

PARTY POLARIZATION IN THE US CONGRESS

Member Replacement and Member Adaptation

Sean M. Theriault

ABSTRACT

Democrats and Republicans in the US Congress are as ideologically consistent and distinct as they have been at any point in the past three decades. Since 1973, the Senate has become 29 percent more polarized and House polarization has increased 47 percent. This investigation of party polarization finds that member adaptation accounts for one-third of the total party polarization in both the House and Senate. Member replacement accounts for the other two-thirds, the lion's share of which has been the replacement of moderate southern Democrats by conservative Republicans. Republicans in both chambers are polarizing more quickly than Democrats. If the Democratic senators have taken one step toward their ideological home, House Democrats have taken two steps, Senate Republicans three steps and House Republicans four steps.

KEY WORDS ■ Democrats ■ member adaptation ■ member replacement ■ party polarization ■ Republicans ■ US Congress

Introduction

The verbal assaults between the political parties in the United States now mirror the war between good and evil in professional wrestling. The antics in Congress over the past few years include three-hour roll-call votes, discussion of the 'nuclear option', charges of 'fruitcake' and the transformation of the Ways and Means library into a fortress by the panel's Democrats. As a bevy of media outlets dissect, analyze and denounce these 'legislative' maneuvers, the 'legislators' engage in their own form of hyperbole, threats and verbal flexing. Indeed, Hulk Hogan would be proud.

Political scientists have noted that the deteriorating relationship between the parties is linked to the growing party polarization in Congress. While they have not figured out if the former causes the latter, the latter causes the former, or that they are simply two manifestations of another larger trend, those studying party polarization in Congress have reached broad consensus on two issues. First, the political parties are now more polarized than they have been at any time in the last 30 years (Collie and Mason, 2000; Fiorina, 1999; Fleisher and Bond, 2000, 2004; Jacobson, 2000; Roberts and Smith, 2003; Stonecash et al., 2003). Second, this polarization is primarily brought about by new members (Bullock, 2000; Carson et al., 2004; Fleischer and Bond, 2000, 2003; Rohde, 1991; Stonecash et al., 2003).¹ When moderate members retire, lose, die or run for higher office, so the argument goes, they are replaced by more ideologically extreme members.

This article adds evidence to the first consensus. After surveying the positions of the major political parties in 1968, George Wallace, a third-party presidential candidate, famously remarked, 'There ain't a dime's worth of difference' between them. Thirty years later, the parties in Congress would be hard-pressed to be more different. In 1968, when Wallace made his acute observation, 60 percent of members were in the middle.² In 2004, the percentage of members in the middle third of the ideological continuum was more than halved to 25 percent. Over the same time period, the percentage of moderates in the Senate fell by more than one-third from 53 percent to 33 percent. Indeed, the congressional parties were so polarized in the 108th Congress (2003–4) that no Republican in the House was more liberal than the most conservative Democrat. In the Senate, only one Democrat, Zell Miller, was more conservative than the most liberal Republican.

This article questions the second consensus. While it presents evidence showing that the replacement of moderate members by more extreme members has definitely polarized the parties, this article suggests that member adaptation is also a real polarizing agent. *Adaptation* occurs when particular legislators become more conservative or liberal over the course of their career. In both the House and Senate, the polarizing effect of member adaptation accounts for one-third of the polarization between the parties since 1973.

In addition to evaluating these points of consensus, this article provides three contributions to the growing polarization literature. First, it brings the Senate squarely into the analysis. Polarization in the Senate almost perfectly reflects House polarization; nonetheless, with few exceptions, polarization studies have focused exclusively on the House.³ Second, this article considers not only the macro-divide between the parties, but also the micro-level changes occurring within each political party. While both parties in both chambers are closer to their ideological poles, Republicans in both chambers have been polarizing at a much faster rate. For the most part, the existing literature evaluates the macro-trends without rigorously analyzing the micro-level data. Third, this article evaluates polarization within a

broader context. The parties are between 16 and 62 percent more polarized now than they were in the 93rd Congress (1973–4). While there is still room for more divergence, it is unlikely that the future political parties will separate at the same rate as the current parties have. Few polarization studies place their results within a historical context.

These arguments are presented in sequential steps. Section I describes the polarization of the congressional parties over the last 32 years. Section II outlines the two underlying mechanisms – member adaptation and member replacement – leading to the polarizing. Section III describes the congress-to-congress individual member ideological changes that provide the analytical building blocks of the analysis. Finally, Section IV speculates about future party polarization by examining the current polarizing trends within a broader historical perspective.

I. The Polarized Congress

The polarization between the legislative parties is, perhaps, one of the most obvious and recognizable trends in Congress during the last 30 years. Because this polarization has been described effectively by a number of scholars (see, for example, Aldrich (1995), Coleman (1997), Collie and Mason (2000), Fiorina (1999), Fleisher and Bond (2000, 2004), Jacobson (2000), Roberts and Smith (2003), Rohde (1991), Sinclair (2000a) and Stonecash et al. (2003)), this section provides only the bare minimum to motivate the casual reader and to remind the forgetful reader.

When Wallace made his pithy comment, the parties were more ideologically heterogeneous and externally less ideologically distinct. Figures 1 (the House) and 2 (the Senate) show these trends. The light (dark) gray area represents the spread of the Democratic (Republican) party one standard deviation above and below the mean. The lines running through the gray areas are the respective parties' means.⁴ Both figures show essentially the same pattern: a drastic separation between and homogenization of the parties from the 1970s to the 2000s. As indicated by the high correlation between them (0.986; $p = 0.00$), the House and Senate have polarized similarly over the same period. Although the polarization within any one Congress is subject to a whole set of idiosyncrasies, the overall trend is clear – Democrats and Republicans in Congress are becoming less and less alike.

This diverging trend is not a function of the Poole–Rosenthal DW–NOMINATE scores. Different scholars using different methods show the same basic pattern with different roll-call summary scores: party votes (Coleman, 1997; Stonecash et al., 2003), party unity scores (Coleman, 1997; Rohde, 1991; Stonecash et al., 2003), Americans for Democratic Action (ADA) scores (Brewer et al., 2002; Stonecash et al., 2003), American Conservative Union (ACU) scores (Collie and Mason, 2000), and a mixture of ADA and ACU scores (Fleisher and Bond, 2000). Shipan and Lowry (2001) even

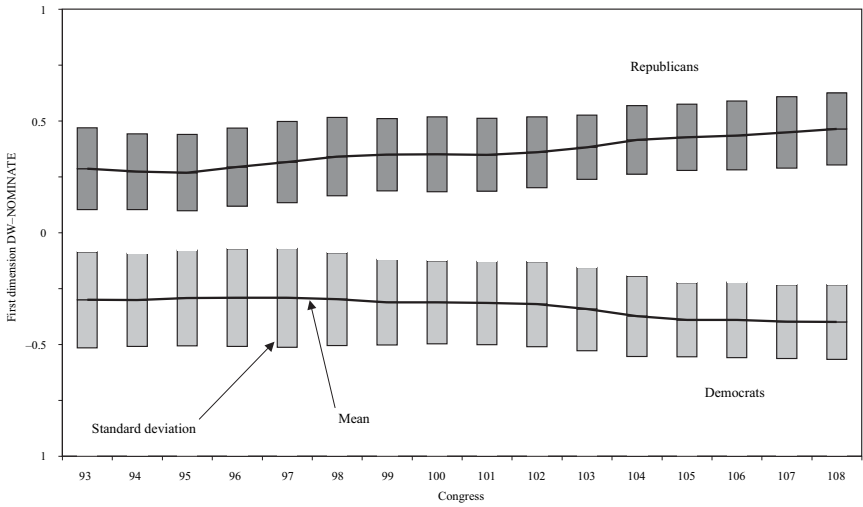


Figure 1. Party polarization in the US House, 93rd to 108th Congresses (1973–2004)

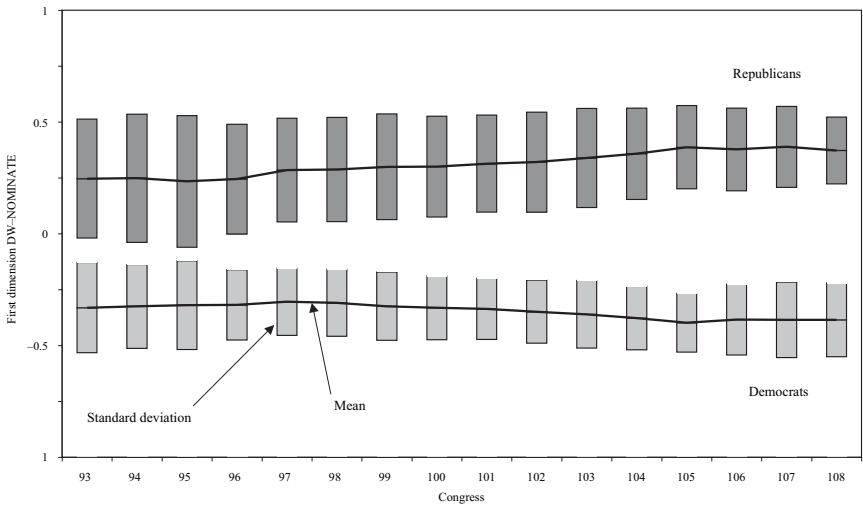


Figure 2. Party polarization in the US Senate, 93rd to 108th Congresses (1973–2004)

show how the parties have diverged in a particular policy area. The overwhelming evidence suggests that, independent of the specific data analyzed, legislators over the past 32 years have raced to their partisan homes.

Although both parties are polarizing, they are doing so at different rates. The Republicans are polarizing faster in both chambers. The Republican Party in the House has become 62 percent more polarized over the last 32

years, whereas the House Democrats have become 33 percent more polarized. The parties in the Senate have not polarized as much as the House. Democratic senators are only 16 percent more polarized where their Republican colleagues are 51 percent more polarized.

II. Member Adaptation and Member Replacement

The polarization studies, for the most part, ignore the individual member congress-to-congress changes in presenting the macro-trend of the two parties' ideological separation. Prior to the polarization studies, however, political scientists studied these individual member changes to explain divergent legislative outcomes. Scholars asked, for example, why the liberals' prized open housing failed throughout the 1960s only to pass during the least liberal Congress of the decade? Did one-time opponents become supporters (conversion)⁵ or did new supporters take over for retired or defeated opponents (replacement)? As the parties separated, however, the macro-polarization research swamped this analysis based on micro-level member congress-to-congress changes. The focus on individual changes as developed by this 1970s' and 1980s' literature can lay the groundwork for the explanations of the parties' divergence in Congress. The micro-level mechanisms of polarization are introduced through two vignettes.

In 1976, Gale McGee, Chairman of the Post Office and Civil Service, sought a fourth term for his Wyoming Senate seat. McGee was legendary in using his committee power to send money back to Wyoming. His opponent, Malcolm Wallop, turned McGee's position into a liability when he asked voters, 'How efficient do you think the postal service is?' With that question as the cornerstone of his campaign, Wallop, a pro-environment, pro-choice Republican defeated McGee. In his first Congress, Wallop had an ideological score of 0.42, placing him in the middle third of all Republicans. As his career progressed, however, his very conservative military and foreign policy views prevailed, moving him to the extreme right wing of the Republican Party. By the time he retired, Wallop had a 0.78 ideology score, making him the second most conservative member of the Senate. Wallop's career adaptation score was the third largest in the Senate over the last 32 years.

Members, upon being first elected to Congress, may have initially voted more moderately. Over the course of their careers, however, their records may have become more and more extreme. In explaining the timing of policy adoptions, Asher and Weisberg (1978: 393-4), Brady and Sinclair (1984), Burstein (1978, 1980) and Jones (1974) find small, but pervasive, member conversions. While earlier scholars of vote changing may have pegged conversions as the explanation, the more recent studies of polarization downplay the role of adaptation. Fleisher and Bond (2004: 19) find that one-tenth of the depletion of ideological moderates in the 1960s and 1970s was brought

about by adaptation. Although that proportion rises in the 1980s and 1990s, they claim that it is still dominated by replacement. In fact, the inventors of DW-NOMINATE, Poole and Rosenthal (1997: 74), suggest that members vote consistently throughout their careers: 'Contemporary members of Congress do not adapt their positions during their careers but simply enter and maintain a fixed position until they die, retire, or are defeated.'

Next door to Wyoming and two years after Wallop's retirement, in 1994, Helen Chenoweth challenged incumbent Larry LaRocco for his western Idaho seat in the House. In two terms, LaRocco had built a fairly moderate voting record, scoring a -0.25 in his second term (the House Democratic average was -0.35). In a highly contested Republican primary, Chenoweth, who demonstrated her conservative credentials by holding an 'endangered salmon bake' fundraiser, came out on top. She went on to defeat LaRocco in the general election by painting him as a liberal lieutenant in Clinton's 'War on the West'. In her first Congress, Chenoweth, with a 0.84 ideological score, was the fifth most conservative representative in the House. The difference between LaRocco and Chenoweth produced the fourth biggest ideological change caused by the historic 1994 elections.

The LaRocco-Chenoweth replacement is one of three categories that comprise the universe of member replacements. First, as in the case with LaRocco, the member can be defeated by the opposite party in the general election (incumbent defeat). Second, member retirement (or defeat in the primary) can cause a switch in the party representing a particular district (cross-party replacement). Third, the member can be replaced by someone from her own party (same-party replacement).

It is the first of these categories that has attracted the bulk of scholarly attention. Writing even before the Watergate Babies (1974 liberal Democrats), Newt's Lieutenants (1994 conservative Republicans) and the Bush Babies (2002 conservative Republicans), Burnham (1970) followed by a long list of others including Brady and Lynn (1973), Ginsberg (1973, 1976) and Brady (1978, 1991) attribute sudden swings in congressional policy-making to massive election turnover.

Member replacement need not only happen in volatile elections. According to Clausen (1973) and Kingdon (1989), the changes brought about by member replacement can be more gradual. A slightly more conservative Republican may replace a more moderate Republican, or a more reliable Democrat can replace a maverick Republican. In other words, not all replacements have happened as a result of wholesale electoral shifts like 1974 or 1994.

Fundamentally, member adaptations like Wallop's and/or member replacements like LaRocco to Chenoweth's have increasingly separated the political parties in Congress. No matter the particular underlying reason or reasons, it is the numerous adaptations and replacements over the years that decimated the ideological middle in Congress. Individual member adaptations and replacements can occur at the same time in different legislative seats.

Some members may be becoming more ideological at the same time as more extreme members replace more moderate members. Indeed, simultaneous member adaptation and member replacement is perhaps the most compelling and pervasive finding of those studying congress-to-congress changes (Asher and Weissberg, 1978; Brady and Sinclair, 1984; Sinclair, 1977, 1982).

III. Member-Level Ideological Congress-to-Congress Changes

The units of analysis throughout this article are the congress-to-congress changes in polarization scores within legislative seats like Wyoming's Senate seat or Idaho's First District House seat. The seat-to-seat changes in polarization scores are determined by comparing the congress-to-congress changes in Republicans' DW-NOMINATE scores and the product of one minus and the Democrats' scores, so that high numbers in both parties are indicative of highly polarized members. The simplicity of the previous sentences belies the difficulty in making these comparisons. Deaths, resignations and party switching complicate the analysis. To simplify and to systematize the process, the members' scores elected during a particular general election are compared to the members' scores elected during the previous general election; special elections are ignored.⁶ In the House, reapportionment and redistricting exacerbate the difficulty of matching members across congresses. Frequently, political scientists throw away the elections that happen immediately after reapportionment and redistricting. I develop an algorithm to rescue the preponderance of the data from these congresses.⁷ In total, I analyze 6819 congress-to-congress ideological changes in the House and 1586 in the Senate.⁸

In 1997, Poole and Rosenthal presented a procedure to compute member ideological scores that could be compared across congresses (they have updated their estimates at the conclusion of every congress). These procedures take into consideration all non-consensual votes across all congresses.⁹ To ensure that the findings are not dependent upon the particular scores used, I supplement the House first dimension results with analyses based on both dimensions of the DW-NOMINATE scores,¹⁰ Americans for Democratic Action (ADA) scores and Turbo-ADA scores from the 93rd to the 105th Congresses (1973–96), when the Turbo-ADA scores were last calculated.¹¹ Groseclose used ADA scores to compute Turbo-ADA scores so that they, like DW-NOMINATE, could be directly comparable across congresses.

To flesh out the construction and interpretation of the polarization scores, I present the micro-level member-to-member changes for a particular state in a particular election. Kentucky in the 104th Congress was not chosen because it was typical of the overall argument, but because in a small number of districts it produced all of the possible member-to-member changes (see Table 1). In the 1994 elections, Kentucky Districts 4, 5 and 6

Table 1. Polarization scores for Kentucky members in the 104th Congress

<i>District</i>	<i>103rd Congress member</i>	<i>Party</i>	<i>DW-NOM.</i>	<i>1994 outcome</i>	<i>Mechanism</i>	<i>104th Congress members</i>	<i>Party</i>	<i>DW-NOM.</i>	<i>Change in polarization score</i>
1	Tom Barlow	Dem.	-0.30	Defeated	Incumbent Defeat	Edward Whitfield	Rep.	0.37	0.07
2	William Natcher	Dem.	-0.33	Died	Cross Party Replacement	Ron Lewis	Rep.	0.51	0.18
3	Romano Mazzoli	Dem.	-0.21	Retired	Same Party Replacement	Mike Ward	Dem.	-0.35	0.14
4	Jim Bunning	Rep.	0.55	Reelected	Adaptation	Jim Bunning	Rep.	0.55	0.00
5	Harold Rogers	Rep.	0.38	Reelected	Adaptation	Harold Rogers	Rep.	0.40	0.02
6	Scotty Baesler	Dem.	-0.15	Reelected	Adaptation	Scotty Baesler	Dem.	-0.15	0.00
Kentucky Polarization Score			0.32					0.39	0.07

re-elected their incumbents. Jim Bunning's and Scotty Baesler's ideological scores from the 104th Congress were the same as their ideology scores from the 103rd Congress, so the change in polarization score brought about by the 1994 elections was 0.00 in these two districts. On the other hand, Harold Rogers became more conservative in the 104th Congress than he was in the 103rd Congress. Because he was a Republican and a more conservative ideological score polarizes the parties, his change in polarization score for the 104th Congress is 0.02. Each of the comparisons from these three districts is classified as member adaptation.

District 3 elected Democrat Mike Ward to the open seat caused by the retirement of Democrat Romano Mazzoli. Because a Democrat replaced a Democrat, the transition is categorized as same-party replacement. Ward's ideological score was more liberal than Mazzoli's, so the change in polarization score for Kentucky's Third District in the 104th Congress was 0.14. In District 2, Ron Lewis was elected to the seat that William Natcher held at the beginning of the 103rd Congress. Because Lewis, a Republican, replaced a Democrat, the transition is coded as cross-party replacement. In District 1, Edward Whitfield defeated incumbent Tom Barlow in the general election. This transition is coded as incumbent defeat. These transitions illustrate why the Democrats' scores need to be multiplied by -1 prior to determining the change in polarization. Because both Republicans were more conservative than the Democrats were liberal, the change in polarization scores for both districts is positive. The polarization score for Kentucky in the 104th Congress was 0.39, which was 0.07 greater than it was in the 103rd Congress.

Table 2 gives the polarization scores over the last 16 congresses for both the Senate and the House. According to the Senate scores in column A, six congressional elections produced Congresses that were more moderate than their predecessors. Just two House elections yielded less polarized Congresses (1974 and 1976). The scores generally ring true with conventional wisdom. The three most polarizing House elections in the last 32 years were 1994 (the Republican Revolution), 1992 (the Redistricting Revolution) and 1984 (Reagan's re-election). The average change in polarization scores for each seat is less than 1 percent per congress, but when this 0.92 percentage point change in the House and 0.69 percentage point change in the Senate are aggregated across all 435 House seats and 100 Senate seats over the last 16 congresses, the unquestionable trend present in Figures 1 and 2 takes shape.

Columns C, D and E show the polarization scores using different roll-call summary scores. Column C takes into consideration both the first and second dimensions of the DW-NOMINATE scores.¹² Column D presents the ADA scores and column E the Turbo-ADA scores. The overall results are not dependent upon either the votes used (ADA versus NOMINATE) or the procedure used to estimate them (first dimension versus both dimensions and Turbo-ADA versus ADA). The correlations between the polarization scores are high;¹³ the correlations of the disaggregated individual

Table 2. Polarization by Congress for both the House and Senate, 93rd to 108th Congresses (1973–2004)

<i>Election year</i>	<i>Congress</i>	(A)	(B)	(C)	(D)	(E)	
		<i>Senate</i>	<i>House of Representatives</i>				
		DW–NOMINATE	DW–NOMINATE				
		<i>First dimension</i>	<i>First dimension</i>	<i>Both dimensions</i>	<i>ADA</i>	<i>Turbo-ADA</i>	
1972	93rd	3.08	0.82	-3.20	1.61	1.81	
1974	94th	0.58	-0.13	-0.04	0.20	0.47	
1976	95th	-0.92	-0.46	-2.29	-5.88	-1.41	
1978	96th	-0.17	0.84	0.50	7.49	2.85	
1980	97th	0.50	0.82	0.42	1.76	1.61	
1982	98th	-0.14	1.32	2.89	4.85	3.31	
1984	99th	1.12	1.60	1.99	-0.33	0.77	
1986	100th	0.77	0.21	-0.01	2.51	0.92	
1988	101st	1.00	0.33	0.08	-1.48	-1.18	
1990	102nd	0.88	0.51	0.30	0.05	1.09	
1992	103rd	1.60	1.84	4.50	1.87	1.55	
1994	104th	1.60	3.81	12.03	5.99	4.91	
1996	105th	2.59	1.19	0.43	0.98	1.04	
1998	106th	-0.22	0.51				
2000	107th	-0.14	0.92				
2002	108th	-1.15	0.74				
Total		10.99	14.85	17.59	19.61	17.74	

change scores are even higher and more statistically significant.¹⁴ Owing to the similarity between columns B–E in Table 2, I present only the data for the first dimension DW–NOMINATE scores throughout the remainder of the article.

Member Adaptation

Since 1973, member adaptation is responsible for 38 percent of the polarization between the parties in the Senate and 35 percent in the House (see Table 3). When the polarization scores attributed to adaptation are broken down by party, we find that even though Democrats account for more adaptations in the Senate (53.1 percent) and House (59.0 percent), the Republicans have adapted more quickly in both the Senate (57.2 percent of the total adaptation polarization) and the House (51.6 percent of the total adaptation polarization). Adaptation was greatest for both chambers in the 1990s.

Four findings result from a more thorough investigation of the individual member adaptations. First, the actual individual member adaptations are miniscule – in fact, they are a fraction of the overall averages. Whereas adaptation is responsible for around one-third of the total polarization, it accounts for 84 percent of the congress-to-congress pairings in the House

Table 3. Adaptation in the Senate and House, 93rd to 108th Congresses (1973–2004)

Election year	Congress	Senate			House of Representatives		
		Democrats	Republicans	Total	Democrats	Republicans	Total
1972	93rd	-0.11	0.00	-0.11	0.19	-0.04	0.15
1974	94th	-0.16	0.02	-0.14	0.17	0.05	0.23
1976	95th	-0.05	-0.04	-0.09	0.07	-0.03	0.04
1978	96th	0.02	0.08	0.10	0.09	0.01	0.09
1980	97th	0.09	0.10	0.19	0.12	0.12	0.24
1982	98th	0.09	0.16	0.25	0.19	0.35	0.55
1984	99th	0.13	0.16	0.28	0.21	0.20	0.41
1986	100th	0.17	0.19	0.35	0.21	0.10	0.30
1988	101st	0.15	0.21	0.36	0.21	0.18	0.39
1990	102nd	0.19	0.22	0.41	0.23	0.14	0.37
1992	103rd	0.25	0.19	0.44	0.20	0.12	0.32
1994	104th	0.21	0.54	0.75	0.13	0.32	0.46
1996	105th	0.17	0.21	0.37	0.13	0.38	0.51
1998	106th	0.13	0.15	0.27	0.13	0.21	0.34
2000	107th	0.35	0.12	0.48	0.13	0.39	0.52
2002	108th	0.17	0.09	0.26	0.13	0.19	0.31
Total		1.79	2.39	4.18	2.54	2.70	5.23
% of polarization		16.3%	21.7%	38.0%	17.1%	18.2%	35.3%

and 87 percent of the pairings in the Senate. Over the entire course of their congressional careers, however, members and senators show less stability. The average change, including both moderating and more ideological changes for members (*senators*) who served at least 10 years, is 0.10 (0.09). The average adaptation score to more extreme ideological positions, including the members (*senators*) who become more moderate, is 0.04 (0.05). The 10 biggest movers in the House and Senate, who served at least 10 years, are listed in Table 4. Table 4 includes the ADA ranges as well to verify that the adaptations are not a function of the DW–NOMINATE scores. In fact, the ranges of ADA scores are much larger than the DW–NOMINATE ranges, suggesting that, if anything, DW–NOMINATE's algorithm underestimates adaptations. All 10 adapted in a polarizing way, though more than a few members and senators became more moderate over the course of their careers.

Second, in contrast to Fleisher and Bond (2004), who find that only 10 percent of former moderates become ideologues, I find that 39.5 percent (90 out of 228) of House members and 31.0 percent (18 out of 58) of senators left the ideological middle through adaptations. These polarizing adaptations are in stark contrast to those members who become moderate after beginning their careers in the ideological poles. Only 13 (20) percent of House members (*senators*) left the ideological regions of the continuum by voting more moderately.

Third, moderates in the House are more likely to become more ideological than members who start out ideological. Moderate Republicans, especially

Table 4. Legislators with the highest adaptation scores

Rank	Name	Party	Years in Congress	DW-NOMINATE			ADA scores				
				Beginning ideology	Ending ideology	Total change	Min.	Year	Max.	Year	Total change
<i>The House of Representatives</i>											
1.	Harold Gross	Rep.	1945–75	0.40	1.56	1.16	0	(1963)	55	(1954)	55
2.	Ron Paul	Rep.	1975–84, 1997–present	0.64	1.36	0.72	10	(1999)	60	(2003)	50
3.	Frank Pallone	Dem.	1989–present	–0.15	–0.59	0.44	60	(1991)	100	(2002)	40
4.	Jim Sensenbrenner	Rep.	1979–present	0.41	0.80	0.39	0	(2002)	25	(1982)	25
5.	Durward Hall	Rep.	1961–72	0.61	1.00	0.39	0	(1972)	8	(1971)	8
5.	Jim McDermott	Dem.	1989–present	–0.55	–0.88	0.33	55	(1999)	100	(2003)	45
6.	Jerome Waldie	Dem.	1965–74	–0.36	–0.69	0.33	70	(1974)	96	(1970)	26
7.	Ron Marlenee	Rep.	1977–92	0.25	0.56	0.31	0	(1986)	25	(1978)	25
8.	Joe Hefley	Rep.	1987–present	0.44	0.74	0.30	0	(2002)	20	(1992)	20
9.	George Hansen	Rep.	1965–68, 1975–84	0.49	0.79	0.30	0	(1984)	7	(1967)	7
10.	Richard Ottinger	Dem.	1965–84	–0.29	–0.59	0.30	80	(1978)	100	(1981)	20
<i>The Senate</i>											
1.	James Fulbright	Dem.	1945–74	–0.10	–0.55	–0.35	14	(1968)	85	(1971)	71
2.	Larry Pressler	Rep.	1979–97	0.04	0.44	0.35	0	(1995)	45	(1984)	45
3.	Malcolm Wallop	Rep.	1977–95	0.42	0.78	0.39	0	(1989)	25	(1980)	25
4.	John Williams	Rep.	1947–70	0.52	0.82	–0.35	0	(1962)	25	(1950)	25
5.	Wayne Morse	Dem.	1947–70	–0.83	–1.07	0.32	75	(1951)	100	(1962)	25
6.	Stephen Young	Dem.	1959–70	–0.48	–0.71	0.30	77	(1967)	100	(1961)	23
7.	John Melcher	Dem.	1977–88	–0.18	–0.40	0.27	45	(1978)	90	(1986)	45
8.	Ted Stevens	Rep.	1968–present	0.08	0.27	0.27	5	(2000)	52	(1974)	47
9.	Bob Graham	Dem.	1987–2004	–0.20	–0.38	0.23	50	(1989)	100	(2001)	50
10.	Al Gore, Sr.	Dem.	1953–70	–0.33	–0.51	–0.22	43	(1968)	92	(1956)	49

those serving after Reagan's first election in 1980, moved more than 50 percent faster toward the conservative pole than conservative Republicans. While Democrats as a whole moved less than Republicans, moderate Democrats moved three times faster than liberal Democrats. These partisan and ideological findings hold up in multivariate analysis controlling for seniority and electoral vulnerability, which are both statistically significant but substantively small. In the Senate, Democrats and Republicans, moderates and extremists, all moved more regularly together.

Fourth, the larger trend of the twentieth century in congressional politics is for the parties to converge. The highly polarized parties at the end of the 1890s gave way to the mildly polarized parties of the New Deal. As prosperity returned to the American economy and peace returned to the rest of the world, the 'end of ideology' was forecast for Washington. Between the 1950s and the 1970s, the polarization caused by replacement was almost perfectly offset by the convergence caused by moderating adaptations. It was only in the 1970s when adaptations became net polarizing that the political parties in Congress started down the road to their ideological poles.

Although the individual congress-to-congress scores for the most part are quite small, the successive tiny steps, however small, that members have taken away from the ideological middle have had a profound effect on the parties' divergence.

Member Replacement

Member replacement, while only accounting for 15 percent of the congress-to-congress comparisons, is responsible for around two-thirds of the polarization in both chambers. Table 5 shows that the lion's share of the Senate replacement polarization comes from incumbent defeat. As with adaptation, same-party replacements in the Republican Party have polarized the parties more than same-party replacements in the Democratic Party up until the 2002 elections, during which Senators Jesse Helms, Strom Thurmond, Frank Murkowski, Phil Gramm and Bob Smith were all replaced by more moderate Republicans.

The numbers in Table 5 highlight an important trend. The largest ideological and partisan shifts in Congress in the post-World War II era have occurred within the South (Bullock, 2000; Rohde, 1991; Stonecash et al., 2003). Whereas the Democrats occupied two-thirds of the southern Senate seats in the early 1970s, within three decades the parties' fortunes in the South perfectly reversed.¹⁵ The switch from southern Democrats to conservative Republicans also accounts for just less than half (45.2 percent) of the total polarization. All the other replacement categories accounted for 16.8 percent of the total Senate polarization over the last 32 years.

Table 6 gives the comparable numbers for the House. Republicans adapted about twice as quickly as Democrats. The regional disparity is also great in the House. Whereas Republicans only filled 34 southern seats (31.7

Table 5. Replacement in the Senate, 93rd to 108th Congresses (1973–2004)

<i>Election year</i>	<i>Congress</i>	<i>Same-party</i>		<i>Cross-party</i>		<i>Incumbent defeat</i>		<i>Total</i>
		<i>Dem.</i>	<i>Rep.</i>	<i>SDem to GOP</i>	<i>The rest</i>	<i>SDem to GOP</i>	<i>The rest</i>	
1972	93rd	0.10	0.08	0.62	1.00	0.50	0.89	3.19
1974	94th	-0.01	0.00	0.00	0.48	0.00	0.24	0.72
1976	95th	-0.32	-0.17	0.00	-1.36	0.00	1.01	-0.83
1978	96th	0.59	-0.31	0.38	-1.13	0.00	0.22	-0.26
1980	97th	-0.26	0.32	0.30	0.15	0.77	-0.97	0.31
1982	98th	0.00	-0.06	0.00	-0.60	0.00	0.28	-0.38
1984	99th	0.06	0.11	0.00	-0.02	0.00	0.69	0.84
1986	100th	0.07	-0.27	0.00	0.50	0.00	0.12	0.42
1988	101st	0.08	-0.15	0.69	-0.09	0.00	0.10	0.64
1990	102nd	-0.02	0.02	0.00	0.00	0.00	0.46	0.46
1992	103rd	0.03	-0.23	0.00	0.39	0.54	0.44	1.16
1994	104th	0.00	0.56	0.00	0.10	0.31	-0.12	0.85
1996	105th	0.10	1.03	0.54	0.57	0.09	-0.10	2.22
1998	106th	-0.18	-0.04	0.00	0.08	0.00	-0.35	-0.49
2000	107th	-0.05	-0.05	0.00	-0.60	0.07	0.01	-0.61
2002	108th	0.24	-1.08	0.00	-0.57	0.17	-0.18	-1.41
Total		0.43	-0.23	2.52	-1.10	2.45	2.75	6.81
% of polarization		3.9%	n/a	22.9%	n/a	22.3%	25.0%	62.0%

Table 6. Replacement in the House, 93rd to 108th Congresses (1973–2004)

<i>Election year</i>	<i>Congress</i>	<i>Same-party</i>		<i>Cross-party</i>		<i>Incumbent defeat</i>		<i>Total</i>
		<i>Dem.</i>	<i>Rep.</i>	<i>SDem to GOP</i>	<i>The rest</i>	<i>SDem to GOP</i>	<i>The rest</i>	
1972	93rd	0.56	-0.23	0.57	-0.01	0.04	-0.26	0.67
1974	94th	0.12	-0.39	0.30	0.34	0.00	-0.72	-0.36
1976	95th	-0.31	0.14	0.07	-0.05	0.00	-0.34	-0.49
1978	96th	-0.17	0.18	0.27	0.20	0.18	0.09	0.75
1980	97th	0.06	0.36	0.23	0.08	0.15	-0.30	0.58
1982	98th	0.22	0.10	0.04	0.39	0.00	0.00	0.77
1984	99th	0.21	0.09	0.39	0.00	0.66	-0.17	1.19
1986	100th	0.07	0.22	0.00	-0.22	0.00	-0.17	-0.09
1988	101st	0.00	0.05	0.19	-0.16	0.05	-0.21	-0.06
1990	102nd	0.26	0.08	0.00	-0.16	0.07	-0.11	0.14
1992	103rd	0.31	0.38	0.23	0.28	0.35	-0.03	1.52
1994	104th	-0.04	0.50	0.58	0.92	0.50	0.89	3.35
1996	105th	-0.07	0.16	0.57	0.02	0.00	0.04	0.71
1998	106th	0.08	0.06	0.02	-0.02	0.00	0.02	0.17
2000	107th	0.01	0.28	0.16	0.00	0.00	-0.06	0.40
2002	108th	-0.03	0.32	0.00	-0.06	0.01	0.18	0.43
Total		1.28	2.32	3.63	1.56	2.02	-1.16	9.65
% of polarization		8.6%	15.6%	24.5%	10.5%	13.6%	-7.8%	65.0%

percent) in the 93rd Congress (1973–4), they held 85 seats (59.9 percent) in the 108th Congress (2003–4). As southern Democrats, the bulk of whom were in the middle third of the ideological continuum, died, lost, retired or otherwise vacated their seat, they have been, for the most part, replaced by conservative Republicans. Quite simply, when extremists replaced moderates, the ideological middle disappeared and the parties diverged.¹⁶

The loss of southern Democrats by both cross-party replacement and incumbent defeat accounts for more than half of the total polarization brought on by replacement. In the House, 58.5 percent of the replacement polarization and 48.1 percent of the total polarization results from the replacement of moderate southern Democrats by conservative Republicans.

VI. Discussion and Conclusion

The analysis in this article analyzes the micro-level changes in members' ideological scores to appreciate the macro-level divergence of the political parties in Congress since the 1970s. In so doing, I add evidence to confirm the first consensus reached by the polarization studies. The political parties in Congress are, indeed, more polarized now than they were in the early 1970s. I find evidence, however, that contradicts the second consensus. Without a doubt, the replacement of moderate members by more ideological members has driven the parties apart. But so, too, has member adaptation, even including those legislators who adapt to more moderate ideologies. More than one-third of the polarization in both the House and the Senate results from the adaptation of members to the ideological poles. As both parties move closer and closer to their ideological homes, Republicans in the Senate have moved three times faster than Democrats, and their House colleagues have moved just under twice as fast as House Democrats.

Although Figures 1 and 2 show a systematic trend toward polarization, are they simply showing a magnification of a miniscule congressional trend? After all, an average change of less than 1 percent per congress in every seat is negligible. Am I (and the other scholars studying polarization) making a mountain out of a molehill? Has this study contributed to an intense examination of a trend that only appears big when its historical context is ignored? In other words, are the continuous replacements and adaptations like the grains of sand comprising a molehill or are they the big boulders comprising a mountain?

One way to ascertain the magnitude of the trend is to compare the last Congress in this study (the 108th Congress in 1999–2000) to the first one (the 93rd Congress in 1973–4). In the 93rd Congress, the average Democrat was separated from the average Republican by about 3 standard deviations in the House and 2.5 standard deviations in the Senate. As a result of both polarization and homogenization, the average party members are now separated by more than 5 standard deviations in the House and almost 5 standard deviations in the Senate.

In the 93rd Congress, 252 members and 40 senators had ideology scores in between the most liberal Republican and the most conservative Democrat in their respective chambers. In the 108th Congress, not only was the most liberal Republican, Jim Leach, more conservative than the most conservative Democrat, Ken Lucas, but they were separated by 0.151, which is 7.6 percent of the Poole–Rosenthal score. In the Senate, Ben Nelson, the second most conservative Democrat, was 0.104 away from Olympia Snowe, the second most liberal Republican. This difference is 6.2 percent of the total allowable difference on the Poole–Rosenthal scale.

Although the political parties are as much as 62 percent more polarized now than they were in the 93rd Congress, it is unlikely that the parties will continue to polarize at the rate that they have since the 1970s. Several trends are dwindling if, in fact, they have not reached their natural conclusions. First, the majority of the rules in the House are already restrictive, so closed and modified rules cannot have as large an effect as they have had in the past. Second, the number of truly competitive races in the House continues to shrink. As a result, members on the ideological poles have already captured many seats. Third, it is mathematically impossible for as many moderate southern white Democrats to leave Congress as left between the 93rd and 108th Congresses.

In short, party polarization in Congress is real and significant; it is not likely that we have seen the end of this trend, though it is likely that we have already seen the most dramatic changes in the trend. With a more comprehensive understanding of the mechanisms of polarization, we can more compellingly and more exhaustively examine the causes of polarization.

Notes

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- 1 The one study that contradicts this consensus is that of Roberts and Smith (2003), who found that member adaptation accounts for between 50 and 82 percent of the polarization of the parties during their respective polarizing phases (the 98th to 100th Congresses for Democrats and the 102nd to 104th Congresses for Republicans). Their analysis is unlike that of any of the scholars who form the first consensus. They examine only selected roll-call votes during relatively small time intervals.
- 2 Throughout this article, I analyze Poole–Rosenthal (1997) DW–NOMINATE scores. Roughly, they exist on a -1 (liberal) to $+1$ (conservative) scale. If we divide the continuum into three equal parts, the scores in the ideological middle are from -0.33 to $+0.33$.

- 3 Fleisher and Bond (2004) is one good exception.
- 4 Jacobson (2000: Figure 2–2) shows that for this time period the mean and the median are almost identical. Unlike the median, however, the mean's second moment can be calculated.
- 5 Gary Jacobson convinced me that the correct term for the ideological movement for members is 'adaptation'. 'Conversion', although appropriate for these studies, suggests that it is an all-at-once change, whereas adaptation suggests that members gradually change their ideologies over time.
- 6 For example, in October 1995, Mel Reynolds, who had admitted to a sexual relationship with an underage campaign worker, resigned his seat in the House. Three months later, Jesse Jackson Jr. won the right to complete Reynolds' term. In November 1996, Jackson won re-election to the 105th Congress. The comparison for Jackson's score in the 105th Congress is Reynolds' score from the 104th Congress, even though the transition happened midway through the 104th Congress. All other intra-congress changes are handled in the same manner.
- 7 First, when incumbents ran for re-election in a year ending in '2' (i.e. 1972, 1982 and 1992), they were matched up with their districts from years ending in '0' (i.e. 1970, 1980 and 1990) unless they lost in an incumbent-versus-incumbent match-up, in which the '2' year comparison is to the '0' year incumbent who won. Second, if after matching all the incumbent re-election efforts only one district in a particular state from the '2' year and the '0' year remained unmatched, I paired them even if the unmatched '2' year was in a different part of the state than the '0' year. Although this step does not represent a true adaptation or replacement for the constituents, it does confine these ideological swings to a particular state. Given that redistricting happens at the state level, it seems that capturing some of these data in this manner is preferable to deleting them. Fourth, if more than one district from both the '0' year and '2' year remained, I matched up the districts by comparing the old lines to the new lines. When no obvious match-up existed, which was rare, I deleted the districts from the analysis. As a consequence of reapportionment and redistricting, relatively few districts went unmatched (12 in 1972, 17 in 1982 and 22 in 1992) and almost all of them included states that either lost or gained seats in reapportionment. Although the states have marginally shifted their districts' lines mid-census, California, in 1974, was the only state to adopt radically different lines. Tracing the antecedent districts in these mid-census redistricting states is easier because the total number of the states' seats does not change. Even though complicated and, one could argue, inadequate methods were used to rescue these data, the proceeding analysis would not have drastically changed if the redistricting years were deleted. The same trends are visible and the same conclusions are reached.
- 8 Over the 16 congresses, I deleted 141 House cases (2.03 percent): 51 due to redistricting and 90 because an ideological score could not be computed for one of the members in the comparison. I deleted 14 Senate cases (0.88 percent): 7 because an ideological score for one of the members could not be computed and 7 because they involved third-party members.
- 9 From Keith Poole's webpage, <http://voteview.com/dwnl.htm>, accessed on 17 May 2005. Undeniably, cross-congress comparisons can be subject to stringent, and perhaps appropriate, criticisms. Differences in membership, differences in party leadership, differences in legislative agenda, and differences in legislative procedures can all cast doubt on the reliability of cross-congress comparisons.

- Even with their faults, these scores provide the most effective avenue for analyzing across-congress ideological change. Perhaps more troubling, Poole and Rosenthal restrict an individual member's score to change linearly over the course of her career. They maintain that 'higher polynomials in time did not appreciably increase the fit' of the ideological score compositions. This parametric restriction affects the analysis in two ways. First, it smoothes out the adaptations. Second, it will necessarily decrease the overall effect of adaptations because it limits it to a linear trend. Over entire careers, through the aggregation of 16 congresses, however, the distortion of this linear assumption should be minimized. Because of these implications, member adaptations are necessarily attenuated, which necessarily understates the results for member adaptations.
- 10 With the collapse of the second dimension in the later half of the post-World War II era, it could be that party separation that once existed on two dimensions has collapsed to show more separation on the first dimension (Poole and Rosenthal, 1997). Keith Poole and Eric Schickler were very helpful in bringing this potential problem to my attention and helping me resolve it. Lowry and Shipan (2002) suggest that this might make Poole–Rosenthal scores inadequate for studying this problem.
 - 11 ADA and Turbo-ADA scores were downloaded from Tim Groseclose's webpage, <http://faculty-gsb.stanford.edu/groseclose/homepage.htm>, accessed on 10 April 2003.
 - 12 To compute the polarization score for both dimensions, I computed the members' two-dimensional distance from the origin (0, 0) and subtracted the previous two-dimensional polarization score from it. To reflect the disproportionate importance of the first dimension scores (Poole and Rosenthal, 1997), the first dimension is weighted double compared to the second dimension scores. This weighting had only a marginal impact on the individual scores and no substantive impact on the results.
 - 13 The first dimension DW–NOMINATE scores are correlated with both dimensions at 0.90 ($p = 0.00$), with ADA scores at 0.59 ($p = 0.03$) and Turbo-ADA scores at 0.79 ($p = 0.001$).
 - 14 The first dimension DW–NOMINATE scores are correlated with both dimensions of the DW–NOMINATE at 0.91 ($p = 0.00$), with the ADA scores at -0.78 ($p = 0.00$) and with the Turbo-ADA scores at -0.79 ($p = 0.00$).
 - 15 Data from Table 1.3 (p. 10) in Norman J. Ornstein, Thomas E. Mann and Michael J. Malbin's *Vital Statistics on Congress, 1999–2000* (Washington, DC: AEI Press).
 - 16 Unlike replacement, member adaptations in the South did not differ in any appreciable way from the rest of the country.

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SEAN M. THERIAULT is an Assistant Professor in the Department of Government at the University of Texas. He is the author of *Power of the People: Congressional Competition, Public Attention, and Voter Retribution*. His work has also appeared in the *Journal of Politics*, *Legislative Studies Quarterly* and *Social Science History*. ADDRESS: Department of Government, The University of Texas at Austin, 1 University Station A1800, Austin, TX 78712–0119, 512–232–7279, USA. [email: seant@mail.utexas.edu <http://www.la.utexas.edu/~seant/>]

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