European Journal of Political Research **40:** 199–221, 2001.

Assimilation and contrast effects in voter projections of party locations: Evidence from Norway, France, and the USA

SAMUEL MERRILL, III[1], BERNARD GROFMAN[2] & JAMES ADAMS[3]
[1]*Department of Mathematics and Computer Science, Wilkes University, Wilkes-Barre, Pennsylvania, USA;* [2]*School of Social Sciences, University of California-Irvine, Irvine, California, USA;* [3]*Department of Political Science, University of California-Santa Barbara, Santa Barbara, California, USA*

Abstract. In the standard Downsian model, voters are assumed to choose parties based on the extent of ideological proximity between the voter's own position and that of the party. Yet it is also well known that there are rationalization and projection effects such that voters tend to misestimate the policy platforms of candidates or parties to which they are sympathetic by overstating the correspondence between those positions and the voter's own preferences (see, e.g., Markus & Converse 1979; Granberg & Brent 1980; Granberg & Holmberg 1988; Merrill & Grofman 1999). Here we follow insights in the psychological literature on persuasion (Sherif & Hovland 1961; Parducci & Marshall 1962) by distinguishing between assimilation and contrast effects. *Assimilation* refers to shortening the perceived ideological distance between oneself and parties one favors; *contrast* refers to exaggerating the distance to parties for which one does not intend to vote. Using survey data on voter self-placements and party placements on ideological scales for the seven major Norwegian parties, five major French parties, and two major American parties we show that both assimilation and contrast effects are present in each country to a considerable degree. We also investigate the possible effects of randomness in party placement and scale interpretation – effects that can easily be confounded with assimilation but not so easily with contrast.

Introduction

There are four basic approaches to understanding voter choice among parties/candidates: the group-oriented model which sees political loyalties tied to social embeddedness (see Lazarsfeld et al. 1948); the party identification model, in which choice is tied to long-lasting partisan allegiances rooted in the voter's political history (see Campbell, Converse, Miller & Stokes 1960); the issue-oriented model of voting, in which choice is based on comparison of voter policy preferences and the policies that parties (can be expected to) implement (see Downs 1957); and the performance-oriented model in which voters retrospectively evaluate party competence to solve key societal problems and implement desired policies (see Fiorina 1981; for alternative typologies of voter choice models see Hamill, Lodge & Blake

1985; Grofman 1987; Strøm 1985). Here we focus on the third of these, the Downsian proximity model.[1]

In the standard Downsian model, voters are assumed to choose parties based on the extent of ideological proximity between the voter's own position and that of the party. Yet voters may misestimate the policy platforms of candidates or parties either out of ignorance or in a fashion which reflects systematic bias. In particular, as a number of political scientists have demonstrated, voters may subjectively position parties they favor closer to the voter's own preferred policy location than is 'accurate' (see, e.g., Page 1976; Markus & Converse 1979; Page & Jones 1979; Granberg & Brent 1980; van der Eijk & Niemüller 1983; Conover & Feldman 1986; Granberg 1987; Hoch 1987; Granberg & Holmberg 1988; Granberg & Brown 1992; Listhaug, Macdonald & Rabinowitz 1994b; Husted, Kenny & Morton 1995; Gerber & Green 1999; cf. Merrill & Grofman 1999).[2]

Here we follow insights in the psychological literature on persuasion (Sherif & Hovland 1961; Parducci & Marshall 1962) by distinguishing between two different types of bias/projection effects: assimilation and contrast. *Assimilation* effects refer to shortening the perceived ideological distance between oneself and parties (or candidates) one favors; *contrast* effects refer to exaggerating the distance to parties (or candidates) one does not support.

To look for assimilation and contrast effects, we examine survey data on voter party preferences and self-placement and party placement on a ten-point ideological scale for the seven major Norwegian parties (with data from 1989), and on a seven-point scale for the presidential candidates representing five major French parties (1988), and on a seven-point liberal-conservative scale in the USA for the two major party candidates (1984, 1988 and 1992). We also use the data from Norway, France and the USA to look, more generally, at the degree of voter agreement on party ideological locations as a function of both party ideology and voter ideology.

We anticipate that there will be disagreement among voters as to the exact ideological locations of the various political parties and that the nature of this disagreement will have a systematic as well as random component to it. But voter projection of party locations conditioned by affect toward the parties is only one factor influencing voter differences in subjective perceptions of party locations. Differences among voters may also reflect the differences in knowledge each has of present and past political realities and their ability to translate that knowledge into an estimated ideological position.

There are at least three reasons why voters might be expected to be uncertain about party locations. First, like the legendary 'Shadow' of 1940s radio and recent movie fame, parties or candidates may seek to 'cloud men's

minds'. While there is dispute in the social choice literature on the merits of deliberate ambiguity about spatial location (Shepsle 1972; Alvarez 1997), it is clear that some parties or candidates may deliberately choose to obfuscate their locations in the hopes of 'being all things to all men' (Page 1976). Second, party locations change over time (see Budge 1994), thus a voter may be hard pressed to know where a party is *currently* located even if the party is always quite straightforward about its policies and platform. Third, of course, voters differ in their knowledge about politics and in their ability to process information. In particular, some voters may be quite limited in their cognitive ability to translate cues (such as policy stances on particular issues) into an estimated overall ideological location on a left-right scale or even to understand the notion of a left-right continuum at all.

In this paper we will not attempt to study the effects on party locations of voter characteristics other than ideological self-placement and party preference. As noted earlier, we hypothesized that voters who favor a party will assimilate that party's ideological location to be closer to the voter's ideological self-placement, while voters who do not favor a party will project that party's ideological location away from the voter's preferred position.

We also hypothesize that non-supporters of a party (or candidate) will tend to place that party in a more extreme position than will supporters of the party. However, not only do we expect that there will be differences among voters in their ability 'accurately' to label party positions, but we also expect that some parties will be harder to pin down ideologically than others. We might expect that supporters of a party are clearer in where that party is located ideologically than non-supporters.

Data analysis

Data resources

We have chosen data representing national election studies in three countries. These countries represent a wide range of polities with respect to number of parties (seven in Norway, five in France, and two in the USA), type of electoral choice (voting for parties in a parliamentary election in Norway; voting for presidential candidates in France and the USA), and balloting procedure (PR in Norway, plurality with runoff in France, and plurality in the USA).

Respondents in the 1989 Norwegian study were asked to place themselves and each of the seven major parties on a ten-point, left-right scale with 1 representing far left and 10 representing far right (for background on this election, see Aardal 1990). These parties, arranged in their conventional order from left to right, are Socialist, Labor, Liberal, Center, Christian, Conservat-

ive, and Progress (Urwin 1997). The Norwegian data set was restricted to those respondents who reported voting for one of these seven major parties and were able to place themselves on the left-right scale. The number in this subset who could place each party on the same scale varies slightly from 1,866 (for the Liberal Party) to 1,935 (for the Conservative Party).

The 1988 French Presidential Election Study employed a seven-point, left-right scale (with seven representing far right). The five principal candidates were André Lajoinie (Communist), François Mitterrand (Socialist), Raymond Barre (UDF), Jacques Chirac (RPR), and Jean-Marie Le Pen (National Front). The full data set of 1,013 was limited to the 677 respondents who voted for one of the five major candidates and could place both themselves and all five major candidates on the left-right scale.

In the US presidential election we focus on the two major party candidates. The data set was restricted to those respondents in the 1984 (N = 1,330), 1988 (N = 835) and 1992 (N = 1,066) American National Election Studies, respectively, who reported voting for either the Democrat or Republican (or Perot in 1992), and who placed both themselves and both major candidates on a seven-point, Liberal-Conservative scale (with 1 representing *extremely liberal* and seven representing *extremely conservative*).

Hypotheses about assimilation and contrast effects

> *Hypothesis 1: Supporters of a party assimilate that party's ideological location to their own ideological self-placement.*

> *Hypothesis 2: Non-supporters of a party distance the location they assign to that party from their own ideological self-placement.*

For each party in Norway, France, and the USA for which we present data, we will test Hypotheses 1 and 2 by dividing voters into two groups, supporters of that and non-supporters of that party. We plot the median[3] placement of that party against the voter self-placement for supporters and non-supporters as separate lines in the same graph. If Hypothesis 1 is correct then, for each party being examined, the line for party supporters should be *upward* sloping, i.e., the more conservative the supporter the more conservative will be the median position assigned to that party (an assimilation effect).[4] If Hypothesis 2 is correct then, for each party being examined, the line for party non-supporters should be *downward* sloping, i.e., the more conservative the non-supporter is, the more liberal will be the position assigned to that party by that non-supporter (a contrast effect). These plots are presented in Figure 1 (Norway, 1989), Figure 2 (France, 1988), and Figure 3 (USA 1984, 1988 and 1992).

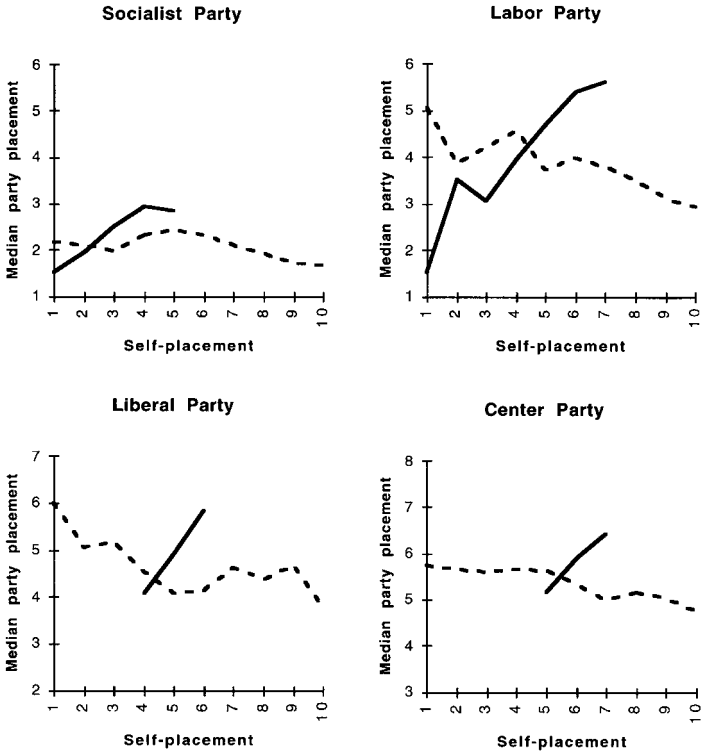

Figure 1. Median party placements versus self-placements: Norway 1989. Solid lines: supporters of the focal party; dashed lines: non-supporters of the focal party. Note: Cells with less than *ten* respondents are not represented on the plots.

As can be seen graphically, the patterns are quite clear over parties and over countries. Both Hypothesis 1 and Hypothesis 2 are confirmed for nearly all of the parties. To test these hypotheses statistically, we have regressed median party placement for each party against voter self-placement, separately for supporters and non-supporters. In each case, we test the hypothesis that the slope of the regression line is positive (for supporters) or negative (for non-supporters).[5]

Table 1 presents the slopes for each party and category of voters, supporters or non-supporters, and the p-values for the respective one-tailed tests of the slopes. Although the 1–10 scale for Norway is broader than the 1–7 scales for France and the USA, for each country both independent and dependent variables have the same scale, so that the slopes are comparable across countries. The slopes are in the expected direction for each party and category of voters, except for supporters of Lajoinie (the candidate of the French Communist party), for whom the plot has only two points, whose me-

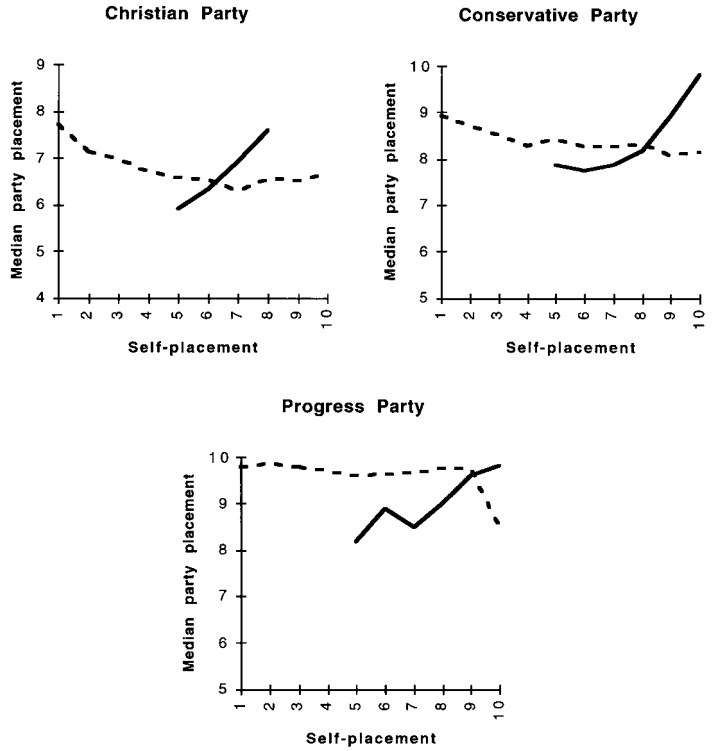

Figure 1 (continued). Norway 1989. Solid lines: supporters of the focal party; dashed lines: non-supporters of the focal party.

dians are substantially equal. The direction of all other slopes are significant at the 0.05 level, with the exception of those for the supporters of Chirac, Le Pen, and Bush in 1988, and two of these slopes are close to significance. The slopes for supporters are mostly between 0.3 and 0.6 (although the steepness of the slopes for the three centrist parties in Norway may be an artifact of the very small number of data points plotted due to the small size of these parties). For the European parties and candidates, these slopes are substantially greater in magnitude than those for non-supporters (which are mostly -0.1 or -0.2). This finding is in agreement with that of Granberg (1983, 1987) for the 1982 Swedish election. The average magnitudes of the slopes for non-supporters differ significantly among the three countries ($p = 0.003$); they are close to significantly different for supporters ($p = 0.07$). For non-supporters the magnitude is greatest for the USA; for supporters it is greatest for Norway.

Slopes for non-supporters of the American candidates, however, are generally as great (in absolute value) as those for supporters, i.e., we find contrast and assimilation of comparable strength for the elections of 1984, 1988, and

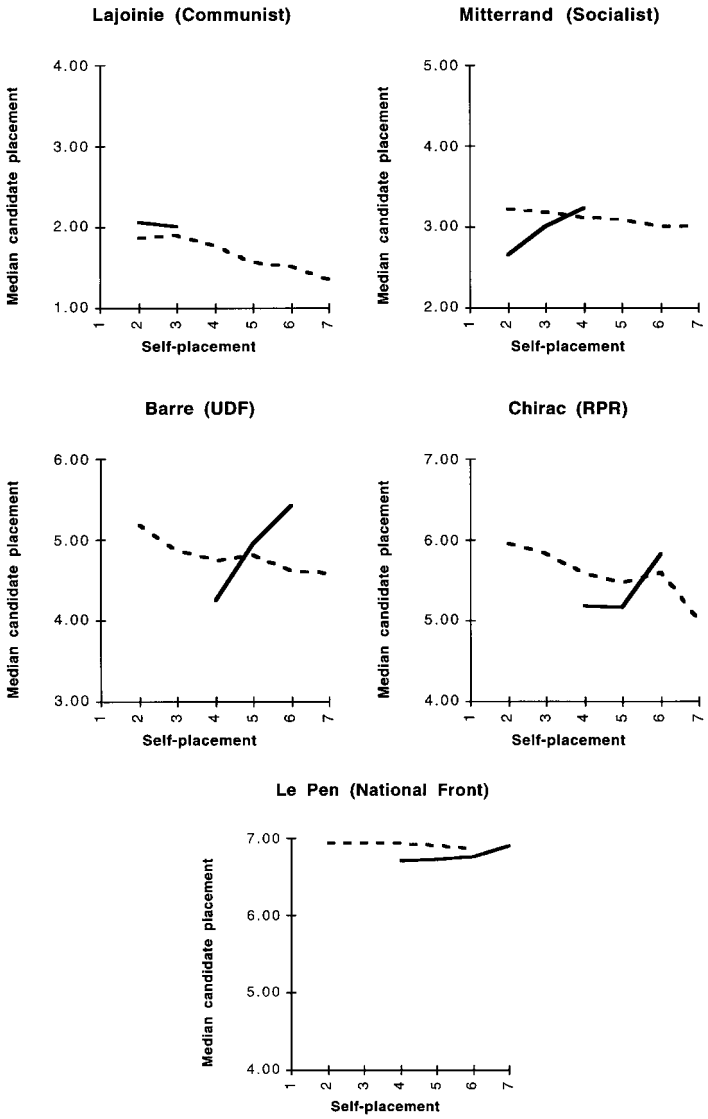

Figure 2. Median candidate placements versus self-placements: France 1988. Solid lines: supporters of the focal candidate; dashed lines: non-supporters of the focal candidate. Note: Cells with less than *ten* respondents are not represented on the plots.

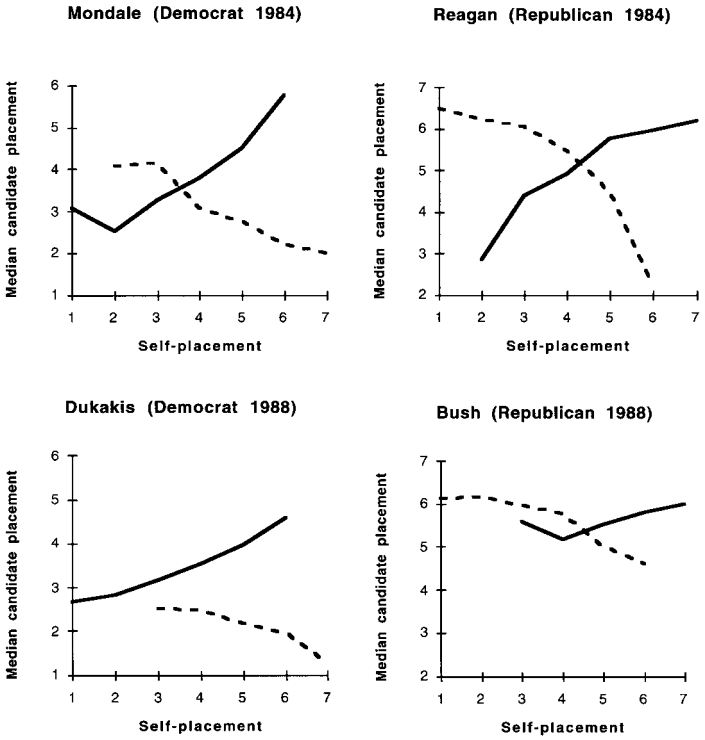

Figure 3. Median candidate placements versus self-placements: USA 1984, 1988 and 1992. Solid lines: supporters of the focal candidate; dashed lines: non-supporters of the focal candidate. Note: Cells with less than *ten* respondents are not represented on the plots.

1992. This latter result contrasts with those of Granberg & Jenks (1977) and Granberg, Harris & King (1981), who found assimilation stronger than contrast for the 1972 and 1976 US elections. Our results are, however, in agreement with that of Granberg (1987: Table 4) for the one US election which was analyzed both by Granberg and by ourselves. Granberg reports a correlation between candidate and self-placement that is about the same (in absolute value) for non-supporters (−0.40) and for supporters (0.46), meaning that contrast and assimilation are comparable for this election. We consistently find assimilation and contrast to be of comparable strength for the major-party candidates in US elections since 1984, suggesting that findings of stronger effects for assimilation than for contrast in the 1970s cannot be generalized to more recent American politics.

Our next hypothesis is suggested by our expectation that the perception that a party or candidate is ideologically extreme would be more pronounced among non-supporters than supporters.

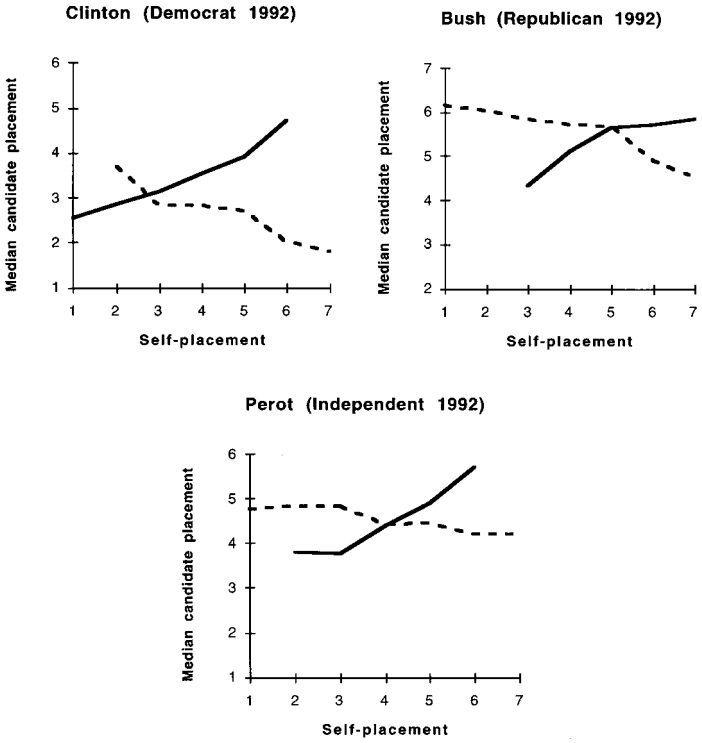

Figure 3 (continued). USA 1984, 1988 and 1992. Solid lines: supporters of the focal candidate; dashed lines: non-supporters of the focal candidate. Note: Cells with less than *ten* respondents are not represented on the plots.

Hypothesis 3: For each party or candidate, the median placement by non-supporters is more extreme than that of supporters.

Table 2 presents the median placement for each party or candidate, stratified by supporters and non-supporters of that party. For all but three of the 19 parties or candidates, the median for non-supporters is more extreme (i.e., further from the center of the scale) than the median for supporters. A one-tailed, paired *t*-test of the hypothesis that supporter medians are more extreme is significant at the 0.002 level (for this test the scales were adjusted to be of equal width). The exceptions are Mitterrand, for whom the difference between medians is only 0.08, and the Norwegian Center Party and the American Independent candidate Perot, whose centrist positions makes relative extremity largely meaningless. The mean difference between medians for supporters and non-supporters is 0.25 for Norway, 0.16 for France, and 0.18 for Republican candidates in the USA. After adjustment for the differing scales, these values are substantially the same.

Table 1. Estimated slopes and significance levels for median party placement, stratified by party and supporters/non-supporters

		Supporters		Non-supporters	
Country	Party or candidate	Slope	*p*-value	Slope	*p*-value
Norway	Socialist	0.4	0.01	−0.1	0.03
	Labor	0.6	<0.001	−0.2	<0.001
	Liberal	0.9	0.01	−0.2	0.01
	Center	0.6	0.03	−0.1	<0.001
	Christian	0.6	0.003	−0.1	0.004
	Conservative	0.4	0.01	−0.1	<0.001
	Progress	0.3	0.005	−0.1	0.04
France	Lajoinie (Com.)	−0.05	–	−0.1	0.001
	Mitterrand (Soc.)	0.3	0.04	−0.05	<0.001
	Barre (UDF)	0.6	0.04	−0.1	0.007
	Chirac (RPR)	0.3	0.18	−0.2	0.008
	Le Pen (Nat. Front)	0.1	0.06	−0.02	0.01
USA (1984)	Mondale (Dem.)	0.6	0.005	−0.5	<0.001
	Reagan (Rep.)	0.6	0.002	−0.8	0.007
USA (1988)	Dukakis (Dem.)	0.4	<0.001	−0.3	0.01
	Bush (Rep.)	0.1	0.08	−0.3	0.004
USA (1992)	Clinton (Dem.)	0.4	<0.001	−0.5	0.002
	Perot (Ind.)	0.5	0.005	−0.1	0.002
	Bush (Rep.)	0.4	0.01	−0.3	0.001

The difference in medians for the Democratic candidates in the USA, however, averages 0.92 (0.78 for Mondale in 1984, 1.24 for Dukakis in 1988, and 0.74 for Clinton in 1992), and is strikingly higher than the differences for other candidates or parties. That is to say, Republican voters view the Democratic candidate in the USA as far more liberal than do those who vote for the Democrat (or for Perot in 1992). This effect occurs consistently across American presidential elections. Granberg (1987) notes this same effect in the 1984 US election. Lacy & Paolino (1998) find an even greater difference between the mean placement of Clinton in 1996 by Democrats (3.66) and by Republicans (2.41). By contrast, Democratic and Republican partisans gave similar mean placements to Dole (5.24 and 5.41, respectively).

To be more comparable to the comparison of supporters and non-supporters in the two-party USA, we might restrict attention in each of the

Table 2. Comparing the median and variance in locating a party ideologically between its supporters and non-supporters

Country	Party or candidate	Median			Standard deviation		
		Sup-porters	Non-sup-porters	diff.	Sup-porters	Non-sup-porters	All
Norway	Socialist	2.51	2.15	0.36	1.37	1.47	1.47
	Labor	4.07	3.82	0.25	1.85	1.55	1.65
	Liberal	5.17	4.53	0.64	1.58	1.91	1.90
	Center	5.74	5.34	−0.40	1.00	1.46	1.45
	Christian	6.55	6.63	0.08	1.20	1.46	1.44
	Conservative	8.15	8.36	0.21	1.03	1.46	1.38
	Progress	9.10	9.69	0.59	1.42	1.83	1.79
France	Lajoinie (Com.)	1.99	1.73	0.26	0.68	1.10	1.06
	Mitterrand (Soc.)	3.00	3.08	−0.08	0.79	0.80	0.80
	Barre (UDF)	4.74	4.84	0.10	0.70	0.79	0.77
	Chirac (RPR)	5.38	5.73	0.35	0.64	0.79	0.77
	Le Pen (Nat. Fr.)	6.75	6.92	0.17	1.53	1.12	1.19
USA (1984)	Mondale (Dem.)	3.58	2.80	0.78	1.55	1.36	1.47
	Reagan (Rep.)	5.64	5.81	0.17	1.46	1.81	1.61
USA (1988)	Dukakis (Dem.)	3.36	2.12	1.24	1.43	1.28	1.46
	Bush (Rep.)	5.63	5.80	0.17	1.06	1.47	1.26
USA (1992)	Clinton (Dem.)	3.22	2.48	0.74	1.20	1.16	1.23
	Perot (Ind.)	4.57	4.47	−0.10	1.61	1.73	1.70
	Bush (Rep.)	5.58	5.77	0.19	1.04	1.40	1.29

European countries to the two major contenders: Mitterrand and Chirac in France and the Labor and Conservative parties in Norway. Thus we might compare the median placement of Mitterrand by Mitterrand supporters (3.00) with the median placement of Mitterrand by Chirac supporters (2.97). Clearly there is little difference in these placements, nor is there much difference between the placement of Mitterrand by Chirac supporters (2.97) and by all non-Mitterrand supporters (3.08). Reversing the two candidates, Mitterrand supporters place Chirac at 5.84, only slightly to the right of the placement by all non-Chirac supporters (5.73). Similarly, for Norway, Conservative supporters place the Labor party at 3.59 only slightly to the left of the placement by all non-Labor supporters (3.82); whereas, Labor supporters place the

Table 3. The effect of candidate support on respondent perceptions of candidate placement: France, 1988

Candidate	Median perception of candidate's position for supporters of:					
	Lajoinie (62)	Mitterrand (266)	Barre (126)	Chirac (135)	Le Pen (88)	All (677)
Lajoinie	1.99	1.94	1.62	1.39	1.68	1.76
Mitterrand	3.27	3.00	3.09	2.97	3.12	3.05
Barre	5.14	4.88	4.74	4.73	4.64	4.82
Chirac	5.86	5.84	5.52	5.38	5.50	5.67
Le Pen	6.97	6.92	6.93	6.90	6.75	6.90

Conservative party at 8.49, only slightly to the right of the placement by all non-Conservative voters (8.36).

Thus, for the two European countries, whether we contrast supporters with all non-supporters (as in Table 1) or only with supporters of a major party's chief opposition, the effect is much the same. Furthermore, the difference in median placement by supporters and non-supporters is modest. By contrast, the striking shift by Republican supporters in the USA in their placement of the Democratic candidates stands out in bold relief.

Still further support for a contrast effect can be seen by breaking down the non-supporters for a candidate according to the specific candidate supported, as is done in Table 3 for the 1988 French election. If Le Pen is omitted from consideration, we note that for each candidate, median placement declines systematically as we move through the supporters of the other candidates from left to right. For example, as we move through the supporters of Mitterrand, Barre, and Chirac, each place Lajoinie more to the left than do the supporters of the previous candidate and all place Lajoinie more to the left than do supporters of Lajoinie himself. Table 4, for the 1992 US election, tells a similar but more abbreviated story. Perot supporters tend to place each of the two main-party candidates more moderately than do supporters of the opposite main party.

In addition to the major hypotheses that we test, we address briefly several additional questions. Do supporters of a party have a lower variance in locating that party than non-supporters of the party do? Our data suggests that this is true for six of the seven major parties in Norway in 1989, four of the five major candidates in France in 1988, and four of the seven candidates in the USA in 1984, 1988, and 1992 (see Table 2). A one-tailed, paired *t*-test of the hypothesis that the average standard deviation for supporters is lower

Table 4. The effect of candidate support on respondent perceptions of candidate placement: USA, 1992

Candidate	Median perception of candidate's position for supporters of:			
	Clinton (475)	Perot (216)	Bush (375)	All (1066)
Clinton	3.22	3.01	2.24	2.85
Perot	4.68	4.57	4.28	4.49
Bush	5.86	5.55	5.58	5.70

than that for non-supporters for the three countries combined is accepted at the 0.02 significance level. The same test for each country separately is significant for Norway ($p = 0.03$) but not for France ($p = 0.36$) or the USA ($p = 0.12$). This is not surprising, at least in multiparty electorates, because non-supporters represent a greater diversity of political opinion than do supporters of a single party. Finally, variance in subjective placements of recently formed parties such as the Progress Party in Norway, the National Front in France, and the Perot candidacy in the USA are all higher than that for the more established parties in their respective countries.

Alternative explanations of the party-placement plots

We address here two methodological issues, each of which involves random variations in subjective placements whose effects might be confounded with those of assimilation or contrast. First suppose that voters' sincere placement of a party is subject to random variation. Here we are assuming that the voters perceive a common scale but perceive differently the location of a party. This may occur due to incomplete or inaccurate information about parties or because of voters' inability to process such information. Such placement can lead to some of the same observed phenomena as projection. Because voters are at best only partly motivated by spatial proximity, the plots we obtain below represent an upper bound for the possible effects of honest variation.

For example, suppose that voters place a candidate sincerely according to a probability distribution centered on position 3 on a 1–7 left-right scale. Thus, some of these voters place the candidate to the left of 3, some at 3, and some to the right, but the deviations from 3 are random. Focus for the moment on those voters who place themselves at 2. If the voters vote according to the standard (proximity) spatial model using these subjective placements, the subset of the voters located at 2 who place the candidate to the left of 3 will

have higher utility for the candidate than those who place her to the right of 3 and hence will be more likely to be supporters of the candidate. By the same token, for voters to the right of 3, those who place the candidate to the right of 3 will be more likely to be supporters. Thus, *ceteris paribus*, supporters on the left will have a lower (more leftward) median placement of the candidate than the supporters on the right, giving rise to an upward sloping plot of candidate placement versus self-placement, with the sharpest increase occurring for self-placements near 3. This upward sloping curve for supporters reflects the same pattern expected from assimilation. Thus, the effect of honest variation in party placement is difficult to distinguish from that of assimilation.

To illustrate the effects of random placement, we performed a computer simulation using the same 835 respondents in the 1988 American National Election Study used earlier for the candidate plots. In the simulation, each voter retained his self-placement but his placements of the two candidates were replaced by randomly generated normal variates whose mean and standard deviation were set at the empirical values for these parameters in the Study. Thus, placement of Dukakis followed a normal distribution with mean 2.91 and standard deviation 1.46; placement of Bush followed a normal distribution with a mean of 5.38 and a standard deviation of 1.26 (each randomly generated placement was rounded to the nearest integer, although plots without rounding were similar). In accord with the proximity spatial model, each voter was assumed to vote for the nearer candidate based on these simulated perceptions. Figure 4 plots separately the median placements for supporters and non-supporters of each of the two candidates. For Dukakis and for Bush we note the same upward slope for supporters that is expected from assimilation.

Non-supporters of a candidate, however, provide a possible way to distinguish between honest variation and contrast. Consider Dukakis in 1988, whose perceptions are centered at 2.91, i.e., approximately 3. Arguing as before, honest variation suggests a downward sloping curve for non-supporters in the portion of the scale near 3, but as we approach the right endpoint of the scale, nearly all voters are non-supporters, so that their median placement is close to the mean (or median) of all voters and must approach 3. This leads to a roughly level plot (see Figure 4) on the right side of the scale (from 4 to 7) unlike the steady declining trend using the real placements for Dukakis (see Figure 3) that is compatible with a contrast effect. The graph for Bush in Figure 4 shows a similar pattern, with the plot for non-supporters nearly constant on the left half of the scale from 1 to 4. For neither Dukakis nor Bush was the slope of the simulated half plot significantly different from zero even

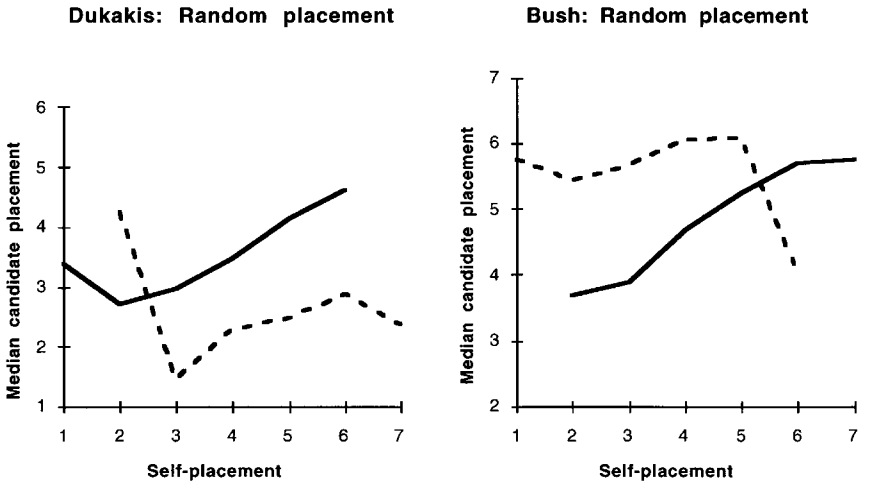

Figure 4. Computer simulations for random candidate placement: USA 1988. Solid lines: supporters of the focal candidate; dashed lines: non-supporters of the focal candidate. Note: Cells with less than *nine* respondents are not represented on the plots.

at the 0.10 level. For real placements, however, the slopes of the half plots for Dukakis (−0.4) and Bush (−0.1) were significantly negative at the 0.05 level.

Similarly, the Norwegian Conservative party in 1989 was placed on average about 8.0 on the 1–10 left-right scale. Because left-wing voters would be extremely unlikely to vote Conservative, nearly all voters in the interval from 1 to 5 would be classified as non-supporters so that assuming only honest variation, there should be no systematic trend among these voters in their placement of the Conservative party. Yet, for real placement data, such a trend is found (see Figure 1); in fact the downward slope of the placement plot is significant at the 0.02 level over the 1–5 range and is compatible with a contrast effect. Similarly, downward trends (significant at the 0.05 level with slopes exceeding 0.1 in absolute value) were found for the right-wing non-supporters of the Norwegian Labor and Socialist parties, the candidacies of Lajoinie, Mitterrand, and all the US Democratic nominees. The same was found for left-wing non-supporters of the three US Republican candidates and (at the 0.10 level) for Barre and Chirac. The downward sloping plots (see Figures 1–3) are compatible with a contrast effect but not with honest variation in placement.

In summary, due to projection, we would expect positive slopes for the placement plots for supporters (assimilation) and negative slopes for non-supporters (contrast). Due to the 'honest variation' effect described in the previous paragraph, we would also expect positive slopes for supporters, but for non-supporters in the half of the scale opposite to the candidate, the effect

seems likely to disappear. Thus, the slopes for non-supporters appear to lead to a test for projection less likely to be confounded with the effects of honest variation.

Our second issue concerning random variation pertains to variable perception of the scale, which we will refer to as a shift or variable-anchor effect.[6] Suppose, for example, that two voters like Labor because they agree with Labor on the issues. Even though most voters (and 'informed' observers) might put Labor at, say, 3 on a 1–7 scale, voter A decides this location is 1 and puts himself and Labor both at 1; voter B puts both Labor and himself at 5. Although the distance of each to Labor is then correct, A's low placement and B's high placement of Labor provide (spurious) support for assimilation. Computing the distance, however, between the voter's self-placement and the mean (or median) placement of Labor rather than a voter's subjective placement would give higher erroneous information.

In general, suppose voters interpret the scale differently from each other, by anchoring the scale at different points – points that follow, say, a normal distribution with positive standard deviation (so that some shift left, some shift right relative to the mean).[7] Because such a shift applies to both self-placement and to party placement, subjective party placement – conditional on objective party placement – will be positively correlated with subjective self-placement regardless of party preference. If the voter distribution is unimodal as typically happens, more voters reporting a self-placement to the left of the mode at, say, 3 will have shifted left from an objective placement of 4 than rightward from an objective placement of 2 simply because there are more voters at 4. Correspondingly, the majority of these voters will shift their party placement downward. A similar argument suggests that voters reporting a self-placement to the right of the mode will shift their party placement upward. This effect is the same for supporters and non-supporters of a party.

The resulting relation between party placement and self-placement represents a pattern similar to that of assimilation but opposite to that of contrast. The plots in Figure 5 are based on a simulated 1988 US presidential election in which for each respondent, his own position and the candidates' mean position are shifted by the same randomly chosen variate. This random variate has a mean of zero and a standard deviation over voters equal to the observed average of the standard deviations for Dukakis and Bush. These plots represent an upper bound on the possible effects of random anchors.

The fact that the shift effect acts in the direction opposite to that of contrast may be one reason that slopes for assimilation tend to be greater in magnitude than those for contrast. The effects of honest variation in placement and of variable anchors accentuate the *apparent* effects of assimilation while partially neutralizing the *apparent* effects of contrast.[8] While assimilation might

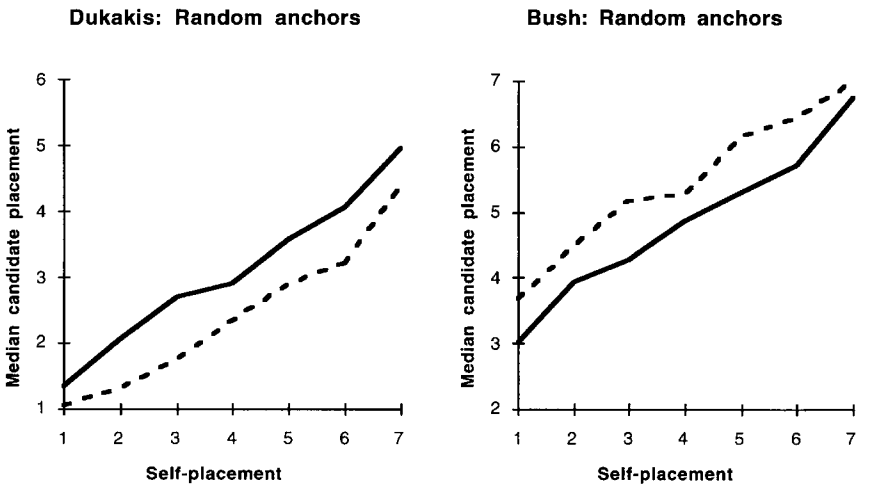

Figure 5. Computer simulations for random anchors: USA 1988. Solid lines: supporters of the focal candidate; dashed lines: non-supporters of the focal candidate. Note: Cells with less than *nine* respondents are not represented on the plots.

be confounded with honest variation or a shift effect, contrast tends not to be. Thus, the observation of a negative slope for non-supporters of a candidate is more convincing evidence of contrast than a positive slope for supporters is evidence of assimilation.

Discussion

Establishing the extent of projection is important because – if such effects are present – the power of spatial models to predict voting may be overestimated. Knowledge of projection is relevant in particular to the controversy about discriminating between the proximity and directional utility functions (see Rabinowitz & Macdonald 1989; Macdonald et al. 2000). This is because overestimates of projection have a more pronounced effect on the proximity than the directional utility function, thus creating a possible bias.

Furthermore, in testing spatial models, if the locations of parties are biased due to either assimilation or contrast, assessment of the proximity of the parties to a median voter position (or to other game-theoretic solution sets such as the core or the yolk) may be compromised. If different groups of voters (e.g., supporters and non-supporters of a party) perceive the party to be in different places, the traditional concept of a single spatial location for each party or candidate is called into question. Our findings suggest that the latter is particularly important in US presidential elections because of an unusually strong contrast effect with regard to non-supporters of Democratic candidates.

We have tested three hypotheses about the relationship between party support and the perception of party locations and about the dispersion of perceptions of party locations. All have generally been confirmed over three countries. We find that there is both an assimilation and a contrast effect in that party supporters tend to view the party they support as closer to them than do voters as a whole, while opponents tend to project disliked parties further away from them. As a consequence, we get an extremism effect such that (generally speaking) parties on the right and left are seen as less ideologically extreme by their supporters than they are by other voters. In addition, we note that party supporters generally have a clearer perception of their preferred party's location (lower standard deviation) than do non-party supporters, while the perceptions of the ideological location of new parties are more spread out than those for the well established parties.

All these conclusions must be tempered with the observation that honest variation in party/candidate placement as well as variable anchoring of the left-right scale can produce effects that are confounded with those of projection, especially assimilation. Even without this caveat we find assimilation and contrast to be of similar strength in recent US elections; with the caveat taken into account, contrast may be even more pronounced than assimilation and may be a stronger effect vis-à-vis assimilation than has heretofore been recognized.

Appendix: The effects of reversing the liberal-conservative scale

A significant number of respondents in the USA appear to have reversed the meanings of the words liberal and conservative. For example, in the 1988 American National Election Study, about 4 percent placed Dukakis more conservative than Bush on the 'liberal-conservative' scale although on four substantive issues they correctly placed Bush in a position conventionally considered more conservative than Dukakis (see also Merrill & Grofman 1997b). Overall, seventeen percent of the Dukakis supporters and six percent of the Bush supporters placed Dukakis more conservative than Bush on the liberal-conservative scale (cf. Granberg's (1987) discussion of 'wrong-side errors'). Potentially, including these respondents in the analysis could have a significant effect on the plots of candidate placements. For example, a left-wing respondent who supports the Democratic candidate and who reverses the meaning of the terms might place both himself and the Democrat at 6 or 7 on the scale. Because few knowledgeable respondents would correspond to these coordinates on the plot, such 'reversers' would have a large influence in suggesting an upward slope. Although means and medians are similar after the data is stripped of those respondents who appear to reverse the mean-

Table A1. Estimated slopes for median candidate placement in the USA, stratified by candidate and supporters/non-supporters: knowledgeable voters only

Election	Candidate	Supporters		Non-supporters	
		Slope	p-value	Slope	p-value
USA (1984)	Mondale (Dem.)	0.3	0.04	−0.3	<0.001
	Reagan (Rep.)	0.3	0.01	−0.1	0.06
USA (1988)	Dukakis (Dem.)	0.2	0.002	−0.2	0.0
	Bush (Rep.)	0.1	0.12	−0.1	0.001
USA (1992)	Clinton (Dem.)	0.1	0.09	−0.3	0.005
	Perot (Ind.)	0.5	0.004	−0.1	0.03
	Bush (Rep.)	0.2	0.04	−0.1	0.01

Table A2. Comparing the median and variance in locating US candidates ideologically between supporters and non-supporters: knowledgeable voters only

Election	Candidate	Median			Standard deviation		
		Sup-porters	Non-sup-porters	diff.	Sup-porters	Non-sup-porters	% (a)
USA (1984)	Mondale (Dem.)	3.12	2.49	0.63	1.29	1.14	77.5
	Reagan (Rep.)	5.79	6.09	0.30	0.98	1.12	85.7
USA (1988)	Dukakis (Dem.)	3.08	2.05	1.03	1.18	1.02	83.0
	Bush (Rep.)	5.69	6.01	0.32	0.89	0.96	93.8
USA (1992)	Clinton (Dem.)	3.06	2.39	0.67	0.95	1.03	88.0
	Perot (Ind.)	4.54	4.56	0.02	1.62	1.69	89.4
	Bush (Rep.)	5.62	5.89	0.27	0.91	0.97	95.7

(a) Percent of supporters who were knowledgeable, i.e., did not place the Democratic nominee to the right of the Republican nominee on the liberal-conservative scale.

ings of liberal and conservative, for the full data set means are substantially skewed by the aberrant candidate placements of these voters.

Accordingly, we have reanalyzed the US data omitting those respondents who placed the Democrat to the right of the Republican on the liberal-conservative scale. Although some of these respondents may have meant what they reported, omitting them will allow us to bracket the possible effect of misunderstanding of the scale. Table A1 presents the slopes, and Table A2 presents the medians and variances for the three US elections considered earlier in Tables 1 and 2. By comparing the results with those in Tables 1 and 2, we see that the same patterns observed earlier still stand, although the slopes and differences between medians are substantially lower than

before. We have not reanalysed the data for Norway and France because extremely few of the respondents appear to have reversed the left-right scale. For example, in Norway only 2.6 percent of the respondents place the Labor party to the right of the Conservative party; in France only 0.7 percent place Mitterrand to the right of Chirac.

Acknowledgments

We thank Clover Behrend for bibliographic assistance. The data sets used in the study were made available by the Inter-university Consortium for Political and Social Research (ICPSR) and the Norwegian Social Science Data Services (NSD) and are acknowledged with appreciation. Bernt Aardal and Henry Valen were the Principal Investigators of the Norwegian Election Studies and the Norwegian Bureau of Statistics collected the data. Roy Pierce was the Principal Investigator of the 1988 French Presidential Election Survey. The contributions of the second author to the completion of this manuscript were supported by National Science Foundation Grant SBR 446740-21167, Program in Methodology, Measurement, and Statistics (to Bernard Grofman and Anthony Marley). Neither the NSF, the ICPSR, the NSD, the Norwegian Bureau of Statistics, nor the principal investigators of either of the US, Norwegian, or French national election studies are responsible for the analyses or interpretations presented here.

Notes

1. Recently there has developed an important alternative spatial approach to that of the Downsian proximity model, the directional model (see, e.g., Rabinowitz & Macdonald 1989; Listhaug, Macdonald & Rabinowitz 1994a; Iversen 1994a, b; Macdonald & Rabinowitz 1998; Merrill & Grofman 1997a, 1999; cf. Grofman 1985). Our results about selective perceptions of party locations also apply to this model, but with some alterations discussed below (see note 4).
2. We use the term 'accuracy of location' advisedly. Use of the mean voter placement of a party location as the 'true' location for purposes of modelling is quite common (see, e.g., Rabinowitz & Macdonald 1989; Alvarez 1997).
3. Median placements are computed in the standard manner for discrete data, i.e., as if values at, say, 3 were uniformly distributed between 2.5 and 3.5, etc. Because of the Downsian emphasis on the importance of the median voter and the resistance of the median to the influence of outliers we have preferred to present the data for medians rather than means. For most parties, the distribution of party placements is fairly symmetrical (so the means and medians are similar), but for some extreme parties (notably the Norwegian Progress party and the French National Front) the distribution is quite skewed, so that the median is a better indicator of a typical placement than the mean because the latter is heavily influenced by a few respondents who provide aberrant placements. Use of the

median also ameliorates the problem of some respondents in the USA who appear to have reversed the meanings of the words liberal and conservative. Their highly atypical (and incorrect) liberal-conservative placements have less effect on a median than on a mean. Nevertheless, a test run (for the 1984 US election) was done using means; the results were almost identical to those presented in Table 1 below based on medians except that slopes were slightly less steep. In the Appendix we investigate the effect of omitting those respondents who appear to reverse the scale.

4. If we suppose, for example, that projection is proportional to the distance from voter to candidate, then the projected location of a candidate whose true location is at c by a voter located at v might be modeled as $c + k(v - c)$, where k is a positive constant. This would imply an upward slope when the projected candidate position is plotted against voter position. Under a Rabinowitz–Macdonald (1989) directional model, in which utility is defined as the scalar product of the voter's and the candidate's positions relative to a neutral (indifference) point set at 0, it seems plausible that projection might be proportional to distance from the voter to the neutral point (rather than to the candidate), this because a voter at the neutral point is assumed to be indifferent. Accordingly, projection might be modeled under this alternative as $c + kv$, for positive k, a relationship that also yields a positive slope. Similarly, contrast effects will yield negative slopes under both directional and proximity models. Thus, proximity-based assimilation-contrast effects are indistinguishable from directionally-based assimilation-contrast effects.
5. Granberg (1987) presents similar plots and tests correlation coefficients for the 1984 US election and for two parties in the 1982 Swedish election, using mean rather than median placements, and finds evidence of both assimilation and contrast. We also regressed individual placements (as opposed to median or mean placements), obtaining results similar *in toto* to those based on medians, although with some differences in slopes for individual parties.
6. In addition to variation in the anchor of the scale there may be variation over voters with regard to the standard deviations of their subjective scales. Analysis similar to that below suggests, however, that such an effect would be unlikely to be confounded with either assimilation or contrast.
7. Macdonald, Rabinowitz & Listhaug (2000) also consider respondent-specific scale transforms and their relation to projection. The simulation analyses they perform, however, focus on discrimination between a proximity and a directional model rather than on evaluating assimilation and contrast per se or on distinguishing either from the effects of idiosyncratic scale transforms.
8. In fact, if the extent of the effect of honest variation for supporters of a candidate reaches the upper bound depicted in Figure 4, it becomes indistinguishable from the observed pattern of candidate placement by supporters as seen in Figure 3. In practice, however, this upper bound – which assumes that spatial proximity is the only motivation for candidate choice – is unlikely to be reached so that some real assimilation is still likely to be present.

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Address for correspondence: Professor Samuel Merrill, III, Department of Mathematics and Computer Science, Wilkes University, Wilkes-Barre, PA 18766, USA
Phone: (570) 408-4837; Fax: (570) 408-7883; E-mail: smerrill@wilkes.edu