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### Electoral system and minority representation

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## Electoral Systems and Minority Representation

KENNETH BENOIT AND KENNETH A. SHEPBLE

### Minority Empowerment and Electoral Market Failure

Minority political enfranchisement in America is a subject of great complexity, forcing students of democratic practice to wrap their minds around the subtle relationships between broad philosophical purpose, on the one hand, and the practical details of democratic machinery, on the other. At the *philosophical level* there are controversies concerning which public purposes among the many possible involving minority empowerment should be served—participation, promotion of indigenous leaders, representation, influence, satisfaction with outcomes. At the *practical level* there are mysteries surrounding the operating characteristics of specific democratic design features—Does plurality voting deny representation to supporters of losing candidates? Will at-large or racially gerrymandered districting best guarantee minority representation? What are the arguments for single-member or multimember districts, single-vote or multiple-vote electors, the option to cumulate multiple votes or not? Finally, at the *policy level* there is the matter of linking mechanical practicalities and philosophical purpose—once the objectives to pursue have been stipulated and the mechanical principles associated with alternative designs of the democratic machinery have been mastered, which design features should one select and how might one implement them to achieve the chosen objectives?

Each new generation of activists, legislators, judges, lawyers, and philosophers slices into these issues in a manner heavily conditioned by historical experience. For much of this century, attention focused on the basic *enfranchisement* of minorities. Philosophical and political agitation, legislation (the Voting Rights Act of 1965), and litigation were successful in securing the right to vote for minority citizens. While all issues of enfranchisement have not disappeared (reducing the costs of voter registration, for example, is a mildly salient political issue at present, toward which the recently passed "motor voter" legislation is aimed), priorities clearly shifted during the 1970s from enfranchisement per se to *representation* and to the issue of *vote dilution*, in which the electoral rules are manipulated to reduce the effectiveness of minority enfranchisement.<sup>1</sup> When a

group's votes are diluted, writes Chandler Davidson, it "implies that the ineffectiveness of its ballots is beyond its control, and that the causes are in the larger political structure."<sup>2</sup>

Debates currently revolve around alternative formulas and mechanical features—racial gerrymandering, multimember districting, the casting of multiple votes—some of which we examine in this paper. Reformers express distinctive views on these formulas and mechanical features based on anticipations concerning their consequences; these, in effect, are *equilibrium claims*. Yet, these claims are rarely accompanied by either of the two forms of support that make such claims scientifically persuasive—theoretical argument and empirical evidence (perhaps a result of the fact that the advocates are often lawyers, not social scientists).

Even as strategies of litigation and legislation are pursued to secure greater minority representation in elected bodies, a third priority, that of *influence*, is already being anticipated by activists and academics alike. Here the issue is whether minorities, having secured the vote and a presence—even a roughly proportionate presence—in representative bodies, have any effect on collective choices. Lant Guinier, for example, arguing against the major remedy for vote dilution—the creation of majority-black electoral districts—contends that they have limited benefits: "The main beneficiaries have been individual candidates and the middle-class blacks occasionally included in white-dominated governing coalitions. Such victories too often are little more than political and psychological symbols for poor and working-class blacks." For her, in contrast, "empowerment means the ability to make government more responsive to minority interests, not just the ability to integrate legislative bodies."<sup>3</sup>

Although voter disenfranchisement, malrepresentation, and disenfranchisement may all constitute instances of electoral market failure, the first has been more or less satisfactorily dealt with by thirty years of civil rights legislation and litigation, while the third constitutes an issue that has not fully ripened.<sup>4</sup> In this paper we focus on representational imperfections and proposed solutions, focusing on arguments and assessments about the modification of electoral law to enhance minority political power in the United States.

Our purpose in the next two sections is to assess several bodies of literature in order to see whether there are scientifically persuasive equilibrium claims about alternative electoral arrangements. We first examine equilibrium theories of single-member district systems, since this is the arrangement according to which most popular legislative bodies are elected in the United States. We then turn to some alternatives to the single-member-district plurality system (SMP) that put greater emphasis on proportionality. These are multimember-district systems, in which voters may cast one or more votes. Single nontransferable voting (SNTV), limited voting (LV),

and cumulative voting (CV) are the alternatives reformers most frequently suggest for the United States. The next section turns to more empirical matters, examining comparative evidence of minority representation in different electoral contexts. What we learn from these theoretical and empirical surveys is that at present compelling evidence is unavailable to warrant much faith in strong equilibrium claims: This is not so much a rejection of any reform agenda as it is a practical admission of scientific ignorance. In the concluding section we return to some of the substantive issues involving electoral reform in the United States.

### A Theoretical Assessment of Plurality Systems

#### *First Past the Post*

The SMP system, also known as "first past the post," awards a single prize to the contestant who obtains the most votes. The prize is singular and indivisible, which means that, with  $m$  candidates, there will always be  $m - 1$  "losers." Only relative position in the vote outcome matters, and a miss is as good as a mile. Second, the winner is popular only in the narrow sense that he or she obtains more votes than any other. But in at least two other senses, this winner may not be very popular at all. On the one hand, he or she may be the beneficiary of strategic preference revelation by voters; as such, the winner's votes are given only grudgingly by at least some of his or her nominal supporters. On the other hand, even putting strategic behavior to one side, it is entirely possible that some other candidate is more popular in the sense that the latter could defeat every other candidate in a pairwise contest. This so-called Condorcet winner may not fare well in a plurality contest, because he or she may lack a large number of top-preference evaluations from voters, yet nevertheless be preferred by majorities to each other candidate. Thus, a plurality winner has a relatively weak popular claim to victory; getting more votes than someone else may be trumped by some other standard or desideratum.

This property has led critics to claim that SMP systems are disempowering. In a two-candidate race for a single seat, for instance, it is possible for just under 50 percent of the constituency to be "without representation." In a three-candidate race, it is possible for nearly 67 percent of the voters to back a loser. Generally, in an  $m$ -candidate race, as much as  $100(1 - 1/m)$  percent of the electorate may not have elected a representative. In these circumstances it is often argued that many voters waste their votes, where "waste" means "not voting for the winner." These voters, moreover, are thought to be effectively disempowered and without influence as a result of having wasted their votes in this sense. Normative disapproval follows: "Procedural justice challenges the entitlement of . . . a 51 percent

majority to exercise 100 percent of the power. . . . The majority should enjoy a majority of the power; but the minority should also enjoy some power too."<sup>5</sup>

Such normative claims and the issues that underlie them deserve more rigorous treatment. Here we introduce a formal structure—incredibly simple, to be sure—to enable us to think analytically about electoral-system effects on minority representation. This structure is the Hotelling-Downs spatial model. Consider a one-dimensional issue space, say the bounded interval  $[0, 100]$ . This may be a dimension of general ideology, with 0 constituting the extreme left and 100 the extreme right; or it may represent a singularly salient policy—say, the appropriate "proportion" of economic activity that remains outside of governmental regulation—with 0 constituting a fully socialized economy and 100 the free-market apex. This issue space serves the dual purpose of representing both voter tastes and candidate strategies.

Each voter is associated with an ideal point—the voter's most-preferred policy in the  $[0, 100]$  interval—and single-peaked preferences. The latter reflects the assumption that voter preferences for policy decline monotonically in either direction from her ideal policy. Under these circumstances, Duncan Black's famous Median Voter Theorem informs us that when the number of voters is odd and each voter votes, there is a unique policy in the  $[0, 100]$  interval that can command a simple majority over every other policy. That point is the ideal policy of the median voter. If one labeled voters numerically, with voter 1 possessing the left-most ideal point and voter  $n$  the right-most, then voter  $(n + 1)/2$  is in the catbird seat. If, for example, voters are evenly distributed in the interval  $[10, 100]$ —forming a slightly "right-leaning" constituency—then the median ideal point, located at 55, is the policy position that can defeat any other by a simple majority in a pairwise contest.

The important substantive point of this theorem is the *centripetal tendency* of pure majority rule.<sup>6</sup> Thus, if two candidates were to compete for one legislative seat in this constituency, with each voter supporting the candidate whose announced policy is closest to his or her ideal, there would be strong electoral pressures on the candidates to converge in their announcements toward the median voter ideal. This conclusion holds whether candidates are *office seeking* (the classic Downsian politician) or *policy seeking*.<sup>7</sup>

In equilibrium, then, the two candidates will converge toward the median. In practice, of course, one may be slightly to its left and the other slightly to its right. The winner will be the one closest to it. And, as is claimed by some, those who did not vote for the winning candidate go unrepresented; indeed, it might even be alleged that only those with preferences very much like the median voter are represented at all, with those in

the tails of the ideal point distribution unrepresented. This, at least, is the flavor of indictments of SMP referred to at the beginning of this section.

Now suppose that, in the spirit of 1965, a voting rights act is passed enfranchising  $m$  additional voters. (Assume  $m$  is even, a harmless assumption that simplifies the exposition.) Suppose all these voters possess ideal points on the left-hand side of  $[0, 100]$ , between 0 and 10 on the dimension. What happens now? The electorate is now  $m + n$  in size. Let us renumber the voters in this new electorate so that voters numbered 1 to  $m$  are the new voters (and are left-most) and voters numbered  $m + 1$  to  $m + n$  are the original voters (and are right-most). The Median Voter Theorem again applies, suggesting that through political competition, the two candidate announcements will converge on the ideal policy of voter  $(m + n + 1)/2$ . It is easy to show that this outcome is to the left of the outcome in the electorate of size  $n$ —the median of the expanded electorate has been shifted leftward.<sup>8</sup> If, for instance, the  $m + n$  voters of the new electorate are now evenly distributed in  $[0, 100]$ , the new median is at 50 instead of 55.

This exercise demonstrates that assessing claims of nonrepresentation, ineffectuality, and wasted votes frequently leveled at SMP is not a simple matter. The application of the most basic model of electoral competition—the Hotelling-Downs spatial model—suggests that a newly enfranchised group of voters may influence candidate positions even when that group elects no representative from its own ranks. The inclusion of the new voters altered the equilibrium location *in the direction of their own preferences*. Put slightly differently, the pivotal voter in the new constituency is someone whose ideal policy the new voters *prefer* to the ideal policy of the “old” pivot. More generally, since this applies to almost any equilibrium situation, the outcome responds to the preferences of all voters in the sense that they pull the equilibrium toward them or prevent it from drifting farther from them; in equilibrium, there is balance, and each voter is influential in sustaining it.<sup>9</sup>

### More Equilibrium Results for SMP

Nevertheless, the inventor of this spatial model, Harold Hotelling, worried about the apparent lack of choice electoral incentives provide.<sup>10</sup> It turns out, however, that equilibrium convergence—what Hotelling termed an “excessive sameness”—is in many respects a peculiarity of the two-candidate world only (with qualifications to be mentioned below). With  $k \geq 4$ ,  $k$  candidates will evenly locate themselves throughout the voter distribution.<sup>11</sup>

To see this, define an *electoral equilibrium* as a set of  $k$  locations in  $[0, 100]$ , one for each of  $k$  candidates, such that no candidate has any incentive to alter her location. Let  $x_i$  be the location of the  $i^{\text{th}}$  candidate. Candidate  $i$

is *interior* if she has candidate neighbors on either side; otherwise she is *peripheral*. She is said to be *paired* if another candidate occupies the same electoral position. Call candidate  $i$ 's *electoral support* the set of voter ideal points closer to  $x_i$  than to any other candidate location, and partition this support into *left-hand* and *right-hand support* (generically, *half-support*). A theorem by Eaton and Lipsey provides the necessary and sufficient conditions for an electoral equilibrium:<sup>12</sup>

*Theorem (Eaton and Lipsey):* If voter ideals are uniformly distributed in the interval  $[0, 100]$  and if each voter votes for the candidate closest to his or her ideal, then  $(x_1, x_2, \dots, x_k)$  is an electoral equilibrium of electoral-support-maximizing candidates if and only if (1) no candidate's electoral support is smaller than any other candidate's half-support and (2) peripheral candidates are paired.

The intuition here is that, first, if any candidate's electoral support were smaller than some other's half-support, the former could relocate to the position of the latter, share equally in the latter's support, and still do better than if he or she had stayed put; and second, if a peripheral candidate were unpaired, then there would be nothing preventing him from converging to his (only) neighbor.<sup>13</sup>

This theorem subsumes the two-candidate Median Voter Theorem. When  $k = 2$ , both candidates are peripheral and thus must be paired (condition 2 above). The only location for this pairing for which no incentives to change apply is at the median voter's ideal. In addition, the theorem provides equilibrium locations for other values of  $k$ . For  $k = 3$ , as noted, no configuration of candidate locations satisfies the conditions of the theorem. For  $k = 4$ ,  $(x_1, x_2, x_3, x_4) = (25, 25, 75, 75)$  is the equilibrium. For five candidates,  $(16.67, 16.67, 50, 83.67, 83.67)$  is the equilibrium. For  $k \geq 6$ , equilibrium is no longer unique. In all these cases, however, except  $k = 2$ , an equilibrium consists of candidates spreading themselves throughout the policy interval. Voters are not confronted by an “excessive sameness.”

There are three premises in the Eaton-Lipsey theorem that, though stated above, nevertheless may require some elaboration. We have already noted that, first, the theorem assumes a *uniform distribution of voter ideal points*. Relaxation of this restriction does not significantly alter the theorem's conclusion. The conditions in the theorem are still necessary but are no longer sufficient; Eaton and Lipsey provide the additional conditions for sufficiency.

The second premise of significance is that of *voter sincerity*. Each voter is assumed to vote for the candidate whose announced policy position is closest to her ideal policy. One of the contributing causes of Duverger's Law, however, is a “psychological effect” in which voters are alleged to be averse to wasting their votes on hopeless candidacies.<sup>14</sup> Voters, that is, may vote *strategically*, thereby abandoning the candidate closest to them. A

theorem by Feddersen, Sened, and Wright shows that, with strategic voting, the "uniform spread" of candidate locations in the Eaton-Lipsey equilibrium no longer holds.<sup>15</sup> Indeed, dramatically to the contrary, *all* candidates will locate at the median voter's ideal, reinstating Hotelling's "excessive sameness."

Third, candidates in the Eaton-Lipsey theorem were assumed to be *maximizers of electoral support*. But, it might reasonably be claimed, candidates are not interested in votes per se; they are interested in winning an office or in implementing specific policies. At best, votes are intermediate objectives. Cox addresses this issue (though he retains the assumption of sincere voting) by suggesting alternatives to the vote-maximizing objective.<sup>16</sup> Suppose each candidate is interested in maximizing the *difference* between her vote total and that of her most serious competitor; among the candidate locations that do this, she is interested in maximizing the difference between her vote total and that of her second most serious competitor; and so on. That is, a candidate is interested in her *plurality* since, under SMP, only the locational strategy that yields a positive plurality against each and every competitor assures office. Cox calls this lexicographic decision rule for strategy selection *complete plurality maximization*, and seeks equilibrium spatial distributions of candidate policy positions. He proves the following:

*Theorem (Cox):* If the distribution of voter ideals is uniform on  $[0, 100]$ , if voters cast sincere ballots, and if  $k \geq 3$  candidates are complete plurality maximizers in a SMP election, then (1) if  $k$  is odd there is no equilibrium and (2) if  $k$  is even, then the equilibrium has candidates paired at equally spaced points,  $100/k, 300/k, \dots, 100(k-1)/k$ .

In this case, then, there is not always an equilibrium, but when one exists, it covers the whole spectrum. If, for example, there were ten candidates, then there would be five equilibrium locations—10, 30, 50, 70, and 90—each occupied by two candidates.

The reader's eyes may be glazing over by this point. We do not wish to put too fine a point on the details of the various theorems we have reviewed above (and there are many more where those come from). What we hope the preceding discussion has served to illustrate is that a significant body of formal literature exists on electoral implications for representation. At the very least, this literature indicates that representations is more than a matter of a group electing its own candidates. Our discussion shows that even with so straightforward and well known an electoral arrangement as the one-winner/plurality-rule system, equilibrium situations are neither robust nor unconditional.

Equilibriums in electoral models depend on candidate objectives and behavioral principles in addition to the mechanical features of electoral

law, and these vary from specification to specification. Hence, any equilibrium claim relies heavily on contextual detail. Finally, theory indicates that for some specifications there are simply *no* equilibriums. Together these lessons from the formal literature indicate that caution is warranted in advancing equilibrium claims—arguments that proponents of electoral reform are implicitly making.

Unfortunately for the issue of racial representation, the vast majority of the formal literature we have been discussing on electoral properties deals with standard Downsian issue dimensions, and not race. There is strong evidence that the issue of race is different in kind than the policy-oriented issues which the Hotelling-Downs model assumes.<sup>17</sup> If voters of different races cast their ballots in self-contained blocs, for instance, then the equilibrium influences suggested by our exposition of spatial models may be undermined. This is why the issue of racial bloc voting deserves special attention.

### *Equilibrium Results with Racial Bloc Voting*

The experience with vote dilution suggests that a straightforward application of the Hotelling-Downs model is inappropriate. In county after county, especially in the deep South, white politicians and electors have managed to maintain an *electoral cartel*, effectively diluting minority votes; minority voters go un- or underrepresented on numerous school boards, city councils, and county planning bodies. These instances constitute more than racial bloc voting; they evidence a degree of coordination on the candidate supply side as well.

To accommodate these factors we return to our one-dimensional world with  $n$  "majority" voters with ideals in the  $[0, 100]$  interval and  $m$  "minority" voters with ideals in  $[0, 10]$ , where  $m < n$ . In the expanded  $(m+n)$ -person electorate, the median is voter  $(m+n+1)/2$ , whereas in the original electorate, the median is voter  $[m+(n+1)/2]$ , according to the  $(m+n)$ -electorate counting convention. The new median is to the left of the old. Now we add:

*Bloc Voting Stipulation:* No (majority or minority) elector votes for a candidate of the other group.

If there were two candidates only, one from each group, then the majority candidate would clearly triumph and, with no further contextual detail, her spatial position could be anywhere in  $[0, 100]$ . The bloc voting stipulation guarantees victory for the majority candidate, whatever her spatial position. If the two candidates were the representatives of group political parties, on the other hand, each of whom had triumphed in a primary or other

party selection process, then it is likely that they would be located at the respective group medians, the ideal points of voters  $(m + 1)/2$  and  $[m + (n + 1)/2]$ , respectively, of the full  $(m + n)$ -person electorate. The majority candidate at the latter position would then win.

It is easy to see that this location is to the right of voter  $(m + n + 1)/2$ —the winning location in the non-bloc-voting scenario—and is identical to the winning position in the pre-Voting Rights Act expansion of the electorate from  $n$  to  $m + n$ . So, in a world of bloc voting, with one candidate per bloc, the minority is completely shut out. Not only can it not elect one of its own; it cannot even influence whom the majority elects.

This example, however, is extreme in at least two respects. First, at the candidate level, the restriction to exactly one candidate per group suggests a degree of group control over entry and of group regulation of political competition that is inordinate. Second, at the voter level, the bloc voting stipulation is extreme. Even with group candidates located at the respective group median ideal points given above, it is surely imaginable that some left-leaning majority group members and right-leaning minority group members might desert the candidacy of their respective group nominees. That is, even though group members are disposed to support the group candidate, they may desert him or her if the opposing candidate is sufficiently more attractive in policy terms.

These factors, in turn, would affect (or at least could affect) the spatial positions of the nominees. Even if we refrain for the moment the assumption of group control over candidate entry (one per group), ex post group cohesiveness and candidate locations are interdependent. In equilibrium, an interesting result may transpire. Sophisticated voters in the majority group nominate a candidate to the left of its group median to reduce the potential for majority defections, and sophisticated voters in the minority group nominate a candidate to the right of its group median to encourage majority crossovers. The majority candidate nevertheless prevails *with almost perfect bloc voting*. That is, as long as bloc voting is not absolutely binding, the actual extent of bloc voting should be seen as a *consequence* of group politics (especially entry control), not as a rigid sociological law.

There is an interesting legal implication of this last development. Notice that the winning candidate is from the majority group and that there is nearly perfect bloc voting. But also notice that the winning candidate's position is to the left of ideal point  $[m + (n + 1)/2]$ , the winning location if the majority shuts the minority out completely. Less than perfectly binding group cohesiveness has pulled the position of the winning majority candidate toward the ideal points of the minority group. This is now an "influence district," even though conventional court criteria (in U.S. civil rights litigation) would regard the extensive bloc voting as an impermissible in-

stance of group polarization. In short, polarized voting and the group identity of the winning candidate are *part of an equilibrium*. They reflect the potential of individuals to break free of group criteria, if only slightly (since we have relaxed the bloc voting stipulation), and it would be misleading to confuse bloc voting *in equilibrium* with bloc voting as an exogenous constraint. From a legal point of view, the voting polarization evident in this example is the *wrong* dependent variable on which to focus; the position of the winning candidate is the appropriate one.<sup>18</sup>

U.S. Senate elections in southern states display this electoral dynamic. Minority enfranchisement has, in the nearly thirty years since the passage of the Voting Rights Act, significantly influenced candidacies, strategies, and ultimate winners in Senate contests. One of the strong conclusions of the modern literature on the U.S. Congress is the degree to which floor-voting differences between southern Democrats and northern Democrats have virtually disappeared, a phenomenon attributed to the changing racial composition of southern constituencies.<sup>19</sup> Trent Lott (R-Miss.) is not Theodore Bilbo (D-Miss.); Strom Thurmond (R-S.C.), 1993 version, is not Strom Thurmond (D-S.C.), 1963 version.<sup>20</sup>

This has hardly been a systematic examination of the problem of bloc voting. But it does suggest the kinds of analysis that formal modeling permits. Our own extension of spatial analysis to accommodate racial phenomena like bloc voting has been casual. Such analyses must be performed when considering the representational ramifications of electoral law. We encourage more rigorous extension of the models reviewed here to racial issues, under the complicated conditions found in real politics. At the same time, we discourage the facile embrace of electoral reform proposals claiming implicitly to have resolved these formal issues.

### Theoretical Alternatives to SMP

Bruce Cain recently noted that the Supreme Court "has steadfastly denied . . . a right to proportional representation, even while accepting a disproportional relationship between population and representation as an indicator of voting rights violation."<sup>21</sup> This position does not mandate departures from SMP, but it surely opens the door to this possibility. Moreover, as Cain observes, it is hard to get away from some aspect of proportionality or symmetry or monotonicity in constructing "fair" electoral machinery. The issue of electoral proportionality arises because minority voting rights are often diluted by majority manipulation of the electoral machinery. This is alleged to disempower minorities even if it does not disenfranchise them. Voting rights are preserved, but voter influence is diminished.

One solution to disproportionality is the creation of minority districts—preserving SMP, but drawing district boundaries to assure minorities the capacity to elect “representatives of choice.” There are, however, many critics of this solution. Some feel it violates the spirit, if not the letter, of the Voting Rights Act of 1965 by providing for minority legislative quotas.<sup>22</sup> Others charge minority districts are a form of tokenism, doing little more than subsidizing the careers of a small number of minority politicians.<sup>23</sup> Still others wonder about the wisdom of trading off some influence in many districts for complete influence in considerably fewer, and about the impracticalities of creating districts secure for minorities even if the trade-off were worth it.<sup>24</sup>

Students of voting rights have, as a consequence, turned their attention to alternatives. The electoral target drawing much of their attention is the *single-member district*. The unitary and indivisible nature of political prizes under single-seat plurality contests, it is alleged, ill serves minority populations, at best providing them with a modest amount of influence and, perhaps, a small handful of tokens. Guinier exemplifies this view. She claims that SMP arrangements fail to “(1) mobilize broad based voter participation, (2) foster substantive, issue oriented debate, (3) reinforce a sense of genuine inclusion as opposed to token representation, and (4) allow authentic leaders to emerge.”<sup>25</sup> While Guinier’s desiderata are both vague and contestable—indeed, nearly fifty years of social-choice theory suggests that such criteria are often jointly unattainable under *any* arrangements—she does underscore the need for systemically examining alternative electoral institutions.

### Generalizing Electoral Institutions

The categories of electoral system that have been devised or proposed stand as monuments to the human capacity for inventiveness. The sheer variety of ways to assign, cast, and count votes, on the one hand, and translate the results into an allocation of seats in an elected body, on the other, boggles the mind.<sup>26</sup> Cutting through this variety is no mean feat, and it is small wonder that both theoretical and empirical literatures on electoral systems tend to be disjointed and unorganized.

A body of work by Gary Cox, however, has sought to bring some of the issues into focus.<sup>27</sup> Cox, while consciously oversimplifying, defines an *electoral system* in terms of five bits of information—a five-tuple  $(v, p, c, k, f)$ .<sup>28</sup> The first parameter,  $v$ , is the number of votes each elector may cast. Parameter  $p$  is a dummy variable equal to 1 if  $v > 1$  and *partial abstention* (casting fewer than  $v$  but more than 0 votes) is permitted;  $p = 0$  otherwise. Parameter  $c$  is also a dummy variable equal to 1 if  $v > 1$  and electors are

allowed to *cumulate* their votes (cast more than one vote for a candidate);  $c = 0$  otherwise. Parameter  $k$  is a measure of *district magnitude* (the number of seats at stake in the district). Finally,  $f$  describes the *formula* by which votes cast are translated into seat allocations.

To illustrate, SMP allows each elector to cast one vote; he or she can, as a consequence, neither partially abstain nor cumulate votes; exactly one seat is at stake; and the winner is the candidate with the most votes. That is, SMP is described by the five-tuple  $(v = 1, p = 0, c = 0, k = 1, f = \text{plurality})$ . With this notation we can also describe a number of alternative electoral systems that have been proposed by voting rights scholars. All seek a more proportional outcome by rejecting single-member districts.

The *single nontransferable vote* (SNTV), a system used in Taiwan and in Japan until 1994, elects a legislature from multimeber districts (in Japan the district magnitude is 3, 4, or 5). Each elector casts a single vote. The top  $k$  vote getters are elected. Thus, as practiced in Japan, for example, SNTV =  $(v = 1, p = 0, c = 0, k = 3, 4, \text{ or } 5, f = \text{plurality})$ . Thus, SNTV is seen as a straightforward generalization of SMP. The only difference is a larger district magnitude (which might be called MMP, for multimeber plurality, in which the winners are first  $k$  candidates past the post).

The *limited vote* (LV) generalizes SNTV in the sense that it allows electors to cast multiple votes; but they may neither partially abstain nor cumulate votes. Thus, LV =  $(1 < v < k, p = 0, c = 0, k, f = \text{plurality})$ .

The *cumulative vote* (CV) gives each voter as many votes as there are seats to be filled and allows cumulation (but typically not partial abstention): CV =  $(v = k, p = 0, c = 1, k, f = \text{plurality})$ . Illinois, for a century after 1870, elected its lower house by cumulative voting. Each district elected three representatives. Each elector cast three votes in any one of the following ways: one vote for each of three candidates; one and a half votes for each of two candidates; or three votes for a single candidate.<sup>29</sup>

In addition to the variations on SMP just reviewed, all of which retain the plurality formula, there is a large family of explicitly proportional electoral systems. These systems are party-oriented rather than candidate oriented, and are referred to as *party list systems*. Each party presents electors with a list of candidates. Electors cast a single vote for a party (some systems provide the means for electors to reveal a candidate preference within a party list). Each party whose popular vote percentage exceeds an exogenously specified *threshold* qualifies for seats. The formula for proportionally allocating these seats among qualifying parties varies from system to system (mostly depending upon arithmetical details concerning how fractional seats are allocated). We will not devote further attention to these strict proportional representation systems, since they are less relevant to minority representation in the United States.<sup>30</sup>



### Electoral System Influence on Group Success

Under SMP, a group with 50 percent + 1 of the vote can guarantee itself a seat by coordinating on a single candidate and voting cohesively. A smaller group *may* win, but this will depend upon within-group coordination and cohesion as well as malcoordination and fractionalization among those not in the group.<sup>31</sup>

More generally, suppose there are  $n$  electors, each with  $v$  votes, and seats to be allocated to the first  $k$  candidates past the post. The number of votes sufficient to guarantee a candidate election is sometimes called the *threshold of exclusion*, or  $T$ ; any candidate whose vote total exceeds  $T$  is assured a seat. It may be seen that  $T = nv/(k+1)$  as follows. Suppose that  $k$  candidates each exceeded  $T$ . We show that no other candidate could finish among the top  $k$  vote-getters. For the  $k$  candidates exceeding the threshold, their combined vote is greater than  $kT$ , or  $k[nv/(k+1)]$ . The total vote remaining, then, is less than  $nv - k[nv/(k+1)]$ , or  $[(k+1) - k][nv/(k+1)]$ . Simplifying, the total vote remaining is less than  $nv/(k+1)$ . That is, the remaining vote is less than  $T$ , and thus no other candidate could obtain as many votes as the  $k$  candidates who exceeded  $T$ .<sup>32</sup>

This means that a group of electors can guarantee itself representation as a function of its size and the district magnitude. For SNTV and CV, if the group size exceeds  $T/v = n/(k+1)$ , then that group can guarantee itself a seat.<sup>33</sup> Table 3.1 gives this sufficient group size as a function of district magnitude. The minimum sufficient size under LV depends upon whether electors can cumulate or not. The results given in table 3.1 apply to LV *with* cumulation.

If electors cannot cumulate, then some additional analysis of LV is required. Suppose the electorate is size  $n$ , the district magnitude is  $k$ , and each elector is given  $v$  votes. Consider a group  $G$  of size  $g$ . Though  $G$  controls  $gv$  votes in total, it may not cast more than  $g$  of these votes for any one candidate because of the prohibition against cumulation. So, the question is: When will  $g$  votes be sufficient under LV? In the worst case, the  $n-g$  other electors spread their  $(n-g)v$  votes evenly among  $k$  candidates, each of whom obtains  $(n-g)v/k$  votes. In order for  $G$  to succeed,  $g$  must exceed this number:  $g > (n-g)v/k$ , or  $g > nv/(k+v)$ . Put in a slightly different form,  $g > n/[(k/v) + 1]$ . In contrast, SNTV, CV, and LV *with* cumulation require  $g > n/(k+1)$ . The right-hand side of this latter inequality is smaller than the right-hand side of the former inequality. Hence, group  $G$  must be *larger* under LV if it cannot cumulate. Table 3.2 gives values for  $g$  sufficient to guarantee group success under LV for various values of  $k$  and  $v$  (and the noncumulation restriction).

Several features of this display are worth noting. First, whenever each

TABLE 3.1  
Group Size and District Magnitude (SNTV, CV, LV  
with Cumulation)

District Magnitude (k)	Sufficient Group Size (g)
1	$n/2$
2	$n/3$
3	$n/4$
4	$n/5$

TABLE 3.2  
Group Size and District Magnitude (LV without Cumulation)

District Magnitude (k)	Number of Votes (v)	Group Size (g) Must Exceed
1	1	$n/2$
2	1	$n/3$
2	2	$n/2$
3	1	$n/4$
3	2	$2n/5$
4	3	$n/2$
4	1	$n/5$
4	2	$n/3$
4	3	$3n/7$
4	4	$n/2$

elector has as many votes as there are seats— $v = k$ —then only groups of majority size are assured a seat under LV without cumulation. Indeed, in this case a majority is assured *all* the seats, and any minority is shut out absolutely, as long as the majority electors can agree on the  $k$  candidates to support. Second, without cumulation, LV is most propitious for a minority when  $v/k$  is small: the larger this ratio, the bigger  $g$  must be. Third, comparing the two tables, a group must be larger to assure a seat when it cannot cumulate its votes than when it can (except in the degenerate case,  $v = 1$ , in which LV with and without cumulation, CV, and SNTV are identical).<sup>34</sup>

As this initial analysis suggests, with exceptions as noted, alternatives to single-member districts do permit cohesive minorities to organize to secure representation.<sup>35</sup> Additionally, these alternatives render moot most issues of *distorting*, and the shenanigans associated with gerrymandering. Given exogenously established political units like states, counties, and cities, representative bodies (state legislatures, county planning boards, city councils, respectively) may be elected at-large under one of these alternative electoral systems in a manner that preserves the representative preferences of sufficiently large and well-organized groups (as given in the tables above).



It should also be noted that groups that secure representation satisfy the principle of free association.<sup>36</sup> If spatially dispersed left-handed Lithuanian Americans want common representation, then so long as they are a large enough minority, and so long as they explicitly or implicitly coordinate sufficiently, this representational preference can be accommodated.

Finally, let us emphasize again that what we have described are conditions on group size *sufficient* to assure the group of *one* representative. A group may do better—even a relatively small group—if its opposition is disorganized. The strategic issue facing the group in this case is the matter of *how many* representatives to support (or how many to nominate).<sup>37</sup> Of course, a group that tries to improve on what it could *guarantee* if self engages in a risky course of action, since it may overestimate or be strategically deceived by (apparent but not real) disorganization in the opposition.

### *Electoral System Influence on Group Incentives*

Any theoretical investigation of multimember electoral systems would be incomplete without examining the incentives these electoral systems provide for individuals and groups. For this purpose, it is useful to return to our one-dimensional spatial formulation and some explicit models of political competition.

Cox's model of double-member plurality districts is especially simple.<sup>38</sup> This electoral system, which Cox reports was the most common in England from the thirteenth through most of the nineteenth century (and at least through the 1970s was common in a number of U.S. state legislative electoral systems), is described by ( $v = 2$ ,  $p = 0$ ,  $c = 0$ ,  $k = 2$ ,  $f = \text{plurality}$ ). Each elector is endowed with two votes, which she must cast for two distinct candidates; the top two vote getters win.

Each of the  $n$  electors is assumed to have an ideal point in the  $[0, 100]$  interval and to vote *sincerely*—that is, for the two candidates whose spatial locations are closest to her ideal point. Each candidate maximizes its *vote margin*, defined as follows. Let  $v_j$  denote the total vote received by candidate  $j$ . If  $j$  is among the top two, define  $j$ 's margin as  $M_j = v_j - v_3$ , where  $v_3$  is the vote total of the candidate finishing just out of the running; in this case,  $M_j$  is  $j$ 's margin of victory. If, on the other hand,  $j$  is not among the top two, then define  $j$ 's margin as  $M_j = v_j - v_2$ , where  $v_2$  is the vote total of the second-place finisher; in this case,  $M_j$ , which is negative, is a measure of how far short  $j$  falls of winning. Candidates are assumed to want to maximize their vote margin.

With this setup, which does no great injustice to a historically common multimember district electoral system, we may now determine the electoral

incentives for candidates. They are surprising. Cox proves that if there are three candidates, their respective locations in equilibrium are given by  $x_1 = x_2 = x_3$ —that is, all candidates *converge* to a common electoral location.<sup>39</sup> Thus, even though, as we saw above, a minority group may be sufficiently large to elect a "candidate of choice," *there may not be a whole lot of choice* since candidates, interested in securing their electoral base, have strong incentives to converge toward one another.

Cox reports a second, similar result for the case where there are four candidates. The four, in equilibrium, converge to the ideal point of the median voter. Here, his result holds only for electorates where  $n$  is odd. He concludes that "the centrist bias of single-member districts is not unique."<sup>40</sup>

Although the results are limited in a variety of ways—to only three- and four-candidate contests, unidimensional voter preferences, and sincere voting—they are quite important because they lucidly demonstrate that incentives for groups of voters and candidates are not at all transparent. Thinking with electoral systems is a complicated matter. Moreover, Cox generalizes these results substantially in a subsequent paper.<sup>41</sup> In doing so, he suggests that there is a quite subtle relationship among the number of votes per elector ( $v$ ), district magnitude ( $k$ ), and number of candidates ( $m$ ).

First, he shows, for *all* multimember-district/plurality electoral systems that disallow cumulation or partial abstention, the central-clustering-of-candidates result reported above holds whenever the number of candidates is bounded from below by district magnitude and from above by twice the number of votes per elector—that is, whenever  $k \leq m \leq 2v$ . Thus, in an eleven-seat ( $k = 11$ ) county planning commission elected at-large, where each elector votes for nine candidates ( $v = 9$ ), convergence occurs whenever the number of candidates ( $m$ ) is between eleven and eighteen.

Second, Cox proves that if the number of candidates is larger than  $2v$ , then there will be some dispersion of candidate positions. Specifically, he shows that, in equilibrium, the farthest left candidate must be at or below the  $(v/m)^{\text{th}}$  percentile of the voter-ideal point distribution, while the farthest right candidate must be at or above the  $(1 - v/m)^{\text{th}}$  percentile. Thus in the example in the previous paragraph, if there were twenty candidates for the eleven planning board seats, then the farthest left candidate must be at or below the 45th percentile and the farthest right candidate at or above the 55th percentile. Cox is unable to be more specific so that it is entirely possible that there will be even more dispersion than this; but it is also quite conceivable that all twenty candidates will be bunched between the 45th and 55th percentiles of the distribution of elector ideal points.

In this same paper, Cox also examines multimember district/plurality systems that permit partial abstention (e.g., Arizona state legislative elections) and those that permit cumulation of votes (e.g., board of director elections in many American corporations). The theorems, which the inter-

ested reader should consult in the original source, are remarkably similar. Some configurations of  $m$ ,  $k$ , and  $v$  yield a median converging equilibrium, while others provide incentives for dispersion.<sup>42</sup>

The theoretical operating characteristics of electoral arrangements depend upon mechanical features, to be sure, but also on voter and candidate behavioral adaptations (strategic interaction). Whether such arrangements yield equilibria, and the properties of equilibria when they exist are anything but straightforward. In summary, equilibrium claims like those made by Guinier and other reformers need to be scrutinized with caution—not because the claims are radical or because they are inspired by normative concerns, but because the claims are about very subtle social systems. Merely asserting a claim does not make it persuasive. *Theory* sustaining the claim is required. So, too, is *evidence* drawn from empirical experience, which is our next topic.

### Alternatives to SMP in Practice: Empirical Evidence

Electoral systems in practice yield a multitude of ingenious and often quite complicated arrangements. While the basic goal of an electoral system is to fill decision-making bodies with elected representatives, the rules transforming the expression of voter preferences into election outcomes can be of almost any variety. The most robust empirical regularity across all this electoral experience is the positive relationship between large-district, proportional-representation systems and success by electoral minorities in gaining seats. In this regard, advocates of alternatives to SMP as a means of enhancing minority representation appear to have the bulk of evidence on their side. The translation of votes into seats, however, is far from a simple, linear process; many institutional, cultural, and informal practices also affect seat outcomes. Often a system designed to serve one purpose results in consequences unforeseen by its designers, consequences that may even be counterproductive for the objectives of the electoral reform. This section examines electoral law in practice, looks at how minority groups have fared under various electoral arrangements, and discusses some of the practical issues involved in shaping governmental institutions to provide greater minority inclusion.

While the ultimate focus of our discussion is minority representation, the presentation that follows is oriented primarily toward minority seat gains. Gaining seats for one's group is sufficient for representation, but we hope the preceding section makes it clear that it is not necessary for representation. Minorities may influence representatives, even those who are not members of their group. Our examination in this section of the effects of electoral law on the seats-votes relationship and the ability of minority

groups to gain seats in representative bodies, however, limits the discussion to more comparable and familiar terrain.

The target of the electoral reforms discussed in this paper is the African American minority in the United States. Looking for comparative evidence of minority representation in other countries, therefore, must account for the inevitable differences between American blacks and electoral minorities in other nations. An ideal minority group for comparison would be one with a similar historical background, not separated from the majority group by linguistic differences, not segregated geographically, and not distinguished by additional cleavages beyond race (such as religion or nationality). For the most part, however, such ideal comparison groups do not exist. Racial minorities in other systems are frequently defined by a multiplicity of cleavages, sometimes owing to an imperial or colonial heritage but also to migrations, war settlements, religious patterns, the socioeconomic legacies of modernization, or subnational tribal or clan allegiances; matters are further complicated in that many of these cleavages may be cross-cutting. In addition, the demographic characteristics of other minority groups vary widely, from their geographical distributions to the population proportions they constitute.

Despite the numerous differences of ethnic minorities across the globe, we believe that fruitful comparisons are possible where electoral consequences are concerned. Even the most basic feature of ethnic minorities—social designation by an identifiable characteristic such as skin color or ethnicity—may be relaxed for the purposes of electoral comparisons. Hence, for present purposes we interpret *electoral minorities* broadly to include any relatively unified voting group seeking to gain seats by fielding its own candidates in elections. Concentration on electoral minorities instead of on racial minorities moves the discussion away from many of the important characteristics unique to individual minority groups, but at the gain of greater understanding of the general problems and possibilities faced by minority groups that compete against majorities in the electoral process. What follows is a selective look at how other minorities have fared under alternative electoral arrangements. The cases are selected to illustrate the possibilities for minority representation through institutional design, and to point out minority groups that might warrant more intensive comparative study.

### SMP Alternatives and Minority Representation in Other Countries

The proposition that large-district, proportional representation (PR) systems are conducive to seat gains by electoral minorities is widely confirmed in practice. This contrasts with the majoritarian tendencies of first-past-the-post systems such as those found in Great Britain, the United

States, and (until recently) New Zealand. In a majority system, 51 percent of the voters can elect the candidate or candidates of their choice; in a plurality election, this threshold may be even lower. Under a system of proportional representation, however, a group's seat share will be more or less proportional to its poll of the vote share, permitting groups with small vote shares to win seats. A party with 20 percent of the votes, for instance, would be expected to gain approximately two seats in a ten-seat district.<sup>43</sup>

Numerous examples of the low barriers to entry and associated seat gains by minorities in PR systems may be found. We alert the reader that the survey of PR is chosen to illustrate the effect of lowered "thresholds of exclusion," not to explore any of the other properties of PR. As we have mentioned previously, list-PR has so few proponents in the American context that its consideration as an electoral alternative is not really warranted here. Nevertheless, for illustrative reasons we do draw some of our examples from this system.

Northern Europe holds many examples of minority parties with small vote shares gaining seats. In Iceland, small parties with vote shares under 10 percent have demonstrated their ability to form and capture seats in the list-PR elections to the sixty-three-member national assembly (the *Althing*). Three new parties formed in the 1980s, two as breakaway factions from larger parties (the Citizens' Party, formed in 1987, and the New Social Democrats, formed in 1983) and one as an independent political movement (the Women's Alliance Party, formed in 1983). The Women's Alliance Party polled 5.5 percent of the vote in its first election, and because of electoral rules gained three seats, almost 5 percent of the *Althing*. In the 1987 election the Women's Alliance Party doubled its seats, roughly proportional to its 10.1 percent vote share. The other new parties experienced similar electoral success: the New Social Democrats won four seats in 1983 with a 7.3 percent vote share; in 1987 the newly formed Citizens' Party captured a 10.9 percent vote share to win seven seats.<sup>44</sup>

Similar seat gains have been realized by small parties in Finnish elections. One minority interest that has maintained a repeated parliamentary presence in Finland's two hundred-member *Eduskunta* (elected by list-PR, but with a 4 percent legal threshold) is the Swedish People's Party, formed in 1906 to protect the rights and interests of Finland's 6 percent (350,000) population of Swedish descent. With a consistent 4.5 to 5.5 percent vote share, the Swedish People's Party has held from ten to twelve seats throughout the 1970s and 1980s.<sup>45</sup>

Regionally based minority parties in southern Europe have also managed to win seats despite their numerically inferior status. Two Spanish regions that have traditionally sought autonomy or even independence, Basque and Catalonia, are both represented in the 350-member House of

Deputies by multiple regional parties. With between 4 and 6 percent of the national vote throughout the 1980s, in list-PR elections, Catalan parties managed to win 13, 18, and 18 seats in the 1982, 1986, and 1989 elections, respectively. Likewise, the Basque parties gained over 10 seats in each election, with between 3 and 4 percent of the vote.<sup>46</sup> Another regionally defined electoral minority that has benefited from its country's extreme PR electoral system is Italy's Northern League. In Italy's 1992 elections, the populist Lombard League drew an 8.7 percent national vote share to capture over 50 seats; in local elections in the main northern cities later that year, they polled over 30 percent of the vote to become a major force in government.

Italy's large district magnitudes and large parliamentary size—630 members—made its pre-1994 system extremely proportional, benefiting small parties of all kinds. Of the fifty-four parties contesting the 1992 Italian national election, many small parties winning 5 percent or even less of the vote won seats. These included the Liberals, the Radicals, and the Greens, in addition to the regional parties. But it also includes the neo-Fascist Italian Social Movement, which has held 35-40 seats throughout the 1980s. The presence of many other parties in electoral competition suggests they thought seat gains a possibility, despite small support. These included the Party of Love, whose ticket was headed by a pornography star (another pornography star had won a seat in the 1987 election).

No pornography stars competed in Poland's 1991 national election, but many small parties winning less than 1 percent of the vote share managed to gain seats in the 460-seat Polish Sejm. The Polish political scene, traditionally occupied by numerous parties, was especially crowded on the eve of the first fully democratic election. Struggling to become new parliamentary forces, some sixty-seven parties contested the election. Because of large districts and the absence of threshold requirements, twenty-nine parties won seats in the new parliament, eleven holding only one seat apiece. The variety of parties admitted ranged from traditional, large-issue parties to single-issue and ethnic-national parties, including the Polish Beer-Lovers Party, which won 3.5 percent of the seats (16) with 3.3 percent of the vote. Other parties winning seats polled less than 1 percent of the vote. This contrasts with the electoral laws adopted by Hungary. Its first election in 1990 was contested by approximately forty-five parties, yet only seven were awarded seats. Likewise, Romania's parliamentary election of 1990 saw seventy-four parties competing for votes with only seven awarded seats. The differences are explained almost entirely by electoral rules: Romania imposed a minimum vote threshold that increased progressively according to the number of parties entering the election. Hungary used a mixed-system where half of the seats were decided in single-member majority-system districts, but national-level seats were allocated according to

proportions from the single-member election results, subject to a threshold that affected many of the seats.<sup>47</sup>

Many other examples exist showing how proportional representation electoral rules permit small parties—electoral minorities—to maintain a parliamentary presence. These small groups may be ideological parties, single-issue parties, or nationalist, ethnic, or regional minority parties. Nearly all they have in common is their minority status. One electoral minority, however, that is similar across countries—and electoral systems—is the environmentalists, represented by various Green and ecological parties.

Green parties arose in many advanced industrial democracies in the 1970s and 1980s to focus attention on environmental concerns, nuclear dangers, and general alternatives to traditional politics. Although many differences exist among national Green parties (and many “Green” parties within countries are in fact alliances of smaller ecological parties), Greens provide an interesting comparative case of the fate of electoral minorities under different electoral laws.

Figure 3.1 compares the deviations from proportionality experienced by European Green parties throughout the 1980s. The comparison is between the percentage of votes won by an ecological party in a particular election, and what Taagepera and Shugart have termed the “advantage ratio” ( $A$ ), the percentage of seats won by a particular party divided by its percentage of votes.<sup>48</sup> When  $A = 0$ , the party has obtained no seats. If the party obtains fewer seats than its proportional share, then  $A < 1$ ; and if a party receives a seat proportion greater than its vote share, then  $A > 1$ . The graph shows how nations with different electoral systems yielded different advantage ratios according to whether their vote-counting rules were proportional or plurality/majority. France, with its majoritarian system, maintained an advantage ratio of 0, even in 1993, when the Greens polled around 8 percent of the vote. The same result occurred in Great Britain for all of the elections shown.<sup>49</sup> The middle group of Switzerland (1983), and Belgium, Luxembourg, and Finland experienced advantage ratios between 0.5 and 0.7. Finally, the most proportional countries (Italy, Germany, Sweden) were close to the proportional advantage ratio (1.0) once their vote shares had exceeded around 3 percent. Note the different advantage ratios at different levels of the Green vote share in Sweden and Germany, attributable to the minimum vote thresholds imposed by each country’s electoral law. Both Sweden and Germany have a mixture of district seats and national at-large seats; Germany imposes a 5 percent threshold on national seats (districts use SMP), and Sweden uses a 4 percent threshold (with 12 percent at the district level). This explains why the German Greens attained proportional results in 1983 and 1987, but not in 1980, when they had less

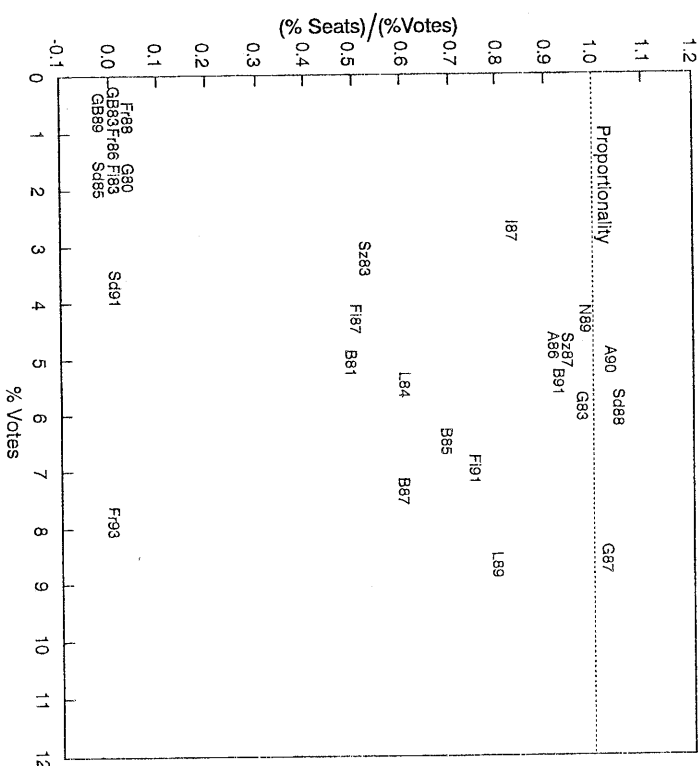


Figure 3.1. Seats-Votes Relationship of European Green Parties in the 1980s. A = Austria, B = Belgium, Fr = France, Fi = Finland, G = Germany, GB = Great Britain, L = Luxembourg, I = Italy, N = Netherlands, Sd = Sweden, Sz = Switzerland.

than a 2 percent vote share, and why the Swedish Green’s advantage ratio was near 1.0 in 1988 but (with under 4 percent of the vote) was 0 in 1980 and 1991. Legal minimum thresholds are a common feature in many PR systems.

One European country—France—presents a rare single-country contrast of the differences between proportional representation and single-member majoritarian electoral systems. For many years using a single-member, majoritarian system to elect its 577-member National Assembly, France switched in 1986 to a system of proportional representation. (After one election, France returned to its majoritarian system for the elections of 1988.) Comparisons of the election in 1986 with other French elections therefore permits a unique opportunity for the study of the political consequences of electoral law. Unfortunately, French ecological parties have

never been a major force, and the 5 percent threshold France used for the 1986 election kept the Green alliance from gaining any seats. Even in 1993, with 7.6 percent of the votes, the ecologist alliance failed to win any seats. In the proportional representation elections to the eighty-one French seats in the European Parliament, however, the Greens gained nine seats with a 10.6 percent vote share in 1989. Another small French party that formed in the 1980s—the National Front—illustrates quite clearly the consequences electoral law can have for the fortunes of electoral minorities.

The electoral vicissitudes of the National Front illustrate not only the differences that institutions make, but also the fact that lowered exclusion thresholds open the possibility of seat gains by *any* well-organized electoral minority, including racist opponents of ethnic minority groups. The National Front is a populist, anti-immigration, extreme right party formed in the early 1980s. It entered the political scene in 1984 by garnering a 10.9 percent vote share in the European Parliament elections, winning ten of France's eighty-one seats. In the 1986 national elections held under PR, the National Front won 35 seats in the National Assembly, with a 9.7 percent vote share. When the electoral law reverted to single-member-district rules for the 1988 national elections, the National Front captured an identical 9.7 percent of the vote, yet won only a single seat. And although it gained 12.5 percent of the votes in the 1993 national elections, the National Front won no seats. The success in 1986 of the National Front, such data suggest, was entirely caused by the use of PR in allocating seats.

The theme common to these numerous examples is that non-single-member, nonplurality, or nonmajority electoral rules enable political groups in the minority to capture seats with small vote shares, but that such access is available to all electoral minorities. Racial minority groups thus have the potential to gain increased representation insofar as they constitute self-contained electoral minorities, although lowering the threshold of exclusion by adopting more proportional electoral laws grants exclusive access to no particular group. The evidence from minorities in other systems conclusively supports the proposition that alternatives to SMP may effectively remove the penalties imposed by winner-take-all systems on minority electoral groups.

### *Plurality Alternatives in the United States*

Although plurality methods predominate in the United States, alternative electoral arrangements have been tried on a limited scale.<sup>50</sup> Cumulative voting was used until 1980 in Illinois to elect the lower house of the state legislature, and is used currently in some Alabama county elections. Recently, a federal court judge ordered cumulative voting for the Worcester

County, Maryland, county commission. CV is also widely used in corporate elections in the United States. Currently, thirteen states permit CV to elect corporate boards of directors, and approximately twenty require it. Experience indicates that cumulative voting in corporate elections prevents a simple majority of the shareholders from electing the entire board, and in at least one well-known instance gave a minority interest control when the majority miscalculated its nomination strategy.<sup>51</sup> Edward Still's examination of CV to elect the county commission, the board of education, and three town councils in Chilton County, Alabama, indicates that blacks were able to use the ability to cumulate their votes for minority candidates to their advantage, breaking the white Democratic monopoly.<sup>52</sup> Other empirical studies of cumulative voting have shown a similar propensity for minorities to use strategic vote cumulation to achieve more proportional outcomes.<sup>53</sup>

Limited voting has received somewhat less application but has been tried in at least twenty-one municipal elections in Alabama and several in Pennsylvania county commissioner elections. The results indicate that LV was conducive to greater black electoral success, although the successes were less marked than those under cumulative voting, perhaps due to the greater exigencies of strategy under LV.<sup>54</sup> These results are consistent with experience in other systems that have used the limited vote. Between 1867 and 1885, for instance, Britain used LV in thirteen three-member constituencies with two votes for each elector; in all but two districts no party won all three seats.<sup>55</sup> Evidence from other countries indicates similar results. In Spain, upper chamber elections have used the limited vote since 1977. In elections to Japan's national assembly (both houses), voters have a single vote in three-, four-, or five-member districts. The results indicate that the LV disadvantages large majorities and achieves results that are increasingly proportional as the votes are more limited.<sup>56</sup>

The single-transferable vote (STV) has received the widest application of alternative electoral methods in the United States. STV has been used in approximately two dozen cities to elect city councils and school boards.<sup>57</sup> In New York City in 1970, blacks comprised more than 20 percent of the population and Puerto Ricans made up approximately 12 percent. On the thirty-seven-member city council, elected by SMP, there were no Puerto Ricans and only two blacks. By contrast, on the newly established 279-member community school boards elected that year by STV, nearly 28 percent (77) of the officials were black or Puerto Rican.<sup>58</sup>

Alternative electoral methods are found in the United States, then, although not on a wide scale. The American flavor of democracy is decidedly plurality, usually (and increasingly) associated with single- or small-magnitude districts. Of the two dozen municipalities using STV, in fact, only Cambridge, Massachusetts, has not changed to plurality elections.

### *Alternative Representational Structures and Minority Inclusion*

Electoral rules (according to the typology we have borrowed from Cox) are but one set of variables in the institutional settings that are designed to represent minorities. Many countries accommodate minority representation by including them in governing by legal means other than lowering the electoral threshold of exclusion. Although PR rules may be part of the representational system, the representational framework is often structured so that various groups are guaranteed seats and offices alongside, or perhaps in spite of, the electoral law.

Many varieties of "workarounds" to the Duverger's Law tendencies of SMP are found in systems that attempt to combine minority representation with the stabilizing influences of single-member districts. These solutions are designed to mitigate the winner-take-all, single-prize character of SMP. Such designs include majoritarian rules, where the top vote getters from the first round of voting face off in a second round if none receives an initial majority (France, 1988-present); special overlapping districts for ethnic minority groups (used to ensure Maori seats in combination with New Zealand's pre-1994 SMP system); national-level PR-determined seats in combination with district-based single-member elections (used in Germany, Sweden, Hungary, and Romania); or districts drawn around populations whose representation is desired, so that majorities are manufactured at the district level (race-based reapportionment in the United States).

Another modification to the single-member district structure involves changing the structure of the ballot to permit an ordinal preference expression. This system is known as the alternative vote (AV), used to elect Australia's lower house, and proposed by Donald Horowitz for use in single-member districts in South Africa.<sup>59</sup> The alternative vote permits each voter to rank candidates, rather than expressing a single first preference. When no candidate receives more than 50 percent of the first preferences cast, the candidate with the least number of first preferences is dropped, and the alternative preferences from his or her ballots are distributed to other candidates, and so on until a candidate has original and transferred first preferences equal to at least 50 percent of the ballots cast. This system "wastes" fewer votes and permits minorities to vote for their first choice while casting an effective preference expression for an alternative candidate in case the first is not elected. Its appropriateness in South Africa was suggested because the use of ordinal preferences is thought to encourage centripetal appeals and discourage ethnic extremism. "Under alternative voting with a majority threshold for victory, many elections will turn on second and third preferences. Parties that succeed in negotiating for second and third prefer-

ences will be rewarded. The price of a successful negotiation is inter-group accommodation and compromise."<sup>60</sup>

Thus, proportional results can be accomplished in a system largely based on SMP, and ethnic representation or centrist appeals can be engineered through means other than sweeping changes of district size and vote-counting rules. Such solutions accomplish specific objectives of representation while preserving the general political characteristics produced by an electoral design constructed according to a particular nation's ideas of governing. These specific solutions, however, are often controversial insofar as they endow the target groups with privileged status.

Such controversy is evident in the decennial redistricting process that occurs in the United States, designed to correct partisan and racial imbalances due to demographic patterns that have changed since the previous census. The practice of drawing districts around concentrations of minority voters, while predominant among current strategies to remedy vote dilution, draws criticism precisely for its fixed nature. African American representation in the United States has seen remarkable gains, but this achievement is owed almost entirely to the deliberate drawing of districts around areas of minority concentration, a form of "affirmative gerrymandering."<sup>61</sup> Hence, proportionality in legislative composition with a single-member district system requires active judicial reapportionment. Once state or local jurisdictions have been found guilty of diluting minority voting strength, courts can order the jurisdiction to create districts of sufficient nonwhite majorities to enforce compliance with the Voting Rights Act. The result is that minority electoral gains become dependent on a form of gerrymandering. Single-member districts have been popular in the black community largely because of the association of multimember districts with the discriminatory at-large plurality elections adopted in the twentieth century to dilute minority votes. The switch to single-member districts by many states in the 1970s and 1980s, in fact, has been associated with gains in minority representation (table 3.3).

One disadvantage of racially based reapportionment is that the solution breaks down when the minority group is geographically dispersed or when multiple minority groups coexist in the same area. Hispanics, for instance, who are less geographically concentrated, have been less successful in gaining seats through the single-member-district approach. Generally, minorities have representation closer to their population strengths in municipal elections, where populations are more identifiable and more concentrated, than in state legislative elections, where more dispersion exists.<sup>62</sup> In addition, redistricting for one minority often has negative consequences for other ethnic constituencies. A frequently cited example of this occurred in 1974 when a court-ordered plan to create minority districts divided the Williamsburgh section of Brooklyn. The Hasidic Jews formerly constitut-

**TABLE 3.3**  
Blacks in State Assemblies under At-Large and Single-Member District Systems (Percentages)

State	Black Population (% of total)		
	(1980)	MMD (1971)	SMD (1981)
Alabama	24.5	1.9	12.4
Georgia	26.2	7.2	11.7
Louisiana	29.6	1.0	9.5
Mississippi	35.1	0.8	12.3
South Carolina	31.0	2.4	12.1
Texas	12.5	1.3	8.7

Source: Joint Center for Political Study, *National Roster of Black Elected Officials*, vol. 1 (1976), vol. 6 (1976), and vol. 11 (1981). In Amy 1993.

ing a majority in their district suddenly became minorities in districts that were predominantly black and Hispanic.<sup>63</sup> The electoral success of the latter groups came at the expense of the former, because of the zero-sum nature of representing subinterests through districts.

How districts are drawn, in fact, has tremendous implications for racial representation and general race relations in society. Two nations with sharp ethnic divisions, Sri Lanka and Malaysia, both adopted SMP electoral systems, yet each produced different ethnic tendencies. The Malaysian districts, drawn around ethnically heterogeneous populations, encouraged "vote pooling," where candidates had incentives to make moderate and transethnic appeals to maximize their support. In Sri Lanka, where districts were more ethnically homogeneous, the result was a more divisive series of ethnic parties competing with one another.<sup>64</sup>

One much-debated extra-electoral representational structure is known as *consociationalism*. Consociational democracies accomplish representation of various segments in a divided society by devices designed to mitigate the effects of pure majority rule. Consociational features have been implemented in Belgium, Switzerland, Austria, and Malaysia and have been proposed for a democratic South Africa.<sup>65</sup>

Especially in plural societies—societies that are sharply divided along religious, ideological, linguistic, cultural, ethnic, or racial lines into virtually separate subsocieties with their own political parties, interest groups, and media of communication—the flexibility necessary for majoritarian democracy is absent. Under these conditions, majority rule is not only undemocratic but also dangerous, because minorities that are continually denied access to power will feel excluded and discriminated against and will lose their allegiance to the regime.<sup>66</sup>

Features of these "consensus democracies" include executive power sharing, separation of powers, proportionate minority representation in legislatures and civil service posts, federalism and decentralization, and a minority veto over important matters affecting the minority interest. In nations like Belgium, where the country is divided between French and Flemish speakers, institutional arrangements exist to guarantee representation for each segment. The Belgian constitution was amended in 1970 to recognize the linguistic cleavage formally, dividing members of parliament into two separate Cultural Councils that serve as "parliaments" in the domain of cultural and educational autonomy granted to each linguistic community. Laws affecting cultural autonomy must be passed with a two-thirds majority including the concurrent majority of each language group. In addition, the French-speaking minority can appeal any bill that threatens its interests to the cabinet, which is composed of equal numbers of Flemish and French speakers. Bilingual Brussels is governed by a similar arrangement.<sup>67</sup> Even the three major political parties, differentiated along issue and religious lines, are divided into separate camps for the French and Flemish-speaking constituents.<sup>68</sup>

Switzerland has a similar arrangement in the form of its Federal Council, the seven-member executive that since 1959 has been divided among the Radical Democrats, the Christian Democrats, and the Social Democrats, with two members apiece, and one member supplied from the Swiss People's Party. In addition, the seven members are also selected to represent Switzerland's multiple linguistic groups proportionally, four or five German speakers, one or two French speakers, and frequently an Italian speaker. Both the party and the linguistic rule are informal but are strictly obeyed.<sup>69</sup>

Consociationalism, like list-PR, is virtually absent from the discourse of political reform in the United States. This is no doubt due to its anti-majoritarian character, which strikes many Americans as "undemocratic" or "un-American." The storm of opposition to Lani Guinier's nomination as Assistant Attorney General for Civil Rights shows just how strong the sentiments against minority vetoes and other power-sharing arrangements that tamper with majoritarian principles are felt by American political elites. It is therefore ironic that the current paradigm of racial reapportionment to achieve greater black representation, basically a circumvention of the majoritarian tendencies of SMP that turns racial minorities into electoral majorities, has characteristics so similar to some of the consociational structures just reviewed.

Comparative evidence suggests that many factors influence minority representation. If the goal is to enable minority groups in the electorate to gain seats, then empirical evidence indicates that lowered thresholds of exclusion accomplished through alternatives to SMP can be effective in awarding seats to groups with small vote shares. This process applies to groups by virtue of



their size, and not according to their political views or cultural and ethnic characteristics. Small right-wing parties are provided the same electoral access as previously excluded minority groups of the same support size, as are any other small parties that can muster the minimum vote requirements to gain a seat. These contrast with more rigid representational solutions where electoral minorities are represented by legal guarantees or other workarounds of the electoral law. Such solutions guarantee representation for minority groups but raise additional normative and political issues. Rigid solutions may guarantee representation for targeted minority groups, but bring disadvantages from their inflexible nature. Without such workarounds, however, experience indicates that the single-member plurality system is ill-suited for providing seats to electoral minorities.

### Concluding Remarks

Our substantive attention has focused on the relationship between electoral system characteristics and the resolution of representation and influence claims by electoral minorities in popularly elected assemblies. While we have examined such properties in the context of numerous electoral systems, we have not necessarily advocated any particular institutional arrangement or reform. Our purpose has been rather to explore their operating characteristics to see what lessons the last twenty years of political science have to offer concerning electoral structures and minority representation.

A principal conclusion we draw from our survey is that while questions of equilibriums and electoral incentives are fundamental to the issue of representation and electoral systems, these questions have yet to be fully engaged by the substantive literature on minority representation. Our brief examination of formal electoral theory has highlighted the complex nature of the issues underlying claims of representation and minority empowerment. It points unequivocally to the need for systematic extension of theory on such issues as electoral incentives, candidate convergence, and group strategy and coordination. This should precede, and inform, consideration of electoral reform proposals based on such concepts as "vote washing," "disempowerment," and "procedural justice." Unfortunately, many advocates employing such claims tend to offer neither rigorous argument nor empirical evidence. Furthermore, the largely distinct theoretical and empirical scholarly literatures on electoral systems tend to address issues of minority representation only indirectly. As a consequence, we find at present little firm basis for unambiguous claims about electoral system properties and minority representation.

Evidence does indicate that multimerber districts combined with voting rules like limited voting, cumulative voting, or SNTV make it possible for

electoral minorities to secure a representative of their choosing, more so than under a single-member, plurality electoral system. Yet the equilibrium properties of these systems as they pertain to minority representation, and the consequences of the structural incentives they exert on parties, issues, and voters, have yet to be given a rigorous and systematic treatment.

Experience also makes it plain that electoral design in practice serves multiple and often conflicting purposes. At the heart of electoral design is the question of which normative concerns the system should promote. Inevitably, the normative desiderata linked with electoral systems are mutually competitive or even exclusive. The issue of representation versus governance, for instance, is a basic consideration underlying any electoral design. The fact that proponents of radical reforms in the United States have looked only at one side of this conflict—representation—further underscores the differences between advocacy and scientific research.

Another disconcerting tension is the trade-off between minority access and minority guarantees. Minority representation guaranteed by specific legal provision may conflict with the representational claims of other minority groups. Likewise, electoral rules that lower the threshold of exclusion to permit numerically smaller groups to gain seats may empower minorities, but without distinguishing among them. African Americans in Mississippi are not the only voters empowered by more proportionate vote-counting rules—so are the Louisiana supporters of David Duke. In other words, what's sauce for the goose is sauce for the gander.

We hope that our analysis will further stimulate the growing scientific interest in the effects of electoral system properties on minority representation. Formal theory has tremendous potential to inform the debate on electoral reform as a means of minority empowerment, but existing models need to be extended to racial issues. Comparative empirical evidence, we have shown, also holds many lessons for those considering reform. Any comparative study, however, should carefully consider which contextual factors are most relevant to the American experience. Finally, we hope that political scientists can inject a healthy measure of scholarly skepticism into the policy debate surrounding alternative electoral arrangements, joining advocacy with theory and evidence and combining salient experience with critical knowledge.

### Notes

1. For a general discussion of post-Civil War electoral discrimination against African Americans see Kousser 1984 and Davidson 1992.
2. Davidson 1984, 4-5.
3. Guinier 1992, 283, 285.

4. Although we will not focus in this paper on this third instance of electoral market failure, it has received a good deal of recent scrutiny owing to the nomination (subsequently withdrawn) of one of its stoniest proponents, Professor Lant Guinier. To resolve problems of disempowerment—minority representatives effectively shut out of actual governing—she advocates “proportionate interest representation,” the current label for moving beyond guaranteeing the *presence* of minority representatives to guaranteeing their *influence* in elected bodies. Guinier (1991b, 1136) put it thus: “A system that gives everyone an equal chance of having their political preferences *physically represented* is inadequate. A fair system of political representation would provide mechanisms to ensure that disadvantaged and stigmatized minority groups also have a fair chance to have their policy preferences *satisfied*.” Elsewhere, she points to problems of “minority marginalization” and “interest submergence” in legislative bodies, and thus claims that “legislative seats alone do not enfranchise” (Guinier 1991a, 1462, 1436, and 1416, respectively).

5. Guinier, this volume. As is evident, we rely heavily throughout this essay on the writings of Guinier for a number of reasons. First, she is an extremely clear and outspoken critic of SMP and advocate for scrapping it in favor of a proportional representation (PR) system. Second, she is a prolific writer. Third, Guinier has probably gone farther than any other critic of the current electoral system in advocating not only radical electoral reform, but significant interventions into the conventional operations of elected bodies as well. Fourth, she appeared at an earlier incarnation of the conference for which our own paper has been prepared; indeed, the invitation to write this paper from the conference convenor, Professor Paul Peterson, encouraged us to respond to some of the issues Guinier so lucidly raised in her paper (Guinier, this volume). In doing so, we should add, we are not suggesting that Guinier is the only advocate of PR and other institutional reforms; nor are we particularly interested in rebutting her advocacy or sparring with her as an intellectual exercise. Rather, we are most interested in seeing whether there is anything in the scientific literature—either theoretical or empirical—that might shed light on the performance of the PR alternatives Guinier advocates in place of SMP to empower minorities.

6. Moreover, only the mildest of additional qualification is required if we relax the strictures stipulated in the last paragraph (odd-numbered electorate, full participation).

7. See Calvert 1985 for a formal proof of this result.

8. *Informal proof:* If  $m = 0$ , then the original median obtains. If  $m = n - 1$ , then the first of the “old” voters is the new median. If  $m \geq n$ , then one of the new voters is median. In all of these instances, the new median is equal to or to the left of the old median. In the typical case, where  $0 < m < n$ , the median will be one of the old voters to the left of old voter  $(n + 1)/2$ .

9. In fact, some reformers disenchanted with (nonracially gerrymandered) single-member districts acknowledge the “influencing” effects of minority voters on candidate strategies. They simply reject that form of representation, preferring racially gerrymandered districts instead, for example. See Guinier, this volume, for a discussion of this point of view.

10. Hotelling 1929.

11. There is *no* equilibrium for  $k = 3$ . For any distribution of the three candidates, the outermost candidates have incentives to converge toward the intermediate candidate, thereby increasing their vote totals. The intermediate candidate then has the incentive to leapfrog to the outside. This pattern of jockeying has no stopping point.

12. Eaton and Lipsey 1975. Their theorem is stated in terms of spatial locations for firms seeking to maximize market share.

13. Eaton and Lipsey generalize this theorem to the case in which voter ideals are not restricted to a uniform distribution; essentially the same result holds. For a fuller discussion of this theorem and various elaborations, see Shepsle 1991, chap. 3.

14. For systematic work on Duverger’s Law, see Riker 1982; Palfrey 1989; and Feddersen 1993.

15. Feddersen, Sened, and Wright 1990.

16. Cox 1987.

17. Hagen 1993.

18. If the winning candidate locates at the *majority* group’s median, then the minority is without influence.

19. Rohde 1991; Shepsle 1989.

20. The question arises: Is the pattern of vote dilution and electoral cartels at the *local* level compatible with the pattern of minority group influence at the *congressional district* and *state* levels? Or is one of these a transitional, out-of-equilibrium situation? Based on the common experience with cartels—namely, that they are unstable in the long run (though the long run may be quite long)—we speculate that local white politicians will not be able to maintain majority bloc voting. (Harvey Gantt, it will be recalled, was popularly elected at the local level, with considerable white support, as mayor in Charlotte, North Carolina, before he nearly toppled, again with considerable white support, the incumbent U.S. senator, Jesse Helms [R-N.C.] More significantly, the demise of cartels will be hastened by the inability of cartel managers to check the ambitions of politicians, ambitions that provide incentives for politicians to seek crossover votes. As this becomes the case, the spatial analysis offered above becomes increasingly relevant to the electoral dynamics of minority representation.

21. Cain 1992, 262.

22. Thernstrom 1987.

23. Guinier 1991b, 1992.

24. Kousser 1993.

25. Guinier, this volume.

26. While we draw on both bodies of work in this essay, the formal and empirical literatures are too immense to be comprehensively reviewed here. Both literatures are, for the most part, scattered in a variety of journals. This is especially true of the theoretical literature, though a monographic review is found in Shepsle 1991. The classic of the empirical literature is Rae 1967, updated recently by Lipjhart 1990. Taguepera and Shugart 1989, Grofman and Lipjhart 1986, and Lipjhart and Grofman 1984 arbitrage across the boundaries of these literatures.

27. Cox 1990 and other papers of his cited there provide a good starting point for the theoretically interested reader.
28. Cox 1990.
29. An Illinois Supreme Court decision in 1928 provided for a fourth manner of casting votes: two votes for one candidate and one vote for another. On cumulative voting in Illinois, see Blair 1960; and Sawyer and MacRae 1962.
30. While multimember districting schemes have historical precedent in the United States (and are in use today in limited jurisdictions), list proportional representation presumes a strong party system and would constitute a much more radical departure from American political traditions. It turns out, however, that at least some of the PR systems bear a close relationship to those plurality systems we list in the text. Cox 1991, for example, proves that one prominent method of allocating seats by PR—the d'Hondt method—is strategically equivalent to SNTV in the sense that, holding district magnitude and votes for (candidates of) parties fixed, both methods yield identical seat allocations.
31. This possibility is nicely illustrated in the special election in the Second District of Mississippi to fill the uncompleted term of Congressman Mike Espy (who had joined the Clinton administration as Secretary of Agriculture). A nonpartisan primary was held in this majority-black district to choose two candidates for a subsequent runoff election. The lone white Republican, who was pitted against nearly a dozen black aspirants, finished first in the primary and, owing to a considerable falloff in participation, nearly won the runoff. The large number of black entrants made the job of coordinating on one especially difficult, sapping the strength and draining the resources of the eventual runoff qualifier to the point that he nearly lost the runoff election.
32. Recall that, as in the preceding paragraph,  $T$  is sufficient for election, but is not necessary. If the number of candidates is large enough and the vote sufficiently fractionalized, then it is entirely possible for a candidate to win election with fewer than  $T$  votes.
33. With SNTV, where  $v = 1$ , the threshold to insure a candidate's election,  $T$ , is exactly the same as the size a group must exceed,  $T/v$ , to insure its capacity to elect a representative of its own choosing. With CV,  $T/v$  electors (where, presumably,  $v > 1$ ), among themselves, control the  $T$  votes necessary to elect a candidate (on the assumption that all these electors cumulate their votes).
34. For a general introduction to these issues, and the simple mathematics of electoral systems, see Still 1984.
35. This confirms Guinier's (this volume) observation that, in comparison to the alternatives we have been considering, "single-member districts tend to underrepresent minority votes."
36. Sugden 1984. As Guinier (this volume) puts it, "Interests are those *self-identified voluntary constituencies* who choose to combine because of like minds, not like bodies."
37. See Brams 1975, chap. 3, for an analysis along these lines of minority representation on the governing board of the American Political Science Association.
38. Cox 1984.

39. Cox 1984, theorem 1. That position need not be the median of the voter distribution. It may be any point between the quantiles of order  $1/3$  and  $2/3$  of the distribution of voter ideals. But the median does have special attractions, a point developed in greater detail by Cox (1984, 447).
40. Cox 1984, 447-48.
41. Cox 1990, theorems 1a and 1b.
42. Additional theoretical results on cumulative voting may be found in Glazer, Glazer, and Grofman 1984; and Felsenthal 1990, chap. 4.
43. In a  $k$ -seat district the threshold of exclusion (the minimum vote share required to gain a seat, as a proportion) is normally  $1/(k + 1)$  of the vote. Thus, about 9.1 percent of the vote will yield one seat in a ten-seat district. There are many different ways to deal with electoral remainders, which affect how small parties are awarded seats, but this discussion is merely intended to point out the general tendencies of PR and plurality systems.
44. Cossolotto 1991.
45. *Ibid.*, 279.
46. Urwin and Paterson 1990, 280.
47. McGregor 1993.
48. Tagapera and Shugar 1989. Portraying the seats-votes relationship using the advantage ratio instead of a straightforward plot of seat and vote percentages highlights deviations from proportionality, according to the percentage of votes. This more clearly depicts how large parties may be overrepresented and how small parties may be underrepresented, although here only small parties are depicted. See *ibid.*, 67-68.
49. We do not suggest that the levels of small party vote shares are exogenous to incentives provided by electoral law. To the contrary, Duverger's Law suggests that voters will hesitate to "waste" their votes on small parties in majority/plurality systems. But for this example the low levels of voter support are equally revealing.
50. Leon Weaver estimates that proportional representation systems (of various types) have constituted "a fraction of 1%" of all electoral systems in the United States, and these are usually found only at the local level (1986, 140).
51. Glazer, Glazer, and Grofman 1984, 295, 297. The case was the 1883 Sharpville Railroad Company's election of its board of directors, upheld by the Pennsylvania Supreme Court in *Pierce v. Commonwealth*, 104 Pa. 150 (1883).
52. Still 1984, 189.
53. Engstrom, Taebel, and Cole 1989, 469; Engstrom and Barilleaux 1991; Weaver 1984, 191.
54. Still 1984, 190-91; Featherman 1992, 882-84.
55. Still 1984, 253.
56. Liphart, Pintor, and Sone 1986.
57. Weaver 1986.
58. Zimmerman 1992, 216.
59. Horowitz 1991, chap. 5.
60. *Ibid.*, 189.

61. It is generally believed that a "safe" population proportion for ethnic minorities is around 65 percent, to compensate for lack of voter turnout (Grofman and Handley 1992, 34; Parker 1984, 112). But see Kousser 1993 for an alternative point of view.
62. Amy 1993.
63. Wells 1982.
64. Horowitz 1989.
65. Lijphart 1985.
66. Lijphart 1984, 22-23.
67. Lijphart 1977, 97.
68. Cossolotto 1991, 79.
69. Lijphart 1984, 24.

## 4

### Racial Fairness in Legislative Redistricting

GARY KING, JOHN BRUCE, AND ANDREW GELMAN

#### 1. The Search for a Standard of Racial Fairness

In this chapter, we study standards of racial fairness in legislative redistricting—a field that has been the subject of considerable legislation, jurisprudence, and advocacy, but very little serious academic scholarship. We attempt to elucidate how basic concepts about "color-blind" societies, and similar normative preferences, can generate specific practical standards for racial fairness in representation and redistricting. We also provide the normative and theoretical foundations on which concepts such as *proportional representation* rest, in order to give existing preferences of many in the literature a firmer analytical foundation.

Our work also addresses a troubling discrepancy between partisan and racial standards of fairness in the redistricting of American legislatures. Scholars have reached near consensus on *partisan symmetry* as a standard of partisan fairness and have made great progress on developing measures that can be used to see whether electoral systems and redistricting plans meet this standard. Perhaps appropriately, the law has lagged well behind, with the Supreme Court recognizing only in 1986 that political gerrymandering was justiciable (*Davis v. Bandemer*) but not yet adopting either a standard or measure of partisan unfairness.<sup>1</sup> Unfortunately, almost the reverse applies to standards of racial fairness: scholars have hardly begun to discuss appropriate absolute standards of fairness in racial redistricting, but we now have a long list of legislation (largely the Voting Rights Act and its amendments), constitutional and statutory interpretation (through a long series of Supreme Court cases), and Justice Department activism.<sup>2</sup> With all this activity, it is remarkable that there presently exists no agreed upon absolute standard of racial fairness in redistricting, and there is even relatively little discussion about such a standard in public law or the academic literature. We begin to address this problem here.<sup>3</sup>

Considerable scholarship in recent years has been devoted to issues of representation of ethnic minority groups in various American electoral systems. Scholars contributing to this literature consistently have identified the basic "problem" as *under-representation* of these groups in Congress,