he did it  
19 otherwise, then it's not a problem. But I did it to the  
20 best of my ability given the data that I had.

21 Q But you couldn't tell because you didn't have the R  
22 code; correct?

23 A I couldn't be completely certain how he did it  
24 because I didn't have the code.

25 MR. HEBERT: And let the record show, Your

1 Honors, that the R code that Dr. Jackman had was given to  
2 the defendants last November, not last Friday. So the  
3 record is clear on that point.

4 THE WITNESS: We got additional files Friday.

5 MR. HEBERT: Excuse me, sir. I'm still  
6 speaking. And perhaps Mr. Keenan will stipulate to that.

7 MR. KEENAN: I'll stipulate that we had a  
8 version of the R code that didn't have some underlying  
9 files that Mr. Trende needed. Those files were given to  
10 us first last Friday. That's what Mr. Trende was trying  
11 to say.

12 MR. HEBERT: Thank you. The stipulation I was  
13 looking for was that the database that Dr. Jackman had  
14 was given to them last --

15 MR. KEENAN: That's not correct, so I'm not  
16 going to stipulate to it.

17 MR. HEBERT: All right. Well, we'll move on.

18 JUDGE RIPPLE: Maybe the two of you could work  
19 out a stipulation that you could agree to. I think there  
20 is room for you to do that. So we'll defer ruling on  
21 that and let you try.

22 MR. HEBERT: We'll confer. Thank you, Your  
23 Honor.

24 BY MR. HEBERT:

25 Q So let's start at the beginning, Mr. Trende. You



1 testified, I believe, on direct that you had testified in  
2 a case in North Carolina challenging a series of voting  
3 rights laws, a case called *NAACP v. McCrory*; correct?

4 A That's correct.

5 Q All right. And that was not a redistricting case;  
6 right?

7 A That was not.

8 Q And you testified for the state of North Carolina in  
9 that case?

10 A That's correct.

11 Q And they were defending against a Voting Rights Act  
12 challenge to a variety of voting rights laws?

13 A That's correct.

14 Q All right. Now, you testified also in a case out of  
15 Ohio I believe you said?

16 A Yes.

17 Q All right. And that case was also a case brought  
18 challenging some closing of early voting sites under the  
19 Voting Rights Act?

20 A No.

21 Q What was the subject of that lawsuit?

22 A It had to do with the number of days of early  
23 voting.

24 Q Days of early voting. Thank you. And again, that  
25 was a Voting Rights Act challenge to those -- that

1 reduction?

2 A I think that's right.

3 Q And the plaintiffs recently prevailed in that case,  
4 did they not?

5 A On one of the counts.

6 Q All right. And you testified for the state of Ohio  
7 in that case?

8 A I did.

9 Q Okay. And you also mentioned that you testified in  
10 a state court litigation involving redistricting in  
11 North Carolina; correct?

12 A I didn't testify. It was done on the papers.

13 Q I see. And I believe you said that your expert  
14 report was actually, and I wrote it down, received  
15 without objection I believe you said?

16 A That's correct.

17 Q Isn't it true that the state of North Carolina  
18 simply attached your report to the motion for summary  
19 judgment and there was never a trial in that case?

20 A I don't know.

21 Q So you didn't testify at trial, did you?

22 A No. It was done on the papers.

23 Q Okay. And so do you know whether your report in  
24 that case was offered into evidence at the trial?

25 A It was part of the record that was accepted in the

1 federal court version of that, so I assume it is in the  
2 record as evidence but...

3 Q Wouldn't a document attached to a motion for summary  
4 judgment be part of the record?

5 A I don't know.

6 Q You don't know whether a motion -- you're an  
7 attorney; correct?

8 A I practiced in 2009. I'm assuming the entire record  
9 was transferred, but I didn't see it.

10 Q And you don't know sitting here today whether your  
11 report was accepted into evidence in the trial court in  
12 the North Carolina redistricting litigation, do you?

13 A The state or federal?

14 Q The state.

15 A My understanding is that it was accepted without  
16 objection.

17 Q All right.

18 A As relayed to me by the attorney.

19 Q Now, in the North Carolina case, the *NAACP v.*  
20 *McCrorry* case, you testified at trial and characterized  
21 yourself as a psephologist; correct?

22 A Yes.

23 Q And you testified, I believe, that psephology  
24 involved election predictions?

25 A It's a study of campaigns and elections.

1 Q Okay. Now, are there any peer-reviewed journals for  
2 psephology?

3 A Campaigns and elections are studied by political  
4 scientists, but there's no journal of psephology just  
5 like there's no journal of redistricting.

6 Q So there's no specifically dedicated journal to  
7 psephology. You would agree with me on that?

8 A I would agree with you on that.

9 Q Okay. Have you ever written an article that was  
10 published in a peer-reviewed publication?

11 A No.

12 Q Have you ever written about partisan gerrymandering  
13 in any peer-reviewed publication?

14 A No.

15 Q Can you get a degree in psephology from any  
16 university in the United States?

17 A You can certainly study campaigns and elections as  
18 part of a degree in political science, but no, you can't  
19 get a degree in psephology.

20 Q Now, prior to your work on this case, you had never  
21 done or studied any writings related to legislative --  
22 state legislative districts in Wisconsin; correct?

23 A I think that's right.

24 Q Okay. And prior to your work on this case, you had  
25 never done any study or writing about geographic

1 locations of Democratic or Republican voters in  
2 Wisconsin; isn't that true?

3 A I think that's right.

4 Q Okay. Now, you do not have a Ph.D.; correct?

5 A Not yet.

6 Q Your master's thesis that you wrote was on the  
7 Supreme Court; correct?

8 A That's correct.

9 Q And it was not on partisan gerrymandering.

10 A That's correct.

11 Q It was not on elections.

12 A No.

13 Q It was not on geographic clustering.

14 A It was not.

15 Q It was not on state legislative redistricting.

16 A It was not.

17 Q Your master's thesis hasn't been published anywhere,  
18 has it?

19 A I haven't tried. It has not.

20 Q Have you ever taught any undergraduate- or  
21 graduate-level classes on statistics or statistical  
22 methods?

23 A I have not.

24 Q Have you ever taught any undergraduate or graduate  
25 classes on election analysis?

1 A I have not taught any classes.

2 Q Okay. Now, you would agree as a general matter that  
3 Professor Simon Jackman has greater expertise in  
4 statistical analysis than you do, wouldn't you?

5 A As a general matter, yes.

6 Q Now, online articles at Real Clear Politics, they're  
7 not peer reviewed like political science journals are,  
8 are they?

9 A Oh, no.

10 Q Now, you've described in your deposition that Real  
11 Clear Politics online articles are aimed at a lay  
12 audience; correct?

13 A That's right.

14 Q Real Clear Politics doesn't have a separate page  
15 that's summarizes the outcomes of state legislative  
16 races, does it?

17 A That's correct.

18 Q Isn't it true that your main focus at Real Clear  
19 Politics when you're writing tends to be on federal  
20 races, presidential, congressionals, U.S. Senate?

21 A That's correct.

22 Q Not -- state legislatives races is not your focus,  
23 is it?

24 A That's not the major focus.

25 Q Now, you have never been retained by any state or

1 local government to actually draw a redistricting map,  
2 have you?

3 A That's correct.

4 Q Now, you said in your report, your exhibit,  
5 Plaintiffs' Exhibit 126, that you used Adobe Illustrator  
6 to draw complete maps of every congressional district  
7 ever drawn I believe; is that correct?

8 A That's correct.

9 Q All right. But Adobe Illustrator doesn't contain  
10 GIS data or shape files, does it?

11 A No. I based it -- I took the data at the back of  
12 Kenneth Martis's Atlas of American Congressional  
13 Districts where he gives the line-by-line description of  
14 the districts and drew it based on those. And it gives  
15 the counties and you weren't allowed to split counties in  
16 most states until 1964 or so.

17 Q So you just took that information and just put it  
18 into Adobe and drew the map?

19 A You draw it by map effectively.

20 Q I see. So you didn't use GIS data to draw those  
21 maps.

22 A No. This wasn't an electronic process or something  
23 that was auto generated, these were drawn by hand so you  
24 could actually learn the geography and how the maps were  
25 drawn.

1 Q Have you ever used Geographic Information System  
2 software to draw a redistricting map?

3 A I have not.

4 Q Isn't it true you haven't done that because it's too  
5 expensive you said to buy?

6 A That's my understanding.

7 Q Now, Judge Crabb asked you some questions about  
8 drawing districts when a whole bunch of people move into  
9 a particular county. Do you remember that exchange with  
10 the Court?

11 A I do.

12 Q Now, isn't it true, if you know, that when you draw  
13 redistricting plans, that the first and major priority is  
14 to equalize the population of the districts because  
15 that's a constitutional requirement?

16 A In the state legislation you have some wiggle room,  
17 but yes.

18 Q And the wiggle room is plus or minus 5 percent or an  
19 overall deviation of 10 percent. That's the wiggle room  
20 you're talking about?

21 A I think that's right, yes.

22 Q Now, in your report in this case you did not draw  
23 any conclusions, did you, about how you could draw  
24 districts in Wisconsin given the alleged clustering of  
25 Democratic and Republican voters that you claim exist in



1 the state; correct?

2 A Can you repeat that question?

3 MR. HEBERT: Would you read it back for me,  
4 please?

5 (Pending question read back)

6 A So I made general claims that it becomes more  
7 difficult to draw maps for Democrats as Democrats become  
8 more clustered. But I didn't engage in the sort of  
9 analysis that Dr. Mayer engages in, if that's the thrust  
10 of your question.

11 Q No. Let me see if I can do a better job of asking.  
12 You did not actually set out to try to figure out,  
13 notwithstanding the alleged clustering of voters that you  
14 claim exist, how you could draw districts in a different  
15 way.

16 A Exactly. I didn't do the sorts of analyses that  
17 Dr. Mayer did. I didn't draw any actual districts.

18 Q Now, in your report in this case, Exhibit 126, you  
19 did not do any analysis of any kind to determine how much  
20 of Wisconsin's efficiency gap is due to alleged  
21 concentration of Democratic voters in Wisconsin; correct?

22 A That's correct.

23 Q So you don't know sitting here today what percent of  
24 the efficiency gap under Wisconsin's current map is due  
25 to the concentration of Democratic voters in Wisconsin;

1 correct?

2 A That's correct.

3 Q Now, you've never done any work to determine how  
4 much of the current map's efficiency gap is due to  
5 intentional gerrymandering, have you?

6 A That's correct.

7 Q You've never done any work to determine how much of  
8 the efficiency gap is due to the natural clustering of  
9 Democratic voters.

10 A That's correct. At least doing a formal -- I think  
11 it's more than 0, but as far as doing a formal putting it  
12 on the 1-to-100 percent spectrum, I haven't done that.

13 Q So again, you don't know if 10 percent or 1 percent  
14 of the efficiency gap under Wisconsin's current map is  
15 due to the concentration of Democratic voters in the  
16 state?

17 A Or 100 percent. It's very difficult to tease out.

18 Q You can't determine with any precision; correct?

19 A That's correct.

20 Q You've never done any analysis to determine how much  
21 of any other measure of partisan symmetry -- and here I'm  
22 using terms like partisan bias or mean/median difference  
23 or whatever the other measures of partisan symmetry  
24 are -- you've never done any analysis to determine how  
25 much of any other measures of partisan symmetry is due to

1 alleged clustering of Democrats in Wisconsin; correct?

2 A That's a lot in that question, but I think the  
3 answer is no, I haven't done it.

4 Q If you didn't understand it, I'll repeat it for you.

5 A I haven't done a direct analysis of any other metric  
6 of partisan symmetry besides the efficiency gap.

7 Q Okay. Now, do you believe that the current  
8 Wisconsin map for the Assembly was drawn by Republicans  
9 with a partisan intent?

10 A I haven't engaged in that analysis. I would guess  
11 since there was uniform control there was some partisan  
12 intent. It's just trying to quantify it is very  
13 difficult.

14 Q Do you know, in fact, that the congressional map in  
15 Wisconsin was drawn with partisan intent?

16 A Again, I would suspect that there was some partisan  
17 intent involved. I mean the districts are largely  
18 reflective of districts that have been in Wisconsin since  
19 it lost a seat, I think, in 2000. But -- and -- but I  
20 don't doubt that there was some work done on the lines to  
21 shore up Republicans in Obey's district, for example.

22 Q Now, you gave a deposition in this case, and when  
23 you were asked about that question, you, in fact, stated  
24 that you knew that partisan intent played a role in the  
25 congressional redistricting; correct?

1 A Like I said, I don't doubt that there was some  
2 measure of intent in there. It's also -- they also do --  
3 the districts do reflect longstanding maps. There's been  
4 a northwestern Wisconsin district for a very long time  
5 and there still is one.

6 Q How did you know that partisan intent played a role  
7 in developing and enacting the congressional map in  
8 Wisconsin?

9 A That just stems from having followed the  
10 redistricting closely. I didn't interview anyone or  
11 anything of that nature.

12 Q Now, in your report in paragraph 66 to 70 --

13 MR. HEBERT: And again, for the record your  
14 report is Plaintiffs' 126.

15 Q -- you showed a map of Virginia, the west and  
16 southwest, central regions of the state in those  
17 paragraphs; correct?

18 A Which paragraph are we in?

19 Q Let's look at your report, paragraph 66 to 70.

20 A Okay.

21 Q And in those paragraphs you looked -- 66 you talked  
22 about -- let's see. Number 70. Let's focus on 70.

23 A Okay.

24 Q In paragraph 70 you talk about Virginia and focused  
25 on the west/southwest/central region of Virginia;

1 correct?

2 A Correct.

3 Q And you used that to discuss maps of counties that  
4 were won by the presidential candidate in '96, '04, and  
5 '08; correct?

6 A That's right.

7 Q All right. You could have done more states than  
8 just Virginia; correct?

9 A That's correct.

10 Q Why did you just limit it to Virginia?

11 A Well, I didn't. There's the map in paragraph 66  
12 that includes eight additional states. I think it's  
13 eight. So that's nine. I took these maps because I'm  
14 under a budget and these were maps I had already done for  
15 my book.

16 Q So you felt it was more efficient use of your time.

17 A It was an efficient use of my time and it made the  
18 point that I thought needed to be made.

19 Q Now, you did an analysis of geography clustering of  
20 Democrats and Republican voters by looking at trends in  
21 counties using presidential vote shares; correct?

22 A Are we still talking about these maps?

23 Q Yes, we are.

24 A Yes.

25 Q And that would hold true for the Texas, Arkansas,

1 Louisiana, Tennessee, Kentucky, Alabama, Mississippi maps  
2 you also depicted?

3 A Yeah. Let's call it the west/south/central region.

4 Q Isn't it true that there's not a single  
5 peer-reviewed study that has analyzed geographic  
6 clustering of Democratic and Republican voters by  
7 examining trends in counties won by each political  
8 party's presidential candidate?

9 A I don't know whether that's true or false, but I  
10 think it makes the point pretty clearly.

11 Q All right. So you don't know one way or the other?

12 A That's right. I don't know whether anyone has ever  
13 done this.

14 MR. HEBERT: Could we bring up Exhibit 128 at  
15 page 51, which is your deposition, sir. Lines 6 through  
16 11.

17 Q You were asked the following question:

18 "Question: Can you identify any peer-reviewed  
19 studies that have analyzed the geographic clustering of  
20 Democratic and Republican voters by examining trends in  
21 counties won by each parties' presidential candidate?"

22 And what answer did you give, sir?

23 A "No, I can't identify them." I still can't identify  
24 them. I don't know one way or the other.

25 JUDGE RIPPLE: Excuse me, Counsel. What page of

1 the deposition were you on?

2 MR. HEBERT: That was page 51. I'm sorry, Your  
3 Honor?

4 JUDGE RIPPLE: Thank you.

5 BY MR. HEBERT:

6 Q So essentially was it you who came up with the idea  
7 and thought it would be good to analyze geographic  
8 clustering of Democratic voters in this way?

9 A Yes.

10 Q And you weren't writing for a litigation audience  
11 when you did that, were you?

12 A These maps?

13 Q Yes.

14 A No.

15 Q So you don't know whether other political scientists  
16 might have methodological problems if they looked at your  
17 maps and your analysis --

18 A Well --

19 Q -- do you?

20 A -- having read the reply briefs, there's at least  
21 one. But at the time that I did the maps, no.

22 Q Now, in each of these maps with the county numbers  
23 on them, county shadings, you don't display any margin of  
24 victory or quantitative indication, do you?

25 A That's right.

1 Q All right. And the reason you didn't do that was  
2 because it's time consuming?

3 A Yes. These are coded by hand. It takes a long time  
4 to recode these.

5 Q You didn't take into account the population for each  
6 county in the maps you presented for your regional maps  
7 as well as your Wisconsin maps because you don't know how  
8 to do that, do you?

9 A Oh, I'm sure I could figure it out in R. There's an  
10 R package for everything. I just don't think those maps  
11 are particularly useful.

12 Q All right. Let's turn -- same exhibit, which is 128  
13 at page 53, lines 17 to 24.

14 A Where are we? I'm sorry.

15 Q You're going to see your deposition coming up on the  
16 screen.

17 A Gotcha.

18 Q Page 53, line 17 to 24. You were asked the  
19 following question:

20 "Question: Why didn't you take into account the  
21 population of each county in the maps you presented?"

22 And would you read your answer, please.

23 A "I don't know how I would do that. I guess I could.  
24 There's a map type that skews the size of the counties.  
25 I'm blanking on the term for it, but I find that most



1 people" -- most people -- that's a garbled sentence. "I  
2 find that most people -- I find that for most people are  
3 not particularly useful because you lose sight of what it  
4 is you're usually looking at. So I'm sure I could figure  
5 out how to do it. There's a R package for everything.  
6 But I don't know how to do it as I'm sitting here."

7 Same answer.

8 Q Now, before your deposition in this case you had  
9 never heard of an analysis called *Global Moran's I*?

10 A That's correct.

11 Q And before your deposition or before your appearance  
12 in this case, you had never heard of the isolation index;  
13 correct?

14 A That's correct.

15 Q Now, are you aware of the fact, sir, that these are  
16 two of the most widely used measures of spatial  
17 concentration in social science?

18 A I couldn't testify to that one way or the other.

19 Q Because you don't know; is that correct?

20 A I have never done any measurement of that sort.

21 Q I'm not asking you whether you did any measurement.  
22 You don't know whether it is in the literature the most  
23 common widely used measure.

24 A Right. I've never done a measurement of how  
25 commonly used the test is, so I don't know the answer to

1 it.

2 Q Now, you used the partisan vote index to study state  
3 legislative districts; correct?

4 A Correct.

5 Q And sitting here today, you can't name a single  
6 peer-reviewed article that has used a partisan vote index  
7 to study or describe state legislative districting?

8 A That's correct.

9 Q Isn't it true that there are no peer-reviewed  
10 studies that analyze the geographic clustering of  
11 Democratic and Republican voters by looking at trends in  
12 county partisan indices?

13 A It's the same as before. There may be, but I can't  
14 identify any.

15 Q Sitting here today you can't; correct?

16 A Same answer. Yes, that's correct.

17 Q Now, in your report, Plaintiffs' Exhibit 126, at  
18 paragraph 25 --

19 MR. HEBERT: Could you turn to that, please.

20 Q Now, in this paragraph you indicate that a "simple  
21 visual inspection," and I want to put those in quotes --  
22 that you use the "simple visual inspection" to evaluate  
23 your county partisan index maps; correct?

24 A Yes.

25 Q Okay. Now, you testified in your deposition, in

1 fact, that a court could just look at the map and see the  
2 clustering; correct?

3 A I think these maps are stark enough that yes, it's  
4 fairly obvious.

5 Q And you testified that a court could just look at a  
6 map and see the clustering; correct?

7 A As I said, I think the maps are stark enough that  
8 it's fairly obvious to a court.

9 Q The court could look at it and they would know it  
10 when they see it; correct?

11 A I wouldn't have used those terms, but I think you --  
12 if those are the terms that plaintiffs want to use, I  
13 don't think -- it's not necessarily I'll know when I see  
14 it, but it's there in these maps. I'm not going to argue  
15 with you about -- if we wanted to use an analogy, there's  
16 a point at which stubble becomes a beard. I don't know  
17 exactly where that is, but I still know what a beard is  
18 and what clean shaven is.

19 Q Because you know it when you see it?

20 A There might be close enough -- there might be  
21 close-enough calls where you wouldn't know it. I don't  
22 know what the test would be there, but in Wisconsin it's  
23 obvious from looking at the maps.

24 Q When you say it's obvious, you mean by a simple  
25 visual inspection?

1 A Simple visual inspection of the maps.

2 Q Let's refer to that for a few minutes as the eyeball  
3 test. Okay? So --

4 A I'll call it a visual inspection, you can call it an  
5 eyeball test.

6 Q Okay. Well, my question is -- they mean the same  
7 thing in these questions, okay?

8 A Fair enough.

9 Q Is the eyeball test that you proposed here the  
10 subject of any peer-reviewed literature?

11 A I don't know if any peer-reviewed literature has  
12 relied on an inspection of maps, although I would guess  
13 that they have used maps in this manner in the past. But  
14 I don't know.

15 Q You don't know sitting here today; correct?

16 A That's correct.

17 Q Do you know -- you would agree with me though that  
18 the eyeball test or the simple visual inspection test  
19 does not incorporate a statistically valid metric;  
20 correct?

21 A I think there may be cases where you wouldn't want  
22 to do it from a visual inspection where it's hard to  
23 tell. But I think there are cases where it's stark  
24 enough as in Wisconsin that you can look at the maps and  
25 see exactly what's going on.

1 Q Well, in order to actually evaluate the specifics of  
2 clustering, would you not need to calculate something  
3 involving numbers?

4 A And I do calculate things involving numbers to  
5 validate what we see. But --

6 Q But the conclusion -- I'm sorry.

7 A But again, I think in this instance what you see on  
8 the maps is stark enough that it's obviously valid.

9 Q So your conclusion about the clustering is that it's  
10 based on looking at the maps; correct?

11 A Yes. If you have a state -- you can look at a  
12 partisan map of the United States in 1996 when West  
13 Virginia went for Bill Clinton by 13 points and it's blue  
14 and then look at it today when it went for Mitt Romney by  
15 20 points and it's red. And just by looking at the  
16 colors on the maps, you can say yes, the state changed  
17 dramatically. There are instances where it's so dramatic  
18 that I think you can just look at a map and determine  
19 what's going on, and this is one of them.

20 Q So let's pull up the map that follows paragraph 84  
21 of your report, your report again, Exhibit 126. At the  
22 map at the top that is entitled *Wisconsin County PI 2012*.

23 A Yes, sir.

24 Q Do you see that? Now, there are about ten or so  
25 adjacent red counties in the southeast corner of the

1 state?

2 A That's correct.

3 Q But you can't identify any clusters of ten very blue  
4 counties anywhere in the state, can you?

5 A No. That's actually a problem for Democrats.

6 Q So let's look at paragraph 87. Again, the map here,  
7 this is the 2012 ward map; correct?

8 A That's correct.

9 Q And what would you say is the largest single  
10 partisan cluster in Wisconsin? Is it the suburban area  
11 around Milwaukee?

12 A Yes.

13 Q Now, is that bigger than the cluster around Dane and  
14 La Crosse Counties or would you have to measure it?

15 A I'd say it's bigger because you do get some white in  
16 the middle here.

17 Q But without measuring it, it's hard to say if it is  
18 the largest. Would you agree with that?

19 A I don't think it's that hard to say actually looking  
20 at it.

21 Q All right. Let's pull up page 65 of your  
22 deposition. Line 18.

23 MR. HEBERT: This is Exhibit 128 for the record,  
24 Your Honors. Trende deposition.

25 JUDGE RIPPLE: So noted.

1 BY MR. HEBERT:

2 Q Page 65, line 18. And this is going to continue to  
3 spill over to page 66, line 2.

4 "Question: Looking at the 2012 ward map that goes  
5 with paragraph 87, what would you say is the largest  
6 single partisan cluster in Wisconsin?

7 "Answer: Well, there's a large partisan cluster in  
8 the southeast in the Republican suburbs."

9 I've read that correctly?

10 A Yes.

11 Q Can you move on to the next -- top of the next page.  
12 "And that's the largest partisan cluster in this state?"  
13 you were asked. And your answer was "Without measuring  
14 it, it's hard to say, but I think it's probably larger  
15 than the cluster that's in the southwest around Dane and  
16 La Crosse."

17 You gave that answer; correct?

18 A Correct.

19 Q So you did indicate that without measuring it, it  
20 would be hard to say which cluster was largest.

21 A Yes.

22 Q Okay. Now, in paragraph 89 of your report, you  
23 refer to an article by Chen and Rodden. Do you see that?

24 A Yes.

25 Q Okay. Now -- and then you present a chart from Chen

1 and Rodden's article claiming that the chart shows that  
2 there's Democratic clustering; correct?

3 A I show a chart that shows the relationship between  
4 Bush's vote share and population density.

5 Q Are you looking at the chart --

6 A Yes.

7 Q -- at the very top of -- above paragraph 90?

8 A Yes.

9 Q Okay. So does that show -- and you have each state  
10 there represented -- I know it's a little hard to read.

11 MR. HEBERT: Can we blow up Wisconsin perhaps?

12 Q So do you claim that that chart shows Democratic  
13 clustering?

14 A It shows that as the -- as you get into more urban  
15 areas, the Democrats become stronger and in the less  
16 urban areas there's less Democratic vote totals.

17 Q Are you aware that Professor Chen has done an  
18 analysis for Wisconsin finding there's no Republican  
19 clustering in the state?

20 A I heard the testimony from Dr. Mayer.

21 Q Were you aware of it until you heard that?

22 A I know that there was an amicus brief filed as well  
23 that I didn't read.

24 Q And did -- are you aware of the fact that Professor  
25 Chen actually drew hundreds of maps that complied with



1 traditional redistricting principles?

2 MR. KEENAN: I'm going to object to the line of  
3 questioning. He said he didn't read the report and this  
4 report is like -- it was denied entry by the Court and so  
5 I don't understand what this line of questioning goes to.  
6 If they wanted to hire Chen as an expert, they could have  
7 hired him and submitted a report which Mr. Trende could  
8 have responded to, but they didn't do that.

9 MR. HEBERT: I'll rephrase the question. I  
10 think I can clear this up.

11 JUDGE RIPPLE: Try to do that.

12 BY MR. HEBERT:

13 Q So you haven't read Chen's article; correct?

14 A That's correct.

15 Q Okay. And you haven't read the --

16 MR. KEENAN: Object. I'm sorry, which article?

17 MR. HEBERT: Okay. This is the article that I  
18 was referencing I thought you objected to.

19 MR. KEENAN: Well, that's not an article. That  
20 was a report filed with the Court.

21 MR. HEBERT: This is an article, Your Honors,  
22 that's Exhibit 156. It is a forthcoming article in the  
23 *Election Law Journal*, a peer-reviewed journal by  
24 Professor Chen, and it was identified in Professor  
25 Mayer's testimony. It's also publicly available on

1 Professor Chen's website.

2 JUDGE RIPPLE: The Court will accept it subject  
3 to a future ruling.

4 BY MR. HEBERT:

5 Q So since you haven't read it and you haven't read  
6 the amicus brief that was submitted, I believe, on his  
7 behalf, you're not aware about any contention by  
8 Professor Chen that it's possible to draw hundreds of  
9 maps that comply with traditional redistricting  
10 principles but have a much smaller efficiency gap than  
11 the current plan? You're unaware of that?

12 A Beyond what Dr. Mayer testified to, I don't know  
13 anything about this article or this -- I guess it's a  
14 working paper. There will be an article.

15 Q I'm sorry, I didn't hear that.

16 A I guess it's a working paper. That will be an  
17 article when it's published.

18 Q Now, you also performed an analysis that you called  
19 the *nearest neighbor analysis*; correct?

20 A I called it *median nearest neighbor*, yes.

21 Q I'm sorry, you call it median nearest neighbor?

22 A Correct.

23 Q Okay. Sorry. I thought you had the term nearest  
24 neighbor in there. How did you determine which wards  
25 lean Democratic and which ones leaned Republican? Did

1 you look at the partisan index in the state for that?

2 A That's my recollection, yes.

3 Q Now, you remember that Mr. Keenan, counsel for the  
4 state, was asking you questions about your median  
5 neighbor analysis; correct?

6 A Yes.

7 Q And you testified that wards are held constant  
8 within a decade; correct?

9 A I believe that's correct.

10 Q But Wisconsin's wards were redrawn prior to the 2012  
11 and 2014 elections; correct?

12 A That's correct.

13 Q All right. So Wisconsin's wards were not constant  
14 over the entire time period that you studied; correct?

15 A That's correct.

16 Q All right. And you didn't make any adjustments for  
17 the new ward boundaries in 2012 or 2014, did you?

18 A That's correct.

19 Q So you don't know how your results would change, if  
20 at all, if you had actually kept the ward lines constant  
21 in your analysis; correct?

22 A That's correct.

23 Q Now, you did not take ward size into account in your  
24 median neighbor analysis; correct?

25 A Not directly, no.

1 Q And you're aware that Wisconsin wards vary widely in  
2 size; correct?

3 A Correct.

4 Q You didn't do any analysis to determine that  
5 Republican wards are systematically larger than  
6 Democratic wards?

7 A I didn't do any analysis along those lines, no.

8 Q So this means that in your analysis, Democrat wards  
9 will always be closer to each other than Republican  
10 wards, whether it's because they're clustered or because  
11 it's a function of the ward area; correct?

12 A Well, that's part of the problem is that they're  
13 clustered into these tiny precincts in the city which  
14 makes it harder to draw districts for them. And of  
15 course I also look at change over time, which matters.  
16 But no, I didn't directly do the analysis you're talking  
17 about.

18 Q Okay.

19 MR. HEBERT: May I have a moment, Your Honor?

20 JUDGE RIPPLE: Please.

21 BY MR. HEBERT:

22 Q Now, in your report you discussed a set of 17 plans  
23 in Professor Jackman's original report that are "utterly  
24 unambiguous with respect to the sign of the efficiency  
25 gap estimates recorded over the life of the plan."

1 Do you remember that?

2 A Where are we?

3 Q I'm sorry. In your report, you actually discuss the  
4 set -- this was questions from Mr. Keenan. He asked you  
5 about the set of utterly ambiguous -- paragraph 109 I  
6 think of your report there was a table?

7 A And I'm not trying to slow things down. You had a  
8 quote and I wanted to make sure that --

9 JUDGE RIPPLE: Let's let the witness focus on  
10 the paragraph.

11 MR. KEENAN: I believe it's utterly unambiguous  
12 as to sign. I think you said ambiguous.

13 MR. HEBERT: Must be my pronunciation. Sorry.

14 THE WITNESS: I see unambiguous history. Maybe  
15 the utterly is in there, but I don't see it.

16 BY MR. HEBERT:

17 Q Now, that's Professor Jackman's original report that  
18 uses the unambiguous language; correct?

19 A I believe that's right.

20 Q Now, in his report you realize that that's a set of  
21 plans for which the probability, according to Professor  
22 Jackman, that the efficiency gap has the same sign over  
23 the life of the plan is 100 percent; correct?

24 A That's correct.

25 Q And it's also true that Professor Jackman never

1 states that those plans were enacted with discriminatory  
2 intent, does he?

3 A I don't believe he does, but I think that's still a  
4 problem with the test is a national test.

5 Q Now, he never states that these plans, Professor  
6 Jackman that is, never states in his analysis that these  
7 plans exceeded any efficiency gap threshold in the first  
8 election, does he?

9 A I don't recall that.

10 Q And do you know whether Professor Jackman never  
11 states that these plan -- these efficiency gaps can't be  
12 justified by legitimate considerations?

13 A Oh, they may well be, but half of the plans that are  
14 unambiguous I think are patently justifiable and so it  
15 just makes me question the utility of the metric if half  
16 of what it finds have unambiguous efficiency gaps are  
17 pretty clearly not gerrymanders.

18 Q Let me see if I can focus my question a little  
19 better. Professor Jackman in his report never stated  
20 that the plan's efficiency gaps can't be justified by  
21 legitimate considerations, does he?

22 A No, because I think there's a missing nexus -- this  
23 illustrates what I think is a missing nexus between the  
24 efficiency gap and gerrymandering.

25 Q I understand your position. I just asked whether he

1 did or not. Now, isn't it true that Professor Jackman  
2 never uses the term gerrymander or gerrymandering with  
3 reference to these 17 plans?

4 A I have -- I don't know whether that's true.

5 MR. HEBERT: And Your Honor, the record on that  
6 will show Professor Jackman's report, which is Exhibit 34  
7 at paragraph 53.

8 JUDGE RIPPLE: So noted.

9 MR. HEBERT: I'll now move on.

10 BY MR. HEBERT:

11 Q Now in your report, Exhibit 126, Plaintiffs'  
12 exhibit, you refer to these 17 plans as states that would  
13 be included in the definition of a gerrymander, don't  
14 you? It's paragraph 109.

15 A Correct.

16 Q And in paragraph 110 you refer to this set of plans  
17 as a list of gerrymandered districts, don't you?

18 A Gerrymander states.

19 Q Gerrymander states. I'm sorry. Correct. And you  
20 also refer in paragraph 111 that these plans, you refer  
21 to them as "poor candidates for gerrymanderers"; don't  
22 you?

23 A At least as commonly understood, yes.

24 Q And you also refer to these plans in paragraph 114  
25 of Exhibit 126 as potential gerrymanders, don't you?

1 A Correct.

2 Q Now, Professor Jackman's reports in this case  
3 address only state House plans across the country;  
4 correct?

5 A Correct.

6 Q And Professor Mayer's reports in this case address  
7 only Wisconsin state House plans; correct? Not  
8 congressional plans?

9 A Correct.

10 Q And in paragraphs 115 to 124 of your report, Exhibit  
11 126, you only discuss in those paragraphs congressional  
12 maps; correct?

13 A That's correct.

14 Q And in fact, in those paragraphs you discuss ten  
15 separate congressional maps and not a single state House  
16 plan; correct?

17 A I will accept that there's ten.

18 Q Okay. Now, you're familiar with -- I believe you  
19 testified that you're familiar and have read the  
20 Stephanopoulos and McGhee article?

21 A Yes.

22 Q Okay.

23 MR. HEBERT: That's Exhibit 141, Your Honor.

24 And I have a series of questions about that. It's  
25 actually the quote, for the record, is page 868 that I'll



1 be referring to here.

2 Q Now in that article it states "We considered  
3 congressional plans only for states that had at least  
4 eight districts at some point during this period because  
5 redistricting in smaller states has only a minor  
6 influence on the national balance of power."

7 Correct?

8 A I'll accept your characterization.

9 Q But in paragraph 115 of your report, you discuss  
10 Alabama's plan which had only seven congressional  
11 districts; correct? Less than the eight threshold that  
12 they mentioned in their article.

13 A That's correct.

14 Q Okay. And in paragraphs 116 and 122, you discuss  
15 Colorado's 2010 plan which both had only seven  
16 congressional districts; correct?

17 A That's correct.

18 Q And in paragraph 119, in discussing Iowa's map, they  
19 only had five districts in Iowa; correct?

20 A In 2002, yeah.

21 Q Okay. Now, in that same article Stephanopoulos and  
22 McGhee write "We report the efficiency gap --

23 MR. HEBERT: And again, this is at 868 to 869.

24 Q "We report the efficiency gap in seats for  
25 congressional plans and in seat shares for state House

1 plans."

2           You don't disagree with that, correct, that that's  
3 what the article states?

4 A       I'll assume that you're reading it correctly, yes.

5 Q       And they also stated that what matters in  
6 congressional plans is their impact on the total number  
7 of seats held by each party at the national level;  
8 correct? You don't disagree with that? You don't  
9 disagree that that's what the article says?

10 A       I see that here in the call out, yes.

11 Q       Conversely state Houses -- this was continuing on  
12 with the article, "State Houses are self-contained bodies  
13 of varying sizes for which seat shares reveal the scale  
14 of a parties' advantage and enable temporal and spatial  
15 comparability." Correct? That's what the article says?

16 A       Correct.

17 Q       And then they also write, and I believe this is on  
18 page 887, that "We recommend setting the bar at two seats  
19 for congressional plans."

20 A       Correct.

21 Q       Are you reading that? Okay. Now, in paragraphs 115  
22 to 124 of your report, Exhibit 126, you don't report  
23 efficiency gaps in terms of actual seats; correct?

24 A       No.

25 Q       You report it only in percentage points; correct?

1 A That's right. So if the Court were to adopt a  
2 different standard for states and congressional seats,  
3 then it wouldn't look at the negative .07 to .07 cutoff,  
4 although the signs are often going differently than you  
5 would expect as well.

6 Q Let's look at the math for a minute, Mr. Trende.  
7 Let's start with your statement in paragraph 115 that  
8 Alabama's congressional plan had an efficiency gap of  
9 minus 12.5 percent in 2002. Do you see that?

10 A Yes.

11 Q Now, if you multiplied that by the seven  
12 congressional seats, do you know what that would  
13 translate into for an efficiency gap? Do you have your  
14 calculator with you?

15 A We'll call it less than a seat.

16 Q 0.9 seats.

17 A That sounds right, although the sign is still going  
18 the opposite way of what you would expect.

19 Q But that's below the Stephanopoulos and McGhee's  
20 two-seat threshold, isn't it?

21 A It's below the two-seat threshold, but it's still  
22 showing an obvious Democratic gerrymander as having a  
23 Republican gap.

24 Q Let's take another state. We won't belabor this,  
25 but let's take one more state. Colorado, paragraphs 116

1 and 122 of your report.

2 A That's right.

3 Q And you report that Colorado's plans had an  
4 efficiency gap of minus 9 percent in 2002 and minus 9.9  
5 percent in 2012? This is paragraph 116 and 122, sir.

6 A Oh, 122, yes.

7 Q Do you agree?

8 A Yes.

9 Q Now, multiplied by Colorado's seven congressional  
10 seats, those would translate into efficiency gaps of  
11 minus 0.6 seats and minus 0.7 seats; correct?

12 A Right. So if you had -- if you utilized a different  
13 test for congressional districts and state House  
14 districts, these wouldn't invite court scrutiny, although  
15 you still have Democrat gerrymanders that are showing  
16 Republican efficiency gaps.

17 Q We could repeat this exercise for all of the other  
18 congressional efficiency gaps in your reports, paragraphs  
19 115 to 124. For example, in Georgia if we did the same  
20 calculation, we would come out with minus 0.1 seats,  
21 Illinois minus 1.7 seats, Iowa minus 1.0, North Carolina  
22 minus 0.3, Arizona 1.4, Illinois 1.0 in 2012, and  
23 Pennsylvania in 2006 and 2008 minus 4 percent -- I'm  
24 sorry -- minus 0.8 seats in '06 and plus 0.6 seats in  
25 2008. You wouldn't disagree with those numbers as they

1 would come out based on the calculation we've been  
2 employing; correct?

3 A It doesn't, but I think in at least one instance  
4 here it's a little misleading because in paragraph 123,  
5 for Illinois in 2011 my point is actually that everyone  
6 agrees that's a Democrat gerrymander, yet it doesn't  
7 trigger court scrutiny. So the fact that it doesn't  
8 trigger court scrutiny under the seats metric either  
9 doesn't change the analysis.

10 Q When you say *court scrutiny*, do you mean in the  
11 legal sense?

12 A As I understand it, if it's a two-seat standard,  
13 Illinois would not meet that standard in 2011 whether  
14 you're using the seat standard or the .07/07 cutoff, and  
15 that's a problem.

16 Q So, in fact, sitting here today, you can't identify  
17 a single congressional efficiency gap in any of those  
18 paragraphs, 115 to 24, that exceeds the two-seat  
19 threshold when it's converted from percentage points to  
20 seats; correct?

21 A But that's a problem because a lot of these are  
22 obvious gerrymanders. It's the -- you're proving that  
23 the metric is underinclusive.

24 Q But none of those states that we just mentioned, if  
25 you could answer my question, none of those sitting here

1 today, you can't identify a single efficiency gap that  
2 exceeds the two-seat threshold identified by  
3 Stephanopoulos and McGhee; is that correct?

4 A The answer is that's correct and that's a problem.  
5 You're proving my point that the efficiency gap is  
6 underinclusive because these should be gerrymanders.  
7 Everyone agrees they're gerrymanders. They're obvious  
8 gerrymanders. Even the *Veith v. Jubelir* map, which the  
9 Supreme Court said was written as it was partisan  
10 redistricting plan, doesn't come out as gerrymander under  
11 your standard.

12 In 2008, the efficiency gap points the wrong way.  
13 It points as if it has a Republican lean. That's the  
14 problem with the efficiency gap as a national standard.

15 Q In the Stephanopoulos and McGhee article, Exhibit  
16 141, they constructed models to estimate party vote  
17 shares in uncontested districts, didn't they?

18 A That's correct.

19 Q And in this case Professor Jackman also constructed  
20 models to estimate party's vote shares in uncontested  
21 districts, didn't he?

22 A That's my understanding.

23 Q And Professor Mayer similarly constructed a model to  
24 estimate the party's actual votes in uncontested  
25 districts; correct?

1 A They did.

2 Q Okay. Now, when you were faced with uncontested  
3 congressional districts, you didn't create any kind of a  
4 model, did you?

5 A I used presidential vote shares. I would have liked  
6 to have used Dr. Jackman's metric. But again, I didn't  
7 get the files I needed to make the R code work until  
8 Friday.

9 Q Well, this is congressional we're talking about.

10 A Oh, I know.

11 Q Okay. You literally just took the districts'  
12 presidential vote shares and just plugged them in;  
13 correct?

14 A That's right.

15 Q You didn't make any adjustment whatsoever to the  
16 presidential vote shares before using them to calculate  
17 efficiency gaps, did you?

18 A Correct.

19 Q Now, it's true, isn't it, that there can be voter  
20 roll off from presidential to the congressional level?

21 A That's right.

22 Q It's also true voters might have different  
23 presidential and congressional preferences. You might  
24 vote for one party for president and a different party  
25 candidate for congressional; correct?

1 A It's much less common today than in the past. I  
2 think the plaintiffs' reports demonstrate that. But yes,  
3 it's possible.

4 Q Now, political scientists -- tell me if you can  
5 answer this question. Maybe not. Political scientists  
6 take presidential results and use them as the input to a  
7 regression model that predicts the outcome of uncontested  
8 congressional races; correct?

9 A Yes.

10 Q Okay. Indeed in the political science literature  
11 that's the preferred approach; correct?

12 A Yes.

13 Q And that was the approach employed by Professor  
14 Jackman in his report, Exhibit 34; correct?

15 A That's correct.

16 Q But presidential results simply can't be plugged in  
17 without making any adjustments, can they?

18 A I don't know. As I said at the time when I was  
19 writing this, I thought that maybe what Dr. Jackman was  
20 doing was plugging them in because I didn't have the data  
21 to replicate it and I didn't think it was obvious from  
22 his report.

23 Q But you just agreed with me, I thought, that he used  
24 the presidential results as an input to create a  
25 regression model that predicted the outcome of



1 uncontested congressional races.

2 A That was my understanding after the deposition and  
3 after receiving the dataset on Friday and doing some  
4 exploration through it.

5 Q Presidential results simply can't be plugged in  
6 without making any adjustments, but that's exactly what  
7 you did; correct?

8 A I don't know whether they can't be directly plugged  
9 in. I know that's not what Dr. Jackman did.

10 Q So -- now this may take a few minutes. Let me see  
11 if I can find the exhibits and everything and go through  
12 this. But Mr. Trende, you remember that Mr. Keenan  
13 walked you through a lengthy series of PVI calculations?

14 A That's correct.

15 Q You'll need your computer for this so you may want  
16 to pull that out.

17 MR. HEBERT: If we could pull up paragraph 281,  
18 the stipulated facts in the joint pretrial report. I'm  
19 not going to go through the long slog. And I am winding  
20 down, for the Court's information.

21 MR. KEENAN: What paragraph?

22 MR. HEBERT: 281. Paragraph 281, please. May I  
23 approach the paper on the side, Your Honors?

24 JUDGE RIPPLE: Yes.

25 MR. HEBERT: Your Honor, I've asked my

1 co-counsel to stay there so I don't have to come back and  
2 forth and maybe speed this up a little bit, with the  
3 Court's permission.

4 BY MR. HEBERT:

5 Q So can you write -- can you tell us, Mr. Trende,  
6 what you calculated for Dane and Milwaukee Counties, the  
7 PVI's that you calculated for those two counties in the  
8 most recent presidential election 2012? That's the year  
9 we're going to focus on.

10 A So I hope you'll correct me if I'm wrong because  
11 this isn't the most organized table I made, but I believe  
12 2012, Dane County, was D plus 20.1 and Milwaukee was D  
13 plus 16.

14 Q Correct. Okay. So let's write Dane plus 20.1 or  
15 20.1 percent and Milwaukee you said 16.3 percent, I  
16 think?

17 A Sure. Yes. I jotted down 16, but I'll accept 16.3.

18 Q Now, can you calculate the 2012 PVI for Ozaukee  
19 County? And Ms. Harless will write it on the board for  
20 us.

21 A So you take 19,159 and you divide by 55,236, and so  
22 President Obama won 34.6 percent of the vote in Ozaukee.  
23 And then you subtract out his national vote total of  
24 51.96 and it comes out to R plus 17, I believe. We can  
25 say 17.3.

1 Q 17.3. Correct. Exactly. Now, can you calculate  
2 the 2012 PVI for Washington County and write it on the  
3 board -- we'll have her write it on the board.

4 A So you take President Obama received 23,166 and you  
5 divide it by the total two-party vote of 77,931 and you  
6 come up with President Obama winning 29.7, et cetera,  
7 percent of the vote and you subtract out .5196. And I  
8 believe that would be then R plus 22.2?

9 Q Correct.

10 MS. HARLESS: Say it again.

11 THE WITNESS: 22.2.

12 BY MR. HEBERT:

13 Q And now the last one I want you to calculate is the  
14 2012 PVI for Waukesha County.

15 MR. HEBERT: And though I'm not from Wisconsin,  
16 I hope the Court appreciates I've worked hard on my  
17 pronunciation of those counties.

18 A Always seems to be at the enter of things in this  
19 state. 241 -- so you divide 78,779 by 241,577 and you  
20 come up with President Obama winning 32.6 percent of the  
21 vote. You subtract out again 51.96 and you come up with  
22 PVI Republican 19.3.

23 Q Correct. So looking at this chart that we have  
24 here, it's true, isn't it, that in 2012, Washington  
25 County had the largest PVI of this set of five counties;

1 correct?

2 A This set of five, yes.

3 Q And it was a pro-Republican PVI; correct?

4 A Correct.

5 Q And it's also correct, isn't it, that in 2012  
6 Ozaukee and Waukesha Counties had larger PVI's than  
7 Milwaukee County; correct?

8 A Yes.

9 Q And that these PVI's were pro-Republican.

10 A That's correct.

11 Q Now, one final question.

12 MR. HEBERT: We're going to mark that as the  
13 next exhibit, which is Plaintiffs' Exhibit 497, Your  
14 Honors. And we'll put a sticker on that, take a picture  
15 of it so we have it electronically, and we will move that  
16 into evidence at the appropriate time.

17 Q One final question, sir. You're being paid \$300 an  
18 hour for your testimony; correct?

19 A That's correct.

20 MR. HEBERT: Thank you. No further questions.

21 JUDGE RIPPLE: Thank you, Counsel. (11:52 a.m.)

22 MR. KEENAN: I have some redirect and then I  
23 think for just housekeeping I should formally move,  
24 although I understand there will be objections to the  
25 exhibits, formally move into evidence Exhibit 547,

1 Mr. Trende's report; Exhibits 576 and 577, those were the  
2 maps of the highest 10 percent Democrat and highest 10  
3 percent Republican wards; and Exhibits 578 and 579 were  
4 the revised tables calculating the average partisan lean  
5 of wards for both parties. We've discussed these before,  
6 I just hadn't formally moved them in.

7 MR. HEBERT: And those are the ones, Your Honor,  
8 we've objected to and they're largely incorporated also  
9 by the *Daubert* motion as well as the cross-examination  
10 today.

11 JUDGE RIPPLE: That is correct, and they will be  
12 decided in due course.

13 REDIRECT EXAMINATION

14 BY MR. KEENAN:

15 Q I'm just going to take off from this here. Can you  
16 start a running tally here? How many -- what's the total  
17 votes that were cast in Waukesha in 2012 election, the  
18 two-party vote total in the column? We're on  
19 paragraph --

20 A 281. Can you bring the exhibit back up?

21 Q This is the stipulated facts and we're in paragraph  
22 281, the long table. Let's go down to Waukesha at the  
23 bottom. It's like two pages down. What's the total  
24 vote, the two-party vote total there?

25 A Waukesha is 241,577.

1 Q Why don't you write that down on your paper. We're  
2 going to do some addition here.

3 A Got it.

4 Q What is Washington County's two-party vote total?

5 A Washington is 77,931.

6 Q And then let's move up a page to Ozaukee. I was not  
7 originally from here, now I am, so I know how to  
8 pronounce them. What's the vote total in Ozaukee County?

9 A 55,236.

10 Q Can you add those all together?

11 A I come up with 374,744.

12 Q Okay. Now let's shift to the Democratic side. Can  
13 you go up to the Milwaukee County total votes? What's  
14 that?

15 A Milwaukee County is 487,362.

16 Q Then can you -- we'll go up a page to Dane County.  
17 What's the two-party vote total there?

18 A 299,715.

19 Q And when you add those two together, what do you  
20 get, Dane and Milwaukee?

21 A 787,077.

22 Q And then what do you get for the three Republican  
23 Counties?

24 A It was 374,744.

25 Q Let's do it again. Let's add just the Democratic

1 vote totals in Dane and Milwaukee; not the two-party,  
2 just the Democrat votes.

3 A So 216,071 plus 332,438 and you come up with 548 --  
4 or I come up 548,509 votes.

5 Q Then why don't you add the Republican votes that are  
6 in Ozaukee, Washington and Waukesha Counties.

7 A So Ozaukee is for Republicans 36,077, plus crucial  
8 Waukesha County 162,798, plus Washington County 54,765,  
9 you come up with 253,640.

10 Q So that shows there's more than twice as many  
11 Democratic votes in Madison and Milwaukee than in all  
12 three of those Republican counties?

13 A That's correct.

14 Q Okay. Let's move on. You were asked some questions  
15 about your qualifications and you said you don't have a  
16 Ph.D. yet. What were you referring to there?

17 A I'm enrolled in Ohio State University's political  
18 science Ph.D. program.

19 Q Have you started your classes yet?

20 A I have not.

21 Q When are you going to start?

22 A In the fall.

23 Q When would you expect to complete that program?

24 A Hopefully in four years.

25 Q Why did you decide to get your Ph.D.?

1 A Just because the field of election analysis,  
2 especially online, is becoming more Ph.D. heavy. We're  
3 getting people like Dr. Jackman working with pollsters.  
4 So Real Clear Politics thought to keep up we would need  
5 to have some Ph.D -- I'm also getting as part of the  
6 program a master's in applied statistics.

7 Q And what do you intend to do after you get your  
8 Ph.D.? Are you going to do any sort of different work?

9 A I'm going to continue to write for Real Clear  
10 Politics.

11 Q Now, Real Clear Politics, what type of readership do  
12 your articles have on that website?

13 A We get between two million and seven million page  
14 views a day.

15 Q And then is Real Clear Politics -- why don't you  
16 just explain what it is in terms of a business, not just  
17 a website.

18 A So that's the common misconception. I probably  
19 shouldn't have presented it as a website because that  
20 kind of gives a certain feel. We're a company of 60  
21 people, employees. We have offices on K Street. The  
22 employees get salary, benefits, full package.

23 Q You were asked some questions about serving as an  
24 expert for the state as a defendant in some other cases.  
25 Would you have any issue representing a plaintiff in a



1 case against the state?

2 A Absolutely not. And if I could testify truthfully  
3 to the matters that I was asked to testify, zero.

4 Q Have you made any political donations this year?

5 A I donated in Hillary Clinton.

6 Q We were -- Mr. Hebert went through a series of  
7 congressional districts in your report and then comparing  
8 it to the Stephanopoulos and McGhee article. Do you  
9 recall that testimony?

10 A That's right.

11 Q Do you think the fact that there's a -- that  
12 Stephanopoulos and McGhee set out a different test based  
13 on seats rather than on a strict number with respect to  
14 congressional seats affects your analysis of the  
15 efficiency gap using congressional elections?

16 A It doesn't, because in most instances the point was  
17 that these maps that we agree are gerrymanders didn't  
18 trigger scrutiny. Now, if you use the state legislative  
19 standard, a lot of times they trigger scrutiny going the  
20 opposite direction. But even if they don't trigger -- in  
21 other words, you have a Democrat -- under the state  
22 legislative test, a lot of these maps, these  
23 congressional maps that were drawn by Democrats would  
24 draw scrutiny as a Republican gerrymander. Even if you  
25 adopt a different test, the point still remains that

1 these are Democratic gerrymanders that don't draw any  
2 scrutiny. They don't meet their standard as they ably  
3 pointed out.

4 Q And there was some questions about imputations. Do  
5 you think your use of just presidential vote share  
6 instead of regression model that impute the congressional  
7 vote share based on the presidential vote share would  
8 affect that conclusion?

9 A I don't believe it was because there's just kind of  
10 off -- there's discrete districts where it makes a  
11 difference, but I don't think it changes the overall  
12 efficiency gap or it could make a difference.

13 Q And then Mr. Hebert ended up going to part of your  
14 report, if we could turn to 547, paragraph 123, that we  
15 hadn't gone over. And you were making a slightly  
16 different point with this paragraph and I wanted to let  
17 you just explain what you were referring to with respect  
18 to this 2011 Illinois plan.

19 A I'm sorry, which -- I'm sorry, which page are we on?

20 Q 123 is it?

21 A So Illinois is a map where again virtually everyone  
22 would agree it's an aggressive Democratic gerrymander.  
23 The *Almanac of American Politics* reports that under heavy  
24 pressure from party leaders, desperate to offset  
25 Republican gains in other states, Democrats on May 11

1 released a map designed to eliminate up to six Republican  
2 seats. And Republicans were unhappy about this. Yet you  
3 get an efficiency gap of plus 0. or .058 which doesn't  
4 trigger scrutiny, and as we noted, wouldn't trigger  
5 scrutiny under a congressional seat analysis either.

6 Q Okay. So why is that a problem?

7 A Because this is something -- you know, if we're  
8 trying to design a test for gerrymanders, we want to be  
9 able to capture what happened in Illinois. Because  
10 everyone agrees that's a gerrymander, but the efficiency  
11 gap doesn't capture it. It would never get subjected to  
12 court scrutiny. It would get a pass.

13 MR. KEENAN: There's all my questions.

14 MR. HEBERT: May I have one minute? (12:03 p.m.)

15 JUDGE GRIESBACH: Mr. Trende, every election we  
16 hear that --

17 MR. HEBERT: I'm sorry?

18 JUDGE GRIESBACH: I didn't mean to interrupt.

19 MR. HEBERT: I didn't mean to distract you.

20 JUDGE GRIESBACH: Mr. Trende, every year we hear  
21 that the election will be determined by Independents. No  
22 one ends up voting for Independents, that's not -- maybe  
23 this year we'll see something different. I know some  
24 states want to do none of the above. But how -- you  
25 know, this is a binary determination. It's either

1 Republican or Democrat. But how many people identify  
2 themselves? Is there a statistic that shows how many  
3 people identify themselves as Independents? And then  
4 what is the significance of that in this determination of  
5 what is a, you know, of partisan gerrymandering?

6 THE WITNESS: So that's something that's  
7 difficult to sort out. I mean if you look at the exit  
8 polls, there's a fairly -- and polling in general, about  
9 a third, you know, quarter of the country  
10 self-identifies.

11 JUDGE GRIESBACH: As Independents.

12 THE WITNESS: As Independents. But what we find  
13 and what political scientists have found is that most of  
14 these people really aren't Independents.

15 JUDGE GRIESBACH: They're lying.

16 THE WITNESS: Well, some of the standard  
17 supporters will identify as Independents, but that  
18 doesn't mean they're swing voters. They just think the  
19 Democratic Party is too moderate. You'll get some on the  
20 right who are the same.

21 And then there are people who are Independents, but  
22 they're maybe, you know, two ticks leftward of the  
23 Republican Party. So when push comes to shove, they're  
24 open to a Democratic candidate, but they're going to vote  
25 for the Republican most of the time. You end up with a

1 slice of maybe 10 percent of the electorate that's truly  
2 Independent. And it does make this sort of, you know,  
3 trying to project out on the basis of political  
4 orientation difficult. It's very hard to untangle that.

5 MR. HEBERT: Just a couple of recross questions.

6 RECROSS-EXAMINATION

7 BY MR. HEBERT:

8 Q Do you know, Mr. Trende, what Illinois's  
9 congressional efficiency gap was in 2010?

10 A I don't know in 2010.

11 Q Do you know that in 2010 the Stephanopoulos and  
12 McGhee article calculated a congressional efficiency gap  
13 for Illinois of 3. -- minus 3.4 seats?

14 A Well, that's a problem because in 2002 it was a  
15 joint plan between Republicans and Democrats. That  
16 should have been a neutral plan and yet you're subjecting  
17 it to court scrutiny.

18 Q Did you know that Stephanopoulos and McGhee  
19 calculated a congressional efficiency gap in Illinois of  
20 0.5 seats in 2012?

21 A I didn't know how they calculated it. But as I  
22 understand, that still doesn't trigger scrutiny even  
23 though it's a Democratic gerrymander.

24 Q So the change in the efficiency gap, in the  
25 congressional efficiency gap for Illinois, is actually

1 about plus four seats?

2 A That's right. That's right. But it's not enough to  
3 trigger scrutiny under your plan.

4 Q Now, you indicate in response to a question on  
5 redirect from counsel for the state that you had made a  
6 contribution to Hillary Clinton?

7 A That's correct.

8 Q Now, according to *opensecrets.org*, you've made four  
9 other campaign contributions in '07 for a candidate named  
10 Oganowski?

11 A That's right.

12 Q And in 2000 you made a contribution to the George W.  
13 Bush campaign?

14 A I had no idea I had done that in 2000, but I'll  
15 accept that.

16 Q And in 2008 you gave money to John McCain?

17 A And Rudy Giuliani.

18 Q And Rudy Giuliani in 2007 according to  
19 *opensecrets.org*. You don't dispute any of that?

20 A No.

21 Q And they're all Republican candidates?

22 A People might bicker on Giuliani/McCain, but in 2008  
23 they were running under the Republican banner.

24 Q When you donated to them, you donated to them and  
25 they were running as Republicans; correct?

1 A Very moderate to liberal Republicans, which is what  
2 appealed to me. But yes.

3 Q Now, just one last question. In between 2000 and  
4 2012, the presidential elections that you voted in,  
5 you've only voted for Republicans; correct?

6 A At the presidential level. At the gubernatorial and  
7 Senate level I've tended to vote Democrat.

8 MR. HEBERT: That's all I have, Your Honors.  
9 Thank you.

10 JUDGE RIPPLE: Thank you. I think we are then  
11 finished with the witness.

12 MR. KEENAN: Yes, we are.

13 JUDGE RIPPLE: And you may step down, sir.  
14 Thank you for your testimony.

15 (Witness excused at 12:08 p.m.)

16 MR. KEENAN: Do we call our next witness? I  
17 don't know if it's easier to break a little bit early for  
18 lunch and come back early or we put him on right away.  
19 Or if want to just start and just put him on.

20 JUDGE RIPPLE: How long do you anticipate this  
21 witness?

22 MR. KEENAN: I think it would be a similar  
23 amount to what we've seen with Mr. Trende.

24 JUDGE GRIESBACH: Why don't you start. Start  
25 back up, please.

1 JUDGE RIPPLE: We would like to start, please.

2 MR. KEENAN: The defendants call Nicholas  
3 Goedert.

4 **NICHOLAS GOEDERT, DEFENDANTS' WITNESS, SWORN,**

5 JUDGE RIPPLE: Good afternoon, Mr. Goedert.

6 THE WITNESS: Good afternoon, Your Honor.

7 DIRECT EXAMINATION

8 BY MR. KEENAN:

9 Q Good afternoon. Could you just state and spell your  
10 name for the record, please.

11 A My name is Nicholas Goedert. Nicholas spelled N-i-h  
12 -- N-i-c-h-o-l-a-s. Last name is spelled G-o-e-d-e-r-t.

13 Q And I notice you took a piece of paper up to the  
14 podium with you. Can you just identify what that is?

15 A This is a copy of my report.

16 Q Okay.

17 A It was submitted on December 2nd of 2015.

18 MR. KEENAN: And that has been marked as Exhibit  
19 546.

20 Q Dr. Goedert, what's your current employment  
21 position?

22 A I am currently completing a term as a visiting  
23 professor of government and law at Lafayette College in  
24 Easton, Pennsylvania.

25 Q What do you do in that position?



1 A I do political science research and also I teach  
2 classes in American politics and constitutional law.

3 Q What will you be doing next year?

4 A I will be beginning a position as an assistant  
5 professor at Virginia Tech in the political science  
6 department.

7 Q Is that a tenured-track position?

8 A It is a tenured-track position, yes.

9 Q What do you expect to be doing -- types of classes  
10 do you expect to start teaching next year at Virginia  
11 Tech?

12 A I expect it to be similar to what I was teaching at  
13 Lafayette with the exception I will also be teaching  
14 statistical and research methods in political science.

15 Q Okay. Let's go backwards a little bit. And where  
16 did you go to college?

17 A I got my undergraduate degree at Harvard University.

18 Q What did you study there?

19 A I majored in a field called social studies, which is  
20 in interdisciplinary honors major where you take classes  
21 in a number of different subjects but also take  
22 specialized seminars in political and social theory and  
23 write a senior honors thesis.

24 Q What year did you graduate?

25 A I graduated in 2001.

1 Q And what did you do after graduating from Harvard?

2 A I worked for two years in Washington D.C. working  
3 for a political polling firm doing writing and analyzing  
4 polls for mostly Democratic Senate and gubernatorial  
5 candidates. Also the presidential campaign of John  
6 Edwards.

7 Q Following that what did you do?

8 A I attended law school at Georgetown University Law  
9 Center.

10 Q When did you graduate from Georgetown Law?

11 A 2006.

12 Q What did you do after law school?

13 A For one year after law school I worked as a  
14 legislative analyst and bill drafter for the Maryland  
15 General Assembly, which was a nonpartisan position, a  
16 nonpartisan bureau.

17 Q Then did you go out and do some further graduate  
18 education?

19 A Yes. I received a Ph.D. in political science at  
20 Princeton University where -- I suppose it's called  
21 politics at Princeton University. Also an incidental  
22 master's degree as part of that process.

23 Q And what year did you get that degree?

24 A The Ph.D?

25 Q Correct.

1 A 2012.

2 Q What did you -- did you have a focus of your study  
3 at Princeton in the political science department?

4 A I focused in American politics and formal and  
5 quantitative methods, basically statistics and game  
6 theory. I wrote my dissertation on legislative  
7 redistricting, various aspects of that.

8 MR. HEBERT: If we could turn -- pull up Exhibit  
9 546, Mr. Goedert's report, and then if we could go to the  
10 CV that's listed at the end. If we could pull up the  
11 education part of it.

12 Q And I see here it says *dissertation title*. What was  
13 the title of your dissertation?

14 A "Gerrymandering, Electoral Uncertainty and  
15 Representation."

16 Q And what did you write about in the dissertation?

17 A Well, various aspects of mostly congressional  
18 redistricting. I think a large part of it that would be,  
19 I suppose, relevant to this case was that I looked at  
20 effects of wave elections or changes in -- large-scale  
21 changes in public opinion in election outcomes in  
22 different years and how they affect what people expect to  
23 happen under various types of redistricting institutions,  
24 or in many cases unexpected results of a particular  
25 gerrymander, a particular map as a result of, say, having

1 an unexpected partisan tide, unexpected shift in vote  
2 outcome, say, within a particular decade. So I think  
3 that's probably the most relevant part of my dissertation  
4 to this case.

5 Q Have you published any articles in political science  
6 journals?

7 A I have.

8 MR. KEENAN: If we could move down.

9 Q There's a list of peer-reviewed publications. Okay.  
10 So can you explain some of the articles you've had  
11 published?

12 A Sure. So the most recent one which is the  
13 *Pseudo-Paradox of Partisan Mapmaking and Congressional*  
14 *Competition*, listed as conditionally accepted. At this  
15 point it could be listed as a forthcoming article, as a  
16 definitely accepted article in *State Politics and Policy*  
17 *Quarterly*. This would be part -- it's a version of a  
18 piece of my dissertation which I think is fairly close to  
19 what I was just describing, the effects of specifically  
20 shifts in public opinion and shifts in vote outcome over  
21 time and how they influence where we see competitive  
22 elections especially; when do we see a lot of close  
23 elections; when do we see a whole lot of noncompetitive  
24 elections, and how does both the gerrymander -- how does  
25 both the method that the districts were drawn and the

1 particular overall partisan tide in a particular year,  
2 how do those things interact with each other to produce,  
3 for instance, close elections in some cases or not close  
4 elections in another case.

5 Q Would you be able to summarize your findings in that  
6 article briefly?

7 A Sure. One thing that I do find -- so for one thing,  
8 I find that, for instance, maps that are drawn by  
9 nonpartisan commissions, they tend to be very, very  
10 responsive to partisan tide. So maybe we see huge shifts  
11 in the partisan composition of a state as a result of  
12 relatively modest changes in the electoral -- in the  
13 overall vote outcome under, say, nonpartisan commissions.

14 But in contrast, under partisan maps we actually see  
15 many of these maps backfire in the case of adverse  
16 partisan tides. So we see many cases, and a  
17 statistically significant number of cases, where we see  
18 an unexpected number of close elections. For instance,  
19 in Republican-drawn maps when you have a Democratic tide,  
20 for instance, in 2006 or 2008 or I go back 40 years into  
21 the 1970s. So, for instance, the biggest partisan tide  
22 for the Democrats would be in 1974, the post-Watergate  
23 election where you saw huge shifts in, for instance, I  
24 believe, say, the map drawn in New York, which was drawn  
25 by Republicans in the 70's, essentially a backfire of

1 this map. And analogously you see big backfires in maps  
2 drawn by Democrats in, for instance, many southern states  
3 in the 1990's, for instance, in response to the 1994 wave  
4 election and even in, say, the 2010 Republican wave  
5 election, you see a lot of these backfiring maps in the  
6 case of -- well, only a couple maps drawn by Democrats.

7 Q When you say backfire, what are you trying to imply?

8 A Sure. I'm implying that in the case of, for  
9 instance, Republican maps, Republican-drawn maps, that  
10 Democrats won many seats that were drawn to be narrowly  
11 Republican; all right? So maybe drawn with a baseline  
12 52, 53, 54 percent Republican majority. I observed that  
13 in, say, 1974 or 19 -- sorry, 2006 or 2008, many of these  
14 seats were actually won by Democrats. And I think the  
15 *Vieth* case that I think the last witness testified to was  
16 a really good example of this, the Pennsylvania map that  
17 was at issue in a previous Supreme Court case where we  
18 saw a very clear example of a backfire.

19 Now, I should mention that this particular article  
20 is only measuring the competitiveness of elections, so  
21 whether elections are close or won by huge margins. But  
22 in my dissertation I expand on this and also look at the  
23 actual sort of partisan balance and I find very similar  
24 results to what I'm describing.

25 Q And then we'll skip the 2015 article there and come

1 back to it. What about the one in 2014 about women  
2 deliberating with a distinctive voice? Can you describe  
3 that briefly?

4 A This is an article that I coauthored with a couple  
5 of other authors where it's an experiment in which -- my  
6 coauthors actually ran the experiments, I did a lot of  
7 the data analysis here. It was related to small group  
8 deliberation and it was looking at when women are more  
9 likely to participate in deliberation and political  
10 debates, depending on whether women constitute the  
11 majority of a group or only constitute, say, one member  
12 of a group; interacted with what the decision rule for  
13 the group was, do they decide based on unanimity or pure  
14 majority rule.

15 Q That's probably enough. What journal was that  
16 published in?

17 A This was published in the *American Journal of*  
18 *Political Science*.

19 Q How respected is that journal?

20 A I would say it's highly respected. It's certainly  
21 one of the most respected journals in political science.

22 Q Going on to this 2014 article, *Redistricting Risk*  
23 *and Representation*. What was that article about?

24 A So this article is in some sense an article  
25 published in the *Election Law Journal* which introduces a

1 lot of the themes in my dissertation through a series of  
2 case studies in the 2000's decades. So I both look at,  
3 say, the competitiveness of elections under these  
4 different case studies. I think I used two partisan  
5 gerrymanders, one nonpartisan commission, and one  
6 bipartisan gerrymander. This is where Legislature --  
7 parties on both sides of the Legislature agree to, say,  
8 protect incumbents. And I look at how these maps respond  
9 to, again, changes in partisan tides and I also look at  
10 different aspects of how people might want to be  
11 represented and how they're maybe better represented  
12 under different -- under one sort of map as opposed to  
13 another.

14 Q Okay. Then if we go to the next page. We see one  
15 in 2014 *Gerrymandering and Geography*. Can you explain  
16 what that argument is? Or article. Sorry.

17 A This is a short article that I published which takes  
18 a first cut at trying to tease out how much of the bias  
19 towards the Republicans that we observed in the 2012  
20 election outcome, and what I mean by bias here is that in  
21 the congressional -- national congressional races in  
22 2012, we did see an unusual outcome in that Republicans  
23 won a majority of congressional seats, but Democrats won  
24 a majority of the popular vote. What I'm asking is was  
25 this more due to the fact that Republicans controlled the



1 seat-drawing process in more states or was it due to the  
2 fact that, say, we have this geographic concentration  
3 which narrowly biases a lot of states in favor of the  
4 Republicans, a geographic concentration where Democrats  
5 are very concentrated in cities and Republicans are more,  
6 say, efficiently spread out in more rural areas.

7 Q And what did you find?

8 A Well, I found that both of these factors have a  
9 significant impact and that actually either one of them  
10 alone would have been enough to create this, in some  
11 sense, counter majoritarian outcome, but that both of  
12 them are important to consider.

13 Q We'll go into the article itself in a little more  
14 detail later. But if we could go up again to the 2015  
15 and this is the case of the disappearing bias. What was  
16 that article about?

17 A Yes. This is also a short article that uses the  
18 same method that I used in the previous article to  
19 analyze the 2014 congressional election outcome. And  
20 what I noticed about the 2014 congressional elections is  
21 that we did not observe the same amount of pro-Republican  
22 bias. We also did not observe the counter majoritarian  
23 outcome. In this election the Republicans won a  
24 substantial majority of the national congressional  
25 popular votes. However, they didn't win really that many

1 more seats than they won in 2012.

2 So a lot of the bias that we saw in 2012 kind of  
3 disappears and I'm trying to answer was that due to the  
4 fact that the geographic bias disappeared or was that due  
5 to, you know, the Republican gerrymanders were less  
6 effective.

7 Q And here it says *Forthcoming at Research & Politics*.  
8 At this point has that been published?

9 A That has been published and is publicly available.

10 Q Okay. Let's pull up Exhibit 548 which we were  
11 talking about. This is your 2014 *Research in Politics*  
12 article, *Gerrymandering or Geography*.

13 MR. KEENAN: If we could move down to the next  
14 page.

15 Q You mentioned bias. How did you measure -- what  
16 were you measuring as for bias?

17 A I'm measuring against a historical average of  
18 congressional election results over the past 40 years.  
19 So I'm saying given a certain vote share, how much does  
20 the seat share in 2012 compare to what we might expect  
21 given how elections have turned out over the last 40  
22 years on average. I run a very simple regression model  
23 to determine what that average is. Then I compare 2012  
24 against that regression model.

25 Q And then what is the slope of that bias line, if you

1 understand what I'm saying?

2 A I do understand what you're saying. So the actual  
3 model that I use is not what we might call a linear  
4 regression where you have a clear linear slope.  
5 However -- so I use what we call a probit model, which  
6 compares -- uses a normal distribution as opposed to a  
7 linear model. However, I think it's fair to say that  
8 within the range of relatively close elections outcomes,  
9 say where each party wins at least 40 percent of the  
10 vote, that the model that I use have something that's  
11 very close to a slope of 2-to-1 in the sense that parties  
12 tend to win about two percent more seats for every one  
13 percent more of the vote that they win.

14 Now, this only holds with respect to that range of  
15 election outcomes between, say, 40 and 60. My model,  
16 which I think is better adapted to more extreme election  
17 results than a linear model, would have different results  
18 if, say, a party wins 75 percent of the vote in a  
19 particular election year.

20 Q And how does that compare with what the efficiency  
21 gap does?

22 A So the efficiency gap is a linear model that  
23 always -- that always compares the actual election  
24 outcome to a 2-to-1 slope, regardless of the actual  
25 number of votes that a particular party won. So it uses

1 this 2-to-1 slope throughout the entire range of possible  
2 vote outcomes.

3 Q Now, are you measuring the bias based on any sort of  
4 -- that two slope for any sort of reason that parties are  
5 supposed to get that number of seats as a legal matter?

6 A No. I am only measuring it because that's what we  
7 observed, we have observed as a historical average. So  
8 I'm trying to explain why was 2012 -- why did it deviate  
9 so much from the historical average. Why was it so  
10 unusual. So comparing it to what we have observed in the  
11 past. I'm not saying this is what we should observe or  
12 this is the right election outcome.

13 MR. KEENAN: If we could just go to the next  
14 page of this article. And if we could blow up this chart  
15 here.

16 Q Could you explain what this shows?

17 A Sure. So this shows for the last 40 years, from  
18 1972 to 2012, each of the blue dots is -- the x-axis is  
19 the percentage of vote that the Democrats won in the  
20 national congressional popular vote. That's the  
21 aggregate all votes for Democratic candidates over all  
22 congressional districts compared to the total number of  
23 votes that both Democrats and Republican won. So it's  
24 the two-party vote share. So that's the x-axis.

25 Then the y-axis is the percentage of seats the

1 Democrats won in that actual congressional outcome. So  
2 the blue dots are all of the last 40 years of  
3 congressional election outcomes.

4 Do you want me to explain the lines as well?

5 Q Yes. Sure.

6 A So the lines are the historical average from 1972 to  
7 2012 if you run a very simple regression model that would  
8 predict, based on this historical data, how many votes  
9 would we expect a party usually to win if they win a  
10 certain given vote share. And I've shown two lines here.  
11 One of them is the actual linear model -- I forget off  
12 the top of my head which one is which because they're so  
13 close. It's actually in the article. But one of them is  
14 the linear model, the 2-to-1 vote share, and one is the  
15 probit model that I actually use. You can see that they  
16 are very, very close to each other, within the range of  
17 actual national observed election outcomes that we see.

18 Q Okay. Now -- so I'm just trying to see. So if we  
19 see 2006 in the middle here, what does that represent?

20 A So 2006, I don't know, should I be highlighting  
21 that? It's right there. Okay. So this is, of course,  
22 an election in which you would normally consider this to  
23 be a Democratic wave election, right? So Democrats won a  
24 rather large percentage of the national vote share, about  
25 55 percent. And in this case they did win a majority of

1 seats. So you can see down here 55 percent, that's  
2 the -- I'm a little off -- but that's the amount of the  
3 vote share that they won on the x-axis. And then I think  
4 they won about 54 percent of the seats. That's on the  
5 y-axis.

6 Now, we wouldn't consider this a counter  
7 majoritarian outcome because the Democrats won a majority  
8 of the vote and they also won a majority of the seats.  
9 However, given this 2-to-1 slope that we've historically  
10 observed, we would actually expect, if 2006 was  
11 historically average over the last 40 years, we would  
12 expect Democrats to actually win, say, 59 percent of the  
13 seats. So the reason that 2006 falls below both of those  
14 lines is that they won fewer seats than expected  
15 according to the historical average.

16 Q Okay. And then I see, for example, 2008 is above  
17 that?

18 A Sure. Right here.

19 Q What would that signify?

20 A In this case the Democrats won a slightly larger  
21 percentage of the vote than in 2006, so it's a little bit  
22 shifted over to the right in terms of the x-axis. But  
23 they won a much larger share of the vote in terms -- I'm  
24 sorry -- much larger share of the seats, and, in fact,  
25 2008 is much closer to the historically average line. So

1 I would describe this as having less Republican bias in  
2 2008 compared to 2006 if we're defining Republican bias  
3 as this deviation from historical average.

4 Q But if it's under the line, is that showing  
5 Republican bias?

6 A Under the line would be showing some sort of  
7 Republican bias. How far it is from the line would be  
8 how much Republican bias.

9 Q And on the other side of the line what would that  
10 show?

11 A Right. If it's above the line, that means that it  
12 would have Democratic bias. In these elections the  
13 Democrats won more seats than expected from the  
14 historical average.

15 Q From your graph, what's the last time the  
16 congressional elections showed a Democratic bias?

17 A It's difficult for me to read. It looks like it  
18 might be 2002. It was right on the line. So that would  
19 be essentially 0 bias. It looks like 1994 is actually  
20 the last election where there's a perceptible Democratic  
21 bias.

22 Q What happened in 1994?

23 A 1994 was the Republican wave election where  
24 Republicans for the first time won control of Congress  
25 in, I believe, almost 40 years. And in this case, the

1 Republicans did win a majority of the vote and they won a  
2 majority of the seats, but they actually didn't win quite  
3 as many seats as what we expect from the historical  
4 average. So again, it's not a counter majoritarian  
5 outcome, but it actually is slightly based toward the  
6 Democratic outcome.

7 Q This one has a slope of 2. What would the slope be  
8 if you looked at just the elections since the 1990's  
9 round of redistricting?

10 A Yeah. So I have calculated this for 1992 through  
11 2014, the most recent election, and the slope was  
12 actually much closer to 1.5. So we see a much less  
13 responsive curve just over the last, I guess that's 12  
14 election results.

15 Q Is that because we see -- in the recent years we see  
16 more of the dots below the line; in the older series the  
17 dots are above the line?

18 A Yeah. You also see a little bit of just overall  
19 bias in favor of the Republicans. So if you actually  
20 calculated this for just 1992 through 2014, the line  
21 would both shift over to the right reflecting the --  
22 overall the election outcome has become more biased in  
23 favor of Republicans. It's not an enormous shift, it's  
24 about 2 percent on a nationwide basis. And it would also  
25 sort of be less steep. It would look a little bit like



1 that. So move that way and that way.

2 JUDGE CRABB: Wait.

3 JUDGE RIPPLE: Mr. Keenan, could you --

4 THE WITNESS: So the line would move slightly to  
5 the right and the line would become less steep.

6 BY MR. KEENAN:

7 Q Would you be able to sort of draw it on the screen?

8 Is that what --

9 A Oh, sure. So it would probably look something  
10 like -- I mean this is not going to be an exact drawing  
11 at all. But like that, if that makes sense; right? And  
12 I don't know if that actually perceptibly moves over to  
13 the right in terms of where we might call the intercept  
14 might be.

15 JUDGE RIPPLE: Mr. Keenan, would you try to help  
16 me come in for a soft landing?

17 MR. KEENAN: This is actually a good breaking  
18 point. We can stop here.

19 JUDGE RIPPLE: All right. Thank you, sir. The  
20 Court will then stand in recess until 1:35.

21 (Recess 12:31-1:34 p.m.)

22 MS. GREENWOOD: Your Honor, I just have a quick  
23 moment of housekeeping. Judge Ripple, you had asked that  
24 we talk about the database issues that were raised during  
25 Mr. Trende's examination. We've met and conferred and I

1 have a stipulation as to that. So the parties have  
2 agreed to stipulate that the imputation method for  
3 uncontested elections use by Professor Jackman is valid,  
4 reliable and methodologically sound. Thanks.

5 JUDGE RIPPLE: Thank you. That stipulation will  
6 be accepted. And Mr. Keenan, you were in the middle of  
7 examining your witness.

8 BY MR. KEENAN:

9 Q Good afternoon, Professor Goedert. We've pulled up  
10 Exhibit 546. Could you identify that for us?

11 A This is my report in this case.

12 Q Have you developed any opinions about the use of the  
13 efficiency gap to measure partisan gerrymandering?

14 A Yes, I have.

15 Q Can you identify what those opinions are?

16 A Well, I think I advanced a number of opinions in the  
17 report. Some of them include the idea that the  
18 efficiency gap would codify a certain standard of  
19 proportionality, which although it over some span of  
20 history has been somewhat similar to what we've observed,  
21 is not necessarily what we would observe in the future.  
22 Additionally, I feel that or it is my opinion that there  
23 are various normatively good reasons why a state might  
24 choose to draw a map in a certain way and even under  
25 these normatively good reasons we could and actually do

1 observe very high efficient gaps in various different  
2 elections. And I include a number of examples of cases,  
3 for instance, where states try to draw competitive  
4 districts or states try to get proportional  
5 representation and yet in certain elections we either see  
6 very large fluctuations in the efficiency gap or we see  
7 just single examples of very high efficiency gaps well  
8 beyond the threshold advocated by the plaintiffs.

9 In general, I feel the efficiency gap is a very  
10 chaotic and highly fluctuating measure for which it's  
11 inappropriate to judge the bias in a map based on one  
12 particular election result over the efficiency gap  
13 observed in one particular election result because this  
14 particular measure is so unstable and so does in  
15 particular elections. Again, very sensitive to the  
16 overall make-up of the electorate overall shifts in  
17 partisan trends we can see huge shifts in the efficiency  
18 gap in a single election. So I think it is somewhat  
19 extra dangerous to use the efficiency gap based  
20 especially on a single election to measure that.

21 Q Okay. Let's start off you mentioned it would codify  
22 a particular seats-to-votes relationship. What's the  
23 basis for your opinion of that?

24 A Well, just the way that the efficiency gap is  
25 defined, it is defined in both the article, the academic

1 literature on efficiency gap and I believe in reports  
2 submitted by the or complaint submitted by the plaintiff  
3 as prescribing that a party should win 2 percent of seats  
4 for every 1 percent of the vote that they win, or at  
5 least 2 percent more seats over 50 percent for every 1  
6 percent more vote that they win. And the plaintiffs do  
7 rightly comment that this is in line with long-term  
8 historical averages, as I showed in the graph that you  
9 put up related to my 2012 gerrymander article.

10       Nevertheless, as I've also found, if you look at,  
11 say, recent history, this 2-to-1 responsiveness curve, as  
12 I would call it, this 2-to-1 responsiveness curve does  
13 not hold over, say, the last 20 or 25 years. And so  
14 whether it will continue to become less steep in slope  
15 over time, whether it will continue to be, say, a 1.5  
16 curve over the next several decades or whether it will  
17 revert back to a 2-to-1 curve in future decades is  
18 entirely uncertain. So I think for us to declare that  
19 constitutionally it is constitutionally mandated that an  
20 election result follow this 2-to-1 curve is, you know --  
21 I would be pretty caution about doing that.

22 Q       You also mention that there might be some normative  
23 good reasons to draw particular districts and the effect  
24 of the efficiency gap on that. Can you explain what you  
25 meant by that?

1 A Sure. Well, many of the exhibits that I think the  
2 witnesses have presented so far in this case have been  
3 examples where one party controlled the redistricting  
4 process. We might call that a party gerrymander.  
5 Presumably that party was trying to win seats for their  
6 party. But this is not the only motivation, of course,  
7 that motivates people drawing maps. There are various  
8 other motivations that we might consider normatively  
9 good, that might be considered something that we would  
10 value in an electoral system regardless of what party we  
11 belong to.

12 For instance, we might think that drawing  
13 competitive districts where everyone's vote has the  
14 potential to be decisive is a normatively good thing that  
15 we might want to achieve in our districting process. Or  
16 on the other hand, we might believe that achieving some  
17 sort of proportional representation where if 60 percent  
18 of the voters belong to a certain party, they should  
19 generally get about 60 percent of the representation in  
20 the legislatures. There's lots of countries that use  
21 explicit proportional representation to structure the  
22 partisan makeup of their legislatures.

23 Now, the United States does not do that. But if we  
24 find that a map has -- that a legislature has constructed  
25 a map which has the effect of achieving proportional

1 representation, I don't think we should think that's a  
2 bad thing or that it's a presumptively unconstitutional  
3 thing because we observe a very high efficiency gap in a  
4 particular election.

5 Q Are you offering an opinion that any of those were  
6 the intent of the Wisconsin Legislature in this case?

7 A No, I'm not.

8 Q So why do you think that's still important for this  
9 case though?

10 A Well, this case is asking us to adopt a new standard  
11 that presumably will be the standard used to judge future  
12 cases involving the constitutionality of a gerrymander.  
13 So I think if the Court does choose to adopt the  
14 standard, it should be one that is applicable to future  
15 cases where the motives might be different or the make-up  
16 of the Legislature might be different or even, say, the  
17 body that's being gerrymandered might be different. So I  
18 think looking at examples from other contexts is useful.

19 Q You also mentioned competitive -- designed for  
20 competitiveness can result in various efficiency gaps.  
21 If we could go to Table 1 of your report on page eight.  
22 Can you just explain why competitive activities will  
23 yield large efficiency gaps?

24 A Right. So if you draw, say, for instance, you draw  
25 all of your seats -- you live in a state that is 50/50

1 Democrat -- 50 percent Democrat, 50 Republican in a  
2 typical election year and so you draw all of your  
3 districts to be similarly evenly balanced, and in an  
4 election year where both parties win about 50 percent of  
5 the vote, you would expect a lot of close elections. And  
6 maybe the Republicans would win some and the Democrats  
7 would win some.

8       But now let's say in one particular election cycle  
9 the Democrats win 55 percent of the vote. And I don't  
10 think that's an unrealistic swing. I think it's the sort  
11 of swing we see actually relatively often in, say,  
12 congressional elections. Say the Democrats won 55  
13 percent of the vote statewide. They might also win 55  
14 percent of the vote in almost all of those seats. All  
15 right? And so that increase in five percent of the vote  
16 would translate to a much larger than 10 percent increase  
17 in the number of seats. They might win 55 percent of the  
18 vote, but they would win, say, 80 percent of the seats,  
19 just in my very hypothetical example here.

20       On the other hand, if the Republicans won 55 percent  
21 of the vote, they would also win 80 percent of the seats.  
22 So if you're asking -- if you're evaluating this under a  
23 partisan symmetry standard, we wouldn't say that that map  
24 is unfair or unsymmetric. Nevertheless, that example  
25 where the Democrats won 55 percent of the vote but 80

1 percent of the seats would present an enormous efficiency  
2 gap, I believe, of 20 percent, which would be three times  
3 the threshold suggested by the plaintiffs for presumptive  
4 unconstitutionality.

5 Q Has anything like this been seen in the United  
6 States?

7 A Well, so the table that you've brought up here on my  
8 screen is an example from the Arizona -- recent history  
9 of the Arizona congressional election results. So  
10 Arizona is unusual among states in the United States in  
11 that it draws its congressional districts through a  
12 nonpartisan commission, not done by the legislature, and  
13 it is especially unusual in that the law creating this  
14 commission also requires the commission to try to draw  
15 competitive districts when possible right within the  
16 constraints of other legal constraints like Voting Rights  
17 Act constraints and equal population districts. So  
18 Arizona is very unusual among states in that they are  
19 actually legally required to draw competitive districts.  
20 So that's why you've used this example here.

21 Q What does the experience in Arizona show?

22 A So what the experience in Arizona shows is that  
23 relatively small fluctuations in the total vote for the  
24 Republicans can result in very wide fluctuation in the  
25 numbers of seats because they have drawn so many



1 competitive districts. So, for instance, in the first  
2 election cycle following the 2000 census, the  
3 Republicans -- and I'm showing this on this year, 2002 --  
4 the Republicans won 55, 56 percent of the two-party vote  
5 and yet they won three-quarters of the seats. So this  
6 would result in an efficiency gap of 14 percent in favor  
7 of the Republicans. But because they have so many  
8 competitive districts, we see wide fluctuations in this  
9 efficiency gap over the course of the decade.

10 In the next map, 2012, where the Republicans also --  
11 I'm sorry, the nonpartisan commission also drew a  
12 different map, we saw almost the opposite result. We saw  
13 that the Republicans still win a narrow majority of  
14 seats, but they actually won a minority -- I'm sorry, a  
15 narrow majority of the vote. But they actually won a  
16 minority of the seats resulting this time in a 14 percent  
17 efficiency gap in favor of the Democrats.

18 In between those two election results, we actually  
19 saw the sign of the efficiency gap at the direction of  
20 bias flip three different times because you had so many  
21 competitive elections and slight fluctuations in the vote  
22 could have produced fairly significant fluctuations in  
23 the seat share.

24 Q You also mentioned about proportional  
25 representation. How does the efficiency gap differ from

1 proportional representation such that it might cause a  
2 problem?

3 A Right. So I describe the efficiency gap as  
4 codifying hyperproportional representation. So  
5 proportional representation would suggest if you win 50  
6 percent of the votes, you should win 50 percent of the  
7 seats. Now uniquely, the efficiency gap also says 50  
8 percent of the votes you should win 50 percent of the  
9 seats. That's the only point at which the efficiency gap  
10 is the same as proportional representation.

11 As you deviate from 50 percent of the vote,  
12 proportional representation gets more and more different  
13 from the efficiency gap. So while under the ideal of  
14 proportional representation, you'd say if you win 60  
15 percent of the vote, you should win 60 percent of the  
16 seats. Efficiency gap would codify the concept that if  
17 you win 60 percent of the vote, you should actually win  
18 70 percent of the seats, and given 60 percent of the vote  
19 if you only won 60 percent of the seats, if you only  
20 achieve proportional representation, that would actually  
21 be a presumptively unconstitutional gerrymander against  
22 the party that won the majority of votes and seats.

23 Q Do you have any opinions about the historical  
24 instability or fluctuations in the efficiency gap?

25 A Well, I generally think that the efficiency gap is

1 rather unstable and that historically over the last 40  
2 years this sort of range of elections that has been  
3 studied by Professor Jackman in his testimony, also the  
4 range of election study in the Stephanopoulos and McGhee  
5 article, I believe almost half of all plans, something  
6 like 40/45 percent of plans at some point exceed the  
7 prescribed threshold for presumptive unconstitutionality.

8 And also, you know, among those plans that exceed this  
9 threshold, a fairly high percent, I think approaching  
10 30/35 percent just of the plans that exceed this  
11 threshold, also within the same decade observe an  
12 efficiency gap that has the opposite sign, is biased in  
13 favor of the opposite party. I believe it is actually --  
14 I'm sorry, go ahead.

15 Q I was going to stop and just clarify that. When you  
16 say it exceeds the constitutional threshold, is that just  
17 in any election over the course of the plan?

18 A Right. It exceeds either the 8 percent threshold  
19 advocated by Stephanopoulos and McGhee for State Assembly  
20 seats or the 7 percent threshold advocated by Professor  
21 Jackman in some election that was held under the plan,  
22 yes.

23 Q Now, the plaintiffs test conditions on the first  
24 election in the plan. Do you have an opinion on that?

25 A Yes. So I think -- so I would say while I have a

1 very high regard for the analysis that was done by  
2 Professor Jackman, one deep limitation I think it has is  
3 that it relies on a very limited dataset in one very  
4 important regard and in almost all of his analysis  
5 conditions its results just on the first election that  
6 was conducted under a map, usually the first election  
7 cycle following the redistricting; all right?

8       So while it may look in this dataset like we have  
9 several hundred examples of maps crossed with election  
10 results, we have several hundred data points of  
11 efficiency gap calculations, we actually only have five  
12 examples of first election cycles. And what's  
13 particularly important is that in my own research, I find  
14 that where we see the greatest fluctuation or we see the  
15 greatest number of unpredictable results is in large  
16 national wave elections.

17       So I gave the example of, say, 1994 or 2010 in favor  
18 of the Republicans where we see a lot of backfiring  
19 Democratic gerrymanders. 1974, 2008 in favor of the  
20 Democrats where we see a lot of backfire Republican  
21 gerrymanders.

22       What's important here, and I think this is largely  
23 coincidental, I don't think it's intentional on the part  
24 of Professor Jackman or any of the analysis presented by  
25 the plaintiffs, but what's important is that none of

1 these major wave elections happened to occur in this  
2 first election cycle. And especially we've done so much,  
3 we've seen so much analysis related to 2012. 2012 is a  
4 very unusual election in that it was so closely balanced  
5 between Democrats and Republicans. This is really the  
6 exception rather than the rule.

7 But actually most of these first election cycles  
8 were fairly evenly balanced. And so in these election  
9 cycles, yeah, maybe we can closely predict what the  
10 efficiency gap will be based on some sort of partisan  
11 baseline calculation that we've made. But if we actually  
12 try to apply this to a wave election, all of these  
13 calculations are going to be way out of whack. And so in  
14 the future, if, for instance, this Court were to adopt a  
15 standard of efficiency gap conditioning on the first  
16 cycle's election results; all right? And, say, in 2022  
17 we saw a big wave election either in favor of the  
18 Democrats or in favor of the Republicans, we could see an  
19 enormous number of plans radically exceeding the  
20 prescribed threshold for no other reason than they were  
21 an unpredictable result related to the actual electoral  
22 wave we saw because we've only been conditioning in the  
23 data that we've so far been presented on nonwave election  
24 years and only on five data points.

25 Q Could you just explain in a little bit more detail

1 about what it means to condition on the first election?

2 A Right. So, for instance, the sensitivity analysis  
3 that was done by Professor Jackman, at least as I read  
4 his rebuttal report in particular, what he's looking at,  
5 and I think this is also contained a little bit in his  
6 initial report, what he asks is well, given what happened  
7 in the first election, how likely is it that we'll see,  
8 for instance, an opposite sign of the efficiency gap in a  
9 future election? But if all of those first election  
10 cycles are relatively evenly balanced elections like we  
11 observed in 2012 or like we observed in 1992 or in 2002,  
12 all right? You're going to get a very different result  
13 for how big a fluctuation we might see in the future than  
14 if you actually included wave elections in that  
15 conditioning, if that makes sense.

16 Q So what does this mean for, like, going forward in  
17 terms of, like, a standard that would be in place in  
18 2022, for example?

19 A Right. So as I think I mentioned, if you were to  
20 adopt this standard going forward and we saw a wave  
21 election of the magnitude of, for instance, 1974 or, for  
22 instance, 2008 in a first election, then you might see  
23 all sorts of, say, backfiring partisan gerrymanders or  
24 all sorts of huge fluctuations in nonpartisan or  
25 bipartisan maps or really deep differentiations in

1 efficiency gaps in bipartisan maps designed to achieve  
2 proportional representation. The sorts of exaggerated  
3 efficiency gaps that you wouldn't observe just by looking  
4 at close elections.

5         And I mean one thing I do want to accentuate is that  
6 in some sense I think wave elections are the norm rather  
7 than the exception; right? When I go back in my own  
8 research and I look at the national popular vote in  
9 congressional elections over the past 40 years, much more  
10 often than not one party wins by 5 percent or more. So  
11 this very close election that we saw in 2012, that's  
12 unusual.

13         I think it is -- again, I think it is fairly  
14 coincidental that most of these conditioning elections,  
15 these first election cycles, it's mostly coincidental  
16 that most of them have been relatively close and not wave  
17 elections. But that does influence the results that  
18 you're going to see going forward and it's certainly not  
19 necessarily going to hold true in the future.

20                 JUDGE CRABB: I'm sorry, what is not going to  
21 hold true in the future?

22                 THE WITNESS: Oh, the fact that we might -- the  
23 fact that we will consistently see very close elections  
24 in the first election following a redistricting cycle.  
25 So what I'm saying is that there's no reason to expect

1 that 2022 will be as close as 2012. It could be a wave  
2 election like 2010 or like 1974.

3 BY MR. KEENAN:

4 Q Do you have any opinions about using sensitivity  
5 testing with respect to the first election seen in a plan  
6 using the efficiency gap?

7 A Well, I think at a very minimum, right, you need to  
8 have some sort of robust sensitivity testing that would  
9 be codified if you were going to use the efficiency gap  
10 in any way. I think that there's a lot of sort of  
11 different ideas about sensitivity testing that have been  
12 presented. One thing that I think would be important  
13 would be to acknowledge, for instance, that a particular  
14 election cycle falls within the range of possible  
15 election cycles. So you don't necessarily just want to  
16 do sensitivity testing based on doing a uniform swing  
17 from one -- from the actual observed, say, 2012 results.  
18 You would probably want to position that in the line of  
19 plausible election results or in the range of plausible  
20 election results and do some sort of shift away from  
21 there. I think it's just a slightly more complicated  
22 process than any of the evidence that's presented so far  
23 to really be a sufficient -- sufficient way to anticipate  
24 future efficiency gaps.

25 Also I don't think, as far as I know, the plaintiffs



1 haven't actually presented any sort of proposed legal  
2 standard for sensitivity testing. It seems completely  
3 absent to me from the --

4 Q And where is there a proposal that sensitivity  
5 testing should be incorporated?

6 A It is in the Stephanopoulos and McGhee article that  
7 I think has been discussed throughout the case.

8 Q And you've had a chance to review the Demonstration  
9 Plan, Mr. Mayer's Demonstration Plan?

10 A In broad -- you know, broadly speaking, yes.

11 Q Sure.

12 A I have not reviewed the actual specifics of where  
13 the lines are drawn.

14 Q Exactly. You've read his report though.

15 A Yes, I have.

16 Q You said that Mr. Mayer had access to information  
17 that the drafters of the plan did not. What do you mean  
18 by that?

19 A Well, most importantly he had access to what the  
20 actual result of the 2012 elections were. So the  
21 efficiency gap doesn't describe a map, it describes a  
22 particular election result. And you can only know what  
23 the efficiency gap of a plan will be after you already  
24 know what happened in the election. So if you're  
25 instructing a legislature to draw a map with a 0

1 efficiency gap or draw a map with an efficiency gap  
2 within this range, I wouldn't really know how to instruct  
3 a legislature to do that unless I could tell them what  
4 was going to happen in the future. All right? There's  
5 no necessary -- there's no data they can rely on that's  
6 going to tell them are we going to have a wave election  
7 in favor of one party or another two years in the future  
8 which will tell us what the efficiency gap will look like  
9 in this first election cycle.

10 So Professor Mayer knew what the actual election  
11 outcome was and could retrospectively use that to  
12 construct a plan that would have a 0 efficiency gap, but  
13 there's no way the Legislature could have known that that  
14 map or any map they could have drawn would have a  
15 particular efficiency gap when they drew it.

16 Q Professor Mayer says that the observed efficiency  
17 gap was very close to one that -- he used the Gaddie  
18 measure, but was predicted, he says, by the Gaddie  
19 measure. What do you say to that?

20 A Well, I think that's precisely because 2012 was  
21 so -- such a close election in terms of partisan balance  
22 between the Democrats and the Republicans. The Gaddie  
23 measure, I believe, is establishing some sort of baseline  
24 partisanship of what we should expect in a close  
25 election. So yes, if you have a very close election, if

1 you actually observed an election which was 50 point  
2 something percent for one side and 49 point something  
3 percent for the other side, yes, it will match up very  
4 closely. But there's no way the Legislature could have  
5 known that prior to drawing the map.

6 And as I also mentioned, that sort of almost exact  
7 partisan balance is the exception rather than the rule.

8 Q Professor Mayer, in response to your report,  
9 performed some uniform swings on the Demonstration Plan.  
10 And there's been testimony that what he did was he took  
11 account for incumbency and then calculated an efficiency  
12 gap and then after doing that, he then treated every seat  
13 winner as an incumbent, incorporated an incumbency  
14 advantage to whoever the winner was and then ran his  
15 uniform swing. Do you think this is a valid method of  
16 doing the uniform swing?

17 A No.

18 Q Why not?

19 A Because I think that when we're thinking about  
20 prospectively applying this test in the future, we want  
21 to know is this going to appropriately apply to this like  
22 the election cycle where the case might actually occur.  
23 So, say, for the first election cycle following  
24 redistricting. So I think the more appropriate way to do  
25 the sensitivity testing would be to ask what would have

1 happened in that 2012 election if the Democrats had won  
2 by 4 or 5 percent rather than, say, less than 1 percent;  
3 not well, let's assume all the Republicans run for  
4 reelection and all of the Republicans have this built-in  
5 incumbency advantage which can naturally overcome a  
6 Democratic swing of three-and-a-half percent.

7 I think if you didn't automatically assume that all  
8 these Republicans were going to win -- run for  
9 re-election, which of course is an unrealistic  
10 assumption, you would see a lot more responsiveness to a  
11 moderate-size Democratic swing.

12 Q Do you have any opinion on why the efficiency gap  
13 has tended to favor Republicans and also bias in  
14 congressional elections has tended to favor Republicans  
15 in the recent history?

16 A Yeah. I think this does speak to some of my own  
17 research which suggests that the way that Democrats and  
18 Republicans are actually concentrated or dispersed across  
19 geographic areas does naturally favor the drawing of very  
20 heavily concentrated Democratic districts and much more  
21 dispersed, less concentrated Republican districts. And  
22 specifically in an election cycle like 2012 that is very  
23 evenly balanced, this is going to produce a lot of  
24 marginal Republican seats and a smaller number of very  
25 heavily Democratic seats, and that's the type of

1 distribution that's going to produce a Republican -- a  
2 pro-Republican efficiency gap regardless of who drew the  
3 map.

4 Q Did you do an analysis of Wisconsin to see if this  
5 was the case in this state?

6 A I've not specifically done an analysis of Wisconsin.

7 Q Did you analyze the wards in Wisconsin?

8 A Oh, right. Yes.

9 Q Okay.

10 A I'm sorry, I thought you were talking about the  
11 elections --

12 Q I'm sorry.

13 A Yes, I did. I did look at the distribution of  
14 partisanship of the wards in Wisconsin.

15 Q If we could pull up Figure 1 on the report. Page  
16 22. Could you explain what this chart represents?

17 A All right. So what I did here was I used a measure  
18 of baseline partisanship for each ward in Wisconsin. I  
19 think it's about 6,000 wards, that's a rough estimate.  
20 And the way I developed this baseline partisanship  
21 measure is I took Obama's 2012 vote share and I shifted  
22 it down 3. something percent uniform swing so that the  
23 national average vote share would be 50 percent for the  
24 Democrats and 50 percent for the Republicans. And then  
25 what I asked was given this uniform swing, 3 percent

1 uniform swing for each ward, what percentage of the vote  
2 did the Democrats get in each ward and I sort of put them  
3 into ten different bins based on what percentage of the  
4 votes the Democrats would expect to get in a 50/50  
5 election. And I looked at both the absolute number of  
6 wards, and because there's such a high variance in the  
7 population of wards, I looked at the share of population  
8 in Wisconsin that resided in the wards in each different  
9 bin.

10 Q Okay. So what does the blue bar represent?

11 A The blue bar is the total percentage of wards in  
12 Wisconsin that, for instance, right, if I was going to  
13 point to this blue bar right here, that would be the  
14 percentage of wards in Wisconsin that vote between 30 to  
15 40 percent Democratic. Or in other words, they vote 60  
16 to 70 percent Republican in a 50/50 election. And it's  
17 about 22 percent of wards in Wisconsin fall in that bin.

18 Q And what does the red bar represent?

19 A So the red bar is the share of population. So if  
20 you look at the same bar for the pink -- sorry, let's --  
21 right there, this is the share of population that falls  
22 in the same bin. Now, because these Republican wards  
23 tend to be somewhat rural and somewhat smaller, the share  
24 of the population is also going to be somewhat smaller in  
25 these narrowly Republican wards than the share of wards.

1 So here you see, I think it's something like 18 percent  
2 of the total population of Wisconsin resides in wards  
3 that are 60 to 70 percent Republican.

4 Q Okay. It says 30 to 40 percent --

5 A 30 --

6 Q -- Democrat --

7 A 30 to 40 Democrat. So this is a share of the  
8 two-party vote.

9 Q And then so the Republicans would then be 60 to 70  
10 percent?

11 A 60 to 70 percent.

12 Q And what does it show for the wards in the  
13 population that are between 40 to 50 percent Democrat but  
14 50 to 60 percent Republican?

15 A Right. So we'll see -- we see the largest number of  
16 wards and the largest share of population resides in  
17 wards, all right, basically voting precincts, that are  
18 narrowly Republican. So there is a much smaller share  
19 that reside in wards that are narrowly Democratic. So  
20 the distribution of wards in Wisconsin, which presumably  
21 is not politically motivated by how the wards are drawn,  
22 does tend to favor narrowly Republican wards. And if  
23 you'll notice at the extremes, you'll have quite a few  
24 wards that are 80 percent or more Democratic and  
25 especially there's a fairly large percentage of the

1 population of Wisconsin that resides in wards that are 80  
2 to 90 percent, 90 to 100 percent Democratic, and almost  
3 no one lives in wards that are that extremely Republican.

4 Q Now, how much of the population -- if we add the 80  
5 to 90 percent Democrat, 90 to 100 Democrat, which of the  
6 population is in wards of that level of Democratic  
7 partisanship?

8 A So 80 percent or more Democratic?

9 Q Yes.

10 A I believe it is about seven-and-a-half, 7 to 8  
11 percent.

12 Q And what's the 90 to 100 percent?

13 A Oh, I'm sorry. You're just looking at this. I was  
14 summing them up. I think it's about 4 percent in the 80  
15 to 90 percent bin and 3 percent in the 90 to 100 percent  
16 bin.

17 Q And it's seven-and-a-half when you add them  
18 together?

19 A It's something like that, yeah.

20 Q What's the percentage on the other side of the map  
21 that are -- looks like there's no Republicans in the 0 to  
22 10 percent?

23 A There's one ward, about 6,000.

24 Q Okay. And then what about the 10 to 20 percent,  
25 what's the share of population?



1 A It's slightly less than 1 percent.

2 Q Okay.

3 MR. KEENAN: If we could pull up Exhibit 114.  
4 Actually could we go back to that.

5 Q If we summarize, what does the distribution of wards  
6 in Wisconsin show about the distribution of partisans in  
7 Wisconsin?

8 A It shows that many residents of Wisconsin, right,  
9 live in wards that are very, very heavily Democratic and  
10 many residents of Wisconsin live in wards that are  
11 narrowly Republican, but almost no one in Wisconsin lives  
12 in wards that are very, very heavily Republican, say,  
13 more than 80 percent Republican.

14 Q And how would that matter when wards are then, you  
15 know, put together into districts?

16 A Sure. So the natural method for doing partisan  
17 gerrymandering would be to pack as many of the opposing  
18 partisans as possible into a very small number of  
19 districts. All right? So if Republicans are going to  
20 try to pack Democrats into a small number of districts,  
21 it's fairly easy for them because there are so many wards  
22 that are already so heavily packed, whereas they were  
23 also going to try to disperse their own partisans as  
24 widely as possible. It's also easy for them to do that  
25 because there are so many districts that are, you know,

1 similarly in these two bins.

2       And even if we were going to, say, draw a map that  
3 would be not motivated by partisanship but, for instance,  
4 motivated by respecting existing city lines, respecting  
5 existing municipal subdivisions, so one example I found  
6 is that Milwaukee as a whole, the City of Milwaukee as a  
7 baseline votes, I believe it is, 78 percent Democratic.  
8 Madison as a partisan baseline also votes right around 78  
9 percent Democratic. So if a nonpartisan gerrymanderer, a  
10 nonpartisan redistricter was going to try to draw  
11 districts that would respect those community lines,  
12 they're going to naturally draw districts that are 78  
13 percent Democratic in Milwaukee and in Madison, whereas  
14 you just can't draw a district that's 78 percent  
15 Republican. Less than 2 percent of the wards and 2  
16 percent of the population of Wisconsin lives in wards  
17 that's 78 percent or more Republican and they're all  
18 spread out over the state. I think Mr. Trende's map  
19 showed that to a certain extent.

20       So it's -- even if they were geographically  
21 concentrated, you couldn't draw more than two Assembly  
22 districts even if you were to not care with contiguity at  
23 all. So it's just much easier to draw packed Republican  
24 districts and packed Democratic districts.

25               MR. POLAND: Your Honors, I'm going to object

1 and move to strike the testimony to the extent it goes to  
2 the justification prong. Professor Goedert was never  
3 tendered as an expert on traditional redistricting  
4 criteria and he was just testifying about it and the  
5 justification for the districting in Act 43. I'd move to  
6 strike.

7 MR. KEENAN: I don't believe he was testifying  
8 about specifically justifying the plan, he was just  
9 explaining why these things happen when you see ward  
10 distributions like that.

11 MR. POLAND: Well, I heard testimony about  
12 municipal splits and why things -- why lines were drawn  
13 as they were.

14 JUDGE RIPPLE: I think it goes more to the  
15 weight than the scope, and we're going to let the  
16 testimony stand.

17 MR. KEENAN: We can take that down and we can go  
18 to Professor Mayer's rebuttal report. Blow up the graph.

19 BY MR. KEENAN:

20 Q Are you familiar with Professor Mayer's Figure C  
21 here?

22 A I am.

23 Q Okay. Professor Mayer says that in looking at  
24 districts, we should study what the districts look like.

25 Do you think that's a valid criticism? He says the

1 relevant line here is this blue one that looks at  
2 districts, not the red one that looks at wards which is  
3 yours?

4 A Well, I think it is a relevant comment. I don't  
5 know that he is in any way contradicting anything that  
6 I'm saying.

7 Q Okay. Why not?

8 A Well, because -- so I don't know if this particular  
9 graph has been explained in the court already.

10 Q Why don't we re-explain it. Professor Mayer did go  
11 over it, but you can re-explain it.

12 A So my understanding of the red line is it is  
13 essentially a repeat of the graph that we just saw that  
14 was in my report; right? So this is the distribution of  
15 wards in Wisconsin and it looks very similar to the graph  
16 that we just saw; right? So we have a large share of  
17 wards that are slightly Republican that are over here,  
18 and then we have a fairly decent share of wards that are  
19 very, very Democratic that are right over here. And we  
20 have basically no wards that are very heavily Republican  
21 over here. All right? So this is the data from my  
22 report. All right?

23 And then in contrast, Professor Mayer is showing the  
24 distribution of districts under the Wisconsin plan that  
25 was actually enacted, the Act 43 plan. And I believe

1 what he's trying to show is that well, even though there  
2 were a majority of wards that were slightly Republican,  
3 there were even a greater majority of wards -- or  
4 sorry -- even greater majority of districts that were  
5 slightly Republican. So this peak, say, is higher than  
6 the peak in the data from my chart. I think that's what  
7 the intent of this graph is.

8         So he's showing that while actually it seems like  
9 partisan intent did matter; right? They in some way  
10 reshaped the distribution of wards to the advantage of  
11 Republicans.

12 Q       Do you think that's a valid criticism of your  
13 method?

14 A       Certainly not necessarily. I think we might  
15 naturally expect, all right, that if the wards that are  
16 very, very heavily Democratic are geographically  
17 concentrated, that the districts that compose those wards  
18 would also be similarly concentrated. So one thing  
19 you'll notice from this graph is that the blue line and  
20 the red line in the heavily Democratic graphs -- I'm  
21 sorry, I'm putting up arrows where I don't mean to -- are  
22 very similar. So I expect that these are the wards in,  
23 for the most part, Milwaukee and Madison and maybe some  
24 other very heavily Democratic cities. In contrast if you  
25 look at these heavy Republican wards that are over here,

1 very, very small number of --

2 JUDGE GRIESBACH: Districts or wards.

3 THE WITNESS: Sorry?

4 JUDGE GRIESBACH: You mean districts or wards?

5 THE WITNESS: I mean wards. So in this case I  
6 means wards. The very heavily Republican wards, this  
7 very small number of wards that are, looks like 80  
8 percent Republican, because these are spread out over the  
9 state, you can't draw a district that's 80 percent  
10 Republican. We shouldn't under any districting method  
11 expect to see a district. Rather what's probably going  
12 to happen is you're going to have a district that's made  
13 up of a couple wards that are here and a couple wards  
14 that are here and on average probably a couple wards that  
15 are over here. On average the wards that are over on  
16 this extreme of the graph, they are going to become,  
17 because of sort of an average, sort of deviation to the  
18 mean, on average they're going to move in this direction;  
19 right? And become slightly less Republican when they  
20 form districts.

21 BY MR. KEENAN:

22 Q Professor Mayer said the distribution of wards is  
23 almost symmetrical, the red line here. Do you think the  
24 red line is symmetrical?

25 A I don't think it's symmetrical.

1 Q Can you explain why not?

2 A First of all, it's very obvious from the extremes,  
3 right, that ten times as many people live in 80 percent  
4 plus Democratic wards as live in 80 percent plus  
5 Republican wards. And I also note in my report that an  
6 absolute majority of wards, so more than 50 percent of  
7 all the wards in Wisconsin are in only two of the bins.  
8 They're in the 30 to 40 percent Democratic bin and the 40  
9 to 50 percent Democratic bin. So if an absolute majority  
10 are in just those two bins which are slightly to the  
11 Republicans side of center, I don't think that's really  
12 -- would be described as symmetrical.

13 Q Now, Professor Mayer has employed a method of  
14 analysis called the *isolation index*. And he says that it  
15 would refute the analysis that you provide here. Do you  
16 believe that to be the case?

17 A I do not.

18 Q At your deposition had you heard of the isolation  
19 index?

20 A I had not.

21 MR. POLAND: I'm going to interpose an objection  
22 right here as well and I'm going to object to this  
23 testimony because this is new testimony that counsel had  
24 an opportunity to provide rebuttal on as of the time of  
25 Dr. Mayer's rebuttal report, which was tendered in

1 December. This is the first time we've heard anything  
2 about it.

3 MR. KEENAN: When did we have an opportunity to  
4 provide rebuttal expert reports?

5 MR. POLAND: You could have moved for leave to  
6 file a rebuttal report addressing that after Dr. Mayer's  
7 rebuttal report he filed in December and you took his  
8 deposition as well and you didn't do it.

9 MR. KEENAN: The plaintiffs haven't been limited  
10 to their expert reports and testimony. It would be  
11 unfair to limit the defendants.

12 MR. POLAND: We certainly explained that to Your  
13 Honors. We believe the record will speak for itself on  
14 that.

15 JUDGE RIPPLE: We'll take it under advisement  
16 and rule when we take a look at the record.

17 BY MR. KEENAN:

18 Q Have you ever seen the isolation index in the  
19 political science literature ever used to calculate the  
20 distribution of partisans in a state or anywhere?

21 A Not that I can recall.

22 Q Okay. Since your deposition have you looked into  
23 the isolation index?

24 A I have.

25 Q Have you discovered why you had never seen it used



1 to measure the distribution of partisans?

2 A Yes.

3 Q And why is that?

4 A Because it is an entirely inappropriate method to  
5 use because -- in the way that the measure is defined as  
6 part of the definition of the measure, if you are  
7 measuring the relative isolation of two subpopulations  
8 which each compose about 50 percent of the populations of  
9 a greater population, so, for instance, if you're using  
10 it to describe the isolation of Democrats as opposed to  
11 Republicans within a state, by the definition of the  
12 measure those two numbers, the isolation of Democrats and  
13 the isolation of Republicans, if they're divided 50/50,  
14 those two numbers will always be equal regardless of how  
15 they're actually distributed. Regardless how many  
16 Democrats you put in one district and how many  
17 Republicans you put in another district, under the  
18 definition of isolation index those two numbers will  
19 always be equal. So the fact that Professor Mayer  
20 observes that the isolation of Democrats and Republican  
21 is very close to equal across a range of election cycles,  
22 it actually has nothing to do with the dispersal of  
23 Democrats and Republicans across districts. The only  
24 reason you see that is in some election cycles, Democrats  
25 won a few more votes than Republicans across the state,

1 not because they're more isolated.

2 MR. KEENAN: If we could pull up Exhibit 581.

3 Can we blow up the first page?

4 Q Do you recognize this document?

5 A I believe this is a document from the United States  
6 Census which describes the definition of various measures  
7 of population dispersal or isolation. It says  
8 residential segregation.

9 MR. KEENAN: So if we can go down to I believe  
10 it's page four. And if we blow up No. 6 there in the  
11 bottom right.

12 Q What does this No. 6 describe?

13 A This is the mathematical definition of an isolation  
14 index.

15 Q Can you explain what that equation means?

16 A Yeah, sure. Okay. What this initial large Sigma  
17 represents is that this isolation index is going to be  
18 calculated by generating a quantity for each district or  
19 each precinct; right? It's each subdivision you're  
20 trying to measure. It's going to generate a quantity for  
21 each precinct, and then it's going to sum over all of  
22 these quantities for every precinct. So that Sigma is  
23 the sum over all precincts or all districts.

24 And then what these other two quantities represent  
25 is that for each precinct, it's going to calculate this

1 as the product of two different numbers. And these two  
2 different numbers, we don't actually have the definition  
3 up here, but I don't know if you want to --

4 Q We can move over. We can zoom out and move over  
5 then. Look at the definition.

6 A It's going to be a little hard to view both at the  
7 same time. But the two different numbers here are  
8 actually fairly easy to describe.

9 Q Sure. What is  $x(i)$  which is the enumerator in both  
10 fractions?

11 A So  $x(i)$  is the minority population in the particular  
12 area, in the precinct or in the district. That's the  
13 total population of, and it says minority here, but we  
14 might say here the population of Democrats or the  
15 population of Republicans, whatever you're trying to  
16 measure.

17 Q And it says minority. What do you understand that  
18 the isolation index usually measures?

19 A It usually measures the segregation of a minority of  
20 an actual minority population that constitutes much less  
21 than 50 percent of the population.

22 Q Okay. So then there's two fractions here that --  
23 what's the first word, it says " $x$ " divided by " $x$ ."  
24 What's the denominator there, that " $x$ "?

25 A Yeah. So that first -- that  $x(i)$  over big " $X$ ," that

1 represents the share of the group that is in a particular  
2 district; right? So what we will be asking here is what  
3 percentage of all Democrats in the state reside in  
4 district N or precinct N. That's the first quantity; all  
5 right? So it's the share of partisans in the district,  
6 the share of the group in the district.

7 Q And then what's the second -- we have  $x(i)$  over  
8  $t(i)$ . What's that?

9 A Yeah. So the second is almost the exact converse.  
10 It's the share of the district that is part of that  
11 group. So it's what percentage of that precinct is  
12 Democratic; right? Yeah.

13 Q And then if we were going to do this for the  
14 Republicans as well, how would that change?

15 A Well, it would be the mirror image in each district;  
16 right? So it would be the total share of Republicans  
17 statewide that are in that district multiplied by the  
18 percent of that district that is Republican. That would  
19 be the product for each district, and then you'd sum over  
20 all of the districts to create the total isolation index  
21 for the state.

22 Q Maybe we can do an example of this.

23 MR. KEENAN: Can we pull up Exhibit 575 so we  
24 see -- move down a little bit, please.

25 Q So we have an example here. Could you explain how

1 you would go about calculating -- first, just explain  
2 what the distribution here is of party A and party B.

3 A Sure. So this is a hypothetical state that has been  
4 divided into four districts. And in this hypothetical  
5 state, you have 400 voters, and 200 members are party A  
6 and 200 are members of party B. And the way that they've  
7 been divided into districts or precincts or whatever, I  
8 guess we've labeled them districts here, is that one  
9 district is very heavily concentrated with party A. So  
10 80 members of party A and only 20 members of party B.

11 Well, the other three districts are more dispersed,  
12 but they have a relatively narrow majority of party B's  
13 partisans. So the other three districts are 40 percent  
14 party A and 60 percent party B.

15 Q Okay. How would you describe this configuration of  
16 partisans with respect to converting votes into  
17 legislative seats?

18 A Well, I would expect that unless there is an  
19 enormous swing in favor of party A, that party B, despite  
20 only winning 50 percent of the vote in a typical year,  
21 would win three seats and party A would win one seat.  
22 And party A would win that one seat by a huge majority  
23 and party B would win the other three seats by relatively  
24 more narrow majorities.

25 Q Can you show how you calculate the isolation index

1 for party A?

2 A Sure. Okay. So we have to go district by district;  
3 right?

4 Q Sure. Why don't we do District 1 then.

5 A Okay. So in District 1, again we have those two  
6 quantities that we need to know. The first one is what  
7 percent of all members of party A reside in District 1.  
8 We know there's 200 members of party A, 80 of them reside  
9 in District 1. So I guess we could say -- can I write on  
10 the screen here?

11 Q Sure.

12 A So point -- that didn't work. .4 -- points are  
13 arrows; right? .4 or 40 percent of all A's reside in  
14 District 1. That's the first of the two quantities that  
15 we're interested in.

16 Q Then what's the second quantity then?

17 A The second quantity is what percent of the voters in  
18 District 1 are members of party A, and we can see fairly  
19 obviously that is 80 percent. So the second quantity  
20 would be .8, and then we want to take the product of  
21 these two; right? And so that would equal .32.

22 Q Actually -- and then so we have .32 for District 1.  
23 Maybe we should clear off this. And then would the  
24 score, the district score for 2, 3 and 4 be the same?

25 A Well, the district score for 2 would be the same as

1 for 3 and 4.

2 Q Correct. That's --

3 A Right.

4 Q So why don't you calculate the score for District 2  
5 and then we can just, you know, know it's the same for 3  
6 and 4.

7 A Sure. So for District 2, the first question we want  
8 to ask is what share of Democrats reside in District 2.  
9 It's 40 out of 200. So that would be .2. And the second  
10 quantity, what share of District 2 residents are members  
11 of party A, so I refer to Democrats instead of party A.  
12 So -- and it's 40 percent. So that's .4. And we take  
13 the sum of these and we would get .16; right? No, I'm  
14 sorry. .08. And that would be the same for 2, 3 and 4.

15 Q And so we'd have .32, .08 and .08?

16 A Right.

17 Q And then what do we do with all those numbers?

18 A You take the sum of all that numbers.

19 Q What does that equal?

20 A I believe it's .56.

21 Q Okay. So why don't we clean that off and then we'll  
22 run through the same exercise for party B.

23 A Sure.

24 Q So did you calculate the sum or the total for  
25 District 1 for party B?

1 A Okay. So in District 1, it's again what share of  
2 B's are in District 1. It's 20 out of 200, so that would  
3 be .1. And then the second quantity is what percentage  
4 of residents of District 1 are members of party B, and  
5 that would be 20 percent, so that would be .2. And we  
6 take the product here and we've got .02. That would be  
7 the quantity for District 1 for Republicans.

8 Q And then how do we go about doing that for Districts  
9 2, 3 and 4?

10 A So again, it would be the same for 2, 3 and 4. The  
11 first question is what percentage of members of party B  
12 reside in District 2. It's 60 out of 200. So that would  
13 be .3. 30 percent. The second quantity is what  
14 percentage of District 2 are members of party B. That  
15 would be .6. Again, this is hard to show on the screen  
16 with all the arrows. You take the product of these two  
17 numbers and you would get .18. That would be for  
18 District 2.

19 It would be the same number for Districts 3 and 4.

20 Q Okay. So then what would we do?

21 A So you'd sum over those four districts; right? So  
22 .18 three times, and then that previous calculation of  
23 .02, you take the sum of those four numbers and you again  
24 get .56, which is the same as the number that we got for  
25 the Democrats. So despite the fact that the Democrats



1 appear very heavily concentrated in one district; right?  
2 Maybe this is a state that has one city in District 1  
3 which is very heavily concentrated with Democrats, the  
4 isolation index is identical for Republicans and  
5 Democrats and, in fact, it doesn't matter how you  
6 distribute Democrats or Republicans across these four  
7 districts as long as there's 200 party A members in the  
8 state and 200 party B members in the state. The  
9 isolation index will always be identical for party A and  
10 party B regardless of the dispersion.

11 Q So you think the isolation index is a valid way to  
12 measure the concentration of partisans in a state?

13 A No.

14 MR. KEENAN: I have no further questions.

15 JUDGE CRABB: Can I ask you to do that again?  
16 You're saying that if there are 200 Republicans, 200  
17 Democrats and you put them into four different districts,  
18 it doesn't matter how you do it?

19 THE WITNESS: It doesn't matter how you do it.  
20 In any population, if the number of Democrats and the  
21 number of Republicans is equal regardless of how they're  
22 distributed across the districts, the isolation index for  
23 Democrats and Republicans will be equal.

24 JUDGE CRABB: But the votes will not be equal.

25 THE WITNESS: Right. So -- well, the total

1 number of votes, we're presuming they get an equal number  
2 of votes. But certainly the seats will not be equal. So  
3 even though the distribution is highly asymmetrical, the  
4 isolation index makes it look like these two parties are  
5 equally concentrated.

6 JUDGE CRABB: I see.

7 MR. POLAND: May I proceed with  
8 cross-examination, Your Honor?

9 JUDGE RIPPLE: You may. (2:30 p.m.)

10 CROSS-EXAMINATION

11 BY MR. POLAND:

12 Q Professor Goedert, before your deposition about six  
13 months ago you had never heard of the isolation index,  
14 had you?

15 A I certainly was not aware of its definition. I mean  
16 I might have run across it casually.

17 Q Now, when did you first look up the isolation index  
18 after you heard about it in your deposition?

19 A I believe it was about ten days ago.

20 Q And the simple calculation you just walked through  
21 with Mr. Keenan, when was the first time that you  
22 actually went through that calculation with him?

23 A I think it was somewhere between a week, slightly  
24 more, seven to ten days ago.

25 Q Seven to ten days ago? All right. Now, you said

1 you weren't aware of any work using the isolation index  
2 to analyze political parties; correct?

3 A Correct.

4 Q I'm going to hand you a binder of exhibits.

5 MR. POLAND: I'd like us to pull up Exhibit No.  
6 118, please.

7 Q And the binder that I'm going to bring you is a  
8 binder -- the Court has copies of it.

9 MR. POLAND: These are Dr. Mayer's reliance  
10 materials. These are the articles that he had cited.

11 Q I'd like you to open that binder, please, to Exhibit  
12 No. 118 and that's Tab No. 3 in the binder in front of  
13 you.

14 A Okay.

15 Q This is an article called *Myths and Realities of*  
16 *American Political Geography* by Edward Glaeser and Bruce  
17 Ward. Have you seen this before?

18 A I don't recall that I have.

19 Q I'd like you to read the abstract into the record,  
20 please. I'm sorry. I'm sorry, wrong page. I'd like you  
21 to turn to page six and I'd like you to read the first  
22 full paragraph into the record. That's the one that says  
23 following Klinkner.

24 A "Following Klinkner (2004), we calculate  
25 dissimilarity indices and isolation indices for

1 Republicans and Democrats based on voting in the last  
2 presidential election between 1840 and today. In all  
3 cases, we have eliminated individuals who voted for  
4 neither Republican nor Democratic candidates. We use  
5 counties as the units of observation. Figure 2 shows the  
6 time patterns of these indices."

7 Q Now, Professor Goedert, you just went through a  
8 simple example of calculating the isolation index with  
9 Mr. Jackson; correct?

10 A Yes.

11 Q In your example you reported what's known as the *raw*  
12 or *unadjusted isolation index*, didn't you?

13 A I reported the isolation index as defined by the  
14 United States Census.

15 Q Do you know the difference between the raw isolation  
16 index and unadjusted isolation? Or I'm sorry. Do you  
17 know the difference between the isolation index and the  
18 raw or unadjusted isolation index?

19 A No.

20 Q You didn't adjust your isolation index that you  
21 calculated here for either groups' share of the  
22 population, did you?

23 A Both groups' share of the population is equal.  
24 Under this condition the isolation index will be equal  
25 for both parties.

1 Q All right. I'd like you next to turn to Tab No. --  
2 Exhibit No. 119. That's in the binder in front of you,  
3 Tab 4. I'd like you to turn to page three. And that's  
4 the number page three in the bottom right-hand corner.  
5 And I'd like you to read the first full paragraph on page  
6 three. It begins "The isolation index."

7 A I'm sorry, I'm looking at page three and it says  
8 "Following every census enumeration."

9 Q This is page three in the bottom right.

10 A Oh, okay.

11 Q Page 11 of 36 in the caption and header.

12 A Okay. Sure. Can you repeat the question?

13 Q Certainly. Would you please read the first full  
14 paragraph on page three. It begins "The isolation  
15 index..."

16 A "The isolation index is designed to distinguish this  
17 sort of scenario from one where neighborhoods have  
18 dramatically different racial character. It measures the  
19 tendency for members of one group to live in  
20 neighborhoods where their share of the population is  
21 above the city-wide average. In this hypothetical  
22 example, black residents live in a neighborhood that is 2  
23 percent black, which is just 1 percentage point higher  
24 than what we would expect under perfect integration. The  
25 isolation index would therefore be on the order of 1

1 percent rather than 50 percent.

2 Q Now, this is an article written by Edward Glaeser,  
3 if you look at the title page.

4 A Yes.

5 Q Have you ever seen this article before?

6 A I don't believe that I have.

7 Q Now, in this passage that you just read, Glaeser and  
8 Vigdor are using the adjusted isolation index, aren't  
9 they?

10 A I don't know.

11 Q And they're deducting each group's share of the  
12 population from its raw isolation index score, aren't  
13 they?

14 A I don't know.

15 Q Now, I'd like you to take a look or could we pull up  
16 Exhibit 114, please.

17 MR. POLAND: We're going to pull it up on the  
18 screen here because we don't have a separate copy of it.

19 Q And you've read Dr. Mayer's rebuttal report;  
20 correct?

21 A I have.

22 Q I'd like you to turn --

23 MR. POLAND: Actually, could we have page number  
24 16 of Dr. Mayer's rebuttal report up on the screen,  
25 please.

1 A Is this report in the binder?

2 Q It's not going to be in your binder. We'll pull it  
3 up on the screen for you. And I'm going to ask you to  
4 turn to page 16, please. Are you there?

5 A I'm sorry, I don't have the report.

6 Q No, no. We're going to pull up the right part of  
7 the screen. I want to make sure you're looking at the  
8 screen.

9 A I'm on page 16. Sorry.

10 Q Terrific.

11 MR. POLAND: Could we pull up the third  
12 paragraph, please. Highlight the third paragraph. Can  
13 we zoom in on the third sentence? It begins "The  
14 isolation index..." Right there. Yeah.

15 A "The isolation" --

16 Q I'm sorry. I was going to highlight the second --  
17 the sentence that follows as well. And this is Dr.  
18 Mayer's rebuttal record -- rebuttal report. Could you  
19 please read that into the record?

20 A "The isolation index indicates for the average  
21 member of a group residing in a certain geographic unit  
22 (such as a ward) what share of the member's neighbor in  
23 the unit belonged to the same group. It measures how  
24 geographically isolated a group is and it can easily be  
25 adjusted by deducting a group's share of the statewide

1 population to show how much more isolated a group is than  
2 we would expect given its statewide share.

3 Q So in his rebuttal report, Professor Mayer reported  
4 an adjusted isolation index, not the raw isolation index;  
5 correct?

6 A I believe that's correct.

7 Q All right. Now, let's go back to the simple example  
8 that you gave us before. Isn't it correct that if we  
9 changed a single number, the Democratic and Republican  
10 isolation index scores would stop being equal?

11 A I'm sorry, which number are you proposing to change?

12 Q Any one.

13 A If you move Democrats from one district to another,  
14 the isolation index would still be the same for Democrats  
15 and Republicans. It would change or the number for both  
16 Democrats and Republicans would be different than it had  
17 been previous, but it would still -- they would still be  
18 equal to each other and that's the important thing that  
19 Professor Mayer is measuring, whether they're different  
20 from each other.

21 Q What if you change one voter -- what if you change  
22 one voter -- one voter changed parties or ten voters  
23 changed parties or 100 voters changed parties?

24 A Yes. If a voter -- if you have more members of one  
25 party than another, then the isolation index for the two



1 different parties might be different. But it would be  
2 different because one party composes a larger share of  
3 the statewide population and not because that party is  
4 more isolated on a district-by-district basis.

5 Q Now, let's also turn to the Global Moran's I which  
6 we covered earlier. You'd never heard of Global Moran's  
7 I prior to your deposition; right?

8 A No, I haven't.

9 Q And it's true that Global Moran's I does not have  
10 the property you identified for the isolation index which  
11 is that it's equal for both parties when they're both 50  
12 percent of the population?

13 A I actually believe that it does, but the Global  
14 Moran's I, it's a more complicated calculation. It's  
15 hard to -- it would be much more complicated to  
16 simplistically show. I don't feel like I have done  
17 enough research into Global Moran's I to confidently  
18 answer the question.

19 Q And at the time of your deposition, you had not  
20 heard of the Global Moran's I, had you?

21 A That's correct.

22 Q And you'd never heard of the Local Moran's I either,  
23 had you?

24 A That's correct.

25 Q Now, Professor Goedert, you received your Ph.D.

1 three years ago; correct, sir?

2 A Four years ago. 20 -- I guess it was slightly more  
3 than three years. It was in 2012.

4 Q All right. Now, you're being paid \$175 an hour for  
5 your testimony here today; correct, sir?

6 A Yes.

7 Q Now, in your opinion, Professor Jackman has an  
8 excellent reputation in political science, particularly  
9 in dealing with quantitative methodology in developing  
10 statistical packages for use in political science; isn't  
11 that correct?

12 A Yes, I would agree with that.

13 Q You consider his reputation in the field to be  
14 excellent; correct?

15 A I do.

16 Q His peers consider him to be an authority in his  
17 field; correct?

18 A Yes.

19 Q And you've relied on his work in constructing your  
20 own models, haven't you?

21 A I have.

22 Q And in your opinion, Professor Mayer is experienced  
23 in the political science field of elections; correct?

24 A I am less specifically acquainted with Professor  
25 Mayer's work, but I am aware of him by reputation.

1 Q Let me ask it again. In your opinion, Professor  
2 Mayer is experienced in the political science field of  
3 elections; correct?

4 A Yes, I would say he's experienced.

5 Q And you consider him qualified and experienced to  
6 render opinions in this case, don't you?

7 A I have no reason to believe he's not qualified. I  
8 am unaware of his specific research into congressional  
9 districting, if he has any.

10 Q And so you do --

11 A Or I'm sorry, legislative districting.

12 Q So you do consider him to be qualified and  
13 experienced to render opinions in this case; correct?

14 A I suppose so, yes.

15 Q Now, your published work on redistricting has  
16 focused on congressional, not state legislative  
17 redistricting; correct?

18 A Yes.

19 Q And in fact, you've only examined congressional  
20 elections in your redistricting; correct?

21 A That's correct in terms of the data that I relied  
22 on, yes.

23 Q Now, at the time of your deposition you weren't  
24 familiar with the work of Roland Fryer and Richard Holden  
25 in simulating plans with compact districts; were you?

1 A I believe that's correct.

2 Q At the time of your deposition, you weren't familiar  
3 with the work of Adam Cox, John Freedman or Richard  
4 Holden on optimal gerrymandering, were you?

5 A I believe that's correct.

6 Q At the time of your deposition, you didn't know what  
7 Wisconsin's state constitutional requirements were for  
8 state legislative redistricting plans, did you?

9 A I don't believe that I could recall specifically  
10 during the deposition. I think that's correct.

11 Q And you've never written anything about clustering  
12 analysis; correct?

13 A No, I have not.

14 Q Now, the definition of partisan gerrymandering that  
15 you use in your work is a redistricting plan which is  
16 done under the complete control of one party; isn't that  
17 correct?

18 A This is how I code for whether a state is considered  
19 a partisan gerrymander. It's the process under which the  
20 lines were drawn. This is certainly not a legal  
21 conclusion as to whether I think it is a constitutional  
22 gerrymander. It is certainly also not a conclusion as to  
23 the effectiveness of the gerrymander or the intent behind  
24 the drawing of the lines --

25 Q Is that --

1 A -- or the procedural definition.

2 Q Professor Goedert, the definition of partisan  
3 gerrymandering that you use in your professional work  
4 outside of the courtroom is a redistricting plan which is  
5 done under the complete control of one party, unified  
6 party control; isn't that correct, sir?

7 A Yes, that's correct.

8 Q Now, in the context of how you code partisan  
9 gerrymandering in your work, and this your academic work  
10 outside of the courtroom, you code Wisconsin's plan Act  
11 43 as a partisan gerrymander, don't you?

12 A Well, because my academic work deals with  
13 congressional elections, I don't code the State Assembly  
14 plan because it's not part of my dataset. But I would  
15 code it, if I was going to use that definition, as a  
16 Republican gerrymander if I was going to do -- based on  
17 what I know about the facts, which I have no particular  
18 inside knowledge of.

19 Q Now, you believe the impact of a map is the result  
20 of intentional acts by the people who were drawing the  
21 map in addition to several other variables; isn't that  
22 true?

23 A I think that's a fair characterization, but there  
24 are many variables which impact the effectiveness of a  
25 map.

1 Q And you also believe there's intent behind the  
2 drawing of legislative maps and you're sure that's true  
3 in the case of Act 43 as well; isn't that true?

4 A I'm not sure why you would conclude that I would say  
5 that I'm sure that there's a particular intent behind the  
6 drawing of Act 43. I don't think I've offered any sort  
7 of opinion as to that one way or the other.

8 Q Do you recall having your deposition taken?

9 A I do.

10 Q And you remember that you were sitting in a  
11 conference room and you were being asked questions by  
12 Mr. Earle?

13 A I do.

14 Q And you were under oath when you did that; right?

15 A Yes.

16 MR. POLAND: I'd like the record to reflect I'm  
17 going to hand Professor Goedert a copy of his deposition  
18 transcript. For the record, Professor Goedert's  
19 deposition transcript is Exhibit 130. And Counsel, I'm  
20 going to draw your attention to page 42.

21 Q And there's a little bit of a Q and A here. Begins  
22 at line 42 -- I'm sorry, page 43, line two. And this is  
23 a question being read back:

24 "Question: And you're not going to be rendering any  
25 opinion as to whether the impact of Act 43 was the

1 intentional result of the design of Act 43; correct?

2 "Answer: Certainly I believe that the impact of a  
3 map is the result of intentional acts by the people who  
4 were drawing the map in addition to several other  
5 variables. I believe there is intent behind the drawing  
6 of legislative maps and I'm sure that's true in this case  
7 as well."

8 Professor Goedert, were you asked that question?  
9 Did you give that testimony?

10 A Yes.

11 Q Now, Professor Goedert, in this case we've heard  
12 about two ways to calculate the efficiency gap: The full  
13 district-by-district method and a simplified method. You  
14 would agree that the simplified method is an appropriate  
15 and useful shortcut measure of the efficiency gap; isn't  
16 that correct?

17 A Yes, I would in most contexts.

18 Q And, in fact, in your report in this case you use  
19 the simplified method to calculate the efficiency gap,  
20 don't you?

21 A Yes.

22 Q You would characterize a responsiveness of 2 as the  
23 average responsiveness compared to historical trends or  
24 historical averages; isn't that correct?

25 A This is what I have found in my research over the

1 past 40 years.

2 Q And the linear method you used in your work  
3 estimates an average slope or responsiveness of 2.02 for  
4 the past 40 years; isn't that true?

5 A Yes. Again, in my own work for the most part I  
6 don't use the linear method, but when I do calculate the  
7 linear method, it does generate a slope over the last 40  
8 years that is very close to 2.0.

9 MR. POLAND: Could we bring up Exhibit 132,  
10 please. I'm sorry, could we bring up Exhibit 548,  
11 please. Same thing. Better copy. And could we turn to  
12 Figure 1 in 548, Exhibit 548. It should be on the third  
13 page of the document. There we go. Could we bring the  
14 slope up. Not quite that far.

15 Q Now here you've coded different plans, correct, or  
16 plotted different plans?

17 A Well, this is not a plot of different plans, this is  
18 a plot of the national vote share in a given  
19 congressional election compared to the national seat  
20 share that a party won.

21 Q And these are congressional elections; right?

22 A These are congressional elections.

23 Q Where would Act 44 fall?

24 A Well, it wouldn't fall anywhere on this map because  
25 this is a -- this is coding congressional elections and



1 thus it's producing an average slope for congressional  
2 elections, not for state legislative elections. I mean  
3 if you're asking me where would a congressional election  
4 where the seat share was the same as the seat share under  
5 the legislative Assembly election in Wisconsin compared  
6 to the vote share, is that what you want me -- I'm sorry.  
7 Are you asking me where a congressional election with the  
8 same vote and seat share that was produced as the  
9 legislative outcome in 2012 in Wisconsin would appear on  
10 this map?

11 Q I'm asking you where Act 44 would fall.

12 A I'm not sure I can answer that because this is a  
13 chart of national congressional election results.

14 Q Do you know what Act 44 was?

15 MR. KEENAN: Object. It's confusing. Act 44.

16 BY MR. POLAND:

17 Q Do you know what 2011 Wisconsin Act 44 is?

18 MR. KEENAN: Act 43?

19 MR. POLAND: I'm asking about Act 44.

20 THE WITNESS: I do not know what Act 44 is.

21 BY MR. POLAND:

22 Q So you don't know that that was the statute that was  
23 adopted in Wisconsin that adopted congressional  
24 districts.

25 A Okay. I was unaware of the number of the Act.

1 Q Okay. So you are not familiar with that Act; is  
2 that correct?

3 A I was not -- I am familiar with the congressional  
4 districts in Wisconsin. I was not familiar with the  
5 number of the Act that adopted them.

6 Q Okay. And you weren't familiar with the litigation  
7 that happened a few years ago over Act 44 as well?

8 A I am vaguely aware that there was some litigation,  
9 but I'm not -- not in any detailed way.

10 Q Do you know where Act 44 would fall on your slope?  
11 Would it fall above or below the line?

12 A Well, I believe that I have a table that shows  
13 Wisconsin's electoral results, if Wisconsin is a "y" in  
14 the table, later in the article which shows the result of  
15 Wisconsin's congressional elections. So if you're  
16 talking about 2012, that would be found in this article  
17 later on in the article. If you're talking about 2014,  
18 that would be found in the subsequent article that I  
19 published. I don't know what the numbers are off the top  
20 of my head. If you bring up the table, I would be happy  
21 to locate it.

22 Q On page four of the same article --

23 MR. POLAND: Could we bring up -- I think it's  
24 Table I or Roman Numeral I. And could we enlarge --  
25 that's right. At the very top. Table I. Just the top

1 portion of it. There we go.

2 Q All right. So Professor Goedert, you see where  
3 Wisconsin falls on the table?

4 A Yes.

5 Q All right. And you code Act 44 as a Republican  
6 gerrymander, don't you?

7 A Yes.

8 Q And it's a negative 15 percent; correct?

9 A Yes.

10 Q All right. So on the slope that we had identified,  
11 and we can go back to Figure 1 that we were just on, it  
12 would fall below that line; correct?

13 A Yes, it would fall below the line.

14 Q Republican advantage.

15 A Yes.

16 Q You've coded it as a Republican gerrymander;  
17 correct?

18 A Yes.

19 Q Now, are you aware that in the *Baldus v. Government*  
20 *Accountability Board* lawsuit that was filed and tried in  
21 the federal court in Milwaukee in 2012 that there were  
22 certain plaintiffs that filed a constitutional claim over  
23 Act 44?

24 A I am aware that that litigation existed.

25 Q And are you aware that one of their allegations was

1 that Act 44 gave Democrats or gave Republicans an unfair  
2 electoral advantage in an attempt to preserve their  
3 political majorities?

4 A I'm not specifically aware --

5 MR. KEENAN: I'm just going to object to the  
6 relevance of these questions. Is this going anywhere? I  
7 mean there was a lawsuit in 2012 on the congressional  
8 districts?

9 JUDGE RIPPLE: I think we will allow it. The  
10 objection is overruled. We'll allow the train of  
11 questioning to continue.

12 MR. POLAND: And then Your Honors, I'm reading  
13 from the published *Baldus* opinion. This is 849 Fed.  
14 Supp. 2d. 840 and I'm going to read from page 854. And  
15 then the *Baldus* court held the following: "To the extent  
16 that the point is about process rather than results, we  
17 add that our review of the drafting of Act 44 leads us to  
18 believe that it was a significantly more biased partisan  
19 process than that associated with the drafting of Act  
20 43."

21 Were you aware of that?

22 A I was unaware of that part of the opinion.

23 Q All right. Do you know where Act 43 would fall in  
24 this line?

25 MR. KEENAN: Object as vague.

1 BY MR. POLAND:

2 Q Do you know where Act 43 would fall in relation to  
3 the slope that you've --

4 MR. KEENAN: There's been two elections under  
5 Act 43.

6 BY MR. POLAND:

7 Q Do you know where it would fall?

8 A Well, these are data points for single-election  
9 cycles, single-election results. So are you asking about  
10 a specific year?

11 Q I'm asking for the first year after --

12 A In 2012.

13 Q -- 2012.

14 A Well, if you --

15 JUDGE RIPPLE: For the record your objection is  
16 overruled. You can train -- the questioning can  
17 continue.

18 THE WITNESS: If you were to plot the statewide  
19 vote share in Wisconsin for Assembly districts against  
20 the statewide seat share, it would fall below the line.  
21 But this line is for average of national congressional  
22 elections and not for State Assembly elections.

23 BY MR. POLAND:

24 Q Now, Professor Goedert, you only submitted the one  
25 report in this case; correct?

1 A Correct.

2 Q And that was in December of 2015?

3 A Correct.

4 Q You never asked to -- you were never asked -- I'm  
5 sorry -- strike that.

6 You never asked to prepare a supplemental report,  
7 did you?

8 A I guess that's correct.

9 Q And you never were asked by counsel to prepare a  
10 supplemental report, were you?

11 A Correct.

12 Q That was after you had both Dr. Mayer's and  
13 Dr. Jackman's rebuttal reports; correct?

14 A Yes.

15 Q You've repeatedly yourself calculated plans' biases  
16 by comparing the parties' actual seat shares to their  
17 expected seat shares given the responsiveness of 2;  
18 correct?

19 A That's not exactly correct given that my model does  
20 not use the linear model. It uses a probit model, which  
21 again is similar to the linear model within a particular  
22 range of election results.

23 Q Let me ask the question again: You have yourself  
24 repeatedly calculated plans' biases by comparing the  
25 parties' actual seat shares to their expected seat shares

1 given a responsiveness of 2; correct?

2 A That is not precisely correct.

3 Q All right. I'd like you to pick up your deposition  
4 transcript again. This is Exhibit 130. Let's go to page  
5 72. And begin reading from line 20.

6 "Question: Okay. And you have yourself repeatedly  
7 calculated plans' biases by comparing the parties' actual  
8 seats to their expected seat shares given a  
9 responsiveness of 2; correct?

10 "Answer: Yes.

11 "Question: And that is essentially identical to the  
12 efficiency gap; correct?

13 "Answer: Yes."

14 You were asked that question and you gave that  
15 answer, didn't you?

16 A Yes.

17 Q And you were under oath when you gave that answer;  
18 correct?

19 A Yes.

20 Q Now, Professor Goedert, for reasonably competitive  
21 elections, your measure of bias is nearly identical to  
22 the simplified form of the efficiency gap, isn't it?

23 A Yes.

24 Q Now, you testified in your direct examination that  
25 in recent years the responsiveness exhibited by

1 congressional plans has shrunk; correct?

2 A Yes.

3 Q Do you know what responsiveness Stephanopoulos and  
4 McGhee find for congressional plans since 1992?

5 A Off the top of my head this is -- I'm sorry, can you  
6 repeat the question?

7 Q Certainly. Do you know what responsiveness  
8 Stephanopoulos and McGhee find for congressional plans  
9 since 1992?

10 A I don't know off the top of my head. I believe that  
11 it's -- they find that it's close to 2.

12 Q So do you know that the responsiveness is 2.20?

13 A I believe that that's what they find, if that's what  
14 you're telling me.

15 Q And you don't have any reason to disagree with that;  
16 correct?

17 A I don't have any reason to believe that their  
18 calculation is wrong.

19 Q All right. Do you know what responsiveness  
20 Stephanopoulos and McGhee find for congressional plans  
21 since 2002?

22 A I do not off the top of my head.

23 Q Do you know that this responsiveness is 2.19?

24 A I don't know that, but I don't dispute that.

25 Q Do you know what responsiveness Professor Jackman



1 finds for state legislative plans since 1992?

2 A I believe that he finds that it's close to 2.

3 Q And do you know whether it's 2.18?

4 A That is very plausible.

5 Q You have no reason to dispute that; correct?

6 A I have no reason.

7 Q Do you what responsiveness Professor Jackman finds  
8 for state legislative plans since 2002?

9 A I don't know that.

10 Q Do you know that response is 2.11?

11 A I would believe that.

12 Q Do you have any reason to dispute that?

13 A I don't have any reason to dispute that.

14 Q Now, in your work that you went over before,  
15 gerrymander or geography, you assume that a party should  
16 expect to win a proportion of seats in line with  
17 historical patterns found in modern congressional  
18 elections; isn't that true?

19 A Well, it depends what you mean by should. I  
20 observed that the parties want a different share of seats  
21 than we might expect given historical averages and so the  
22 article is in some ways trying to unpack that or explain  
23 it. It is not a sort of a normative judgment that a  
24 party should win "X" number of seats given "Y" amount of  
25 vote, merely that given historical averages it is outside

1 of the historical average if they don't conform to that  
2 particular expectation.

3 MR. POLAND: Could we bring a copy of Exhibit  
4 132 up on the screen, please. And I'd like to turn to  
5 page two. It's actually three of the document, but it's  
6 page two and --

7 JUDGE RIPPLE: Would you say what Exhibit 132  
8 is?

9 MR. POLAND: Yes, it's Exhibit 132, Your Honor.

10 JUDGE RIPPLE: And what it is?

11 MR. POLAND: Yes. This is Dr. Goedert's article  
12 called *Gerrymander or Geography*.

13 JUDGE RIPPLE: Thank you.

14 MR. POLAND: And could we zoom in on the  
15 right-hand column. There we go. And I'd like to scroll  
16 a little further down, starting at the sentence that  
17 begins "Rather." Could you highlight the sentence that  
18 begins "Rather."

19 BY MR. POLAND:

20 Q Can you read that sentence, Professor?

21 A "Rather, we will assume that a party should expect  
22 to win a proportion of seats in line with historical  
23 patterns found in modern congressional elections."

24 Q In fact, why don't we have you read the first part  
25 of that paragraph beginning with *Tufte*.

1 A "Tufte proposed that a system of districting must  
2 pass two tests to be minimally Democratic. First, it  
3 must be responsiveness" -- sorry -- "responsive such that  
4 an increase in votes for one party will translate into an  
5 increase in seats; and secondly, it must be unbiased in  
6 treating both parties alike. We will" -- should I  
7 continue.

8 Q Yes, please.

9 A "We will therefore start from the premise that a  
10 fair assignment of seats to parties will not be biased in  
11 favor of one party but will also not require proportional  
12 representation."

13 Q And so your analysis that you're setting out there  
14 starts from the principle that a system of redistricting  
15 must be responsive; correct?

16 A Yes.

17 Q And that it also must be unbiased in terms of  
18 treating both parties alike.

19 A Yes.

20 Q Now, Professor Goedert, in your view if you were  
21 being asked what the likelihood is that an efficiency gap  
22 would persist throughout potential future elections in  
23 the decade, you would want to develop some sort of  
24 measure for the plausibility of overall electoral  
25 environments; isn't that correct?

1 A I think that's fair.

2 Q And you'd also recommend applying a uniform-swing  
3 assumption to determine the plausibility of future  
4 electoral environment; isn't that true?

5 A I think that would be a reasonable assumption. I  
6 don't think that's a necessary assumption. I think  
7 there's other methods that could be used for that, but I  
8 think that's reasonable.

9 Q All right. You'd recommend it though; correct?

10 A Again, I think it's a reasonable assumption.

11 Q And it's something you would recommend; correct?

12 A It's something I have done in my own research.

13 Q And that you would recommend.

14 A Sure.

15 Q Now, in performing your uniform-swing assumption,  
16 you would base that analysis on past election data;  
17 correct?

18 A Yes.

19 Q And if you were asked the empirical question of what  
20 the likelihood is that an efficiency gap will endure to  
21 be the same sign in future election results, you would  
22 want to figure out the range of possible overall  
23 statewide election results; isn't that correct?

24 A Yes.

25 Q In working out those results, you might want to

1 deviate more in one direction than another; isn't that  
2 correct?

3 A Yes. Given one particular election result where it  
4 falls in the range of possible election results, I think  
5 you might want to deviate more in one direction than the  
6 other.

7 Q And you'd want to come up with some sense of where  
8 that particular election result lay on the range of  
9 possible election results; isn't that correct?

10 A Yes.

11 Q And if you did this sensitivity testing, you would  
12 think the results give you a fairly accurate estimate for  
13 the likelihood that an efficiency gap would persist  
14 through the decade; isn't that correct?

15 A Yes. I think that would be the best way to do that  
16 sort of sensitivity testing.

17 Q Now, you would agree that the partisan score used by  
18 the map drawers and Professor Gaddie in 2012 was based on  
19 prior election indicators of future election performance;  
20 correct?

21 A I believe that's true.

22 Q All right. So Professor Goedert, I'd like to go  
23 back to your articles and I'm going to have you get  
24 exhibits -- I'm sorry, we'll be ready with Exhibits 132  
25 and 133. We'll have to pull them up on the screen.

1 Now, your articles, both your 2012 article and your  
2 2014 article, they both include certain models; correct?

3 A Yes.

4 Q And your models reflect modern political science  
5 techniques; correct?

6 A Yes.

7 Q Now, your model makes predictions or covers  
8 predictions for 2012 and 2014; correct?

9 A I don't know that I would describe them as  
10 predictions because the election had already happened.  
11 So they are measures of average effects of variables on  
12 this election.

13 Q Let me ask it a different way: Predictions for 2012  
14 and 2014 are covered by the model; correct?

15 A Those are the election cycles that are covered by  
16 the model. I wouldn't describe them as predictions.

17 Q Could we take a look -- get your deposition out  
18 again. Exhibit 130, please. I'd like you to turn to  
19 page 77. Are you there, sir?

20 A Yes.

21 Q Page 77. Beginning at line four:

22 "Question: So predictions for 2012, 2014 are  
23 covered by the model; right?

24 "Answer: Yes. That is what is covered" -- I'm  
25 sorry. "That is what covered" -- I think there should be

1 an is in there. "That is what is covered by the model."

2 Were you asked that question and did you give that  
3 testimony?

4 A Yes.

5 Q Now, you would characterize your model as reliable  
6 for 2012 and 2014; correct?

7 A Yes.

8 Q Your model includes a number of independent  
9 variables; isn't that correct?

10 A Yes.

11 Q All right. Now, I'd like you to go to -- let's keep  
12 Exhibit 132 up on the screen. And if we could turn to  
13 page seven, Table 2.

14 Now, one of the independent variables is Democratic  
15 control over redistricting; isn't that correct?

16 A Yes.

17 Q And that's under the line here *Democratic*  
18 *gerrymander*; correct?

19 A Yes.

20 Q And it's gerrymander because you have used unified  
21 control and coded that as a gerrymander; correct?

22 A Yes.

23 Q Now, in your 2012 analysis you find that Republican  
24 control over redistricting is a predictor of bias in only  
25 two of your three models; isn't that correct?

1 A It is a significant predictor of bias in two of the  
2 three models.

3 Q And you find that Democratic control over  
4 redistricting is a statistically significant predictor in  
5 all three models; correct?

6 A It depends on your standard of statistical  
7 significance, but yes, under the lowest level standard of  
8 statistical significance -- under the P is less than .10  
9 standard, it is significant in all three models.

10 Q And you've laid that out. In fact, you've  
11 identified your standards of statistical significance  
12 right below Table 2; correct?

13 A Yes.

14 Q Now, your model suggests that holding political  
15 geography constant, both parties benefited themselves  
16 through gerrymandering in 2012; isn't that correct?

17 A Yes.

18 Q Now, Professor Goedert, when the vote share is  
19 between 40 percent and 60 percent, the dependent variable  
20 in your model will be fairly close to the efficiency gap;  
21 isn't that correct?

22 A Yes.

23 MR. POLAND: I'd like to bring up the joint  
24 final pretrial report, please. And I'd like to bring up  
25 paragraphs 257 and 258 and display those two on the



1 screen. And we'll just represent to the Court that it is  
2 a stipulated fact that the vote share in Wisconsin in  
3 2012 and 2014 was between 40 and 60 percent. And if we  
4 look at paragraph 257, in 2012 it was 51.4 percent and in  
5 2014, it was 48 percent.

6 Q And do you see both of those on the screen in front  
7 of you, Professor Goedert?

8 A I do.

9 Q Now, the bias that your model predicts in 2012 and  
10 2014 if Wisconsin had a bipartisan court-drawn plan would  
11 be Democrat in both years; isn't that correct?

12 A Well, the model wouldn't apply to the State Assembly  
13 map, the model is for congressional seats.

14 Q Professor Goedert, you certainly cannot confidently  
15 say there was a Republican bias generated from your  
16 model; isn't that correct?

17 MR. KEENAN: Object as vague.

18 THE WITNESS: I don't understand the question.  
19 I don't know how to answer it.

20 JUDGE RIPPLE: Please rephrase.

21 BY MR. POLAND:

22 Q You cannot confidently say that there is a  
23 Republican bias generated from your model; isn't that  
24 correct?

25 A Which model are you referring to?

1 Q 2012 and 2014.

2 A But which model?

3 Q The model that's reflected in your analysis in your  
4 paper.

5 A There are multiple models in each paper.

6 Q Let's go to your deposition.

7 MR. POLAND: Exhibit 130, please. And we're  
8 going to go to page 86. Now, I'm referring to your  
9 model's prediction for Wisconsin in 2012 and 2014, if we  
10 assume a court-drawn or bipartisan plan was in place.  
11 And reading, beginning page -- this is page 86, beginning  
12 line 17.

13 Q "Question: There is no Republican bias?

14 "Answer: I certainly could not confidently say that  
15 there is a Republican bias generated from the model,  
16 yes."

17 You were asked that question and you gave that  
18 answer; correct?

19 A This is in response to the attorney from your side  
20 asking me to impute numbers from the State Assembly  
21 results in Wisconsin onto my model of congressional  
22 elections which I repeatedly stated in the deposition was  
23 not an appropriate use of the model.

24 Q Right.

25 A I did state this, yes.

1 Q Let's go up to the top then or let's begin -- let's  
2 begin at the top of page 86.

3 JUDGE CRABB: Well, that's -- I think that's not  
4 going to be helpful either because that just talks about  
5 your models.

6 MR. POLAND: All right. Let me go on to a  
7 different question here.

8 BY MR. POLAND:

9 Q It's true, isn't it, that in 2012 Wisconsin was 6.6  
10 percent black, 6.5 percent Hispanic, 70.2 percent  
11 urbanized, had a statewide Democratic congressional vote  
12 share of 51 percent and had eight districts; correct?

13 A That sounds accurate to me. What was the --  
14 I'm sorry -- what was the vote share variable you stated?

15 Q 51 percent.

16 A Was that congressional vote share?

17 Q Correct.

18 A Okay. That sounds correct.

19 Q And in 2014, all of these figures were the same, but  
20 Wisconsin had a statewide Democratic congressional vote  
21 share of 48 percent; correct?

22 A Well, the minority share of the population might be  
23 slightly different, but I think it's reasonable  
24 simplification, yes.

25 Q And if we plug these values into your models and if

1 we assume that Wisconsin's map was drawn by a court, a  
2 commission or by a divided government, we get a small  
3 pro-Democratic bias, don't we?

4 A Yes. This is for the model of congressional  
5 elections; right? So this would be for seats that are as  
6 large as congressional seats. That's what the model is  
7 intended to predict.

8 Q And you wouldn't say we get a pro-Republican bias;  
9 correct?

10 A That's correct, for imputing that data into my model  
11 of congressional elections.

12 Q Now, Professor Goedert, at the time you were deposed  
13 in December, you had no idea what the relative  
14 contribution to Republican bias in Wisconsin is as a  
15 result of political geography; correct?

16 A I don't believe I had a precise estimate in mind or  
17 had calculated that specifically.

18 Q And it wasn't in your expert report, was it?

19 A No.

20 Q And at the time that you were deposed in December,  
21 you hadn't tried to determine what portion of Wisconsin's  
22 efficiency gap is due to political geography and what  
23 portion is due to greater Republican control of the  
24 redistricting process; correct?

25 A That's correct.

1 Q In the report that you submitted in December in this  
2 case, you did not attempt to simulate nonpartisan  
3 districts, did you?

4 A That's correct.

5 Q In your report you presented the distribution of  
6 2012 presidential election results at the ward level;  
7 correct?

8 A Correct, with the uniform-swing assumption applied.

9 Q You anticipated my next question.

10 A Sorry.

11 Q To present your distribution, you used the  
12 uniform-swing assumption to simulate a tied election;  
13 correct?

14 A Yes.

15 Q And that analysis is set out in your report;  
16 correct?

17 A Yes.

18 Q And in fact, we looked at that when Mr. Keenan was  
19 questioning you; correct?

20 A That's correct.

21 MR. POLAND: Let's bring up Exhibit 136, please.  
22 And I'd like to go to -- I believe it's on page 21. I'm  
23 sorry, page 22, Figure 1. Now, could we also bring up  
24 Exhibit 15, that's Dr. Mayer's -- I'm sorry, that's a  
25 chart. And could we put those side by side?

1 Q Professor Goedert, do you recognize the document  
2 that is now appearing on the screen -- should be on the  
3 left -- it's identified as Exhibit 136?

4 A I do.

5 Q And that's the chart from your report, correct, on  
6 page 22?

7 A That's correct.

8 Q Do you identify -- do you recognize the document  
9 that's on the right side of the screen that's labeled  
10 Figure 12?

11 A I believe this was shown to me at my deposition. It  
12 looks like a figure that was shown to me at my  
13 deposition, so I believe I do.

14 Q Do you understand that comes from Dr. Mayer's  
15 report?

16 A I believe that's right.

17 Q Do you know what Dr. Mayer is portraying there?

18 A I do.

19 Q Okay. And so you know that that is Act 43 baseline  
20 partisan measure?

21 A That sounds correct, yes.

22 Q Is it fair to say that the district distribution  
23 under Act 43 does not look like the ward distribution in  
24 your histogram which is Exhibit 136?

25 A I believe they're similar in many ways and different

1 in some ways.

2 Q And it's fair to say that the distribution under Act  
3 43 does not look like the ward distribution on your  
4 chart; correct?

5 A Again, I believe they're similar in some ways and  
6 different in others.

7 Q Now, you would agree that the district distribution  
8 has a substantially more pro-Republican direction than  
9 the ward distribution, wouldn't you?

10 A Okay. The table has disappeared. I wasn't sure  
11 if --

12 Q Can we bring those back up on the screen, please?

13 A There are a greater share of districts which fall  
14 into the very marginally Republican bin or two bins in  
15 Professor Mayer's diagram than there are a share of  
16 wards. I believe this was already discussed in my -- in  
17 the testimony I gave in response to Mr. Keenan.

18 Q And so you agree with me that there's a greater  
19 percentage of districts that -- strike that question --  
20 that the district distribution is substantially more  
21 skewed in the Republican direction; correct?

22 A In the sense that there are more -- a greater  
23 percentage of districts which fall to the Republican side  
24 of the 50 percent line than there is share of the wards,  
25 I believe that is correct.

1 Q Now, Wisconsin's underlying geography is not  
2 accurately reflected in the current districts of Act 43;  
3 isn't that true?

4 MR. KEENAN: Object as vague.

5 JUDGE RIPPLE: Could you rephrase that for us,  
6 please.

7 MR. POLAND: Sure.

8 BY MR. POLAND:

9 Q Wisconsin's underlying geography is not accurately  
10 reflected in the current districts of Act 43; isn't that  
11 true?

12 MR. KEENAN: Object as vague.

13 JUDGE RIPPLE: The same question?

14 MR. POLAND: It was answered at the deposition.  
15 He answered it there. I'd be happy to go to the  
16 deposition transcript if we need to.

17 THE WITNESS: I'm not sure how I would respond  
18 to that question.

19 BY MR. POLAND:

20 Q Why don't we get your deposition up.

21 A Sure.

22 MR. POLAND: This is Exhibit 130.

23 MR. KEENAN: I note that in this deposition I  
24 note as vague. So I renew my objection at the time of  
25 trial.



1 JUDGE RIPPLE: Let's look at the deposition in  
2 context.

3 MR. POLAND: That's fine or -- that's fine. If  
4 you would like me to rephrase the question, I could do  
5 it, Your Honor.

6 JUDGE RIPPLE: I think it probably would be a  
7 good idea, yeah.

8 BY MR. POLAND:

9 Q It's true, isn't it, that the distribution of  
10 partisanship in the districts in Wisconsin is not  
11 identical to the distribution of partisanship of the  
12 wards?

13 A That's true.

14 Q And the district distribution is noticeably more  
15 skewed in the Republican direction than the ward  
16 distribution as we just established; correct?

17 A Yes. I think I already answered that question.

18 Q Do you know when Wisconsin's current wards were  
19 drawn?

20 A I do not.

21 Q Isn't it true that Wisconsin's current wards were  
22 drawn after Wisconsin's current districts were drawn?

23 A I was not aware of that, but I believe it.

24 Q In fact, isn't it true that municipalities were  
25 ordered by law for the first time in Wisconsin history to

1 draw their wards to comply with preexisting district  
2 lines?

3 A I don't know.

4 MR. POLAND: Could we bring Exhibit No. 136 back  
5 up on the screen and go again to page 22. Could we pull  
6 that up?

7 Q Professor Goedert, in your direct examination you  
8 talked quite a bit about packing, didn't you?

9 A Yes.

10 Q I didn't hear you mention the term cracking. Is  
11 that a term you're familiar with?

12 A Well, yes, it is.

13 Q Now, I think that you had identified that in the  
14 chart that we see -- in the bar chart that we see on the  
15 screen in front of you, the histogram, if we look at the  
16 40 to 50 percent range, we see -- I think your testimony  
17 was that the highest number of Democrats there are in a  
18 ward that is marginally Republican; correct?

19 A I'm sorry. The highest number of Democrats are in a  
20 ward --

21 Q Most concentration.

22 A This doesn't show the share of Democrats in a  
23 particular ward, it shows the number of wards that are a  
24 particular share Democratic.

25 Q And the highest level is in the 40 to 50 percent

1 range; correct?

2 A It's showing that the greatest number of wards and  
3 the greatest share of population is in wards that are 40  
4 to 50 percent Democratic in a tied national election.

5 Q And those are wards that I believe that your  
6 testimony was are marginally Republican; right?

7 A Right.

8 Q And that could be evidence of cracking right there;  
9 correct?

10 A I'm sorry, these are -- these are wards. I don't  
11 understand how wards would be cracked.

12 Q I'll withdraw the question.

13 Now, you're familiar with the work of Professors  
14 Chen and Rodden on unintentional gerrymandering; correct?

15 A I am.

16 Q And in fact, you have cited their work in your  
17 expert report in this case; correct?

18 A Yes.

19 Q Now, you've never produced simulated plans like  
20 Professors Chen and Rodden, have you?

21 A That's correct.

22 Q But you do agree that one way to analyze the  
23 partisan implications of a state's political geography is  
24 through district simulations like those conducted by  
25 Professors Chen and Rodden; correct?

1 A That's correct.

2 Q In your expert report, you cite to Chen and Rodden  
3 for the proposition that political geography explains  
4 large efficiency gap in Wisconsin in 2012; correct?

5 A I believe so, yes.

6 Q And that's in your report; correct?

7 A Yes.

8 Q Are you aware that Professor Chen has prepared a  
9 paper, currently publicly available and forthcoming in  
10 the *Election Law Journal*, that concludes with high  
11 statistical certainty that neutral nonpartisan  
12 districting criteria combined with Wisconsin's natural  
13 political geography would not have produced a districting  
14 plan as electorally skewed as the Act 43 Assembly plan?

15 A I am aware of his paper.

16 Q And have you read it and are you aware of those  
17 conclusions?

18 A I became aware of it just a few days ago. I don't  
19 know how recently it was posted. I have skimmed over it  
20 and I am generally aware of the conclusions. I have not  
21 inspected it in any, you know, great detail.

22 MR. POLAND: Could we bring up Exhibit 156,  
23 please. Can we go to page 11, please.

24 JUDGE RIPPLE: For the record, would you please  
25 identify the exhibit?

1 MR. POLAND: This is Exhibit 156, Your Honor.

2 JUDGE RIPPLE: No, what it is.

3 MR. POLAND: I'm sorry?

4 JUDGE RIPPLE: What it is.

5 MR. POLAND: This is the Chen paper, the  
6 forthcoming publication.

7 MR. KEENAN: We have an objection to the  
8 admission of this exhibit. But I'm not objecting to  
9 asking the witness questions about the existence of the  
10 paper.

11 JUDGE RIPPLE: Understood.

12 MR. POLAND: Could we go to the last sentence of  
13 the second paragraph, please. Could we highlight that  
14 sentence.

15 BY MR. POLAND:

16 Q Professor Goedert, could you read that into the  
17 record, please.

18 A "The improbable nature of the Act 43 efficiency gap  
19 allows us to conclude with high statistical certainty  
20 that neutral nonpartisan districting criteria, combined  
21 with Wisconsin's natural political geography, would not  
22 have produced a districting plan as electorally skewed as  
23 the Act 43 Assembly plan."

24 MR. POLAND: Can we bring up Exhibit 158,  
25 please.

1 MR. KEENAN: Are there any questions about this  
2 or is he going to read the paper into the record?

3 MR. POLAND: I've asked to have Exhibit 158  
4 brought up.

5 MR. KEENAN: Okay.

6 BY MR. POLAND:

7 Q Now, do you recognize -- this as Figure 3 from the  
8 Chen paper, which is Exhibit 156?

9 A It does look like a figure that was in the paper.  
10 Again, I didn't read the paper in any great detail yet.

11 Q So even though you had cited their earlier work, you  
12 didn't think to go back and see if Professor Chen had  
13 done any followup work?

14 A I am unsure if whether the paper was available at  
15 the time that I submitted the report.

16 Q Well, you were able to look up the isolation index  
17 two weeks ago; correct?

18 A Correct.

19 Q Do you know whether Professor Chen's paper was  
20 available two weeks ago?

21 A It probably was. I don't know when it was  
22 available. It's listed as forthcoming in 2017, I  
23 believe.

24 Q Do you know whether it's publicly available?

25 A I believe, yes. That's where I found it on his

1 website.

2 Q When did you find it on his website?

3 A Couple days ago.

4 Q Did you even look for it before then?

5 A I was unaware of its existence.

6 Q Did you think it might be relevant to look and see  
7 whether Professor Chen had done any followup work on  
8 Wisconsin specifically when you had cited his earlier  
9 work from other states?

10 A At some point I did look to see if he had done any  
11 specific work on Wisconsin and at that point he had not.  
12 I don't check daily to see whether a specific person has  
13 done work on a specific state.

14 Q Have you ever talked to Professor Chen?

15 A I have talked to him.

16 Q Do you know him?

17 A Only a little bit.

18 Q Could you have called him up and asked him about his  
19 work and whether it was appropriate to use it in this  
20 case?

21 A I suppose I could have called a number of people.

22 Q Okay. Let's take a look at Figure 3. This is  
23 Exhibit 158 that's on the screen in front of you. Do you  
24 see that?

25 A Yes.

1 Q And under this chart, Act 43 is an outlier from the  
2 200 simulated plans that Professor Chen has drawn;  
3 correct?

4 A That looks like what this table is showing. Again,  
5 I don't -- I'm only vaguely aware of the paper, so you're  
6 asking me about specifics of a table I don't know the  
7 specifics of.

8 MR. POLAND: No further questions at this time.

9 JUDGE RIPPLE: Thank you, Mr. Poland. Do you  
10 anticipate a long redirect?

11 MR. KEENAN: No, it's a short redirect. We  
12 probably could finish it, then take the normal afternoon  
13 break.

14 JUDGE RIPPLE: Sure. Mr. Keenan, go ahead.

15 REDIRECT EXAMINATION

16 BY MR. KEENAN:

17 Q Professor Goedert, some deposition testimony came in  
18 that said -- you gave an answer, I'm just going to read  
19 it, this is page 43, line six to nine of your deposition.  
20 I guess you have it there, you can read it.

21 A I do.

22 MR. POLAND: I'm sorry, Counsel, what page?

23 MR. KEENAN: Page 43. Lines six to nine was an  
24 answer to a question that you had gone over with  
25 Professor Goedert.



1 MR. POLAND: I'm sorry, is there a question  
2 pending?

3 MR. KEENAN: I just wanted him to read the  
4 answer.

5 THE WITNESS: You want me to read the answer?

6 BY MR. KEENAN:

7 Q Yes.

8 A "Certainly I believe that the impact of the map is  
9 the result of intentional acts by the people who were  
10 drawing the map, in addition to several other variables."

11 Q Okay. What were the other variables that you think  
12 go into the effect, the impact of a map?

13 A Well, sure. Obviously geography would be one.  
14 Obviously various legal constraints would be another.  
15 Certainly the actual electoral tide or overall electoral  
16 environment in a specific election. The candidates that  
17 are running for office, whether they're incumbents,  
18 whether they're high quality candidates. There are  
19 almost, you know, there are potentially a thousand  
20 variables that could come into the effectiveness of a map  
21 when it comes to electoral results.

22 Q We're going to pull up your gerrymander, your  
23 geography article which we've marked at Exhibit 548. I  
24 believe the plaintiffs have been referring to a different  
25 number. But you had been asked some questions about how

1 you code things as gerrymanders and I believe you were  
2 trying to explain what you meant by that. Maybe it  
3 hasn't gotten out. Can you explain what you mean when  
4 you code something as a gerrymander?

5 A Right. So I am referring to something as a  
6 gerrymander, not in any sort of -- with any sort of moral  
7 judgment or even evaluating its effectiveness, I'm simply  
8 coding it as a gerrymander to reflect the process under  
9 which it was drawn. So any map in which one party  
10 controlled the Legislature, in, say, both Houses of the  
11 Legislature, if it was a legislatively drawn map and  
12 presumably the governorship would be coded as a partisan  
13 gerrymander regardless of the actual intent behind the  
14 map, regardless of the effectiveness behind the map, and  
15 regardless of any sort of legal conclusion that I would  
16 draw about the map.

17 Q And I notice we have -- the table you looked at with  
18 Mr. Poland here, it's Table 1, I believe, on page four.  
19 I see you also refer to bipartisan or court gerrymanders.  
20 What do you mean by that?

21 A Well, so bipartisan, I take a court gerrymander is  
22 somewhat self-explanatory. It's a map that's drawn by a  
23 court.

24 Q And those usually aren't referred to as  
25 gerrymanders, but you're still coding that as a

1 gerrymander?

2 A Right. I call everything a gerrymander. It's just  
3 shorthand. A bipartisan gerrymander would be a map that  
4 is typically drawn by a legislature, drawn by the normal  
5 legislative process. But, for instance, where there is  
6 bipartisan control of the various Houses, for instance,  
7 the Democrats control the lower House and the Republicans  
8 control the upper House or the Democrats control both  
9 Houses and the Republicans control the governorship,  
10 where it is necessary for both parties to agree to a map  
11 before it can be passed.

12 Q Okay. And then Mr. Poland -- this is the last  
13 series of questions. Mr. Poland asked you about the  
14 models in this article and then there's also a 2014  
15 article. You recall that?

16 A Yes.

17 Q And there's the variables of the racial minorities  
18 and urbanization and things like that. Do you think  
19 those models used to predict, not predict maybe, but used  
20 to explain congressional elections can be used to explain  
21 state legislative elections?

22 A Certainly the actual model that I use in this  
23 article would not be appropriately applied to state  
24 legislative elections.

25 Q And why not?

1 A Well, for one thing congressional seats are much  
2 much larger than State Assembly seats in most states.  
3 Certainly in Wisconsin I believe a congressional district  
4 is more than ten times as large as a State Assembly seat.  
5 So if you're looking at, for instance, the impact of  
6 urbanization; right? A city needs to be fairly large in  
7 order to encompass almost an entire congressional  
8 district. So there's really only one city, for instance,  
9 in Wisconsin, Milwaukee, that is going to encompass  
10 almost an entire congressional district. So most  
11 congressional districts are going to have to have a whole  
12 lot of different small cities in Wisconsin, whereas in a  
13 larger state with larger cities you might have multiple  
14 cities that would compose single congressional districts;  
15 you might have cities that are large enough to compose  
16 multiple congressional districts, and so the impact of  
17 urbanization that you would observe in Wisconsin might be  
18 different for congressional maps than it is for State  
19 Assembly maps because most of the cities in Wisconsin are  
20 much closer, I think, to the size of a State Assembly  
21 district than they are to a congressional district. And  
22 so where you might not see a huge impact of urbanization  
23 in congressional maps in Wisconsin, you might see a much  
24 larger impact when it comes to State Assembly maps.

25 MR. KEENAN: Those are all my questions.

1 JUDGE GRIESBACH: Professor, in that exhibit,  
2 Figure 1 in your report, where you show the Democratic  
3 vote share of wards, I take it you got the data or the  
4 data for those consists of the actual ward votes for the  
5 2014, 2012 election?

6 THE WITNESS: That's right.

7 JUDGE GRIESBACH: Is that part of -- is that  
8 part of the record here?

9 THE WITNESS: So I actually took those from the  
10 datasets that were submitted by Professor Mayer. So I  
11 believe they are in the record.

12 JUDGE GRIESBACH: And those are pretty much  
13 publicly available, aren't there?

14 THE WITNESS: They should be publicly available,  
15 yes.

16 JUDGE GRIESBACH: As well as the 2010 wards, we  
17 can see what the wards look like on the previous --  
18 before they were redrawn under Act 43?

19 THE WITNESS: I would imagine so, but I don't  
20 know. I haven't --

21 JUDGE GRIESBACH: Are those part of the record,  
22 Counsel? And do you have any objection to our taking  
23 notice of them if they're publicly available?

24 MR. POLAND: I don't know, Your Honor, whether  
25 they are part of the record. But we certainly have no

1 objection if the Court --

2 MR. KEENAN: I would have the same answer. I  
3 think some of that data, like Professor Mayer created,  
4 was provided to us and then provided to Professor Goedert  
5 to do this. I don't know that it's ever been provided to  
6 the Court. I just don't know. But I would have no issue  
7 with the Court having it or taking notice of it.

8 JUDGE GRIESBACH: Well, you have these graphic  
9 descriptions of actual votes. It might be helpful for us  
10 to see what the wards actually look like.

11 MR. POLAND: I know that we did have that  
12 certainly in the *Baldus* litigation, Your Honor.

13 JUDGE GRIESBACH: Could we ask counsel to advise  
14 us or make it part of the record? I think the two --  
15 both since the wards were redrawn, it might be helpful to  
16 see what they looked like before and after.

17 MR. POLAND: I'm sorry, Your Honor, I don't mean  
18 to interrupt. I believe Dr. Mayer had those and probably  
19 still does have them. We would need to know the specific  
20 data in which the Court would like to have the data.

21 MR. KEENAN: I believe they're Excel  
22 spreadsheets and then there's like 6,600 lines, one for  
23 each ward, and then there's a lot of data in them.

24 MR. POLAND: We would need to do some validity  
25 testing on the data, as we saw the other day, Your Honor,

1 but I think we could obtain that.

2 JUDGE GRIESBACH: You know, particularly in the  
3 districts that you've been discussing in the concentrated  
4 areas, it might be more helpful than other areas. I  
5 realize that wards are different sizes and different  
6 populations but...

7 MR. POLAND: Yes, we can do that, Your Honor.

8 JUDGE RIPPLE: I think we'll take our 15-minute  
9 break. We'll recess, be back in 15 minutes. My  
10 colleague reminds me that the Court has one thing it  
11 needs to discuss. So let's make this a 20-minute break  
12 at least or 20 to 25-minute break to let the Court  
13 discuss a matter we may have to discuss with counsel.

14 (Recess 3:34-4:02 p.m.)

15 THE CLERK: This Honorable Court is again in  
16 session. Please be seated and come to order.

17 JUDGE RIPPLE: Mr. Keenan, you are finished with  
18 that witness? Do you have something else?

19 MR. KEENAN: I just have one small housekeeping  
20 thing is that we had a couple of exhibits we used that I  
21 never moved into evidence that I'd like to do now.  
22 Exhibit 575 was the party A/party B isolation index  
23 example, and then 581 was the document from the U.S.  
24 Census that had the formula for the isolation index. So  
25 those two documents I'd move into evidence.

1 MR. POLAND: No objection, Your Honor.

2 MR. KEENAN: And with that we would rest our  
3 case.

4 JUDGE RIPPLE: With that objection the exhibits  
5 are admitted. You rest your case. Do the plaintiffs  
6 plan on a rebuttal case?

7 MR. POLAND: Your Honor, we've been looking at  
8 the clock and we might have some rebuttal. That would be  
9 primarily to respond to some of the materials we received  
10 this morning from Mr. Trende, some of that new analysis.  
11 This is what we would propose to do as we sort of weighed  
12 the value of rebuttal versus closing arguments.

13 Our preference would be for each side to do about a  
14 45-minute closing argument and if we -- I saw Your Honor  
15 wince. Okay. Let me address rebuttal first. We'd like  
16 to evaluate that. To the extent that we have any  
17 rebuttal, it appears the Court intends to take some  
18 written submissions. If we have any, we'd prefer to ask  
19 the Court's leave to be able to submit that as part of  
20 the written submission.

21 JUDGE RIPPLE: That being rebuttal?

22 MR. POLAND: Rebuttal, Your Honor, correct.

23 JUDGE RIPPLE: As part of the written  
24 submission.

25 MR. POLAND: Yes, Your Honor.



1 JUDGE RIPPLE: We very definitely do anticipate  
2 asking the parties for trial briefs -- post-trial briefs  
3 with written submissions. Mr. Keenan, how about you?  
4 How do you feel about all this?

5 MR. KEENAN: About them doing a written  
6 rebuttal?

7 JUDGE RIPPLE: Um-hmm.

8 MR. KEENAN: That's fine.

9 JUDGE RIPPLE: You would not have an opportunity  
10 to cross-examine.

11 MR. KEENAN: As long as I'd have a chance to  
12 also respond in writing, I think that would be fine. I  
13 mean if they submit something before the final pretrial  
14 brief is due or something like that where we'd get a  
15 chance to respond to it, but wouldn't have cross, that  
16 would be fine.

17 JUDGE GRIESBACH: What do you have in mind for  
18 rebuttal that we would see in writing?

19 MR. POLAND: Your Honor, I'm not exactly sure.  
20 I think what we'd need to do is look at some of the new  
21 material that we received this morning. There are some  
22 things that we can address over the lunch break and other  
23 things that we need a little bit more time to digest.

24 MR. HEBERT: And Your Honors, if I could pipe  
25 in, just one suggestion: The way we've done this in

1 other three-judge court cases is if we were to submit  
2 some rebuttal evidence, it would be in the form of a  
3 sworn declaration and if Mr. Keenan decided he needed to  
4 take a post-trial deposition of that witness, we could  
5 let him do that. That's the kind of thing that's been  
6 done in many, many other cases. That would be acceptable  
7 to us.

8 JUDGE RIPPLE: We will proceed that way then.  
9 We would like to proceed to closing arguments then today?

10 MR. POLAND: We would, Your Honor. There is one  
11 other housekeeping matter that we have and that is to --  
12 the plaintiffs would like to formally move into evidence  
13 Exhibit 497, which were the last of the charts that were  
14 created from the flip chart.

15 MR. KEENAN: No objection.

16 JUDGE RIPPLE: That -- that exhibit is admitted.

17 MR. POLAND: Thank you, Your Honor.

18 JUDGE RIPPLE: We would, first of all on trial  
19 briefs, we would prefer that we have trial briefs within  
20 14 days and we will allow for simultaneous replies ten  
21 days thereafter. And we -- were you about to say  
22 something?

23 MR. POLAND: I was going to ask a couple  
24 questions actually just on the logistics. Are there  
25 specific issues that the Court would like to have

1 addressed in the trial briefs?

2 JUDGE RIPPLE: The Court would like to have  
3 addressed what we have called the Chen issue and we would  
4 like that addressed in writing for sure. And we invite  
5 you to use your discretion with respect to other matters,  
6 particularly if there are other legal matters that you  
7 want to give us a more fulsome explanation of or update  
8 on, you should feel free to do that.

9 MR. POLAND: Does the Court anticipate something  
10 beyond addressing specific legal issues? I'm just  
11 thinking in terms of are there proposed findings of fact  
12 from the trial record that the Court is expecting to  
13 receive from the parties?

14 JUDGE RIPPLE: We're going to, I think, leave  
15 that at your discretion and -- but we certainly -- I  
16 think one of the things we would anticipate you would  
17 help us with is the evidentiary record. The organization  
18 of this trial has been somewhat different because several  
19 of the fact witnesses were presented at one time and we  
20 did not have such a clean situation of having the  
21 plaintiffs' case or the defendants' case and that is a  
22 situation that we have to wrestle with on unbundling the  
23 record and dealing with it and evaluating it. And to the  
24 extent that you were able to help us do that, it would be  
25 most appreciated.

1 MR. POLAND: Very well, Your Honor.

2 JUDGE RIPPLE: My colleagues tell me they would  
3 appreciate it if you could limit your closing arguments  
4 to 30 minutes a side. Do you think that's -- so let's  
5 try to keep it at that. Okay?

6 MR. POLAND: Very well, Your Honor.

7 JUDGE RIPPLE: And I'll let you proceed.

8 MR. POLAND: Thank you, Your Honor.

9 JUDGE CRABB: Let me just say one thing. The  
10 exhibit lists will be at the clerk's desk so if you want  
11 to check them over afterwards and see whether there are  
12 omissions or things that you think are not correct.

13 MR. POLAND: Thank you, Your Honor.

14 Your Honor, the plaintiffs' closing argument will be  
15 given first by Professor Stephanopoulos. We'd like to  
16 split the time between Professor Stephanopoulos and  
17 Mr. Hebert. (4:10 p.m.)

18 JUDGE RIPPLE: Professor.

19 MR. STEPHANOPOULOS: Your Honors. So in his  
20 opening statement a few days ago, Mr. Keenan said a  
21 couple things that struck me. First, he mentioned his  
22 grandfather's criticism of "people using statistics as a  
23 drunk using a lamppost for support rather than  
24 illumination." And second, he observed that plaintiffs'  
25 statistics are actually very illuminating. What

1 Mr. Keenan left unsaid though was a third point, which is  
2 the one I want to focus on now. And this is about  
3 plaintiffs' statistics do illuminate the intent of Act  
4 43's drafters, the severity and the durability of Act  
5 43's partisan asymmetry, and the unjustifiability of this  
6 asymmetry. I don't believe that we can say the same  
7 about the statistics we've heard from defendants. I  
8 would say that their statistics have been aimed at  
9 obfuscating, rather than illuminating, and I'll be  
10 providing the Court with some examples of that.

11 Before I get into any of the data about how any of  
12 the prongs of our proposed tests have been discussed over  
13 the course of trial, I want to just note at the outset  
14 that skepticism for statistics really has no place in  
15 this area in the context of redistricting. When you're  
16 dealing with the aggregation of millions of voters into  
17 dozens of districts, numbers are going to be a central  
18 part of the picture. That's true in the one-person  
19 one-vote context, it's true in voting rights cases where  
20 racial polarization in voting is a complicated and  
21 central inquiry. It's also why the drafters of Act 43  
22 prepared these elaborate partisan composites, these very  
23 sophisticated S curves, and it's also why any tests for  
24 partisan gerrymandering, I think, will have to have some  
25 kind of quantitative component.

1           With that preliminary, let me begin by reviewing  
2 some of the technical issues that arose in the case with  
3 respect to discriminatory intent. There are a couple of  
4 these, but in the interests of time, I'll focus on one.  
5 And this is Mr. Foltz's testimony that when he,  
6 Mr. Handrick and Mr. Ottman were calculating their  
7 composite, they made all kinds of mistakes and therefore  
8 the composite wasn't very trustworthy.

9           As Your Honors probably remember from the hours we  
10 spent going through this file, the problem was that a  
11 single one of the 17 races that were included in the  
12 composite had some faulty data in it. Now, I'm not sure  
13 why it matters whether Mr. Foltz, Mr. Handrick and  
14 Mr. Ottman were sloppy rather than careful  
15 gerrymanderers. If a burglar trips over his feet when he  
16 breaks into a home, he still intends to break into the  
17 home, and that's what's critical here.

18           In addition, when plaintiffs examined this supposed  
19 error, it turned out to be completely immaterial.  
20 Professor Jackman showed that when you remove the one bad  
21 race from the composite, the  
22 original-flawed-and-then-you-fixed composite are  
23 perfectly correlated. Professor Mayer showed the same  
24 thing with respect to how the original flawed composite  
25 is related to his baseline estimates using new correct

1 data from the 2012 elections.

2 Let me turn next to discriminatory effect, and in  
3 particular, to the main metric of partisan symmetry the  
4 plaintiffs advanced in this case, which is of course the  
5 efficiency gap. I don't believe the defendants have  
6 disputed that Act 43 is, in fact, one of the most  
7 asymmetric plans in modern American history and I don't  
8 believe they dispute that this partisan skew by every  
9 analysis that we've tried to conduct can be reliably  
10 expected to persist for the remainder of the decade.

11 What they've done instead is to raise a couple --  
12 actually several technical issues, and in the interest of  
13 time I'll just focus on volatility and durability which I  
14 took to be the main point that Professor Goedert raised  
15 in his testimony.

16 So with respect to durability, the main point that  
17 both Mr. Keenan and Professor Goedert have made is that  
18 when you consider the possibility of a plan with a  
19 certain efficiency gap flipping efficiency gap signs over  
20 the course of the decade, that likelihood is reasonably  
21 high for certain pro-Democratic plans. Now, I'll note  
22 that the probability of a signed flip for Act 43 is more  
23 or less 0. And I'd also note that this extremely  
24 stringent analysis, as Professor Jackman described it, is  
25 only one of about half a dozen separate durability

1 analyses that he carried out.

2 To run through a few of them, which I think are  
3 powerful indications of the reliability of this metric,  
4 the confidence rate associated with an efficiency gap  
5 threshold of 7 percent is about 95 percent. So in other  
6 words, about 95 percent of plans fall either below this  
7 threshold or above it and then never flip signs over  
8 their lifetimes.

9 Even more intuitively, a plan's first efficiency gap  
10 is an excellent predictor of its lifetime average  
11 efficiency gap. If all we know, if the only information  
12 we have is a plan's first efficiency gap, we can account  
13 for about three-quarters of the total variation in the  
14 lifetime efficiency gap.

15 And this is a confusing chart. I'll just summarize  
16 the takeaway. If we subject the plans in effect today to  
17 shifts of up to five points in either party's direction  
18 which applies to large efficiency gaps, their efficiency  
19 gaps are virtual certain to have the same sign for their  
20 lifetimes and to also be large in magnitude.

21 Now, I would note that this sort of sensitivity  
22 testing fully addresses all of the concerns that  
23 Professor Goedert raised about not knowing what future  
24 electoral environments might look like, not knowing what  
25 elections might take place when. We shift to cover the



1 entire range of plausible electoral environments and we  
2 can draw robust conclusions about whether the large  
3 efficiency gap we initially observed is going to remain  
4 in effect for those kinds of plans for the rest of the  
5 decade.

6 Now, I'd note too this robustness of the sensitivity  
7 testing substantially exceeds any that has appeared in  
8 the academic literature and in my opinion based on  
9 knowing this literature it is the most systematic,  
10 extensive sensitivity testing that has yet been conducted  
11 in this area. I think its results ought to be extremely  
12 reassuring to the Court.

13 There's more to say on the issue of the efficiency  
14 gap, but I think the next topic I'd like to address is  
15 that of justification, so the third prong of plaintiffs'  
16 proposed test. And here there are really two kinds of  
17 arguments the defendants make. One is to try to argue  
18 that Wisconsin has a natural pro-Republican political  
19 geography, and the other is to criticize various aspects  
20 of Professor Mayer's Demonstration Plan. And so I think  
21 I'll try to hit those two points before turning the floor  
22 to Mr. Hebert.

23 So let's run through -- I'll focus on the highlights  
24 here with respect to political geography. One thing I  
25 would note is that every time we got an analysis of

1 political geography in Wisconsin from defendants and  
2 their experts, this analysis disintegrated upon more  
3 proper examination. We heard from Mr. Trende that  
4 Democratic wards are becoming more Democratic over time;  
5 in fact, they're not when this analysis -- they are, but  
6 so are Republican wards when this analysis is properly  
7 carried out.

8 We heard from Mr. Trende that as highly partisan  
9 wards on the Democratic side -- as wards get more  
10 partisan, that they also grow closer together and that  
11 has some inference that we're supposed to draw about  
12 geographic clustering. It turns out the premise of that  
13 analysis is flawed as well. When we use correct data,  
14 not PVI's, and when we focus on the mean, which is the  
15 single most reliable statistic here, we, in fact, find  
16 the exact opposite pattern from the one claimed by Mr.  
17 Trende.

18 The same thing -- actually before I get to this, the  
19 same thing happened today when we had counsel and  
20 Mr. Trende marching through many, many examples of  
21 Wisconsin counties' PVI scores. We only heard about,  
22 from defendants, about the PVI's in Dane County and  
23 Milwaukee Counties. As soon as we also expanded our  
24 field of vision to the collar counties of Milwaukee, we  
25 found out that those collar counties are every bit as

1 Republican as Madison and Milwaukee are Democratic.

2 Same pattern with Professor Goedert. He conducted  
3 an analysis of the distribution of partisanship in the  
4 wards currently in effect and concluded this was a  
5 pro-Republican skew in the ward distribution. I won't  
6 disagree that there was some minor skew in the ward  
7 distribution, but that skew completely pales compared to  
8 the pro-Republican skew that jumps off the page when you  
9 compare the ward distribution to the district  
10 distribution.

11 And let me just note what I think is quite an  
12 important point about political geography here that this  
13 chart helps to illustrate. So there likely is some  
14 natural packing, especially of minority voters in places  
15 like Milwaukee. Voting Rights Act districts often have  
16 to be drawn in those areas as well. And you can see this  
17 region of the chart here. But there's a crucial point  
18 about these kinds of districts, which is that these  
19 constituencies, in the area of 75 percent Democrat or so,  
20 do not move the efficiency gap at all in a pro-Republican  
21 direction. And that's because in these districts, yes,  
22 Democrats are wasting 25 percent or so of their votes,  
23 but that's the exact same proportion of votes that the  
24 Republicans are also wasting there. There's no  
25 difference in the wasted votes in those packed --

1 supposedly packed 75 percent or so districts.

2       The real way you get gerrymandering, the real way  
3 you generate an extreme efficiency gap is with these  
4 kinds of districts. So when you have the  
5 disproportionate cracking of parties' voters, when you  
6 have lots more districts where Democrats are receiving 40  
7 to 45 percent of the vote and wasting all of that vote  
8 and Republicans are getting 55 to 60 percent of the vote  
9 and only wasting a small smidgen of that vote, that  
10 disproportionate cracking is the real essence of  
11 gerrymandering. And to quote Professor Mayer from  
12 yesterday, "That DNA is all over Act 43."

13       I note also that disproportionate cracking has no  
14 conceivable roots in the political geography of  
15 Wisconsin. That you have a lot of Democratic or minority  
16 voters in central Madison and central Milwaukee says  
17 nothing about how you draw the other 90 districts in the  
18 plan and to the extent which you have to  
19 disproportionately crack one parties' supporters over the  
20 others.

21       Let me turn next to defendants' criticisms of  
22 Professor Mayer's Demonstration Plan, which I think also  
23 are somewhat misleading. Their main criticism of the  
24 partisan performance of the plan seems to be that if you  
25 carry out the wrong kind of sensitivity testing, then it

1 appears that the plan could result in quite a few more or  
2 less Republican or Democratic seats being won for  
3 reasonable shares -- shifts in the share of the statewide  
4 vote. Professor Mayer explained at length this is not  
5 the right way to do sensitivity testing. I don't know  
6 how to quite remove these -- bottom left.

7         So I would point out the overlap, the impressive  
8 similarity between Professor Mayer's sensitivity testing,  
9 to which defendants have objected, and Professor  
10 Jackman's sensitivity testing which, as mentioned  
11 earlier, is the new gold standard for sensitivity testing  
12 in this area. They both generate essentially identical  
13 results for Act 43 over an extremely wide range of  
14 electoral environments, and that's revealed here.

15         Now, we also heard criticisms of the Demonstration  
16 Plan on the grounds of noncompactness and splitting  
17 political subdivisions. This was one of the odd-looking  
18 districts that defendants highlighted. Now, this is just  
19 a particular cherry-picked district. It's a stipulated  
20 fact in this case that the Demonstration Plan is more  
21 compact on average than Act 43 and that it splits fewer  
22 political subdivisions overall. So we genuinely can't  
23 reach any conclusions from this pair of districts or  
24 other similar examples. Defendants also raise the issues  
25 of incumbent pairings and core retention, and those are

1 the last ones I'll talk about.

2       So their analysis proceeded again by highlighting  
3 individual districts in the map and noting how many  
4 incumbents were paired or for one or two districts out of  
5 99 what percentage of a former district was in the new  
6 district. They didn't reveal to the Court the full  
7 picture here. What is the full picture? First of all,  
8 incumbent pairings and promoting core retention, neither  
9 one of those is a Wisconsin legal requirement. With  
10 respect to incumbent pairings, when the drafters of Act  
11 43 thought about incumbent pairings, they didn't try to  
12 minimize them. What they tried to do instead is to  
13 deliberately pair Democratic and Republican incumbents in  
14 heavily overwhelmingly Republican districts, and there's  
15 nothing like this methodical targeting of one side's  
16 incumbents in the Demonstration Plan.

17       Furthermore, as far as plaintiffs have been able to  
18 tell there's not a single document on the hard drives of  
19 Mr. Foltz, Mr. Ottman or Mr. Handrick about core  
20 retention. This appears to be the classic case of a  
21 pretextual justification generated after the fact.

22       And finally, the broader picture is that the *Baldus*  
23 court specifically addressed the topic of core retention,  
24 and here is what it said: Only about 300,000 people  
25 needed to be moved from one Assembly district to another

1 in order to equalize the populations numerically, but  
2 instead Act 43 moves more than seven times that number,  
3 almost 2.5 million people in order to comply with  
4 population equality. Same thing at the Senate level.  
5 Only 200,000 people had to be moved, but Act 43 instead  
6 moved more than a million.

7       And I'll just close with this final point, Your  
8 Honors, which is that all of the analytical tools that  
9 plaintiffs have used in this case, they might seem  
10 complex, they might seem dense to any observer, but these  
11 methods of open-seat baselines, imputations for  
12 uncontested races, sensitivity testing, these are the  
13 exact same methods that the drafters of Act 43 themselves  
14 employed and they're also the exact same methods that  
15 drafters around the country employed when they're trying  
16 to craft a partisan gerrymander. The difference here is  
17 that plaintiffs have been trying to use these tools to  
18 detect gerrymandering and to curb gerrymandering, not to  
19 perpetuate it. The mission is exactly the opposite, the  
20 promotion of democracy, not the undermining of democracy.

21       I would say to the Court this project of promoting  
22 democracy like this lies at the very heart of why we have  
23 an independent judiciary in this country. We have a  
24 situation here in Wisconsin where democracy really is  
25 ailing because of this unprecedented partisan

1 gerrymandering, and in the face of the legislative  
2 passivity and inaction that we're observing, the only way  
3 that this problem is going to be solved is through  
4 judicial intervention.

5 And so with that, I'll turn the table over to  
6 Mr. Hebert.

7 JUDGE RIPPLE: Thank you, Professor.

8 MR. HEBERT: Your Honors, I think I have about  
9 12 minutes left and I will apologize in advance, Lynette,  
10 that I may -- I'll try to pace myself.

11 Plaintiffs' three-part test: Intent, effects, and  
12 justification or the lack thereof. That's our Fourteenth  
13 Amendment theory.

14 On the intent issue quickly, during the oral  
15 argument on summary judgment in response to a question  
16 from Judge Crabb, counsel for the defendants was asked:  
17 "Do you contest partisan intent for purposes of summary  
18 judgment?" The answer was "No." And he added "And we  
19 will not dispute intent at trial either" he didn't  
20 envision. So it's essentially been uncontested. And  
21 rightfully, so I might add. You have the Ottman memo,  
22 Exhibit 241, where he says we have the opportunity and  
23 the obligation to determine who's going to be here in ten  
24 years. But that goes to intentional durability of a  
25 gerrymander.



1           On the intent issue we have the secrecy policy. We  
2 had the rush to nine day legislative process, the very  
3 "aggressive legislative agenda," the hiring of the  
4 Michael Best law firm and replacing the Democratic  
5 counsel and leaving them without funding. You have the  
6 incredible testimony of Joe Handrick, who testified in  
7 *Baldus* that he didn't even use partisan data. And you  
8 heard two witnesses from the state come in and contradict  
9 that testimony. I mean that's just unbelievable when  
10 somebody testifies under oath that they were in the map  
11 room using partisan intent with Professor Gaddie and data  
12 to draw a map and then testifies under oath that they did  
13 not? And we're going to take action on that after this  
14 hearing, Your Honor, with the United States Attorney.

15           And that's why the *Baldus* court decided that it was  
16 laughable when people came in, like the witnesses that  
17 came into this court and talked about intent. They  
18 deviated from the normal process. This is a typical  
19 standard in intent cases. First time in a century that  
20 they actually didn't draw the wards first and then do the  
21 districts. And you know why they didn't? Because they  
22 needed to rush it through because of the recall election  
23 and they were afraid they were going to lose power.

24           They hired Professor Gaddie to run S curves. Why do  
25 you run S curves? The only reason you do that is to see

1 the durability of the partisan gerrymander. And they  
2 printed out the S curves. They showed them to the  
3 legislative leadership. For heaven's sake, we had the  
4 Tale of the Tape which shows they were targeting  
5 Democrats. That was Exhibit 283 and 284.

6 Each plan they drew along the way increased the  
7 partisan advantage for Republicans and disadvantaged  
8 Democrats. And even their equal population data, when  
9 they gave it to the legislators individually, it didn't  
10 just contain the number of people in your district or how  
11 many you lost, how many you have to pick up, it had the  
12 partisan scores on it. So even their equal population,  
13 so-called one-person one-vote data was looked at through  
14 a partisan lens.

15 Look at the effects. They're extreme and they're  
16 durable. Efficient scores, you've heard those. Worst  
17 gerrymander in modern history from 1972 to 2010. Exhibit  
18 35, the original report of Simon Jackman, Figure 1.  
19 Exhibit 90, the lifetime average versus the efficiency  
20 gap scores. Exhibit 158, worst on the efficiency gap and  
21 preservation of county boundaries.

22 Then even if you look at Exhibit 172, you can  
23 compare the number of swing districts in the old plan to  
24 the number of swing districts in the new plan and they  
25 drop down from 19 to 10. And they increase the number of

1 strong GOP districts from 27 to 38. I mean I'm going to  
2 -- in a minute I'm going to show the Court how you  
3 gerrymander. As somebody who has represented state and  
4 local governments throughout my entire career as a lawyer  
5 and having done hundreds, if not thousands of  
6 redistricting plans, I'm going to show you in an  
7 illustration right here in the courtroom how they did  
8 what they did.

9 And even Professor Gaddie's detailed definition of  
10 durability, as he said, it's virtually certain to bias  
11 Republicans throughout the entire cycle.

12 And the justification. I mean really, the state's  
13 trial brief concession at page 26 was that the  
14 Demonstration Plan performs just as well as the Act 43  
15 with traditional redistricting principles. Well, if  
16 that's the case, then that's a concession that they  
17 really can't justify their plan because we have a plan  
18 that has less partisan bias than theirs and follows the  
19 traditional redistricting criteria. That's on page 26 of  
20 their trial brief.

21 Then they have the series of draft maps that  
22 increasingly showed partisanship. Well, if you've got  
23 other plans you've drawn along the way that doesn't have  
24 that partisan bias and you've been following the  
25 so-called redistricting principles, well then for

1 heaven's sake when you final adopt the worst plan, you've  
2 already created four or five demonstration plans that  
3 meet the same requirement.

4 And then you finally have the Professor Chen's  
5 hundreds of simulated plans that do the same thing.

6 The First Amendment injury here -- and the  
7 plaintiffs have been in this courtroom every day. Their  
8 right to vote is fundamental. It's our voice in the  
9 government. It's the only voice many of us have. It's  
10 at its pinnacle, the First Amendment, when it involves  
11 political speech in voting. The past voting history,  
12 when you go to the polls and you record your political  
13 vote, you're recording your political value, as Professor  
14 Whitford said. It's not right to target people and harm  
15 them because of their voting history. Burdening and  
16 penalizing people for the fact that what did they do?  
17 They had the nerve to participate in the political  
18 process and go to the polls, so we're going to use their  
19 voting history to minimize and cancel out their vote as a  
20 group?

21 Our test is grounded. The gerrymander test we  
22 proposed is grounded in five decades of constitutional  
23 law principally arising out of the one-person one-vote  
24 cases. We would only capture extreme and enduring  
25 gerrymanders. In *Vieth*, one of the cases I worked on,

1 *Vieth v. Jubelier*, all nine justices agreed that  
2 excessive partisan gerrymanders were unconstitutional.  
3 We think they meant it.

4 We have a record that is complete for this Court.  
5 We have a record, as Judge Griesbach noted, that is even  
6 going to be complete for eight or nine justices thousands  
7 of miles away. We have a case that fits the elusive test  
8 we think that the Court has been looking for. Decisions  
9 in *LULAC* and *Vieth*, you know what they did to partisan  
10 gerrymanderers? *LULAC* in 2006, *Vieth* in 2003, both of my  
11 cases. What they did is they gave the green light to  
12 partisan gerrymanderers to say this is an opportunity for  
13 you. Sky's the limit because we have no standard. And  
14 they took advantage of that.

15 Now, how many legislative leaders came before the  
16 court in Wisconsin and justified or defended what they  
17 did? As many as are sitting in that witness chair.  
18 None. State's theory of this case is that no  
19 constitutional limits to partisan gerrymandering really  
20 exist because they say there's no test. Well, what that  
21 would mean is it's not justiciable and we already know  
22 that five justices think it is and I guess we think this  
23 is a case where the Court ought to just dish it finally  
24 and once and for all.

25 Partisan gerrymandering cases today masquerade as

1 racial cases. And why? Because we lack a robust  
2 partisan gerrymandering juris prudence and so everybody  
3 has to take their challenges and awkwardly fit them into  
4 a racial sphere, creating a doctrinal mess frankly in the  
5 racial gerrymandering field and perversely encouraging  
6 legislators to boast about their partial gerrymandering  
7 so that they don't have to get caught up in a racial  
8 gerrymander.

9       Representatives and their parties today are armed  
10 with more sophisticated computers and fine-grained voting  
11 data than ever before. And what do they use it for?  
12 Eliminating political competition, predetermining who's  
13 going to win and lose, and wresting unjustified political  
14 power from those voters who oppose them and opposing them  
15 by packing them and cracking them.

16       And what does all this have to do with the public?  
17 The public's opinion today, they've lost faith. They've  
18 lost faith in the integrity of our elections and our  
19 elected officials. Public confidence -- this is the  
20 Supreme Court just a couple terms ago in *Crawford v.*  
21 *Marion County*. Public confidence in the integrity of the  
22 electoral process has independent significance because it  
23 encourages citizen participation in the electoral  
24 process. And just last term in another one of the cases  
25 I was involved in, the Arizona State legislative case,

1 the Supreme Court reaffirmed the view that "partisan  
2 gerrymanders are incompatible with democratic  
3 principles." That's got to be a hint. That's got to be  
4 a signal that we've got to do something about this, and  
5 the court is looking for a case.

6 Now, I said finally that I would demonstrate what a  
7 partisan gerrymander -- how you accomplish that. And I'm  
8 going to use water as an example. So when I tell my  
9 clients we want to draw districts, we can draw the  
10 districts so that the water is down to here so that in a  
11 big rainstorm when the water comes up, it won't go over  
12 your head. But if we draw it down there where the water  
13 is low, are we really creating a safe district for your  
14 political party and we're not maximizing the use of our  
15 voters because we've got too many of them? So what we  
16 really need to do is not draw districts up to here where  
17 the water is up to here because in that vote swing we  
18 heard about, if it goes up, all of you are going to  
19 drown. You're all going to drown in a big swing or even  
20 a small swing.

21 So here's what you do. We're going to draw it to  
22 here so that it -- and we're going to measure how high it  
23 can go up historically so that it always stays below your  
24 chin. That is exactly what Wisconsin did in this case.  
25 They drew it right at chest deep.

1 Now, since the Supreme Court hasn't settled on a  
2 standard, the task falls to this three-judge court to  
3 develop them, we believe, and the plaintiffs have tried  
4 to shoulder this obligation. A decision here that this  
5 gerrymander, this partisan intent, this extreme, this  
6 unjustified, if you can't find a partisan gerrymander in  
7 this case, then it's tantamount to saying it lacks  
8 justiciability. We just can't get there. So this case  
9 is not at the margins and we ask the Court to declare it  
10 unconstitutional.

11 Finally, I'm reminded of my home state of Virginia,  
12 James Madison and Federalist No. 37 who said "the genius  
13 of Republican liberty seems to demand not only that all  
14 power should be derived from the people, but that those  
15 entrusted with it should be kept in dependence on the  
16 people." And even Alexander Hamilton, quoted by the  
17 Supreme Court in 1969 in *Powell v. McCormick* said "the  
18 true principal of a republic is that the people should  
19 choose whom they please to govern them." Don't we wish  
20 that was the case.

21 The United States of America continues to be the  
22 leading democracy in the world. But if we're going to be  
23 able to spread democracy throughout the world, we have  
24 the duty to first correct the remaining imperfections of  
25 our democracy here at home. As we get ready this weekend



1 to celebrate Memorial Day, remembering those brave women  
2 and men who fought for our country's ideals of freedom,  
3 justice, equality, let us honor their memory by holding  
4 our government accountable to those worthy and lofty  
5 ideals. What the evidence shows is we now know the way,  
6 we need only the will.

7 Thank you, Your Honors, for your courtesies  
8 throughout this trial. (4:40 p.m.)

9 JUDGE RIPPLE: Thank you, Counsel. Mr. Keenan.

10 MR. KEENAN: I'll try to be brief. The Court  
11 unfortunately scheduled the first day of trial on my  
12 wife's birthday, obviously unbeknownst to you, so I've  
13 got to get home and take care of the kids because she's  
14 going to Door County with a friend this weekend. And  
15 this case has consumed so much of my life, the sad thing  
16 is that all I think of is Door County is in Assembly  
17 District 1.

18 I do want to say that the plaintiffs and  
19 Mr. Stephanopoulos and the efficiency gap, they do raise  
20 an interesting issue of political science and I think  
21 Mr. Trende and Mr. Goedert testified to that. And I  
22 follow politics, I was a poly-sci undergrad and I think  
23 it's interesting. But at the same time, anyone who has  
24 followed politics since the 1990's, has seen that the  
25 Republican Party has had a great advantage of winning the

1 Congress, and if you follow Wisconsin politics, you've  
2 seen the Wisconsin party has had a great advantage in  
3 winning the State Assembly. It's pretty much every year  
4 except in really good wave Democratic scenarios where  
5 that has changed. And I think that a standard that's  
6 going to adopt the efficient gap and see that as some  
7 sort of partisan gerrymandering just isn't in touch with  
8 the underlying political gerrymander of this country.

9 In the opening, I said that we wouldn't see any  
10 evidence of gerrymandering as what you think of  
11 gerrymandering. For example, the sick chicken or the  
12 dragon in flight or Elbridge salamander. We didn't see  
13 any evidence of Act 43's districts. That's because they  
14 aren't gerrymandered. This is just districting that has  
15 a partisan advantage for one side and that's not  
16 unconstitutional.

17 We've seen that Act 43 is comparable with past plans  
18 instituted by courts. It's also comparable with  
19 Mr. Mayer's Demonstration Plan. The plaintiffs simply  
20 haven't met the burden that has been placed on them if  
21 you would adopt one of the tests or the thoughts in the  
22 concurrences or dissents that we've seen partisan  
23 gerrymandering claims. For example, Justice Kennedy in  
24 *Vieth* or the dissenting justices in *Vieth* or in *LULAC*,  
25 those justices thought you have to show -- the plaintiff

1 has a burden to show a lack of compliance with  
2 traditional districting principles. At most, the  
3 plaintiffs have shown that they can draw a comparable  
4 plan that has a better result for the party not in  
5 control. That just doesn't meet what the dissenters and  
6 Justice Kennedy have thought is required of a partisan  
7 gerrymandering claim.

8 Moving to intent, Mr. Hebert is right. We aren't  
9 contesting that there was intent, at least as defined by  
10 the plaintiffs' minimal requirement in their test. I  
11 would say to the extent you're going to evaluate how much  
12 intent there was, how much the intent invaded the  
13 process, that it isn't any different than what you would  
14 expect under any partisan districting process. And I  
15 think a lot of the things that the plaintiffs try to  
16 attempt to paint as bad frankly are just part of the  
17 normal legislative process.

18 For example, Mr. Ottman, who has much experience in  
19 both the minority and the majority of the state Senate,  
20 says it's common for major pieces of legislation to first  
21 be introduced without the minority party ever having seen  
22 it. That has been held out as an example of invasion of  
23 partisanship into the districting process. Well, that's  
24 just how major legislation works in Wisconsin.

25 We've heard about how the Republicans drew the

1 districts before the wards were completed and that this  
2 was a radical change from past practice. Well,  
3 Mr. Ottman explained how he based that legislation off an  
4 idea that was proposed by Chuck Chvala in the last decade  
5 who was a Senate Democrat leader. This is actually --  
6 it's a good idea. Why is the state waiting to put its  
7 legislative districts in for a full year while every  
8 municipality in the state draws their wards, at which  
9 point perhaps the state can start drawing districts. In  
10 this case it would have been January of 2012 when we're  
11 going to have elections in November of 2012? In fact,  
12 the Democrats filed their lawsuit in *Baldus* in June of  
13 2011. So in essence what the plaintiffs would have the  
14 Republican Legislature do is have a lawsuit pending  
15 that's saying the current districts are unconstitutional,  
16 asking the court to draw them, but have the Republicans  
17 sit around and wait, not draw any districts, and then  
18 wait for the municipalities and then draw the districts  
19 in 2012. That always worked in the past because courts  
20 drew the districts in 2002, in 1992, in 1982. At that  
21 point, the Court is going to be drawing the districts in  
22 the middle of 2012 because there's going to be a lawsuit.  
23 It's really not a good idea though when you're going to  
24 district with unified partisan control where a  
25 legislative plan is going to be implemented and to force

1 them to wait a full year to draw the districts.

2 We've heard about the Republicans hiring a law firm.  
3 Well, redistricting is often done with law firms. There  
4 are legal concerns involved. There's the Voting Rights  
5 Act. Every piece -- every districting plan eventually  
6 goes to litigation. I think that's a reasonable  
7 anticipation. So it's not all that uncommon that you  
8 would expect the Legislature to hire counsel.

9 The plaintiffs have said -- taken issue with the  
10 cutting off of the Democrats' funds to hire counsel. But  
11 as a lawyer for the state, it seems to me like I don't  
12 see why that's wrong because essentially you'd be funding  
13 the litigation against the state. You'd be paying the  
14 Democratic lawyers to challenge the plan. That doesn't  
15 seem like a good use of taxpayer funds to me.

16 And then we come to the partisan score. I think the  
17 plaintiffs might misunderstand what the point is with the  
18 error in the partisan score. The point is that how much  
19 can we really trust these numbers to show what reality is  
20 going to be? Yogi Berra said predictions are hard,  
21 especially about the future. And I think that's true,  
22 especially about political races. How do you determine  
23 what the race is going to be? How much faith can you  
24 really have in this number? Well, it turns out the  
25 number they were using was based on erroneous data. I

1 don't think a court can look at that number now and say  
2 well, because all these districts show 55 percent  
3 Republican or 52 percent Republican, the Democrats have  
4 no chance of winning. Or that it's going to have to have  
5 an efficiency gap of a certain amount.

6         And the plaintiffs say well, Mayer's model  
7 correlated well with it. But when you go into Mayer's  
8 model, you see that the districts don't seem to add up  
9 with the districts. The scores for the districts don't  
10 seem to add up with the scores for the districts under  
11 the composite. Why is that? I don't know. Professor  
12 Gaddie doesn't remember what he did. And frankly these  
13 models are only accurate in so far as they're projecting  
14 what would happen in a district. If you have these two  
15 scores mismatching by 20 points, what good are these  
16 scores? And they frankly can't be used as evidence that  
17 someone is going to be -- one party is going to be locked  
18 out of the political process.

19         When I started this case, I kind of thought there  
20 would be more to these scores than they are and you  
21 actually find there's less than meets the eye. And I  
22 think the main thing is -- Judge Ripple has asked several  
23 times about an intent to control throughout the whole  
24 ten-year process. I think it's clear that this score  
25 cannot be used to show anything like that. It's a simple

1 average of races from 2004 to 2010 and it's not even a  
2 correct one at that. Whatever use it has, it keeps  
3 losing value as you move further and further into the  
4 future. At this point, all that data is at least six  
5 years old. It's really not, frankly, all that useful  
6 right now.

7 Now, the plaintiffs have said they corrected the  
8 error because if you take out the 2006 governor's race,  
9 it looks the same. Of course I would ask if you're going  
10 to do an average of all the races, why would you exclude  
11 one of the most important races. The 2006 Governor's  
12 race is one of the two Governor's races that took place  
13 during that time frame. It's a very importance data  
14 point. If you'd want to measure what the partisanship of  
15 a district is, you'd want to see how Governor Doyle ran  
16 that year, and he ran very strong. So when you take it  
17 out, without that number and with that number showing,  
18 you know, 1,000 percent Republican votes, it's inflating  
19 the score to make it look more Republican because it's  
20 taking out a pretty favorable Democratic result.

21 And I think another thing on the intent is even if  
22 you think this score is determinative or very, very  
23 important, we saw in the evidence that the Republicans  
24 didn't even enact the most favorable plan to themselves.  
25 We saw Tad Ottman had a plan that had lean and safe seats

1 at 54. The final map says 52. That seems to me to show  
2 that partisanship wasn't the only factor that went into  
3 this plan. There were many other considerations.

4 So then we move to the plaintiffs' attempt to use  
5 the efficiency gap as a partisan effect or a  
6 discriminatory effort. I think the evidence has been  
7 pretty unanimous that since the 1990's, there's been a  
8 trend, even in the absence of partisanship, of efficiency  
9 gaps trending in the Republicans' direction. We've seen  
10 this in Professor Goedert's analysis of congressional  
11 elections, with the last election on the left side of his  
12 line was 1994 where the Republicans actually won control  
13 of the Congress for the first time in many years. We saw  
14 this in Professor Jackman's analysis of Wisconsin where  
15 the last positive efficiency gap was 1994 where  
16 Republicans again won control of the Assembly for the  
17 first time in many years.

18 And then we saw Professor Trende -- or not Professor  
19 Trende, Mr. Trende. His maps and their numbers explain  
20 why this is happening. What we see is that in 1996,  
21 President Clinton had a pretty broad-based coalition in  
22 Wisconsin and you can understand why there's a 0, plus 2,  
23 minus 2 efficiency gap, because the parties are  
24 relatively balanced all around the state. We see that  
25 the statewide vote share stays constant over that time,



1 yet the location of those votes changes greatly. We  
2 walked through how the Democrats became increasingly  
3 concentrated in Milwaukee and Dane Counties, yet their  
4 statewide vote share stays the same. The effect of this  
5 is that essentially they're getting the same number of  
6 statewide votes, but it's less able to translate into the  
7 legislative seats because you're getting the votes in  
8 places you're already winning and you're losing the votes  
9 in places where you were winning and you're no longer  
10 winning, like the example we saw from Marathon County.

11 And I think that's why we see the substantial  
12 negative efficiency gaps under the prior court plan.  
13 Since 1998, every EG in Wisconsin has been negative, and  
14 they have been pretty substantially negative. And yet  
15 now when we have a legislatively enacted plan, the test  
16 is supposed to be a certain level of EG, which we have  
17 seen three times under a court plan. And that level, the  
18 negative 7, is set based on an expectation of what kind  
19 of level would we need to see to have an election that  
20 flips positive at some point in this plan. That's how  
21 Jackman, Professor Jackman, calculated his threshold.  
22 That threshold just doesn't seem to make any sense in  
23 Wisconsin. If we've had two straight court plans where  
24 you had seven elections, that neither one of them was  
25 positive. And in fact, they're so negative that the

1 confidence intervals didn't even go to the positive.

2       So why now, when the Republicans win and are able to  
3 district, they're expected to enact a plan that would be,  
4 one, less than the EG's seen under court plans, and two,  
5 at a level where there would expect to be a positive  
6 efficiency gap. It's just not connecting with  
7 gerrymandering. It's trying to take a lot of things that  
8 are coming into play here and turning it into this  
9 discriminatory effect. So that might be appropriate in a  
10 race discrimination case where race discrimination just  
11 is wrong in and of itself. It isn't appropriate here  
12 where its partisan intent, something that is accepted,  
13 lawful and not even -- it's not even wrong and it's just  
14 understood that it will happen.

15       And the reason it's not wrong is that districting is  
16 given to the Democratic branches. We've heard a lot of  
17 talk about democracy. Well, what is democracy? It's  
18 having elections. Who won the elections? In 2010, the  
19 Republican Party won these elections. That gave them the  
20 right to district. There's Democratic legitimacy in  
21 these actions. And then you would think well, if this  
22 was so undemocratic, wouldn't you have seen a response?  
23 Well, we haven't seen that response.

24       Governor Walker was recalled and survived handily.  
25 Governor Walker won re-election in 2014. The Republicans

1 won a majority of the statewide Assembly vote in 2014.  
2 The only year where the Republicans haven't won the  
3 majority is 2012 where there was a narrow Democratic  
4 majority. There just isn't an antidemocratic, small "d",  
5 aspect here. This is actually -- democracy is that the  
6 people vote for their representatives. The Republicans  
7 won the 2010 elections under a plan drawn by a court.  
8 The Constitution gives them the right to district.

9       There has to be a strong burden for a court to come  
10 in and disrupt that process. The plaintiffs simply  
11 haven't offered a standard by which that should occur.

12       Going to the burden-shifting prong, the plaintiffs  
13 seem to interpret their test to say that as long as they  
14 can draw one plan that has less bias, they've met this  
15 prong. I think this is inconsistent with the way the  
16 Court has framed the burden shifting in the summary  
17 judgment decision where there has to be more than just  
18 one hypothetical alternative plan.

19       But I think going through the Demonstration Plan was  
20 instructive. It showed that Professor Mayer didn't  
21 consider a lot of things that a court would have to  
22 consider when districting, that the Legislature did  
23 consider when districting. For example: Core retention;  
24 incumbents; disenfranchisement. When you aren't  
25 constrained by those factors, you can draw a lot of

1 different maps. The Republican Legislature was  
2 restrained by those factors. You're not comparing apples  
3 to apples, you're comparing apples to oranges.

4 And I think what we saw from those examples that we  
5 went through was that given Wisconsin's geography, you  
6 have to affirmatively set out to narrow the efficiency  
7 gap in order to do it. You have to try to draw those  
8 districts like Fond du Lac through Oshkosh. The reason  
9 we see the efficiency gap is the federal courts aren't  
10 trying to do that, they're just taking Fond du Lac and  
11 taking the surrounding area. We got the hallmark of  
12 gerrymandering, a 58 Republican district. You have to  
13 try to avoid that. That's fine as an academic exercise.  
14 I don't think it's something that we should require a  
15 legislative body to do. They should be able to be free  
16 to apply traditional districting principles the way they  
17 see fit and not district -- not be forced to district in  
18 a way just looking at one number, the efficiency gap.

19 I was thinking as Professor Goedert said, frankly I  
20 don't even know how you would issue a remedy in this  
21 case. What are you going to direct the Legislature to  
22 do? Draw a plan that's going to have an efficiency gap  
23 of a certain amount? How would they know what it's going  
24 to have? They could try to draw a plan that had that and  
25 it wouldn't. They could try to draw a plan that had a

1 certain efficiency gap and be on the other side. We  
2 don't really know. It's an after-the-fact test that just  
3 says what happened happened in this election.

4 So to wrap up, in *Vieth* the late Justice Scalia's  
5 plurality opinion said that these standards would set  
6 courts out on a sea of imponderables and nothing in this  
7 case has convinced me that he was wrong. We've seen how  
8 many elements go into these things. We've seen there's a  
9 lot of uncertainty. We've seen just the difficulty of  
10 dealing with this and they're -- just frankly, the  
11 efficiency gap does not provide a way to manage these  
12 things. And perhaps Mr. Hebert I think said that justice  
13 has greatest justiciability. I think this trial will show  
14 that perhaps that it truly isn't justiciable. There just  
15 is no way to determine partisan gerrymanders.

16 Thank you. (4:59 p.m.)

17 JUDGE RIPPLE: Thank you, sir. I think we are  
18 -- have completed the proceedings. On behalf of the  
19 court, I'd like to thank all of the lawyers for a really  
20 wonderful job they did. Thank you very much for all of  
21 your cooperation. It was really a wonderful experience  
22 to work with all of you. I very much appreciate it. I'm  
23 looking forward to the remainder of the briefing and  
24 we'll certainly give this thing our full attention.

25 So we'll rise and we'll conclude the proceedings.

1 (Proceedings concluded at 5:00 p.m.)

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5 I, LYNETTE SWENSON, Certified Realtime and  
6 Merit Reporter in and for the State of Wisconsin, certify  
7 that the foregoing is a true and accurate record of the  
8 proceedings held on the 27th day of June 2016 before the  
9 Honorable Circuit Judge Kenneth Ripple, District Judge  
10 Barbara B. Crabb, and District Judge William Griesbach,  
11 in my presence and reduced to writing in accordance with  
12 my stenographic notes made at said time and place.  
13 Dated this 9th day of June 2016.

14  
15  
16 /s/\_\_\_\_\_

17 Lynette Swenson, RMR, CRR, CRC  
18 Federal Court Reporter

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