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Alternative Voting Systems as Remedies for Unlawful At-Large Systems

Courts have repeatedly recognized that at-large voting systems\(^1\) have the probable effect of discriminating against electoral minorities.\(^2\) At present, the virtually exclusive judicial remedy for unlawfully discriminatory at-large voting systems\(^3\) is single-member districting.\(^4\) This remedy is both drastic and fraught with problems. It often requires a fundamental alteration of the existing governmental structure,\(^5\) guarantees only indirect

1. Under at-large voting, all voters in a district may cast a single vote for each open seat in a given election. When the voters in a district can elect only one candidate to a governmental body, at-large voting is identical to voting in a single-member district. Unless otherwise stated, however, the term "at-large voting" will refer only to systems based on multimember districts. This type of at-large voting is the dominant electoral system in American cities. See Sanders, The Government of American Cities: Continuity and Change in Structure, 1982 MUN. Y.B. 178, 179-80 (66% of American cities elect all council members at large, while another 19% elect some at large).

2. See, e.g., Rogers v. Lodge, 102 S. Ct. 3272, 3275 (1982) ("At-large voting schemes and multimember districts tend to minimize the voting strength of minority groups by permitting the political majority to elect all representatives of the district."); City of Mobile v. Bolden, 446 U.S. 55, 66 (1980) (plurality opinion) (criticizing at-large systems for submerging minorities); Whitcomb v. Chavis, 403 U.S. 124, 158-59 (1971) (same).

3. Not all at-large voting systems are unlawful. While the Supreme Court has recognized that they tend to be discriminatory, it has refused to hold such systems unconstitutional per se. See, e.g., Rogers v. Lodge, 102 S. Ct. 3272, 3275 (1982); City of Mobile v. Bolden, 446 U.S. 55, 66 (1980); White v. Regester, 412 U.S. 755, 765 (1973). No statute proscribes their use in general. See SENATE COMMITTEE ON THE JUDICIARY, VOTING RIGHTS ACT EXTENSION, S. REP. NO. 417, 97th Cong., 2d Sess. 33, reprinted in 1982 U.S. CODE CONG. & AD. NEWS 177, 211 [hereinafter cited as S. REP. NO. 417] ("results" test of § 2 of amended Voting Rights Act does not automatically invalidate at-large elections). At-large systems that disadvantage minorities violate the Constitution only when they are established or maintained for a discriminatory purpose. Rogers v. Lodge, 102 S. Ct. 3272, 3275 (1982). Section 2 of the amended Voting Rights Act proscribes in addition only those systems that "result[] in minorities being denied equal access to the political process." S. REP. NO. 417, supra, at 27, 1982 U.S. CODE CONG. & AD. NEWS at 205. This section provides in pertinent part:

(a) No voting qualification or prerequisite to voting or standard, practice, or procedure shall be imposed or applied by any State or political subdivision in a manner which results in a denial or abridgement of the right of any citizen of the United States to vote on account of race or color . . . as provided in subsection (b).

(b) A violation of subsection (a) is established if, based on the totality of circumstances, it is shown that the political processes leading to nomination or election in the State or political subdivision are not equally open to participation by members of a class of citizens protected by subsection (a) in that its members have less opportunity than other members of the electorate to participate in the political process and to elect representatives of their choice. The extent to which members of a protected class have been elected to office in the State or political subdivision is one circumstance which may be considered: Provided, That nothing in this section establishes a right to have members of a protected class elected in numbers equal to their proportion in the population.


4. Under single-member districting, voters are divided into as many separate districts as there are seats in the elected body.

5. Single-member districting requires, for example, the dismantling of commission and other similar forms of government. See City of Mobile v. Bolden, 446 U.S. 55, 80-81 (1980) (Blackmun, J., concurring in the result) (joining reversal of both courts below because district court's single-member
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representation to many minority members, and can appear to favor the interests of certain groups over those of others.

This Note criticizes the single-member districting remedy and analyzes three alternative schemes based on multimember districting. It argues that one scheme — cumulative voting — is a desirable remedy for discriminatory at-large voting systems. This Note concludes that, under their equitable powers, the federal courts can impose cumulative voting in existing multimember districts. Although the Supreme Court has announced a strong policy against court-ordered electoral schemes that involve multimember districts, the reasons underlying this policy would not apply to the proposed remedy.

I. The Problems of Single-Member Districting

As a general rule, courts replace discriminatory at-large systems only with single-member districts. This remedy, however, does not provide a desirable form of minority representation. In addition, it has undesirable collateral effects; in particular, it makes representatives more susceptible to capture by narrow local interests.

Courts have practiced two kinds of single-member districting. In race-neutral districting, they instruct special masters or the litigants themselves to divide an at-large system into single-member districts without taking race into account. The courts aim to create compact, contiguous districts

districting remedy would have replaced existing commission form of government with a mayor-council system. See generally Rogers v. Lodge, 102 S. Ct. 3272, 3287 n.19 (1982) (Stevens, J., dissenting) (describing commission system).

6. Representation is indirect because minority group members' interests are often represented, if at all, by someone from outside their own district.

7. See United Jewish Orgs. v. Carey, 430 U.S. 144, 174 (1977) (Brennan, J., concurring in part) (whites often view safe-districting in favor of blacks as unjust, especially because "the most 'discrete and insular' of whites often will be called upon to bear the immediate, direct costs of benign discrimination"); Note, Affirmative Action and Electoral Reform, 90 YALE L.J. 1811, 1828 (1981) ("[T]he harsh and unequal burdens redistricting imposes on members of the majority foster resentment of affirmative action.").

8. A multimember district is any district in which voters elect more than one candidate to a governmental body. It should be distinguished from at-large voting, which is a particular voting rule applied to a multimember district. See supra note 1.


10. See Kendrick v. Walder, 527 F.2d 44, 52 (7th Cir. 1975) (Pell, J., dissenting) (noting that fear that local interests would capture wards was important factor in adoption of at-large systems in this country); cf. E. BANFIELD & J. WILSON, CITY POLITICS 52 (1963) ("When a city undertakes to reconstitute its political system by dropping ward in favor of at-large elections . . . elected officials find that they must represent the city, not the ward . . . .")

11. See Kirksey v. Board of Supervisors, 528 F.2d 536, 542 (5th Cir. 1976), rev'd, 554 F.2d 139 (5th Cir.) (en banc), cert. denied, 434 U.S. 968 (1977); Moore v. Leflore County Bd. of Election Comm'r's, 361 F. Supp. 609, 612 (N.D. Miss. 1973), aff'd, 502 F.2d 621 (5th Cir. 1974); Note, Group Representation and Race-Conscious Apportionment: The Roles of States and the Federal Courts, 91 HARV. L. REV. 1847, 1860 n.66 (1978) (arguing that courts assume that any nonracially
that respect natural boundaries and political subdivisions.\textsuperscript{12}

Unfortunately, this method does not guarantee minority representation. Although a minority population may be considerable, it can be distributed in such a way that it does not achieve an effective electoral majority in any district.\textsuperscript{13} Race-neutral single-member districting removes the extreme majoritarian bias of the at-large system,\textsuperscript{14} but it does not ensure that minority voters will be able to elect candidates of their choice. For this reason, courts have disfavored it.\textsuperscript{15}

The other form of single-member districting, safe-districting, often guarantees minority representation,\textsuperscript{16} but not without high costs. In safe-districting, courts ensure that the minority group attains an effective electoral majority in some of the single-member districts.\textsuperscript{17} This remedy is open to several criticisms. It effectively guarantees some groups a voice while denying other groups the possibility of effective participation in the

motivated single-member districting scheme improves minority electoral opportunities.

13. See Kirksey v. Board of Supervisors, 402 F. Supp. 658 (S.D. Miss. 1975), aff'd, 528 F.2d 536 (5th Cir. 1976), rev'd, 554 F.2d 139 (5th Cir.) (en banc), cert. denied, 434 U.S. 968 (1977). In Kirksey, a racially neutral plan reapportioning single-member districts gave blacks, who comprised 39\% of the overall population and lived primarily in a single compact area, a minority of the voting-age population in all five districts.

The term "effective electoral majority" means a majority of the population substantial enough to allow group choice to be effective. Because the proportion of minorities who are of voting age tends to be less than that of other groups, see BUREAU OF CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES: 1981, at 26, 499 (1981) (comparing statistics on resident population to voting-age population reveals that whereas approximately 73\% of whites are of voting age, only 62\% of blacks are), and because minority groups have lower registration rates, see id. at 499 (68.4\% for whites and 60.0\% for blacks in 1980 election), and turnout rates, see id. (60.5\% for whites and 50.5\% for blacks in 1980 election), a minority must constitute more than half of a district's population in order to obtain an effective electoral majority. See United Jewish Orgs. v. Carey, 430 U.S. 144, 164 (1977) (White, J.) ("[S]ubstantial nonwhite population majority—in the vicinity of 65\%—would be required to achieve a nonwhite majority of eligible voters.").
14. This bias arises from a voter's ability to cast a vote for each open seat in an at-large election. A majority can thus choose who wins every seat.
15. See Wyche v. Madison Parish Police Jury, 625 F.2d 1151, 1163 (5th Cir. 1981) (single-member districting by court that "properly meets historical, administrative, geographic and legitimate planning objectives" fails if it "defeats the primary dual tests of voter equality and racial fairness"); Moore v. Leflore County Bd. of Election Commrs, 502 F.2d 621, 625 (5th Cir. 1974) (race-neutral plan upheld because it neither discriminated against whites and blacks nor diluted group voting strength).
16. Safe-districting, however, may be impossible when the minority population is dispersed, thereby precluding a districting plan that would give particular minority groups a decisive voting majority in a single-member district. Hispanics are an example of a relatively dispersed minority. See L. GREBLER, J. MOORE & R. GUZMAN, THE MEXICAN-AMERICAN PEOPLE 274-75 (1970). Thus, single-member districting may not help them attain greater representation. See Taebel, Minority Representation on City Councils: The Impact of Structure on Blacks and Hispanics, 59 SOC. SCI. Q. 142, 151 (1978) (single-member districting "may not materially benefit hispanics").
17. In practice, courts actually review plans submitted by the parties or a special master to ensure that minorities achieve at least some representation. See, e.g., Marshall v. Edwards, 582 F.2d 927, 937 (5th Cir. 1978), cert. denied, 442 U.S. 909 (1979); Kirksey v. Board of Supervisors, 554 F.2d 139, 149-51 (5th Cir.) (en banc), cert. denied, 434 U.S. 968 (1977).
political process. Also, determining whether a group deserves a safe district places the courts in the middle of the "political thicket"—a place they fear to tread. Courts have great difficulty in finding principles for making such determinations, particularly because representation is a zero-sum game: One group achieves it only at the expense of the rest.

Safe-districting guarantees to many minority group members only virtual, not actual, representation. Minority group members that happen not to live in a safe district must be content with minority representation from outside their own district. They are likely, therefore, to feel that their interests are represented indirectly at best. The obverse of virtual representation, moreover, is practical disfranchisement. Individuals living in a district made safe for others are likely to feel alienated, for they may have little effective political power within their own district.

Furthermore, to the extent that individuals desire actual representation, they will seek to live in areas where their group already possesses an effective electoral majority. This pressure increases residential segregation and reinforces race-consciousness.

18. Colegrove v. Green, 328 U.S. 549, 556 (1946) (Frankfurter, J.); see Baker v. Carr, 369 U.S. 186, 267 (1962) (Frankfurter, J., dissenting) (arguing that court-ordered reapportionment injects courts "into the clash of political forces in political settlements").

19. See, e.g., City of Mobile v. Bolden, 446 U.S. 55, 78 n.26 (1980) (plurality opinion) (finding preliminary questions of who should be entitled to group representation largely unanswerable); White v. Chavis, 403 U.S. 124, 156 (1971) (any determination granting group voting rights "is not easily contained" and could logically be extended to "any group with distinctive interests"); cf. Note, supra note 11, at 1855 ("Conscious choices between the interests of competing groups can be made only on political grounds; they cannot be resolved by any general legal or judicial principle . . . ."). But cf. Note, United Jewish Organizations v. Carey and the Need to Recognize Aggregate Voting Rights, 87 YALE L.J. 571, 588-90 (1978) (relying on Fifteenth Amendment as basis for limiting group voting right to racial minorities).

20. Actual representation consists of representation of one's interests by someone elected from one's own district. Virtual representation, on the other hand, consists of representation by someone elected from another district. The distinction is originally Edmund Burke's. See A Letter to Sir Hercules Langrishe, in 4 WORKS OF EDMUND BURKE 243, 293 (1894) ("Virtual representation is that in which there is a communion of interests and a sympathy in feelings and desires between those who act in the name of any description of people and the people in whose name they act, though the trustees are not actually chosen by them."). See generally H. PITKIN, THE CONCEPT OF REPRESENTATION 174 (1967) (describing Burke's conception of representation as based on "broad, relatively fixed interests, few in number and clearly defined, of which any group or locality has just one").

21. See United Jewish Orgs. v. Carey, 430 U.S. 144, 178 (1977) (Brennan, J., concurring in part). It is often other disadvantaged groups, moreover, that suffer under safe-districting. Id. at 174-75.

22. Chief Justice Burger has argued that safe-districting hinders racial integration:

[Safe-districting] tends to sustain the existence of ghettos by promoting the notion that political clout is to be gained or maintained by marshalling particular racial, ethnic, or religious groups in enclaves. It suggests to the voter that only a candidate of the same race, religion, or ethnic origin can properly represent that voter's interests, and that such candidate can be elected only from a district with a sufficient minority concentration.

Id. at 186-87 (Burger, C.J., dissenting).

23. Id. at 173 (Brennan, J., concurring in part) (noting that safe-districting "may serve to stimulate our society's latent race consciousness"); see Wright v. Rockefeller, 376 U.S. 52, 66 (1964) (Douglas, J., dissenting) (describing safe-districting as a "divisive force in a community").
II. Alternative Voting Systems

A remedy for the discriminatory effects of at-large electoral systems that avoids many of the problems of single-member districting must possess two properties. First, it must be based on multimember districting, for only then can more than one group in a district obtain actual representation. Second, it must avoid the extreme majoritarian bias of at-large voting. Limited voting, single transferable voting, and cumulative voting are three voting rules for multimember districts that satisfy this second condition.\(^\text{24}\)

A. **Limited Voting**

Under limited voting, the number of seats to be filled in an election exceeds the number of candidates for whom each voter may vote. Party nomination may be similarly limited. Limited voting thus promotes minority representation in many cases by preventing the majority from filling all the seats.\(^\text{25}\)

The most obvious criticism of this voting rule is that each individual cannot have a say in the election of every representative. This inability may partially undermine the legitimacy of representation itself. If voters are powerless to determine who wins one or more seats, they may not feel that all those elected are truly "representative."

Another serious objection to limited voting is that in a strong party system—a system where each voter tends to vote only for his own party’s candidates—the number of representatives each interest group elects depends more on the particular number of votes each voter can cast than on each group’s strength in the electorate.\(^\text{26}\) The danger is not only that some

\(^{24}\) See generally E. LAKEMAN, HOW DEMOCRACIES VOTE 80-87, 105-60 (3d ed. 1970) (describing systems and advocating single transferable voting over other two); Zimmerman, The Federal Voting Rights Act and Alternative Election Systems, 19 WM. & MARY L. REV. 621, 640-60 (1978) (same); Note, supra note 7, at 1817-18 (proposing all three systems as alternatives). This Note does not discuss other possible alternative voting systems, because they either are equivalent to one of the three analyzed or could not be successfully implemented in the American political system. Rank-order voting, for example, is a type of cumulative voting. E. LAKEMAN, supra, at 88-89. European proportional representation systems, on the other hand, are based on a system of cohesive parties representing fairly distinct interests and ideologies. Such voting systems could not be successfully transplanted to the existing American party system. See A. GRANT, THE AMERICAN POLITICAL PROCESS 172-73 (1979) (describing lack of hierarchy and of clearly defined ideological differences in American political parties); F. SORAUF, PARTY POLITICS IN AMERICA 397-401 (4th ed. 1980) (describing nonideological nature of American electorate and party system).

\(^{25}\) If the number of candidates that each group can nominate is not limited, a majority may still be able to fill all the seats. To do so, it would need to be large enough to divide its strength evenly across several different slates of candidates and still outvote the next largest group for all positions.

\(^{26}\) Assume, for example, that in a six-member district there are four groups, each of which can nominate and vote for at most three candidates. If the members of each group vote only for their own group’s candidates, the two largest groups will elect three candidates apiece while the smaller groups will elect none at all. This result reflects only crudely the proportional strengths of the different
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groups will be represented out of proportion to their numbers, but also that some substantial groups may be squeezed out of the political process altogether.

Limited voting in a weak party system—a system in which individuals tend to vote according to their own independent evaluation of the candidates, rather than according to party affiliation—is open to a different criticism. If people vote for candidates not according to party affiliation but according to how the candidates stand on a spectrum of issues, limited voting does not necessarily favor those candidates with the greatest individual support. Instead, it favors those who enjoy weaker support over a wider range of the electorate. This bias in favor of broad-based candida-

groups. It represents an extremely arbitrary improvement over at-large voting.

In general, if nominating and voting are equally limited, proportional representation under limited voting will be possible only when all groups are the same size and of the same proportion to the set of all voters as the number of votes any individual can cast is to the number of seats in the district. Mathematically, if there are \( q \) seats to be filled, and each voter has \( p \) votes, then the \( r \) largest groups will elect \( p \) candidates each while the next largest one will elect the remainder, \( q-rp \), where \( r \) represents the largest whole number less than or equal to \( q/p \). All other groups will be unable to elect any representatives at all. This formula shows the arbitrariness of limited voting, for representation hinges not so much on group strength as on the particular values of \( q \) and \( p \).

27. Assume, for example, that a radical (RA), a liberal (L), a moderate (M), a conservative (C), and a reactionary (RE) are running for three seats and that each voter casts two votes. Table 1 shows the percentage of voters that favors each candidate.

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA</td>
<td>30%</td>
</tr>
<tr>
<td>L</td>
<td>5%</td>
</tr>
<tr>
<td>M</td>
<td>22%</td>
</tr>
<tr>
<td>C</td>
<td>25%</td>
</tr>
<tr>
<td>RE</td>
<td>18%</td>
</tr>
</tbody>
</table>

If the most popular candidates were to win, RA, M, and C would be elected. If each voter casts two votes, however, the results are much different. Assume that the voters for each candidate split their second votes, half for the candidate to the left of their favorite and half for the candidate to the right. Voters whose first choice is a candidate at either extreme will not split their second votes but will cast them for the candidate closest to their favorite. In an actual election, of course, voters probably would not split their second votes symmetrically, and some might refuse to vote for a second candidate. The final vote tallies, given these assumptions, appear in Table 2 as percentages of all votes cast.

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA</td>
<td>16.25%</td>
</tr>
<tr>
<td>L</td>
<td>23.00%</td>
</tr>
<tr>
<td>M</td>
<td>18.50%</td>
</tr>
<tr>
<td>C</td>
<td>27.00%</td>
</tr>
<tr>
<td>RE</td>
<td>15.25%</td>
</tr>
</tbody>
</table>

Candidates L, M, and C would win. This example reveals two further characteristics of limited voting. First, because voters on either extreme can cast their extra votes only towards the middle, center candidates are comparatively advantaged. This bias handicaps all candidates who represent unorthodox opinion. Second, limited voting measures a candidate's support over a broader sector of the electorate than does voting in a single-member district. This difference explains why, in the example, candidate L, the least popular candidate according to single-vote preferences, would win a seat while RA, the most popular, would not. Requiring runoffs in single-member districts also broadens the range over which candidates need to collect support.

28. A mathematical model explains this difference. Assume \( f(x) \) is a function measuring the distribution of voters over the spectrum of political opinion. For purposes of analysis, assume that this spectrum is linear. Assume also that there are \( n \) candidates ordered from left to right on this spectrum,
cies disadvantages minority candidates who enjoy strong support within a narrow constituency.29

B. Single Transferable Voting

Under the single transferable voting system, voters rank candidates from most favorite to least favorite. Voters may rank all or only some of the candidats. Votes are then transferred in accordance with the voters’ individual preference schedules away from those candidates who cannot win or do not need them to win to those candidates who do.30 This system and let $x_k$ denote the position of candidate $k$ on this linear scale. There are $q$ seats to be filled.

Now assume that each voter has a single vote, which he casts for the candidate whose beliefs are closest to his own. If an individual’s position is $x'$, in other words, he will vote for candidate $j$ only if $|x'-x_j| < |x'-x_k|$ for all candidates $k$. If two candidates hold different positions equally close to the voter’s own, the voter will be indifferent between those two candidates and will choose one at random. Under these assumptions, $g(k)$, the measure of candidate $k$’s strength is

$$g(k) = \int_a^b f(x)\,dx$$

where

$$a = x_k - \frac{1}{2}(x_k - x_{k-1})$$
$$b = x_k + \frac{1}{2}(x_{k+1} - x_k)$$
$$x_0 = -\infty$$
$$x_{n+1} = +\infty$$

The $q$ candidates with the highest values of $g(k)$ will win.

Now assume, by contrast, that each voter has $p$ votes which he casts for the $p$ candidates who most closely reflect his own beliefs. He will vote for candidate $j$ only if $|x'-x_j| < |x'-x_k|$ for all but $p$ candidates $k$. Again we assume that ties are broken by equal chance. Under these assumptions, $g'(k)$, the measure of candidate $k$’s strength is

$$g'(k) = \int_{a'}^{b'} f(x)\,dx$$

where

$$a' = x_k - \frac{1}{2}(x_k - x_{k-p})$$
$$b' = x_k + \frac{1}{2}(x_{k+p} - x_k)$$

$$x_m = \begin{cases} -\infty & \text{if } m < 1 \\ +\infty & \text{if } m > n, \text{ the number of candidates.} \end{cases}$$

In other words, each candidate will receive a vote from all individuals who fall on the scale no more than half-way between him and those candidates $p$ above or below him. Comparison of $a$ with $a'$ and $b$ with $b'$, the limits of integration, shows that as $p$ increases, a candidate’s strength depends on his support over a wider range of opinion. When $p=n$, of course, the candidate’s strength depends on his support in the full electorate.

29. Furthermore, to the extent that this bias encourages broad-based candidacies, it causes representation to become unfocused because candidates must appeal to wider and sometimes inconsistent interests. In racial or ethnic terms, it leads minority candidates to broaden their support by appealing to majority interests. See Note, The Constitutional Significance of the Discriminatory Effects of At-Large Elections, 91 YALE L.J. 974, 990 (1982).

30. To win election under single transferable voting, a candidate must receive a certain quota, $Q$.
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is designed to achieve minority representation and at the same time minimize the number of “wasted” votes; that is, votes cast either for a candidate who does not win a seat, or for a candidate who does not need them to win a seat.\(^{31}\) It thus makes each individual’s vote as “effective” as possible by ensuring that no more votes than are necessary are used to elect any candidate and that as few votes as possible are left distributed among the losing candidates.\(^{32}\) These two characteristics ensure that a large number of voters feel that they have effectively participated in the electoral process. Very few will cast votes that do not aid anyone’s election.\(^{33}\)

The greatest problem of single transferable voting is its arbitrariness. It violates several “reasonable” properties that most other voting systems satisfy. Most remarkably, it may penalize candidates for increases in popularity. Under single transferable voting, a candidate could conceivably win a seat with a certain amount of support and lose it if he received even more.\(^{34}\) Furthermore, the outcome of single transferable voting can depend on voters’ rankings of losing candidates relative to each other.\(^{35}\)

of votes. This quota depends upon both the number of voters who cast ballots and the number of seats in the district. The preferred formula for the quota is \(Q = (V/(S+1)) + 1\), where \(Q\) is the number of votes required for election, \(V\) is the number of votes remaining at the particular stage of the election, and \(S\) is the number of seats in the district. \(V\) varies only if some voters record preferences for fewer than all candidates. If they do, their votes are discarded after all the candidates for whom they have expressed preferences are either elected or defeated. This particular quota, the Droop quota, is preferred above the major alternative, the Hare quota, because it leaves less room for strategic manipulation of voters. See E. Lakeman, supra note 24, at 137-40 (comparing quotas).

To determine the winners, the ballots initially are counted according to first preferences. Any candidate receiving the quota of votes is elected. Any winners’ surplus votes are then redistributed according to their voters’ next preferences. Since any determination of which particular votes are surplus would be highly arbitrary, all the votes of each winner are reduced in value to the ratio of his surplus to his total votes and are then redistributed. If, for example, a candidate received 40 votes more than the quota of 80 needed to be elected, all 120 votes would receive a new value of 40/120, or \(\frac{1}{3}\), and then be redistributed according to each voter’s next preference. Thus, the process does not transfer any particular surplus votes, but rather equal surplus shares of all of a winner’s votes. If any of the remaining candidates then reach the quota, they too are elected and their votes are similarly revalued and redistributed. This process continues until no new candidates reach the quota. At this point the least popular candidate is declared a loser and his votes are transferred without discount to those candidates next on his voters’ preference schedules. Any new candidates who reach the quota are then elected and their votes are revalued and redistributed. This process continues until all seats are filled. If at any point, however, a voter has refused to specify his preferences over the remaining candidates, his vote is discarded, and the quota is recalculated.

31. In an ordinary two-way race, for example, all votes cast for the losing candidate and all the votes cast for the winning candidate in excess of the bare majority are wasted. These comprise nearly half the votes.

32. The votes left distributed at the end to losing candidates are at most \(V/(S+1)-S\), or \(V-\text{SQ}\), where \(V\) is the total number of votes cast, \(S\) is the number of seats in the district, and \(Q\) is the quota.

33. In fact, the number of individuals whose votes do not help to elect any candidate is generally less than the number of votes distributed over losing candidates at the end, because some of the votes remaining at the end have usually been transferred at some point from winning candidates as surplus votes.


35. Doron, Is the Hare Voting Scheme Representative?, 41 J. POL. 918, 920-21 (1979) (giving
sense, the system responds to changes in voters’ choices over irrelevant alternatives. Single transferable voting also makes the election outcome depend upon two irrelevant factors: the size of the district\textsuperscript{36} and the number of seats within that district.\textsuperscript{37} Both factors lead to arbitrariness in the election outcome.\textsuperscript{38} In addition, the first factor creates incentives for gerrymandering.\textsuperscript{39}

36. Doron, \textit{The Hare Voting System is Inconsistent}, 27 POL. STUD. 283, 284-85 (1979) (showing how group winning representation in two separate districts may lose altogether when districts are combined).

37. Changing the number of seats obviously affects the outcome of an election because a different number of candidates will be elected. Depending upon the voters’ preference schedules, however, changing the number of seats can have much deeper effects. An example illustrates this possibility. Assume that there are four candidates: a liberal (\textit{L}), a moderate (\textit{M}), a conservative (\textit{C}), and a reactionary (\textit{R}). Further assume that the 100 voters in the district rank the candidates from favorite to least favorite in the following ways:

- 23 voters: \textit{L, M, C, R}
- 11 voters: \textit{M, L, C, R}
- 7 voters: \textit{M, C, R, L}
- 2 voters: \textit{M, R, C, L}
- 15 voters: \textit{C, R, M, L}
- 10 voters: \textit{C, M, R, L}
- 16 voters: \textit{R, C, M, L}
- 16 voters: \textit{R, M, C, L}

If there are two seats in the district, the quota for each will be 34. \textit{See supra} note 30. The election will progress as follows. In the first round, \textit{L} receives 23 votes; \textit{M}, 20; \textit{C}, 25; and \textit{R}, 32. None of the candidates obtains the required quota. Thus, \textit{M}, the least popular candidate, drops out and his votes are transferred. According to the individual preference schedules, 11 of his votes go to \textit{L}, 7 to \textit{C}, and 2 to \textit{R}. The new vote totals are: \textit{L, 34; C, 32; and R, 34}. Both \textit{L} and \textit{R} have reached the quota and are declared the winners. Only the 25 people who ranked \textit{C} first and the 7 who ranked \textit{M} first and \textit{C} second wasted their votes entirely.

Now assume that there are three seats. The necessary quota will be 26. \textit{See supra} note 30. In the first round of the election, each candidate receives the same number of votes as before. Now, however, \textit{R} has passed the quota and is declared a winner. His votes are then revalued and transferred according to the voters’ individual preferences. This transfer gives three more votes to both \textit{C} and \textit{M}. Now \textit{L} has 23 votes; \textit{M}, 23; and \textit{C}, 28. \textit{C} is elected, and his votes are revalued and transferred. This transfer gives two more votes to \textit{M}. Finally, \textit{L} has 23 votes and \textit{M} 25. Since neither has reached the quota, \textit{L} drops out and \textit{M} is declared the final winner. The only people who wasted their votes are the 23 who picked \textit{L} as a first preference.

The results in each case are quite different. When only two seats are contested, \textit{L} and \textit{R} win. When three are contested, \textit{M, C, and R} win. The only representative these two groups share is \textit{R}, the reactionary. Whereas the representatives for the two-seat district are ideologically polarized, those for the three-seat district are relatively compatible.

Furthermore, this example reveals how single transferable voting minimizes vote wastage arbitrarily. In the two-seat district, those voters who ranked \textit{C} first and those who ranked \textit{M} first and \textit{C} second wasted their votes. In the three-seat district, on the other hand, voters who ranked \textit{L} first wasted their votes. In single transferable voting, the particular interest groups effectively disfranchised can vary arbitrarily with the number of seats.

38. \textit{See} Doron, \textit{supra} note 36 (showing how changing district size can lead to inconsistent results); \textit{supra} note 37 (giving example of how changing number of seats can drastically alter election outcome).

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C. Cumulative Voting

Under cumulative voting, each voter has a certain number of votes to distribute among the candidates.40 By casting more than one vote for a single candidate, voters are able to express their relative preferences among the candidates. The candidates receiving the most votes win.41

Cumulative voting has several advantages over both alternative systems previously discussed. First, unlike limited voting, it does not partially disfranchise the voter.42 Each voter can have a say in the election of every representative. In a strong party system, moreover, cumulative voting does not arbitrarily determine the number of representatives each group can elect, as does limited voting.43 Cumulative voting instead allows interest groups to plan strategically to maximize their representation. Each group can estimate its strength, determine the number of candidates it can elect, and instruct its members how best to vote in order to elect the group's candidates. If all groups follow this course, representation will approximate each group's share of the electorate.44

In a weak party system, on the other hand, cumulative voting creates no

40. Although in nearly all cumulative systems each voter is given a number of votes equal to the number of candidates to be elected, see E. LAKEMAN, supra note 24, at 85, this is not necessary. In fact, the more votes individuals have, the more accurately they can reflect the relative intensity of their preferences. Individuals can, of course, have fewer votes than the number of candidates to be elected. In this case, however, cumulative voting exhibits one of the major defects of limited voting: partial disfranchisement. See supra p. 148.


41. Although cumulative voting uses no quotas, the number of votes required for a candidate to win if all remaining votes are cast in the way that is least favorable to him is given by the formula \( NV/(S+1)+1 \), where \( N \) is the number of voters; \( V \) is the number of votes each voter may cast; and \( S \) is the number of seats to be filled in the election.

42. This is true so long as individuals have at least as many votes as there are candidates to be elected. See supra note 40.

43. See supra pp. 149-50.

44. There is a danger, of course, that the interest groups might miscalculate. For representation to be roughly proportional, each group must correctly estimate its strength, run the number of candidates that its strength can support, and instruct its members how best to distribute their votes over the group's candidates. If the group fails in any of these steps or its members fail to follow their directions, underrepresentation of that group can follow. For example, if a group overestimates its strength or for other reasons runs too many candidates, it may spread its votes too thinly to elect any of its candidates. If, on the other hand, it underestimates its strength or for other reasons runs too few candidates, it will elect less than its proportionate share of representatives. See Zimmerman, supra note 24, at 655-56 (rejecting cumulative voting because groups that do not master it will be underrepresented).
bias in favor of broad-based candidates, as does limited voting.\textsuperscript{45} Since voters can cast all their votes for a single candidate, success depends not only on the breadth but also on the depth of a candidate's support. This trait aids racial minorities and other highly cohesive groups\textsuperscript{46} that are underrepresented in traditional voting systems with strong majoritarian biases. A cumulative voting system allows the strength of minority group members' identity of interest to weigh against the greater number of the majority who share less well-defined interests.

Second, cumulative voting is less arbitrary than single transferable voting. Cumulative voting always rewards increases in support and is unaffected by changes in voters' rankings of losing candidates. Furthermore, it does not make the outcome of an election contingent upon the size of the district or the number of seats.

It can be argued that cumulative voting wastes more votes\textsuperscript{47} than does single transferable voting. Cumulative voting, however, contains two features that prevent excessive vote wastage. First, like most voting systems, it encourages those groups that are too small to gain representation by themselves to form coalitions with other groups. If they do not, they will continue to be unrepresented and will fail as they lose members to more successful groups holding similar interests. Second, those groups large enough to elect their own candidates will try to elect them with the slimmest of margins. Because each surplus vote could help support another candidate within the same group or a candidate of another group with similar interests, surplus votes reduce either the total number of candidates that the group can elect or the number of its potential coalition partners in the legislature.

III. Comparing Cumulative Voting to Single-Member Districting

Cumulative voting is thus the most sensible and fairest of the various voting schemes for multimember districts. Despite minor disadvantages, cumulative voting is also demonstrably superior to the present judicial remedy of single-member districting.

\textsuperscript{45} See supra pp. 149-50.


\textsuperscript{47} See supra p. 151 (describing vote wastage).
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A. Advantages of Cumulative Voting

Cumulative voting has several significant advantages over single-member districting. Representatives in multimember districts are less susceptible to capture by narrow local interests. Since each candidate must run in the district as a whole, there is little political advantage to becoming identified with the interests of a particular locality. In addition, the remedy of cumulative voting, unlike single-member districting, leaves intact the structure of the existing government. In this sense, it is a less drastic remedy for discriminatory at-large systems. Cumulative voting also fosters minority representation without directly singling out some groups for preferential treatment.

Furthermore, under cumulative voting, more minority members should be able to achieve actual, not merely virtual, representation. Groups of sufficient size and cohesiveness will achieve representation within the district. This sense of direct representation increases individuals’ perception of participation in the political process and reduces feelings of alienation and powerlessness.

Cumulative voting also reduces the pressures toward residential segregation that might arise from voter preference for actual representation. Under this system, individuals need not move to a safe district to obtain actual representation. Furthermore, since no groups receive special treatment at the expense of others, cumulative voting is less likely than safe-districting to exacerbate group tensions and societal race-consciousness. Finally, cumulative voting permits geographically dispersed minorities within a multimember district to achieve representation whenever their overall size and identity of interests are sufficient to elect a candidate.

B. Possible Disadvantages of Cumulative Voting

There are several potential objections to cumulative voting. First, it is more complex than voting in either an at-large or a single-member district. Its complexity could present special problems to members of minority groups, who are often less familiar with the voting process and tend to have less formal education. Experience with at-large voting, however, sug-
gests that minority groups may be able to overcome this difficulty.\textsuperscript{50} One of the few election strategies available to them under at-large voting is so-called "single-shot" or "bullet" voting, whereby minority groups instruct their members to vote for fewer candidates than they are entitled to.\textsuperscript{61} By voting for only their most preferred candidates and withholding the rest of their votes, minorities deny support to some outside candidates who might defeat their own. Instructing voters in cumulative voting systems is no more difficult. In fact, under cumulative voting, the instructions can be even further simplified. If the group aims to elect several candidates, it can instruct members in different geographic areas to cast all their votes for different candidates.

The second objection to cumulative voting is that it might lead to extremism and polarization in the elected body.\textsuperscript{62} To a certain extent this criticism is legitimate. Cumulative voting certainly permits more extreme and polarized representation if this reflects the underlying interests of the electorate. But some degree of fractionation necessarily results from weakening majoritarian bias. The only question is whether minority representation is worth this cost.\textsuperscript{63}

The third objection to cumulative voting is that running for office in a multimember district is more expensive than in a single-member district. Increasing the size of the electorate increases campaign expenses,\textsuperscript{64} and minority candidates often have less money than do their white opponents.\textsuperscript{65} Minorities and other cohesive groups, however, may not need as much money as other groups to run an effective campaign under cumulative voting, because members of cohesive groups will likely identify more directly and more immediately with their groups' candidates.

IV. Cumulative Voting and the Remedial Powers of Federal Courts

A solid body of precedent disfavoring multimember districts provides the major obstacle to judicial implementation of cumulative voting remedies for unlawful electoral schemes. Traditional remedial doctrine views

\textsuperscript{50} See E. Lakeman, supra note 24, at 143-50 (actual experience indicates that alternative voting systems are not too difficult for most voters to understand).


\textsuperscript{52} See Note, supra note 7, at 1831 n.110 (listing authorities).

\textsuperscript{53} Although cumulative voting does lead to more fractionation than does voting in at-large or single-member districts, see D. Rae, THE POLITICAL CONSEQUENCES OF ELECTORAL LAW 98 (1967), like all existing voting systems, it does exhibit some bias toward larger groups, id. at 79-84.

\textsuperscript{54} See E. Lakeman, supra note 24, at 155.

\textsuperscript{55} The courts have considered this problem in at-large elections and have found that the higher costs of running in a multimember district do not place an unconstitutional burden on minority candidates. See, e.g., Simkins v. Gressette, 631 F.2d 287, 293 (4th Cir. 1980); Goldblatt v. City of Dallas, 414 F.2d 774, 775-76 (5th Cir. 1969).
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any multimember districting system with great suspicion. The Supreme Court does not allow federal district courts the same discretion in adopting multimember districting plans that it allows state and local legislatures.\(^5\) Whereas legislatures can implement multimember districting plans as long as such plans do not violate the Constitution\(^7\) or the Voting Rights Act,\(^5\) a district court must observe stricter standards. It cannot deviate from single-member districting "absent insurmountable difficulties"\(^6\) or a "singular combination of unique factors."\(^8\) When a court does deviate, it must offer "persuasive justifications"\(^1\) for its decision.

Several reasons account for this hostility. The courts have expressed concern that multimember districting lengthens the ballot, thus adding to voter confusion; makes representatives more remote from their constituents; and submerges electoral minorities and overrepresents majorities.\(^6\) And finally, courts worry that they lack the political authority necessary to implement a voting system not based on single-member districting.\(^6\)

None of these reasons ought to prevent the courts from implementing cumulative voting in existing multimember districts.\(^6\) The first two reasons—ballot length and remoteness of representation—apply no more to a cumulative voting scheme than to the at-large system it would replace. Given the legislative determination that voters are capable of making an intelligent choice among numerous candidates and that a certain degree of remoteness between representatives and their constituents is acceptable, the courts should not hesitate to implement cumulative voting on either of these grounds. In implementing it, they would merely follow the legislature's judgment.\(^6\)


57. See supra note 3.


62. Id. at 415; see Chapman v. Meier, 420 U.S. at 15-16.


64. All these reasons except the third, however, would apply if it were an existing single-member districting system, rather than an at-large system, that the court replaced with cumulative voting.

65. In fact, by replacing an at-large system with an alternative system containing the same num-
The courts' third reason for rejecting multimember districting—minority submersion—is inapposite to multimember districts with cumulative voting. Cumulative voting is designed, in fact, to cure this particular defect of at-large voting. It aims to represent, not submerge, minority voters.

The courts' fourth objection to implementing multimember systems—that they lack the political authority necessary to do so—does not apply when a court fashions a cumulative voting remedy in an existing multimember district. Fears exist that multimember districting may violate state policy. Whenever a court imposes cumulative voting to replace an existing at-large system, however, state policy necessarily favors multimember districting. Otherwise, there would be no at-large system to replace. A court can, in fact, impose cumulative voting without even redrawing the multimember district.

Furthermore, under traditional equity analysis, cumulative voting is a more appropriate remedy than single-member districting. The Court traditionally judges equitable remedies for discrimination according to three factors. Such remedies must be related to the violation, aim to restore those discriminated against to the position they would have occupied in the absence of discrimination, and respect as much as possible the right of states and localities to manage their own affairs. Under these criteria, cumulative voting is a more desirable remedy than single-member districting.

First, cumulative voting relates more closely to the violation. It is less intrusive than single-member districting because it leaves the legislature's scheme largely intact. Unlike single-member districting, cumulative voting discards only the discriminatory part of the at-large system—the voting rule itself—and retains the part that is permissible—the underlying multi-

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66. See Chapman v. Meier, 420 U.S. 1, 19 (1975) ("When the plan is court ordered, there often is no state policy of multimember districting which might deserve respect or deference.").
67. In fact, it is when a court replaces an existing at-large system with single-member districts that it substitutes its own judgment for that of the state's.
68. It would merely replace the at-large voting rule in each existing district with cumulative voting. Depending on the number and size of the minority groups, however, the court may wish to change the size of the districts.
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member district and the form of the elected body. A cumulative voting remedy is thus more closely tailored to the problem it seeks to address.

Second, cumulative voting more nearly places minorities in the position they would have attained in the absence of discrimination. Since there is no right to proportional representation, courts are not allowed to draw single-member districts so as to match minority representation to voting strength. Cumulative voting, on the other hand, can lead to rough proportionality after taking into account the relative cohesiveness of the different groups. More importantly, by allowing the voters themselves to determine the importance of the various group interests in the way they vote, cumulative voting avoids the rigid assumption of proportional representation: that race is always the overriding political interest of minority groups.

Finally, cumulative voting encroaches less on state and local autonomy. Because it does not require the courts to recognize particular group interests and removes the courts from the politically sensitive task of drawing single-member districts, cumulative voting respects as much as possible the right of states under federalism to determine the nature of their own political processes.

Conclusion

Equity should admit cumulative voting among its remedies for unlawfully discriminatory at-large voting systems. Cumulative voting offers many advantages over single-member districting, the presently favored remedy, and avoids the dangers of most multimember districting systems. Given these advantages, federal courts should give serious thought to the

70. In particular, a court can replace at-large voting with cumulative voting without abolishing a commission form of government. See generally Rogers v. Lodge, 102 S. Ct. 3272, 3287 n.19 (1982) (Stevens, J., dissenting) (describing commission form); City of Mobile v. Bolden, 446 U.S. 55, 81 (1980) (Blackmun, J., concurring in result) (noting that citizens “have a substantial interest in maintaining the commission form of government”).


73. It will fail to approach rough proportionality if the different groups do not master its election strategies to the same extent. See supra note 44.

74. See Note, supra note 11, at 1852.

remedy of cumulative voting, however unusual such a scheme may appear at first glance.