of this difference reflects the largest negative difference in the series, −11 percent in the 65th Congress, when many indirectly elected senators were likely to have been shirking. But the difference is still significantly negative, at −1.66 percent, when computed only for Congresses after the 65th.

The same point is made in table 10.2. We regressed Senate abstention on House abstention, a constant, and a dummy variable that equals one for the directly elected Congresses, and zero otherwise. As seen in the table, abstention, after controlling for the level of abstention in the House, is 3.4 percent greater in directly elected Senates than in indirectly elected Senates.

We can only conjecture why direct election of the Senate sharply lowered turnout in the Senate relative to the House. The data suggest that when voters, rather than a state's legislators, are one's constituents, one spends more time at home and less in Washington. How much time one spends at home should be related to the safety of one's seat. If Senate races are generally more competitive than races for the House, senators could well wind up voting less than representatives, even if the Senate is a smaller body than the House. On the other hand, table 4.4 showed that House abstention is very weakly increasing in the safety of the seat. This observation does not provide an explanation for the shift brought about by direct election.

Summary

Our comparison of the House and Senate indicates some difficulties in testing theories of turnout. Although abstentions appear related to cost, closeness to one's constituency, and indifference throughout the history of Congress, the predictions concerning silent majorities and size effects are supported only for some historical periods. Explaining the anomalies is obviously a topic for future research, where more effort can be placed on finding controls—such as electoral margins and campaign contributions—that would create better natural experiments.

11
The Unidimensional Congress

The United States of America, and its Congress, is now entering its third century, with its original institutions modified but largely intact. Such stability, measured against the instability characteristic of most of the world, is truly remarkable.

Stability did not come easily. The Civil War suggests that the Constitution of 1787 was a failure, or at least far from the glorified success story that we ingested in high school. The watershed marked by the Civil War is echoed in our analysis of roll call voting. Prior to the war, as two-party systems arose and then collapsed, there were periods when a spatial model of voting failed to fit the data. In other words, the form of coalition on each roll call varied greatly. Another indication of instability is the fact that far greater changes in the individual positions of legislators occurred prior to the Civil War than in subsequent times.

After the Civil War, the modern party system arose, legislators slowed down in their movement, and the spatial model fit well. Legislators moved a little more than usual during the mass voting realignments of the 1890s and 1930s, but on the whole, the changes in mass voting behavior were reflected in Congress by changes in the location of new members in the space, not by a realignment of the space. A second dimension (as was the case a century earlier) was needed to handle the perturbation introduced by the race issue from the late 1930s to the 1970s, but the basic liberal/conservative configuration was maintained.

Because the low-dimensional spatial model fails to account for roll call voting only in the two periods when the two-party system collapsed, political parties appear to be the critical element in promoting stable voting alignments. Stable patterns of roll call voting are, however, more than just party-related. The many scatter diagrams and histograms of legislators' ideal points that are presented in this book demonstrate that there are very important distinctions within parties. The differences between an Arlen Specter or a Mark Hatfield, on the one hand, and a Phil Gramm or a Jesse Helms on the other, are visibly important to even casual observers of Washington politics. They often, as in the vote to confirm Robert Bork as a Supreme Court justice, or, as in the 1995 vote on a balanced-budget amendment, have a real impact on policy. Our scaling technique makes internal party distinctions in a rigorous manner and does so for all of American history.

Except for two periods of American history, when race was prominent on the agenda, whenever voting can be captured by the spatial model, a one-dimensional model does almost all the work. In large part, this is, as our examination of realign-

ment suggests, because policy objectives must be accomplished largely through the party system. While a balanced-budget amendment may fail when a Mark Hatfield defects, it would never have had a ghost of a chance without solid support from Republican senators. And feminist groups, in moving to align themselves with the Democratic party, have shown their understanding of the game.

After documenting, in chapters 3 to 5, the low-dimensional spatial character of congressional voting and, in particular, the move toward stability of voting patterns after the Civil War, we sought to confront the spatial model with alternative models of roll call voting. Chapter 6 discussed pocketbook voting on constituency interests. We gave constituency-interest models their best possible shot and found them inferior to the spatial model. In addition, we found only a marginal role for economic variables as explanations for voting on minimum wages, strip mining, food stamps, and railroad regulation; the major effects were from the D-NOMINATE spatial utilities. Moreover, as chapter 8 showed, the evaluation of senators and representatives by some major groups with economic interests—namely, labor unions and business and farm organizations—could also be accounted for by our spatial model. We did find a supplementary role for economic interests that was apparent in both the correlations between the voting "errors" of two senators from the same state and, in chapter 9, the tendency of minority members to support the position of the committee majority. We also showed how economic interests, even if they do not distort spatial patterns of voting, influence the mapping of economic issues onto the space.

In chapter 7, we looked at strategic voting as an alternative to the sincere or naïve spatial voting that is assumed in our estimations. One manifestation of strategic behavior, within the context of a one-dimensional model, might be both-ends-against-the-middle voting. We gave the both-ends-against-the-middle concept its best shot, and the spatial model easily withstood the challenge. As illustrated by Jesse Helms' position on minimum wages in 1990, a cantankerous conservative will, on occasion, vote with the liberals, but such out-of-character voting is too rare to be of concern. Moreover, one form of strategic voting—voting on binary-amendment agendas under complete information—is, as argued in chapter 2, fully consistent with spatial voting. The strategic votes will not bias our estimates of legislators' ideal points, but interpretation of roll call outcome coordinates will be affected. We examined the needles of strategic voting the literature has identified in the roll call haystack. Most of these well-known examples produced roll calls which fit the spatial model quite well.

The finding that the spatial model describes the pattern of roll call voting does not pin down the nature of policies produced by Congress. In chapter 4, we found that the average locations of winning outcomes were far more volatile than the average locations of legislators' ideal points. Winning outcomes are consistently pulled away from the congressional center and toward the mean location of the majority party. Party, rather than committees, appears to be the source of this policy distortion. In chapter 9, we found that throughout American history, committees had been representative of the views of the floor of Congress, with the exception of the Democratic contingent on a few committees since the late 1950s. The distinction between the period since the late 1950s and earlier times attests to the value of pursuing a long-term historical study. Much of the current political-economy approach to legislatures has been based on scholars' experience with the textbook Congresses of the 1960s and 1970s. Such a time span is too short for accumulating the stylized facts that need to be explained by

a theory of legislatures in general or of Congress in particular. The usefulness of th historical approach was also manifested in our discovery of chaos in a few Con gresses, such as the 32nd, where we found convincing examples that there is nothin that guarantees that a one- or two-dimensional model will fit the data. Similarly, whil our analysis of abstention in chapter 10 largely verified most predictions develope on the basis of the rational-choice theory of participation, the prediction that the ma jority side votes less was supported by only the most recent Congresses. Such a anomaly is indicative of the future research agenda that is opened by this book.

There are at least three further directions to follow. First, now that we have the ca pacity to extract the date of each roll call, we have the opportunity to improve, vastly the study of dynamics. One important topic in dynamics is learning: Do legislator learn their place in the space, in which case behavior will be more variable on earl votes, or do they arrive with prewired ideology? Another is the dynamics of spatia collapse: When and how do stable patterns of voting fall apart? When and how does new alignment emerge? A second important direction is to incorporate nonvoting int the spatial estimation. A third is to widen the spatial study of Congress to the stud of the larger society. This can be done, not only (as we show in our study of inter est groups) with newspapers and other sources that take positions but also with mas voting data; citizens have the opportunity to "rate" their representatives every tw years.

Epilogue: Congress in Its Third Century

Our study of Congress was restricted to the first 100 Congresses or two centuries o roll call voting. From the turn of the century until the mid-1970s, we have, with som interruptions, seen a decline in party polarization and a shrinking of the space. To ward the end of the period of decline in polarization, a sociologist told us about *Th End of Ideology* (Bell, 1961), and political scientists became focused on constituency service models (Cain, Ferejohn, and Fiorina, 1987).

In contrast, since we started our research collaboration, we have been convince that contemporary American politics is polarizing around a one-dimensional ideol ogy. Our first published essay related to congressional voting was titled "The Polar ization of American Politics" (1984); the work therein was based on a scaling of inter est-group ratings (see chapter 8 of this book), rather than on NOMINATE. It wa restricted to data that covered only the period from 1958 to 1980. Nonetheless, we were able to discern the increase in polarization in the 1970s and 1980s that we docu mented in chapter 4—we wrote that "support [coalition] interests . . . are more polar ized than ever" (Poole and Rosenthal, 1984, p. 1073). Shortly afterward, we began the work discussed in this book. In an unpublished work (Poole and Rosenthal, 1987b), which was titled "The Unidimensional Congress," our conclusion was based on data that covered the period from 1919 to 1984. Since 1984, the polarized, unidimensional character of Congress has become even more accentuated. The most recent Con gresses are highly unidimensional, very polarized, and fit the spatial model extremely well. Figure 11.1 shows the classification percentages in one and two dimensions fo the House of Representatives from W-NOMINATE, which was applied separately t each House over the 1887–1995 period (50th to 104th Houses).

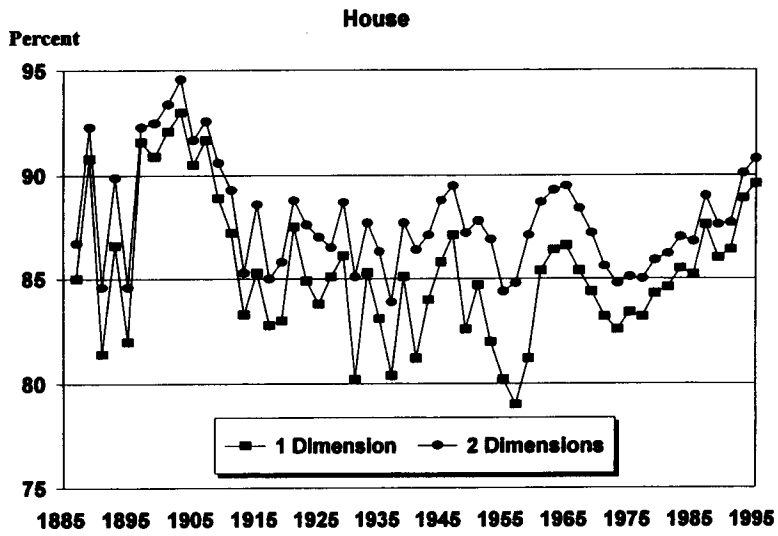
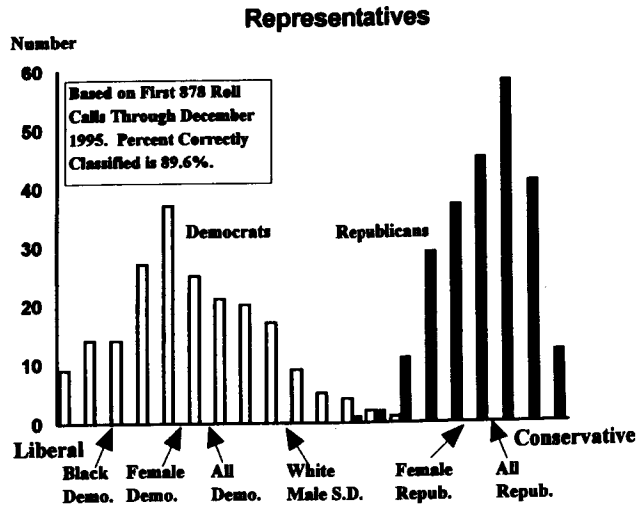


Figure 11.1. Percentage correctly classified by W-NOMINATE in one and two dimensions for the House (1885–1995). The second dimension is increasingly less important after the mid-1970s and only accounts for an additional 1 percent in the 103rd and 104th Houses.

Since the mid-1970s, voting has become increasingly unidimensional, and the percentage of the roll call choices accounted for by the first dimension has climbed steadily. In the 102nd House, the first dimension accounts for about 86 percent of the choices; in the 103rd House, 88 percent of the choices; and for the first session of the 104th House (1995), 90 percent of the choices. In addition, the importance of the second dimension is in a free fall. It peaked during Eisenhower's second term, when it accounted for an additional 6 percent of the choices; it then fell to around 3 percent during the mid-1960s and fell again to around 1.5 percent in the late 1970s and early 1980s. It now accounts for only an additional 1 percent.

In chapter 5 we discussed, at length, the fact that the second dimension, from the late–New Deal period until the early 1970s, was related to voting on race and picked up the division of the Democratic party into northern and southern blocs. What happened to the second dimension? The short answer is that the southern Democratic bloc has splintered into black and white subblocs. The black Democrats, both northern and southern, are at the far Left of the Democratic party, and the white male southern Democrats are at the far Right of the Democratic party. Voting on race-related issues has been absorbed by the first dimension.

Figure 11.2 shows histograms of the W-NOMINATE one-dimensional scaling of the first session of the 104th House in 1995. The figure shows the approximate locations of the means of various groups of the two parties. The polarization of the two political parties is obvious. The bars for Democrats and Republicans, indeed, show a high degree of polarization of the two parties; only three Democrats are to the right of the leftmost Republican, and two of these Democrats have switched to the Republican party. Nonetheless, the parties, particularly the Democrats, have important internal distinctions.



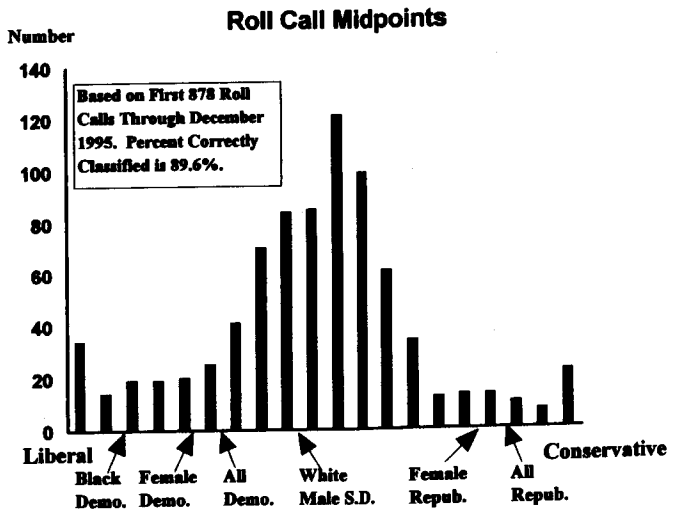


Figure 11.2. Histogram of the W-NOMINATE one-dimensional scaling of the first 878 calls in 1995 (the 104th House). The Democrats and Republicans are very polarized; only th Democrats are to the right of the leftmost Republican. The roll call midpoints are concentra among the conservative Democrats.

The congressional black caucus (there were only 2 black Republicans in the 10 House) anchors the far left, with female Democrats closeby. Reflecting a finding d umented in Poole and Zeigler (1985, chap. 5), women in both parties are to the lef their respective party means. The Republicans are far more tightly clustered, refle ing the fact that a large number of conservative freshmen—men and women—w elected in 1994 and the high degree of Republican-party unity during the voting

the Republicans' Contract with America. The distribution of the cutpoints is concentrated in the right wing of the Democratic party, near the mean position of the white male southern Democrats. Although the 1994 elections shifted the House Republican party to the right, the positions of the various subgroups of the Democratic party hardly changed from their locations in the 102nd and 103rd Houses—all that changed was the number of Democrats.

Much has been written since the historic victory of the Republican party in the 1994 congressional elections about the changes taking place in the South. Many local and state politicians and several members of Congress have switched to the Republican party since the elections. Almost all these switchers have been white males. The switching is not surprising in light of figure 11.2, which shows that the Democrats are far more spread out ideologically than the Republicans. Moreover, even though there was a working majority in the House, consisting only of Republicans to the right of all the Democrats, most roll call votes in 1995 were structured to gain the support of the more conservative Democrats. Figures 11.1 and 11.2, taken together, make it more evident that the long-awaited realignment of the South is now finally happening.

Race was drawn into the first dimension in Congress because race-related issues became, increasingly, redistributional ones—welfare, affirmative action, food stamps, and so on. In response, it was only a matter of time before white southerners, who began voting Republican in presidential elections in 1964, switched to the Republican party at the congressional level. Indeed, this change was going on before the 1994 elections, which were simply the straw that broke the donkey's back.

The degree of polarization in Congress is approaching levels not seen since the 1890s. Race and redistribution have merged into one voting dimension in Congress and the polarization on both has sharply increased. This heightened level of conflict will not end, even after the hard-fought 1996 elections. The collapse of the old southern Democratic party has produced, for the first time in nearly 60 years, two sharply distinct political parties. Intense conflict between these two "new" parties will continue.

Appendix A: The NOMINATE Method of Estimating Spatial Models of Voting

In this appendix, we detail the procedures we used to estimate the parameters of the spatial model that is the basis of this book. Our dynamic estimation procedure, D-NOMINATE, was designed specifically for the CYBER 205 supercomputer. The 205's unique architecture was ideally suited to handle the huge combined roll call data sets of the first 99 Congresses. D-NOMINATE was developed from 1986 to 1988, during the early period of the NSF supercomputing initiative, which began in 1985. Later (1991–94), we developed W-NOMINATE, a static (single-Congress) estimation procedure based on our very early (1982-85) presupercomputer work but incorporating many advances we made during our research on the D-NOMINATE algorithm. W-NOMINATE is written in FORTRAN and can be run on a 486 PC or better. It can be obtained from the World Wide Web site discussed in the preface.

Dynamic Nominal Three-Step Estimation (D-NOMINATE)

Our discussion of D-NOMINATE is divided into four sections. In the first, we show the formal development of our spatial model. The second section details the algorithm we developed to estimate the parameters of the model, and the third section deals with statistical issues raised by our estimation procedure. The fourth section discusses various Monte Carlo tests of D-NOMINATE.

Development of the Spatial Model

The spatial model estimated by D-NOMINATE represents, as we indicated in chapter 2, each roll call as two points in a low-dimensional Euclidean space. Each legislator is represented as a point in the same space. A legislator's point is dynamic; it moves as a polynomial function of time. In our model, time is discrete, and is measured by the Congress number. Since our estimation pertains to the first 99 Congresses, time, indexed by t, takes on the integer values of 1 to 99. Thus, a legislator's point is constant over the (typically) hundreds of roll calls in a given Congress but (possibly) "jumps" along a linear or quadratic or cubic or quartic path between Congresses. (Our decision to measure time in integers was in fact a nondecision. When we estimated the model, the ICPSR codebooks were available in a variety of formats that made it impractical to extract the exact date of each roll call. While we have now edited the codebooks in a fashion that would allow one to measure time on a daily basis, we are certain that our major results would be entirely robust to this change. Indeed, it might well be argued that integer measurement is preferable to daily measurement since congressional elections, which induce changes in majorities and committee chairmanships, are discrete events that have a major impact on roll call voting.)