

The Third Criterion: Compactness as a Procedural Safeguard Against Partisan Gerrymandering

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The health of democracies, of whatever type and range, depends on a wretched technical detail—electoral procedure. All the rest is secondary.¹

In the aftermath of the decennial census, reapportionment and its wayward stepchild gerrymandering have again become topics of the hour. In 1991 or 1992, based on the new census, state legislatures will establish new boundaries for congressional and state legislative districts.² In order to conform to the constitutional mandate that districts have equal populations³—“one person, one vote”⁴—states will have to redraw district lines to account for population shifts that have accumulated over the past ten years. Yet reapportionment, made necessary by fidelity to democratic principles, also will bring with it gerrymandering. Gerrymandering, broadly speaking, is any manipulation of district lines for partisan purposes.⁵ There are different varieties of gerrymandering, including racial gerrymandering,⁶ remedial racial gerrymandering,⁷ and collusive bipartisan gerrymandering.⁸ Partisan gerrymandering, the most common kind

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1. JOSE ORTEGA Y GASSET, *THE REVOLT OF THE MASSES* 158 (1932).

2. Under Article I, Section 4 of the Constitution, state legislatures exercise the districting power subject to supervening congressional regulation.

3. The constitutional basis for this requirement is the Equal Protection Clause of the Fourteenth Amendment for state elections, or, in the case of federal elections, Article I, Section 2 of the Constitution, which provides that representatives shall be elected by “the people.” See *Reynolds v. Sims*, 377 U.S. 533 (1964) (state legislatures); *Wesberry v. Sanders*, 376 U.S. 1 (1964) (federal districts).

4. *Gray v. Sanders*, 372 U.S. 368, 381 (1963); see also *Reynolds*, 377 U.S. at 558.

5. See, e.g., Richard L. Engstrom, *The Supreme Court and Equipopulous Gerrymandering: A Remaining Obstacle in the Quest for Fair and Effective Representation*, 1976 ARIZ. ST. L. J. 277, 278-280.

6. *Gomillion v. Lightfoot*, 364 U.S. 339 (1960).

7. Race-conscious line-drawing is one of the remedies available under the Voting Rights Act of 1965, 42 U.S.C. § 1973 (1988); see *United Jewish Org. of Williamsburg v. Carey*, 430 U.S. 144 (1977).

8. See e.g., *Gaffney v. Cummings*, 412 U.S. 735 (1973) (upholding bipartisan gerrymandering accord between Democratic and Republican members of Connecticut’s legislature). Other kinds of districts, including school, hospital, tax or judicial districts, also can be gerrymandered.

and the subject of this paper, is undertaken by the political party in control of a state legislature to help itself and injure its competitor.

It should not be surprising that redistricting is the occasion for so much gamey partisan brawling, for in the districting game legislators are fighting for their own political lives and that of their party, just as surely as in an election campaign, but with more durable results. Depending on how district lines are drawn, a party with only a minority of the popular vote can assert control over a majority of seats in the state assembly and over its state's delegation to the national House of Representatives. More typically, a party that enjoys only a small majority in popular support over its principal competitor will, through its control of the districting process, translate this popular edge into preemptive institutional dominance.

Potential remedies for gerrymandering, as Bernard Grofman has pointed out, come in two varieties: political and formal.⁹ A political remedy, for example, might require that a redistricting plan satisfy a panel of bipartisan commissioners, or that it be adopted by a supermajority of the legislature. The remedy we propose is formal. In addition to adhering to criteria which mandate that representational districts be composed of contiguous territories and have equal populations, we suggest that those who define district boundaries must also be required to respect a third criterion, the constraint of compactness.

Without the ability to distend district lines so as to include or exclude blocks of voters whose political loyalties are known, it is not practically possible to gerrymander. The diagnostic mark of the gerrymander is the noncompact district. Anyone who eyeballs a few legislative district maps quickly will learn to recognize gerrymanders, although admittedly with imperfect accuracy. But one need not rely on seat-of-the-pants reckoning to find the sort of noncompactness that implies gerrymandering. A number of mathematical measures of compactness exist, some of which are no more difficult to apply than the "one person, one vote" standard of *Reynolds v. Sims*.¹⁰ These measurements are useful because they correspond closely to a mapmaker's practical ability to gerrymander districts. One of these compactness measures, as we show in part III.D, is the best way to measure the kind of non-compactness that is required for a workable gerrymander.

9. Bernard Grofman, *Criteria for Districting: A Social Science Perspective*, 33 UCLA L. REV. 77, 79, 98-99 (1985).

10. 377 U.S. 533, 579 (1964).

The Third Criterion

I. GERRYMANDERING AND POLITICS

At the time of Elbridge Gerry, the eponymous gerrymanderer,¹¹ and for almost 200 years until *Baker v. Carr*,¹² abusive partisan districting was a relatively simple matter because there was no constitutional requirement that districts be equinumerous.¹³ Malapportionment was so powerful a tool for diluting the opposition's votes that partisans needed no other.¹⁴

With the advent of "one person, one vote" and periodic reapportionment, the focus of partisan districting changed. Creative gerrymandering now has replaced the older strategy of malapportionment through legislative inaction. Although districts must be equal in population, they need not have any particular shape or character, and they still may be manipulated to suit partisan needs. Happily for partisans, the apportionment revolution coincided with technical innovations in computers and in market research that made modern gerrymandering both easy and effective.¹⁵ Professional advice on effective gerrymandering is now a staple of the political consulting business.¹⁶

The techniques for gerrymandering are simple and widely understood. In single-member districts, only one legislator can win an election. Any support beyond fifty-percent-plus-one is therefore superfluous, or, from the party's point of view, "wasted." The partisan mapmaker seeks to draw lines which concentrate the opposition's electoral support in just a few districts (called "packing" or "stacking"), while at the same time creating many more districts

11. ELMER GRIFFITH, *THE RISE AND DEVELOPMENT OF THE GERRYMANDER* 19 (1907).

12. 369 U.S. 186 (1962). *Baker* established the justiciability of constitutional challenges to malapportioned districts.

13. Until 2 U.S.C. § 2a was amended in 1929, there was a statutory requirement that districts be equal in population and be compact, but both requirements were routinely ignored. See RICHARD CORTNER, *THE APPORTIONMENT CASES* 15 n.32 (1970); see also, *Colegrove v. Green*, 328 U.S. 549, 551, 555 (1946). Since 1929, no equivalent statutory provision has been on the books.

14. See *infra* part III.A.

15. Gerrymandering software for desktop computers increases in power and sophistication almost by the month, with correlative augmentations in the capabilities of those with the political authority to draw district boundaries. See Anderson & Dahlstrom, *Technological Gerrymandering*, 22 *URBAN LAWYER* 59, 73-76 (1990); William E. Schmidt, *New Age of Gerrymandering: Political Magic by Computer?*, N.Y. TIMES, January 10, 1989 at A1; Mitch Betts, *Gerrymandering Made Easy in 1990*, COMPUTERWORLD, Aug. 28, 1989, at 1. The generation of computers which drew the gerrymanders of the 1980s are almost certainly obsolete. Now, for example, there is the Topographical Integration Geographic Encoding and Referencing (TIGER), the U.S. Census Bureau's "new, high-tech map of America . . . [that] means that anyone can quite cheaply buy a detailed computerized map of any state—accurate down to street level—loaded with demographic data. Combined with other new technology this means that almost anyone will be able to draw their own political maps." See *Drawing Salamanders*, ECONOMIST, Jan. 6, 1990, at 26, 30.

16. See, e.g., David Anderson, Note, *When Restraint Requires Activism: Partisan Gerrymandering and the Status Quo Ante*, 42 *STANFORD L. REV.* 1549, 1557 (1990) ("[In 1981 in Indiana, the] Republican State Committee enlisted Market Opinion Research, Inc., a Michigan market research firm, to assist in the creation of a Republican gerrymander. The Committee housed the computer equipment in its headquarters and paid \$250,000 to Market Opinion Research for their services . . . Computer systems to assist in redistricting first appeared in the mid-1960s. By 1971 . . . state party organizations used computers extensively. These systems were archaic by today's standards.").

where his own party commands a smaller, but still safe, majority (“cracking”).¹⁷ The net result is that many more of the opposition party’s supporters have their votes squandered by being thrown into contrived landslides. The gerrymandering party can thus win more seats in proportion to its electoral support than it would if the district lines were drawn without regard for partisan considerations.

In this section we show how gerrymandering is a real danger, an injury to the practice of constitutional democracy. As part of this project, we examine whether gerrymandering as an illicit activity really exists apart from the legitimate give-and-take of partisan politics. In the process, we are led to a definition of the intent to gerrymander.

A. *Gerrymandering and Political Theory*

Gerrymandering inflicts harm on democratic institutions, although this harm is easier to characterize than to prove. For example, while it is reasonable to suggest that constituents are not accurately represented by a gerrymandered legislature, those who believe this assertion (we include ourselves) must take it on faith, for we know of no way to prove it. Indeed, there is no generally accepted theory of how a legislature is supposed to reflect its constituents’ interests and values.¹⁸

There are better ways, however, to frame the political-theoretical argument against gerrymandering. Gerrymandering violates the American constitutional tradition by conceding to legislatures a power of self-selection. Self-constitutive legislatures, or self-constitutive governing institutions of any kind, make no sense under a Constitution whose most arresting innovation was the dispersion of power. Legislatures are legislatures not because they say they are (any “body” can make that claim) but because a constitution says they are.¹⁹ To be sure, there is nothing specific in the Constitution that forbids gerrymandering, any more than there is specific language that forbids the excessive, unfair, or abusive exercise of any delegated power, but the very idea of democracy

17. “Cracking” somewhat obscurely refers to the fact the opposition’s support has been ineffectually divided.

18. There is not even agreement as to how a legislator is supposed to “represent” the people—as a “delegate,” a “trustee,” an “agent,” or something else. Words like “portraying,” “signifying,” “mirroring,” or “making present” have been applied to the ineffable idea of representation. See B.J. Diggs, *Practical Representation*, in REPRESENTATION 28 (Pennock & Chapman eds., 1968); J. Roland Pennock, *Political Representation: An Overview*, in REPRESENTATION, *supra*, 3, 8, 27; Charles L. Black, Jr., *Representation in Law and Equity*, in REPRESENTATION, *supra*, 131, 140.

19. Cf. JOHN LOCKE, TWO TREATISES OF GOVERNMENT, §§ 212, 216 (J.M. Dent & Sons 1924) (discussing executive interference with composition of legislature) (“The constitution of the legislative is the first and fundamental act of the society . . . without which no one man, or number of men, amongst them can have authority of making laws that shall be binding to the rest . . . [I]f others than those whom the society hath authorised thereunto do choose, or in another way than what the society hath prescribed, those chosen are not the legislative appointed by the people.”).

The Third Criterion

that is embedded in the Constitution certainly forbids legislatures from insulating themselves from the popular will.²⁰ The members of a partially self-constituted legislature depend to a degree upon one another rather than upon their constituents for their tenure in office. Whatever “representation” means, it cannot possibly mean that.

Thus Martin Shapiro has aptly described gerrymandering as a “pathology of democracy.”²¹ Gerrymandering introduces a chronic, self-perpetuating skew into the business of popular representation, no matter how the term is defined. A perversion of democratic procedure, the problem resists correction by democratic means.²² Those in control of the districting process can gerrymander the opposition into electoral irrelevance.²³ In the final analysis, then, “the pathology of democracy problem is so overwhelming that—for most Americans of good will, including those who happen to be judges—it over-

20. *Wesberry v. Sanders*, 376 U.S. 1 (1964), held that the clause, “chosen . . . by the People,” of Article I, Section 2 of the Constitution requires federal congressional districts to conform to the equal population standard. The dissenting opinion of Justice Harlan has persuaded scholars that the historical basis for this interpretation is largely absent. *See, e.g.*, Carl Auerbach, *The Reapportionment Cases: One Person, One Vote - One Vote, One Value*, 1964 SUP. CT. REV. 1, 5. It is typically suggested that the Fourteenth Amendment provides more appropriate grounds for the standard. *Id.* The *Wesberry* argument, however, that malapportionment deprives “the People” of the power to constitute the legislature is more to the point, and applies equally to gerrymandering.

21. Martin Shapiro, *Gerrymandering, Fairness, and the Supreme Court*, 33 UCLA L. REV. 227, 239 (1985).

22. It has long been recognized that anti-democratic practice can effectively poison democratic institutions and prevent reform. Justice Clark, concurring in *Baker v. Carr*, wrote that he would “not consider intervention by this Court into so delicate a field if there were any other relief available to the people of Tennessee” by which they could effect a reapportionment of their legislature. 369 U.S. 186, 259 (1962). “The majority of the voters [in Tennessee] have been caught up in a legislative strait jacket. . . . [T]he legislative policy has riveted the present seats in the Assembly to their respective constituencies, and by the votes of their incumbents a reapportionment of any kind is prevented. The people have been rebuffed at the hands of the Assembly; they have tried the constitutional convention route, but since the call must originate in the Assembly it, too, has been fruitless.” *Id.* at 259. *See also* *Reynolds v. Sims*, 377 U.S. 533, 570 (1964) (lack of available political remedy results in “minority stranglehold on the State Legislature”); *WMCA v. Lomenzo*, 377 U.S. 633, 652 (1964) (call for constitutional convention in New York must pass both houses and even if convened, delegates would be sent from current districts); *Maryland Committee v. Tawes*, 377 U.S. 656, 669 (1964) (“Although over 10 reapportionment bills were introduced into the General Assembly between 1951 and 1960, all failed to pass because of opposition by legislators from the less populous counties.”); *Davis v. Mann*, 377 U.S. 678, 689 (1964) (no adequate political remedy); *Roman v. Sincok*, 377 U.S. 695, 706 (1964) (no adequate political or state constitutional remedy).

The discussion in the text pertains to state legislatures, which must district themselves. The same considerations apply where state legislatures create federal congressional districts. Under Article I, Section 4 of the Constitution, Congress has the power to constitute itself, even if indirectly, by regulating the manner in which state legislatures draw congressional districts. One would expect Congress to forego this prerogative as long as state legislatures behave themselves and discomfit few incumbents.

23. Even the members of the minority opposition who make it to the legislature have a perverse incentive to do nothing about the current gerrymander, because they typically reside in the “packed” districts; they are the beneficiaries of those carefully constructed supermajorities which form half of the gerrymander equation. They well might think twice about the suggestion that they agree to a smaller margin of victory “for the good of the party.”

comes judicial role and capacity problems. Gerrymandering is a bad, bad thing. And there is nobody around to fix it except the courts."²⁴

Effective gerrymandering is a special threat to the Madisonian version of constitutional democracy because of the way it affects the system of single-member district representation. The strategies for electoral success in single-member districts are quite different from those that apply to multi-member districts. In a single-member district, the dominant strategy is to acquire the support of a majority of voters, those who cluster near the "middle" of the political spectrum. Multi-member districts, where a candidate can win by coming in second or fifth or twenty-fifth, depending on how many candidates may be elected from the district, allow the election of candidates whose views are on the fringe, even the extreme fringe of the electorate. The characteristic of single-member districts that gerrymandering seeks to defeat is the tendency of such districts to "center" the political debate.

In single-member districts, political factions that wish to be politically influential have an incentive to compromise their differences. Robert A. Dahl has summarized the Madisonian argument:

If a faction consists of less than a majority, it can be controlled by the operation of [what Madison called] "the republican principle" of voting in the legislative body, i.e., the majority can vote down the minority . . . [while the] development of [a] majority faction can be limited if the electorate is numerous, extended, and diverse in interests.²⁵

Generally, one-issue fanatics who do not move towards the political center will tend to be ignored.²⁶

In contrast, a multi-member system amplifies local differences. Factions rather than coalitions will send representatives to the assembly, to struggle for their factious enthusiasms undiluted by the need for compromise. The political attitudes of the membership will have greater variance than a Madisonian assembly, and a greater potential for fragmentation and paralysis because of the wide gulf that will lie between the extremes.²⁷ Voters in multi-member districts have one advantage over their counterparts in single-member districts in that they are more likely to have the opportunity to vote for a candidate whose views, in priority and intensity, nearly approximate their own.

A single-member district system that is gerrymandered, however, possesses the worst aspects of both Madisonian democracy and proportional representation. It is even less proportionally representative of the voters than an ordinary

24. Shapiro, *supra* note 21, at 251 (characterizing the view of those who support the justiciability of gerrymandering claims).

25. ROBERT DAHL, A PREFACE TO DEMOCRATIC THEORY 27 (1956); *see also* THE FEDERALIST Nos. 10, 51 (James Madison).

26. *See* Ferdinand A. Hermens, *Representation and Proportional Representation*, in CHOOSING AN ELECTORAL SYSTEM: ISSUES AND ALTERNATIVES 16-17 (Arend Lijphart and Bernard Grofman eds. 1984).

27. *See id.*; *see also* Maurice Duverger, *Which is the Best Electoral System?* in CHOOSING AN ELECTORAL SYSTEM, *supra* note 26, at 32.

The Third Criterion

single-member district system, which always contains a natural skew against minorities.²⁸ At the same time, the beneficiaries of gerrymanders, less needful of forming local coalitions or making compromises to assure their success, are also less needful of being near the political center of their districts. They are, in brief, more likely to be ideologues.²⁹ The district system has always been something of a balancing act, seeking to afford minorities protection from the domination by the majority that occurs under statewide electoral systems, while also seeking to preserve the benefits of majority rule.³⁰ Gerrymandering strips minorities of the protections that districts were meant to provide.

Despite its apparent problems, gerrymandering has had defenders. Peter Schuck, although not quite a friend of the practice, has suggested that gerrymandering in some of its aspects could actually benefit democracy because it “reinforce[s] the majority party’s capacity to govern alone, making it easier to attribute responsibility for political acts,” and thus furthers the goal of party accountability.³¹ Admittedly, governability and accountability are good things, but they cannot be defended without reference to fair process. It is no defense of rigged elections to say that at least they have decisive outcomes. Stuffing ballot boxes, or enlisting squads of goons to intimidate voters, also reinforces “the majority party’s capacity to govern alone,” and makes it “easier to attribute responsibility.” Nor does it much advance the argument for gerrymandering to argue, as Schuck does, that the practice is hard to do effectively and that it may backfire.³² True enough—and equally true of stuffing ballot boxes and

28. See *infra* text accompanying note 52.

29. There is good evidence that the Founders valued the faction-diluting character of representation by place. Rather than representation by wealth, by profession, or indeed by any other principle of organization which would define in advance the kinds of interests that would be admitted to the game of politics, the authors of the Constitution deliberately chose geographical representation. They believed that this principle possessed a randomizing effect on the make-up of the voting public. Thus, for example, when Hamilton argued that the “wealthy and the well-born”—a faction—would not come to dominate the legislature through abuse of the voting process, he asked:

Are the wealthy and the well-born, as they are called, confined to particular spots in the several States? Have they, by some miraculous instinct or foresight, set apart in each of them a common place of residence? Are they only to be met with in the towns or cities? Or are they, on the contrary, scattered over the face of the country as avarice or chance may have happened to cast their own lot or that of their predecessors?

THE FEDERALIST No. 60, at 370-71 (Clinton Rossiter ed. 1961). The gerrymanderer’s art is to defeat this randomizing effect by editing the list of factions with which it will later have to contend.

Writing to a friend in 1785 about his ideas for the Kentucky constitution, Madison stated that representation “cannot be done otherwise than by geographical description.” MARVIN MEYERS, *THE MIND OF THE FOUNDER: SOURCES OF THE POLITICAL THOUGHT OF JAMES MADISON* 30 (1981). It would be mindreading to attribute too much to this sentence if it were considered in isolation from the rest of Madison’s thought, but it is a further warranty that the basic constitutive problem of district making was one that he considered important.

30. *Davis v. Bandemer*, 478 U.S. 109, 130 (1986); *Gaffney v. Cummings*, 412 U.S. 735, 753 (1973).

31. Peter Schuck, *The Thickest Thicket: Partisan Gerrymandering and the Judicial Regulation of Politics*, 87 COLUM. L. REV. 1325, 1361 (1987).

32. See, e.g., *id.* at 1341-45; Bruce E. Cain, *Simple vs. Complex Criteria for Partisan Gerrymandering: A Comment on Niemi and Grofman*, 33 UCLA L. REV. 213, 225-26 (1985); MICHAEL BARONE & GRANT UHIFUSA, *THE ALMANAC OF AMERICAN POLITICS* 1986 at 91; see also *Davis*, 478 U.S. at 152

hiring goon squads, as Ferdinand Marcos and Anastasio Somosa found out to their sorrow.

It is confusing to say both that gerrymandering may be a good thing, and that, luckily, it is rarely successful, but if gerrymandering is a pathology of democracy, either assertion is beside the point. Also spurious is the implication that the practice of partisan gerrymandering is somehow "fair" because both parties do it and thus, over time, its effects will wash.³³ Democratic ballot box stuffing in Chicago is not meaningfully cured by Republican ballot box stuffing downstate. Ballot box stuffing is contrary to democracy, whether or not it affects the outcome of this or that election and whether or not both parties practice it. If gerrymandering is similar, then the remedy can hardly be more gerrymandering.

Some commentators belittle the real-world impact of gerrymandering on American politics,³⁴ but if gerrymandering is an antidemocratic practice it should not matter that its impact is transient or cannot be firmly quantified. To be sure, a gerrymander's impact rarely can be segregated from the pull of countless other factors, such as personalities, local issues, current events, incumbency effects, and media leanings, that sway—or supposedly sway—elections.³⁵ But this point cuts both ways. Gerrymanders may well be more effective than we imagine. An effective gerrymander may discourage minority-party voters from even going to the polls. Further, a majority party, its power swollen by effective gerrymandering, controls legislative committee chairs and committee agendas, which can be manipulated to amplify its electoral dominance. A candidate who wins one election because of gerrymandering will thereafter enjoy the "non-gerrymander" benefits of incumbency and enhanced name recognition.³⁶ Thus, while gerrymanders as such may rapidly decay because of the mobility of the population, the fruits of gerrymandering may well decay much more slowly. Finally, if it successfully forces opposition incumbents to run against one another in a newly merged district, a gerrymander may set off intra-party dissension that further debilitates the minority party at the polls.

(1986) (O'Connor, J., concurring). As the technology of gerrymandering becomes more powerful, however, we assume that these well-known risks will diminish.

33. See, e.g., MICHAEL BARONE AND GRANT UJIFUSA, *THE ALMANAC OF AMERICAN POLITICS 1984* at 68, 378, 994 (discussing California, Indiana and Pennsylvania).

34. See, e.g., *Out of the Districting Thicket*, WASH. POST, Apr. 23, 1983, at A16; BARONE & UJIFUSA, *supra* note 33, at 74 (gerrymanders have little impact because effects "wear off" with time); Norman J. Ornstein, *Genesis of a Gerrymander*, WALL ST. J., May 7, 1985 at 30 (disparities between votes cast for, and seats won by Democrats in House of Representatives attributable to partisan voting patterns, not gerrymandering).

35. This point is often made by those seeking to dismiss the impact of gerrymandering on politics. See, e.g., Schuck, *supra* note 31, at 1340; Ornstein, *supra* note 34.

36. See Warren Lee Kostroski, *Party and Incumbency in Postwar Senate Elections: Trends, Patterns and Models*, 67 AM. POL. SCI. REV. 1213 (1973); Robert S. Erikson, Research Note, *The Advantage of Incumbency in Congressional Elections*, 3 POLITY 395 (Spring 1971).

The Third Criterion

The question whether gerrymandering is good or bad democratic practice simply cannot be avoided, either by invoking the possibility that gerrymandering might not matter (because it also might) or by shifting the burden of proof to its detractors to quantify its harm. If gerrymandering is a pathology of democracy, polite electoral fraud, as we argue below, its friends must defend it as a good thing.

B. *Gerrymandering and Partisanship*

Most scholars who have noticed the gerrymandering problem argue that courts should not attempt to do anything about it. The arguments have two basic themes, although authors often interweave elements of both. One approach holds that there is no judicial antidote for gerrymandering for the most fundamental reason, namely that it has no independent existence, but is merely a sore loser's epithet for a redistricting argument that he lost. Another approach concedes that gerrymandering exists and is a problematic activity, but argues that the intent to gerrymander is indistinguishable from the intent to obtain partisan political influence or power generally.

No one seriously doubts that gerrymandering, and plenty of it, has been going on for years. Politicians most likely gerrymander whenever they can, and they are often disarmingly unselfconscious about admitting it.³⁷ They hire the most clever consultants money can buy, who well understand the game they are playing and the risks and rewards of playing it.³⁸ The dispute over the existence of gerrymandering is concerned with a deeper problem, which cannot be dismissed without analysis. It is possible to characterize gerrymandering as an optical illusion, something in the eye of the beholder that, upon deeper

37. The testimony given in *Davis*, for example, is fairly illustrative. "MR. SUSSMAN: 'What I would like you to do here again is to give me whatever reasons were operative to your mind in maintaining or creating . . . districts . . .'" MR. DAILEY: 'Political.' MR. SUSSMAN: 'What were the political factors?' MR. DAILEY: 'We wanted to save as many incumbent Republicans as possible.'" *Davis v. Bandemer*, 478 U.S. 109, 116 n.5 (1986); and elsewhere: "As one Republican House member concisely put it, '[t]he name of the game is to keep us in power.'" *Id.* at 177-78 (Powell, J., concurring in part and dissenting in part).

The same unguarded candor was exhibited by the late Rep. Phil Burton, who masterminded the 1980 California redistricting and is generally conceded to be one of gerrymandering's modern masters. He "publicly joked that his zig-zagging district lines were 'our contribution to modern art.'" With respect to California's newly drawn Fifth Congressional District, then represented by his brother, Burton stated, "Oh, it's gorgeous, it curls in and out like a snake.'" Frederick K. Lowell & Teresa A. Craigie, *California's Reapportionment Struggle: A Classic Clash Between Law and Politics*, 2 J. L. & POL. 245, 246 (1985) (citations omitted). Burton considered his own behavior to be justified by offsetting Republican gerrymandering in places like Indiana. *Id.*

Rep. George Brown was one of the beneficiaries of Phil Burton's dexterity. In 1988, Brown told the *Wall Street Journal's* Paul Gigot: "a good gerrymander 'is essential. [This district] is probably safe for me for another two terms,'"—"just in time for another gerrymander in 1990," noted Gigot. "He then hopes to redraw 'a new, smaller seat that will be safely Democratic.'" Paul A. Gigot, *Incumbent for Life: I Came, I Saw, I Gerrymandered*, WALL ST.J., Nov. 4, 1988 at A14.

38. See *supra* note 16.

appreciation, does not really exist. It is, on this argument, unrealistic to speak of "fair" or "neutral" political ground rules. Such rules are never neutral; in a hackneyed evocation, everything is politics. Thus Professor Michael Moore's suggestion that gerrymandering may be like Gertrude Stein's Oakland: "there's no there there." Judge Abner Mikva found a familiar way to encapsulate this sort of skepticism when he said that gerrymandering is "somewhat like pornography. You know it when you see it but it's awfully hard to define."³⁹ Just as there are some liberated (or libertarian) souls who claim never to have seen "pornography," there are people who claim never to have seen gerrymandering.

Robert Dixon once remarked that "all districting is gerrymandering."⁴⁰ As he said elsewhere:

The key concept to grasp is that there are no "neutral" lines for legislative districts. Whether the lines are drawn by a ninth-grade civics class, a board of Ph.D.'s, or a computer, every line drawn aligns partisan and interest blocs in a particular way different from the alignment resulting from putting the line in some other place.⁴¹

It is not just that the choice of one districting plan over another is necessarily partisan. Equally partisan are choices concerning districting methods or criteria, because these always tell something about the choice between plans. Every districting method helps someone at least to the extent of hurting someone else. Because districting criteria are inevitably "non-neutral" in the sense that someone will always benefit, it is naive at best to try to segregate gerrymandering from other ways of drawing district lines.

Daniel Lowenstein and Jonathan Steinberg have taken this argument to its logical extreme. "[T]here are no coherent public interest criteria," they say, "for legislative districting independent of substantive conceptions of the public interest, disputes about which constitute the very stuff of politics."⁴² In other words, every "neutral" criterion overtly or covertly imports a view about who ought to exercise power. Any set of rules regarding any part of the conduct of elections will necessarily dispose toward a particular set of winners and losers.

It is mistaken to assert that a "neutral" rule must disregard outcomes. Rules are neutral, as most people understand that term, even though their application determines a winner. (The rules of baseball are neutral in this sense, although

39. Engstrom, *supra* note 5, at 282.

40. ROBERT G. DIXON, JR., DEMOCRATIC REPRESENTATION: REAPPORTIONMENT IN LAW AND POLITICS 462 (1968), as quoted in Gordon E. Baker, *Threading the Political Thicket by Tracing the Steps of the Late Robert G. Dixon, Jr.: An Appraisal and Appreciation*, in REPRESENTATION AND REDISTRICTING ISSUES IN THE 1980S 21, 31 (Bernard Grofman et al. eds., 1982).

41. *Hearings Before the Committee on Government Affairs, U.S. Senate, on S. 596, A Bill to Provide a Fair Procedure for Establishing Congressional Districts*, 96th Cong., 1st Sess. 211, 218 (1979); see also, Baker, *supra* note 40 at 32.

42. Daniel H. Lowenstein & Jonathan Steinberg, *The Quest for Legislative Districting in the Public Interest: Elusive or Illusory?*, 33 UCLA L. REV. 1, 4 (1985).

The Third Criterion

they favor the teams with the “best” players.) A rule that calls the person who gets the most votes in an election the “winner” is ordinarily thought of as neutral, even though it favors popular over unpopular candidates. “Neutral,” as applied to districting rules, as well as the other rules governing elections, means according to generally accepted ideas of procedural fairness—in other words, that the person who did win, should have won, with “should” drawing its meaning from precisely the democratic ideas that are instantiated by holding elections in the first place. The fact that we will never fully define terms like fairness or neutrality does not diminish their utility.⁴³ As Martin Shapiro has noted, “decision makers often do, and indeed often must, move away from a wrong position without being able to specify precisely what ideal position they are moving toward.”⁴⁴

Lowenstein and Steinberg’s own argument shows how difficult it is to hide from the legitimate power of “neutral” rules. They have some of their own, though they change the name to protect their innocence. What other people might call “neutral” procedural rules, they call “pre-political.” By this term they mean “to describe procedures and values that govern the democratic system within which substantive political conflicts occur and are worked out.”⁴⁵ But if it is conceded that a set of pre-political ground rules exists, why should the rules of districting be in principle excluded from it?⁴⁶

Peter Schuck makes the case that gerrymandering is like any other “victory bonus” conferred upon a majority party by winning at the polls.⁴⁷ In this view, gerrymandering should be no more offensive than such “bonuses” as “patronage, logrolling opportunities, the opportunity to organize the legislative chamber, the financial and other advantages of majority status,” all of which create a “power-enlarging effect.”⁴⁸

Gerrymandering, however, is a victory bonus with a difference. All of the other “bonuses” that accrue to the victor serve a purpose other than pure electoral aggrandizement. Patronage, for example, is one of two methods for organizing a bureaucracy (the other is via an independent civil-service organization) and the patronage system has the advantage of ensuring some level of responsiveness. Officials who can be removed at will have an extra incentive to please their bosses, who in turn have an incentive to please the constituents who elect them. Similarly, it is hard to imagine an alternative, legitimate method to organize the legislative chamber apart from majority vote. Each of

43. On the importance of procedural due process, despite the lack of a precise definition, see EDMOND CAHN, *THE MORAL DECISION* 251 (1955).

44. Shapiro, *supra* note 21, at 228.

45. Lowenstein & Steinberg, *supra* note 42, at 4 n.12.

46. See discussion following note 120, 121.

47. Schuck, *supra* note 31, at 1359.

48. *Id.*

these activities, unlike gerrymandering, is necessary to conducting legislative business.⁴⁹

A more general problem with Schuck's categorization is that it wrongly groups together "victory bonuses" which differ widely with respect to costs, benefits, and the potential for cure. All "victory bonuses" are not created equal. Even parties entitled to the "victory bonus" of patronage appointments are bound by the rule in *Elrod v. Burns*,⁵⁰ which forbids the patronage-motivated dismissal of non-policymaking government employees. Nor can one doubt that if a majority party sought to reap its "victory bonus" by barring members of the minority party from all committee assignments, or from a franking privilege thitherto enjoyed by every member, or from collecting travel expenses when members of the majority were entitled to do so, courts would probably, and rightly, find a rationale for intervening.⁵¹

The single-member district system itself is Schuck's most vivid example of a "non-justiciable victory bonus." As has long been recognized, this system inflates the majority party's influence in the legislature beyond what its popular support warrants, by a factor inversely proportional to the size of its margin of victory.⁵² According to Schuck, it "is difficult to see how one can maintain a fair representation argument against partisan gerrymandering without at the same time challenging single-member/plurality-vote districting Like a partisan gerrymander, [it] rejects proportionality in favor of a victory bonus for the majority party."⁵³

Again, Schuck avoids any realistic cost/benefit analysis of the "victory bonus" at issue. The choice of a single-member district system can be defended

49. Schuck illuminates another difference between gerrymandering and other "victory bonuses" when he argues that partisan gerrymandering is politically constrained—in other words, politicians will subject themselves to too much political heat if they overdo it. Schuck, *supra* note 31, at 1327 n.19. Yet, if they have the votes, why should politicians hesitate to appropriate the "victory bonus" of gerrymandering? They do not hesitate to appropriate any other bonus. They are not ashamed to assert exclusive control over legislative agendas, although they hold the legislature by only a single vote. They are not ashamed to designate only members of their party as committee chairs. They are not ashamed to logroll and compromise and dispose of as much business as they can on straight party-line votes. Gerrymandering, however, is different: Politicians do not gerrymander under claim of right, and Schuck, it appears, is not willing to defend it on such terms.

50. 427 U.S. 347 (1976) (dismissals in the Cook County, Illinois, Sheriff's Department violated First and Fourteenth Amendments). Cf. Erwin Chemerinsky, *Protecting the Democratic Process: Voter Standing to Challenge Abuses of Incumbency*, 49 OHIO ST. L. J. 773 (1988) (arguing that suits alleging abuse of incumbency are justiciable).

51. See generally *Powell v. McCormack*, 395 U.S. 486 (1969).

52. Many attempts have been made to quantify this "inflation." In theoretical computer models of single-member district systems there is a standard curve which correlates the pro-majority bias to the size of the majority. For any size of population and number of districts there is a formula for producing this curve known as the "cube law of politics," a reference to an exponent in the formula which is held constant and which provides an "index of proportionality." While the purely theoretical models have put this index at three, actual electoral systems vary widely, and index results ranging from 0.71 to 4.4 have been obtained. See Bernard Grofman, *For Single-Member Districts Random is Not Equal*, in REPRESENTATION AND REDISTRICTING ISSUES IN THE 1980s, *supra* note 40, at 55.

53. Schuck, *supra* note 31, at 1359.

The Third Criterion

on grounds independent of the current content of partisan politics. A district system protects minority parties from the domination of statewide majorities that can occur in at-large elections.⁵⁴ This principle may not embody the spirit of pure populist democracy, but it is an easily defensible goal in structuring a democracy.⁵⁵

Nevertheless, it is even possible that this issue could become justiciable if, for example, a legislature shifted back and forth between multi-member and single-member districts for no apparent reason other than frustrating the minority party. There is a pronounced difference between the decision to continue to maintain a single-member district system on the one hand, and the decision to gerrymander a legislature on the other. Most legislators probably support the single-member district system because they prefer it as a democratic form. Perhaps they support it only because things have always been done that way and, while they have not thought about it much, they vaguely suspect that good democratic reasons could be educed to uphold it. But they support gerrymandering for a different reason altogether: to spare themselves (and their party) the burden of having to win elections by winning over voters.

C. *The Undemocratic Intent to Gerrymander*

How may gerrymandering be described so as to distinguish it from legitimate partisan activity? Gerrymandering cannot be described purely by its manifestations. A district map may look gerrymandered, but its wandering district lines may have a nonpartisan explanation. They may even have been drawn by the most outcome-disregarding criterion imaginable, the random walk of a computer program. Nor may illicit districting be defined solely in terms of a disparity between votes cast and seats obtained, or in terms of “wasted” votes, as these phenomena are common to all elections.

The additional element that gives gerrymandering its illicit character is intent. It is one thing for a phenomenon to exist by necessity, and quite another for someone to distribute or redistribute it selectively. For example, we know that in any election a certain number of ballots will be lost, miscounted, or spoiled, but that is no justification for someone intentionally miscounting or spoiling ballots. The element of intent turns a misfortune into a crime. The same is true when a legislature arranges for someone’s vote to be wasted.

The crux is thus to define the intent to gerrymander in a way that distinguishes it from unobjectionable partisan aspirations like the intent to win

54. See *supra* note 30; see also GRIFFITH, *supra* note 11, at 47 (discussing defensive use of districts in early state assemblies).

55. See DAHL, *supra* note 25, for discussion of “populistic” and “Madisonian” models of democracy; see Hermens, *supra* note 26, for a discussion of the relative merits of single-member and proportional representation systems.

elections or to form a legislative majority. Such a distinction emerges from considering how gerrymandering works. A gerrymanderer sets out to waste the votes of the opposing party,⁵⁶ in other words, to render ineffectual the votes of certain voters in an election. Voters are selected, based on how they have voted in the past and how they are likely to vote, for inclusion in a minority bloc within a district. The gerrymanderer's sole purpose in doing this is to increase his party's odds of electoral success.

The desire to be elected is harmless enough, but how one gets elected is hardly a matter of indifference, any more than one is indifferent whether a student's high mark on an exam was the product of hard study or cheating. In a democracy, parties are supposed to gain political power by persuading voters to vote for them. Paradigmatically, such persuasion takes the form of non-coercive, rational appeals to the public interest and common welfare. Everyone appreciates that this paradigm is far from reality, that appeals to the electorate are often selfish, sometimes downright unpleasant, and that few voters pay much attention to the larger demands of republican consciousness. Still, persuasion is, and should be, the preferred method of getting elected. Indeed, the extent to which any other method is used is the extent to which the process is undemocratic. To elect, after all, means to choose.

Gerrymandering is a purely mechanical manipulation guided by the probabilistic choice tendencies of given cohorts of voters. It is thus opposite in spirit and in practice to the "rational persuasion" paradigm of getting votes. Gerrymanderers engage in no appeal of any kind; indeed, their purpose is to eliminate the need for any appeal. In a democratic society, at least of the American variety, intending to gain power by some method other than appealing to voters is *prima facie* wrong.

Thus, intent to gerrymander is the intent to do something undemocratic.⁵⁷ Indeed, it takes an heroic obtuseness to view gerrymandering in any other light. "Gerrymander" belongs to the class of terms which William Safire calls "attack words," and is always used polemically as a way to discredit the

56. The term "wasted votes" has two different meanings, although both are a form of electoral mischance. A vote for a losing candidate could be described as "wasted," as could all votes cast for a winner in excess of those necessary to constitute a majority. Given the fungibility of individual votes, no one could ever look at a given ballot and identify it as a part of the superfluous votes rather than as a part of the necessary majority, but in gross, as a statistical matter, the concept is both meaningful and clear.

57. All districting implicates this intent to some degree, but one cannot say that all districting is gerrymandering, any more than one can say that all influence is bribery. It is possible to district with more or less concern for partisan gain (although all plans will have a particular partisan effect). Gerrymandering is distinguishable as overreaching, as an excess, as something that "goes too far." While the distinctions may be hard to make, one is justified in trying to make them.

The Third Criterion

opposition.⁵⁸ Ordinary voters believe that gerrymandering is one of the ways that scheming politicians frustrate the popular will.⁵⁹

Ordinary voters are right. The most obvious purpose of a gerrymander is to diminish the political efficacy of certain voters' votes. The minority party's votes are that much less likely ever to influence elections. Politicians have that much less need to pay attention to the views of voters whose franchise has been attenuated. A person ought to be entitled to complain, for the sake of the political community, if not for the integrity of one's own vote, if someone has manipulated the lines on a map in order to make the outcome of an election a foregone conclusion.

Any voter's vote is asymptotically meaningless, in the sense that virtually never can one say that an individual's vote changed the outcome of an election, but this fact does not show that gerrymandering is harmless.⁶⁰ A vote cannot be valued according to its probability of determining the outcome of an election. As Paul Meehl has argued, a vote is not an economic or utilitarian object because it is extraordinarily unlikely that any person's vote will ever determine the outcome of an election—indeed, it is morally certain that it will not.⁶¹ “Nobody is going to pay any attention to the last digit in a six place number for the state of Minnesota's popular vote for the President, especially as we all know that the voting machines and tabulations will contribute error larger than that.”⁶²

In that case, why bother to vote?⁶³ The justification for voting cannot (in Meehl's terminology) be “act-prospective egocentric,” that is, utilitarian self-interested.⁶⁴ Rather, it must be “axiomatic and sociotropic,” that is, a gesture embodying a statement of preference about a way of life based on a purely ethical norm.⁶⁵ A vote is a form of self-expression, a means to affirm the philosophy of popular sovereignty. It is a symbolic act of power. That is

58. See, e.g., *Picasso Democracy*, WALL ST. J., Aug. 24, 1987, at A12; *Stacking the House*, WALL ST. J., Apr. 2, 1985, at A28; George F. Will, *California Scheming*, WASH. POST, Aug. 18, 1983, at A29; *Gerryduck in Louisiana*, N.Y. TIMES, Oct. 1, 1983, at A26; *A Fair Blow at Foul Districting*, N.Y. TIMES, June 24, 1983, at A24. See also, GRIFFITH, *supra* note 11, at 18 (arguing that Federalist press used gerrymander illustration in connection with newly-coined word, for campaign purposes).

59. “A California Field Poll taken in April [of 1989] found that 41% of those polled had no opinion about the current redistricting plan. However, when voters were read a description of gerrymandering, a whopping 82% disapproved of the process.” *Assault on the Gerrymander*, WALL ST. J., Dec. 20, 1989, at A14.

60. One could use the same sort of rationalization to justify any form of vote fraud.

61. Paul E. Meehl, *The Selfish Voter Paradox and the Thrown-Away Vote Argument*, 71 AM. POL. SCI. REV. 11 (1977). As Meehl points out, a person's chances of influencing the outcome of an election are about even with his chances of getting killed driving to the polls. *Id.*

62. *Id.* at 14.

63. This question cuts very much deeper in the mathematically related context of people's behavior buying lottery tickets. For a sophisticated explanation, see Daniel Kahnemann & Amos Tverski, *Choices, Values and Frames*, 39 AM. PSYCHOL. 341 (1984).

64. Meehl, *supra* note 61, at 24.

65. *Id.*

why we ought not feel foolish casting a vote for a candidate we are sure will lose.⁶⁶

A gerrymander not only decreases the actual power of voters, making their votes that much less of a "live" threat to public officials, but more importantly, it muffles the expression that a vote embodies. Because that is their aim, gerrymanders become potent symbols in their own right. To the extent that gerrymandering is accepted as a sanctioned part of partisan politics, it is a public declaration that it is proper for the legislature to manipulate the constitutive rules by which legislatures themselves are defined.

II. GERRYMANDERING AS A CONSTITUTIONAL VIOLATION

Even if we concede that gerrymandering exists and that it is probably a bad thing, we still must address the issue of the propriety of judicial intervention. Commentators who oppose the justiciability of gerrymandering argue that the difficulties involved in identifying it make curing it impractical; or that even if gerrymandering can be identified, fixing it would only bring worse evils in train, such as requiring judges to perform a crucial regulatory function at the heart of the political process.⁶⁷ Others doubt that gerrymandering can be said to violate any constitutional right.⁶⁸

These objections to implementing an antigerrymandering principle will be familiar to students of constitutional law, for the objections track the arguments made by Justice Frankfurter in *Baker v. Carr*.⁶⁹ Although this opinion recorded one of the most compelling arguments ever made against judges entering political thickets, it was a dissent, and as a matter of constitutional doctrine, it has been left far behind. Ironically, a number of scholars who accept the "political thickets" argument with respect to gerrymandering reject that same argument in connection with malapportionment and agree with the holding of *Baker*. Yet as we shall see, the distinction between malapportionment and gerrymandering is neither conceptually nor practically great. Indeed the apportionment cases provide the ideal conceptual framework for defining gerrymandering as a constitutional violation. A consideration of these issues begins with the Supreme Court's first attempt to deal with the problem.

66. Indeed, foolishness would be to vote with anything other than an expression interest in mind. This analysis sheds light on the problem of "virtual representation," which concerns how a voter may be said to be "represented" when casting a vote for a losing candidate. See Black, *supra* note 18, at 131, 140-1; *Davis v. Bandemer*, 478 U.S. 109, 132 (1986). A rational citizen ought to view a vote not as a potential share of legislative power, but as a statement about democracy. The government's legitimacy does not depend on the results of elections, but on the fact that elections—real elections—are held. Thus the voter ought not feel disenfranchised as long as the electoral process was fair.

67. See, e.g., BRUCE E. CAIN, *THE REAPPORTIONMENT PUZZLE* (1984); Schuck, *supra* note 31; *Davis*, 478 U.S. at 144 (O'Connor, J., concurring).

68. See, e.g., Lowenstein & Steinberg, *supra* note 42.

69. 369 U.S. 186 (1962).

The Third Criterion

A. *The Standard of Davis v. Bandemer*

In *Davis v. Bandemer*, the Supreme Court held that claims of partisan gerrymandering are justiciable as violations of the Equal Protection Clause of the Constitution.⁷⁰ The court relied on the notion advanced in *Reynolds v. Sims*⁷¹ that a denial of “fair representation” can be a basis for a constitutional claim, and on *Gaffney v. Cummings*,⁷² in which the Court reached the merits of a claim that the Connecticut legislature had constructed a bipartisan gerrymander.⁷³ Six justices in *Davis* joined the holding that gerrymandering claims were justiciable.⁷⁴ Regarding the specific claim that Indiana’s House of Representatives had been gerrymandered, a plurality held that the appellees, Indiana Democrats, had failed to make the required showing of discriminatory vote dilution.⁷⁵ The Court reached this conclusion in the teeth of some fairly incriminating evidence, both circumstantial and direct, that pointed to discriminatory intrigues: although Democratic candidates received almost 52% of the vote statewide in House races in 1982, they only won 43 of 100 seats; and in two counties where Democratic candidates won 46.6% of the vote, they won only 3 of 21 House seats.⁷⁶

In assessing the claim of political gerrymandering, the plurality applied a standard which originally had been used in race-based challenges to multi-member districts.⁷⁷ In those cases, a constitutional cause of action arises where there is harm to an excluded group’s “opportunity to participate”⁷⁸ in the “political process as a whole.”⁷⁹ Under *Davis*, justiciable gerrymandering claims include those brought by members of a political party as well as by members of a minority race.⁸⁰ The plurality made it clear that a claim of gerrymandering must be based upon more than a mere lack of proportional representation: “a finding of unconstitutionality must be supported by evidence of continued frustration of the will of a majority of the voters or effective denial to a minority of voters of a fair chance to influence the political process.”⁸¹

70. 478 U.S. 109 (1986). See also *Badham v. Eu*, 488 U.S. 1024 (1989). The Court summarily affirmed the dismissal of a gerrymandering challenge to California’s federal congressional districts, in which the district court, 694 F. Supp. 664, 670 (N.D. Cal. 1988), simply applied the *Davis* criteria to the facts and found that the “effects” test (see discussion below) had not been met.

71. 377 U.S. 533 (1964).

72. 412 U.S. 735 (1973).

73. See discussion in *Davis*, 478 U.S. at 119-20, 123.

74. *Id.* at 118-127.

75. *Id.* at 127-143.

76. *Id.* at 115; see *id.*, 478 U.S. at 116 n.5 & 177-78 (Powell, J., concurring and dissenting); see also note 37, *supra*.

77. *Id.* at 131.

78. *Rogers v. Lodge*, 458 U.S. 613, 624 (1982), as quoted in *Davis*, 478 U.S. at 131.

79. *Davis*, 478 U.S. at 132.

80. *Id.* at 125.

81. *Id.* at 132-33.

There can be no quarrel with the proposition that a lack of proportional representation is not, without more, an adequate basis for judicial intervention in the districting process, but the plurality's approach to gerrymandering is flawed as a matter of Fourteenth Amendment law, and, partly as a result, is unworkable in practice. The problem is in how the plurality sought to adapt the law of racial discrimination to gerrymandering cases. In Fourteenth Amendment race cases, complainants must establish the discriminatory intent behind the practice that they challenge. In order to make proof of discrimination realistically possible, the Court has permitted evidence of the discriminatory "effect" or "impact" of a practice to serve, not as an independent basis for finding a violation, but as indirect evidence of discriminatory intent.⁸²

Yet in *Davis v. Bandemer*, the Court made a threshold showing of discriminatory "effect" an independent, required element of a constitutional claim of gerrymandering.⁸³ By altering the traditional secondary role of effects evidence, the Court turned its Fourteenth Amendment jurisprudence almost upside down, and at the same time made a constitutional violation practically impossible to prove. The plurality seemed painfully aware of the innovation: "Although this opinion relies on our cases relating to challenges by racial groups . . . nothing herein is intended in any way to suggest an alteration of the standards developed in those cases for evaluating such claims."⁸⁴ And elsewhere: "We do not contemplate that a similar requirement would apply to our Equal Protection cases outside of this particular context."⁸⁵ Justice Powell separately wrote that the effect standard had always been used as a proxy: "The plurality wholly ignored the basic problem underlying . . . prior [equal protection] decisions, namely, that the plaintiffs came into court with no direct proof of discriminatory intent."⁸⁶

82. See, e.g., *Washington v. Davis*, 426 U.S. 229 (1976).

83. See, e.g., *Davis*, 478 U.S. at 139.

84. *Id.* at 132 n.13.

85. *Id.* at 134 n.14.

86. See *id.* at 171 n.10. Justice White responded that "the effects test we cite was initially set forth in *White v. Regester*, 412 U.S. 755 (1973), which was decided before the Court expressly determined that proof of discriminatory intent was a necessary component of an equal protection claim." 478 U.S. at 139 n.17. The invocation of *White v. Regester* is dubious. *White* did not directly address the interplay of discriminatory intent and effect, but it clearly relied on a history of intentional discrimination, citing, for example, an absence of "good-faith" in "racial campaign tactics," and "invidious discrimination and treatment in the fields of education, employment, economics, health, politics and [other areas]." *White*, 412 U.S. at 767-68.

The role of intent in Fourteenth Amendment discrimination cases is explained in *Village of Arlington Heights v. Metropolitan Development Corp.*, 429 U.S. 252 (1977):

Determining whether invidious discriminatory purpose was a motivating factor demands a sensitive inquiry into such circumstantial and direct evidence of intent as may be available. The impact of the official action—whether it 'bears more heavily on one race than another,' *Washington v. Davis*, supra, [426 U.S.] at 242—may provide an important starting point . . . [But a]bsent a pattern as stark as that in *Gomillion* or *Yick Wo*, impact alone is not determinative, and the Court must look to other evidence.

The Third Criterion

The plurality compounded the problem for plaintiffs by failing to supply a definition of the apparently critical term “effects.” The Court dismissed as mere evidence of intent, factors which could be seen as the effects of gerrymandering, such as “the shapes of the districts and their conformity with political subdivision boundaries; and ‘evidence concerning population disparities and statistics tending to show vote dilution’”;⁸⁷ though it later admitted, incongruously, that such factors may be “relevant to a showing of the effects.”⁸⁸ Even more surprising, the Court was ambivalent about the probative value of the factor which most would consider the primary effect of gerrymandering, namely, skewed electoral results.

The plurality admitted that electoral results are relevant to a showing of effect,⁸⁹ but it insisted that an unconstitutional plan is one which will “consistently degrade” voters’ influence,⁹⁰ and it emphasized that “[r]elying on a single election to prove unconstitutional discrimination is unsatisfactory.”⁹¹ Given the relevance of election results, one would suppose that some measure of proportional representation, albeit over more than one election, would therefore be the test for gerrymandering.⁹² Yet the plurality seemed to spurn this approach as well, criticizing Justice Powell’s dissent on the grounds that he would allow a violation “where the only proven effect on a political party’s electoral power was disproportionate results in one (or possibly two) elections.”⁹³

What, then, establishes the effect of gerrymandering? Disproportionate results over three elections? The one constant in the *Davis* Court’s analysis is the requirement that the plaintiff show that a political party has been denied the opportunity to “participate in” or “influence” the “political process as a

The historical background of the decision is one evidentiary source, particularly if it reveals a series of official actions taken for invidious purposes. . . . The specific sequence of events leading up to the challenged decision also may shed some light on the decisionmaker’s purposes. . . .

The legislative or administrative history may be highly relevant, especially where there are contemporary statements by members of the decisionmaking body, minutes of its meetings, or reports. In some extraordinary instances the members might be called to the stand at trial to testify concerning the purpose of the official action, although even then such testimony frequently will be barred by privilege. *Id.* at 266-68.

The *Davis* Court was thus on shaky ground in claiming that it would use the standards evolved in race bias cases as its guide. Had it undertaken the sort of “sensitive inquiry” envisioned in *Arlington Heights*, considering historical, testimonial and other evidence, it could hardly have failed to sustain the trial plaintiffs’ position.

87. *Davis*, 478 U.S. at 138; see also *id.* at 142 n.20.

88. *Davis*, 478 U.S. at 141.

89. See, e.g., *id.* at 141, 142 n.20.

90. *Id.* at 132.

91. *Id.* at 135.

92. See *id.* at 156 (O’Connor, J., concurring).

93. *Id.* at 141.

whole.”⁹⁴ In the context of gerrymandering, this test is virtually impossible to meet. First, gerrymandering always involves creating a few districts where the opposition party is sure to win, which forecloses an argument by plaintiffs that they have been completely excluded from the political process. Second, one of the nation’s two major political parties may never have been so continuously disadvantaged as to have suffered the requisite “historical patterns of exclusion from the political processes.”⁹⁵ After all, even Chicago has some Republican alderman. Gerrymandering claims, while justiciable in principle, would in practice never succeed on the merits.⁹⁶

Applying its test to the Indiana Democrats, the Court noted that the “District Court did not find that because of the 1981 [districting] Act the Democrats could not in one of the next few elections secure a sufficient vote to take control of the assembly” or that “the Democrats would have no hope of doing any better in the reapportionment that would occur after the 1990 census.”⁹⁷ Hence, even the possibility of success at the polls can forestall a claim of gerrymandering.

It is an indictment of the *Davis* plurality’s test that it provides no incentive for gerrymanderers to do anything differently.⁹⁸ A partisan mapmaker will still gerrymander as much as possible. The challenger must then embark on a fool’s errand to try to prove its present and prospective lack of influence on the political process. Even if the plaintiff miraculously prevails on the merits, the gerrymanderer will still control the outcome of at least two out of the five elections held after a decennial redistricting.⁹⁹

With such a crabbed view of the substantive offense, one wonders why the Court held that gerrymandering claims were justiciable at all. The best evidence of gerrymandering, including the facts surrounding the process of drawing district maps, the shapes of districts, and even the sworn admissions of legislators, is disregarded as merely bearing on the issue of discriminatory intent—and that despite the fact that prior discrimination law had considered the issue of intent to be paramount. Evidence of lack of proportional representation is deemed relevant—though, ironically, focusing on such evidence risks embroiling the Court in politics in the very manner it presumably sought to

94. *Id.* at 131-33.

95. *Id.* at 131 n.12.

96. It is telling that the classic, effective gerrymanders in Indiana and California were not interdicted.

97. *Davis*, 478 U.S. at 135-36.

98. There is not even the incentive to shroud one’s partisan designs in a decorous silence. *See infra*, note 37.

99. In response to a challenge by the dissent, the plurality suggested that “projected” election results may establish a case of gerrymandering. *Davis*, 478 U.S. at 139 n.17. It seems highly doubtful that the Court would agree to adjudicate a contest among social scientists and statisticians when it was unpersuaded by the actual results in Indiana’s elections.

The Third Criterion

avoid in formulating such a high threshold showing.¹⁰⁰ The “opportunity to participate” standard either requires the courts to make political assessments of partisan power, or defines gerrymandering in a manner which ensures that no successful claim will ever be brought.

B. *Individual Rights and “One Person, One Vote”*

The *Davis* plurality took a wrong turn at the outset. It miscast the nature of the injury resulting from gerrymandering, by deciding that the “group level . . . must be our focus in this type of claim.”¹⁰¹ Thus, “in order to succeed, the Bandemer plaintiffs were required to prove . . . intentional discrimination against an identifiable political group and an actual discriminatory effect on that group.”¹⁰² In other words, the plaintiff is injured not as a person or a citizen, but as a Democrat or a Republican.

But that is wrong. Gerrymandering as a constitutional violation is not something that Democrats and Republicans do to each other. Gerrymandering is something that *legislators* do to *voters*.¹⁰³ The apportionment cases provide a useful legal framework within which the harm of gerrymandering can be placed and considered. These cases focused exclusively upon the harm suffered by individuals as voters. Even though the Court in *Reynolds v. Sims* recognized that nationwide malapportionment tended to advance the interests of rural areas at the expense of urban areas,¹⁰⁴ its attention remained fixed on the individual right that malapportionment violated. It should have made no difference to the outcome in *Reynolds* had the Court been persuaded that legislators from malapportioned districts were properly sensitive to urban concerns, or that they passed legislation which was fair to everyone.

Rather, the *Reynolds* Court focused on the legislature’s discriminatory act of classification: “the concept of equal protection has been traditionally viewed as requiring the uniform treatment of persons standing in the same relation to the governmental action questioned or challenged.”¹⁰⁵ Similarly, in *Gray v.*

100. See, e.g., Justice O’Connor’s warning in *Davis* that reform will inevitably lead to a judicially managed form of proportional representation. *Id.* at 156.

101. *Id.* at 125 n.9.

102. *Id.* at 127.

103. The analogy to race bias was misguided from the start. People are not born into a political party the way they are born into a race, regardless of what partisans may say. Discrimination against Republicans and Democrats cannot fruitfully be compared on any level to the historical exclusion of, and discrimination against, minorities.

104. See, e.g., 377 U.S. at 567-68.

105. *Id.* at 565. The Court continued: “With respect to the allocation of legislative representation, all voters, as citizens of a State, stand in the same relation regardless of where they live. Any suggested criteria for the differentiation of citizens are insufficient to justify any discrimination, as to the weight of their votes, unless relevant to the permissible purposes of legislative apportionment.” *Id.* Justice Powell advocated a similar approach in *Davis v. Bandemer*: “When deciding where [district] lines will fall, the State should treat its voters as standing in the same position, regardless of their political beliefs or party affiliation.” 478 U.S. at 166.

Sanders, it emphasized that "there is no indication in the Constitution that homesite . . . affords a permissible basis for distinguishing between qualified voters within the State."¹⁰⁶

While the Court's language in the apportionment cases contains sweeping claims about the purposes and goals of reapportionment,¹⁰⁷ the legal argument "must be concentrated upon ascertaining whether there has been any discrimination against certain of the State's citizens which constitutes an impermissible impairment of their constitutionally protected right to vote."¹⁰⁸ The Court found this impairment in the intentional "dilution" of the votes of people living in overpopulated districts.

Searching for precedents to justify judicial intervention, the Court cited cases where the right to vote was completely denied;¹⁰⁹ however, as the dissenters argued, "denial" of the right to vote is not the same as "dilution" of that right. Justice Stewart wrote, "[n]obody's right to vote has been denied [by malapportionment]. Nobody's right to vote has been restricted. Nobody has been deprived of the right to have his vote counted. The voting right cases which the Court cites are, therefore, completely wide of the mark."¹¹⁰ Justice Frankfurter argued in *Baker* that "[a]ppellants invoke the right to vote and to have their votes counted. But they are permitted to vote and their votes are counted Talk of 'debasement' or 'dilution' is circular talk."¹¹¹

The dissenters had a point. The Court has spoken at times as if the harm to voters from malapportionment were measurable: "The resulting discrimination against those individual voters living in disfavored areas is easily demonstrable mathematically. Their right to vote is simply not the same right to vote as that of those living in a favored part of the State."¹¹² A moment's reflection reveals that the harm of malapportionment is not so simply cast. For the harm to be mathematically demonstrable, one first must make a number of assumptions, such as that voter turnout will be equal in every district. If

106. *Gray*, 372 U.S. at 380; see also *Reynolds*, 377 U.S. at 566-68; *Baker*, 369 U.S. at 207-08, 242, 253-54; *Wesberry*, 376 U.S. 1, 6, 14, 17-18 (1964).

107. See, e.g., *Reynolds*, 377 U.S. at 565-66 ("each and every citizen has an inalienable right to full and effective participation in the political processes of his State's legislative bodies"; "each citizen [shall] have an equally effective voice in the election of members"; "fair and effective representation for all citizens is concededly the basic aim of legislative apportionment.")

108. *Id.* at 561.

109. See *Baker*, 369 U.S. at 201-02, 208, 247-48; see also *Reynolds*, 377 U.S. at 554-55. For cases in which the right to vote was denied, see, e.g., *Ex Parte Siebold*, 100 U.S. 371 (1879) (ballot-box stuffing); *United States v. Saylor*, 322 U.S. 385 (1944) (same); *United States v. Mosely*, 238 U.S. 383 (1915) (failure to count votes); *Ex parte Yarbrough*, 110 U.S. 651 (1884) (physical assault of voters); *Guinn v. United States*, 238 U.S. 347 (1915) ("grandfather" laws and literacy tests); *Lane v. Wilson*, 307 U.S. 268 (1939) (same); *Nixon v. Herndon*, 273 U.S. 536 (1927) (statutes explicitly denying right to vote on account of race); *Nixon v. Condon*, 286 U.S. 73 (1932) (statutes which denied right to vote on account of race by allowing political parties to "set the rules" for voting in primaries).

110. *Lucas v. Forty-Fourth General Assembly of Colorado*, 377 U.S. 713, 744 (1964).

111. 369 U.S. at 299-300 (footnote omitted).

112. *Reynolds*, 377 U.S. at 563.

The Third Criterion

there are ten thousand eligible voters in each of two properly apportioned districts, and all the voters in one district turn out for an election but only half in the other district do, the voters in the second district each have twice as much actual effect on the outcome of the election as the voters in the first, and their votes have twice as much "value." The "mathematical" harm to the voter is really a calculation of the *potential* value of a vote cast in a *hypothetical* election where turnout is even across districts.¹¹³

The only undeniable harm was the discriminatory acts of classification by the state.¹¹⁴

It would appear extraordinary to suggest that a State could be constitutionally permitted to enact a law providing that certain of the State's voters could vote two, five, or 10 times. . . . And it is inconceivable that a state law to the effect that . . . the votes of citizens in one part of the State would be multiplied by two, five, or 10 . . . could be constitutionally sustainable. Of course, the effect of state legislative districting schemes which give the same number of representatives to unequal numbers of constituents is identical.¹¹⁵

Malapportionment, then, is not a denial of the right to vote, but rather a dilution of that right, the magnitude of which is unspecifiable. What vote

113. The "one person, one vote" principle is hardly a foundational norm, like the decision to have democracy in the first place. *See, e.g., Wesberry*, 376 U.S. at 20 (Harlan, J., dissenting) (malapportionment has always been the norm in American politics). Indeed, it is entirely possible that a seriously malapportioned legislature will provide "fair and effective" representation. Furthermore, the "one person, one vote" standard may actually work against "fair and effective" representation, for example in the case of a traditionally underrepresented minority group which would benefit if the law required a certain minimum group representation. *See Shapiro, supra* note 21, at 232-33 (discussing Justice Marshall's dissent in *Mobile v. Bolden*, 446 U.S. 55, 103 (1980)).

The work-a-day, non-platonic character of the equal population principle is indicated by the manner in which it is applied. For example, when the Court chooses "the total number of residents" as the population base to be equalized, it turns its back on other populations which could have been used as a base with equal plausibility—registered voters, potentially eligible voters, probable voters, citizens, adult citizens, or adults. *See Burns v. Richardson*, 384 U.S. 73, 91-97 (1966). We have no principled basis, other than the necessity of making a choice, for preferring "total populations" to another criterion. Each choice forecloses the possibility of "equality" in some other sense. The gross population standard that was chosen ignores differences in voter registration or turnout. It also has an unequal impact from state to state. The ideal congressional district in Idaho will have a population, based on the 1980 census, of about 472,000; in Oregon it will be 525,000, so one person's vote in Oregon will be worth about 89% of one person's vote in Idaho.

More revealing is the Court's treatment of permissible exceptions to the strict equal population standard in the context of state legislative districts. In order to establish a prima facie case of malapportionment in violation of the Fourteenth Amendment, claimants must show population variations of at least 10% between the largest and smallest districts. *See Brown v. Thomson*, 462 U.S. 835, 842-3 (1983). Any smaller deviations are within the discretion of the legislature. Yet even a discrepancy of greater than 10% may be allowed if the state offers evidence that it is pursuing a "rational state policy." *Mahan v. Howell*, 410 U.S. 315, 328 (1973). In *Brown*, the average population deviation between districts was 16%, and the deviation between the largest and smallest district was 90%. 462 U.S. at 838.

In short, the equal population standard only guarantees a minimum quantum of electoral process. These observations should temper the prejudice that the equal population criterion is somehow more important, more fundamental, less political, than other electoral rules.

114. Of course some actual diminution in the power of a voter does occur in elections held in malapportioned districts. The point is that the attenuation is in practice impossible to quantify, and by itself forms a poor basis for the justiciability of malapportionment.

115. *Reynolds*, 377 U.S. at 562-63.

dilution and vote denial have in common is the state's act of discriminatory classification. Viewed in this light, gerrymandering is a violation of the same individual right recognized in *Baker*, *Wesberry*, and *Reynolds*—the right to be free of governmental tampering with one's vote. The only group element involved is that the voters who were fouled were chosen for the honor because of the presumed strength of their affinity for candidates of one party or another. We may as well characterize the equal population criterion as a group right, since malapportionment was historically directed against an identifiable group composed of urban voters.¹¹⁶

Legal scholars who have written about these problems have labored mightily to rationalize a serious and revealing inconsistency in their legal world view. Gerrymandering and malapportionment are closely related, but most commentators consider *Baker v. Carr* to be rightly decided if not sacrosanct, while making grave justiciability objections to gerrymandering claims (“courts ought to stay out of political thickets”).

For example, Daniel Lowenstein and Jonathan Steinberg proffer a distinction between group rights and individual rights to explain the inconsistency, asserting that gerrymandering cannot be recognized as a cause of action because it cannot be said to implicate anything but a group right (which constitutionally speaking does not exist), while “it is at least plausible” that apportionment implicates an individual right.¹¹⁷ Their explanation as to why malapportionment violates an individual right is that “if one district is substantially more populous than another it makes sense to argue that a vote cast in the first district is devalued compared to one cast in the second.”¹¹⁸ This may be so (although they never address the assumptions which underlie talk of votes being “equal” or “devalued”), but it also “makes sense” to argue that if individuals are targeted by the state legislature to suffer an electoral misfortune which would otherwise afflict them only by accident, then their franchise is “devalued” when compared to others. This would be true irrespective of who wins the election. Lowenstein and Steinberg, however, argue that plaintiffs must be complaining either that they cannot affect the actual outcome of elections, or that their preferred candidate did not win.¹¹⁹

Lowenstein and Steinberg have an alternative argument why malapportionment cases are distinguishable from gerrymandering cases. They say that the rule of “one person, one vote” has now become a “pre-political” principle, and so is among the “ground rules that constitute and, therefore, precede the political struggle.”¹²⁰ However, a principle that did not begin as “pre-po-

116. See generally Shapiro, *supra* note 21, at 233-36 (discussing group rights).

117. Lowenstein & Steinberg, *supra* note 42, at 12-13.

118. *Id.* at 13.

119. *Id.* at 13-14.

120. *Id.* at 75.

The Third Criterion

litical” can hardly evolve there. “One person, one vote” was not a pre-constitutional principle of district-making.¹²¹ Until *Reynolds v. Sims*, “one person, one vote” was not even a required element of the political equation. It has only been there for twenty-five years, hardly long enough for a legal rule to be translated into an irreducible axiom of democratic practice, uniquely beyond the scope of legal reasoning. If twenty-five years is long enough, it is plausible to believe that twenty-five years from whenever the Supreme Court recognizes a compactness-based antigerrymandering principle, it shall have become pre-political as well.

Professor Schuck’s attempt to distinguish malapportionment and gerrymandering fails for similar reasons. According to Schuck:

[First,] the “one person, one vote” principle has proved to be judicially manageable . . . [second,] partisan gerrymandering is politically constrained in ways that pre-*Baker* malapportionment, which often resulted from the legislature simply doing nothing in the face of population shifts, was not Finally, the population equality principle has achieved a public acceptance and settled character in our political system.¹²²

None of these points is persuasive as a means of distinguishing an antigerrymandering principle from that of “one person, one vote.” Just as there are judicially manageable criteria to define and remedy departures from the principle of “one person, one vote,” there are such criteria to prevent gerrymandering. Moreover, whether it is true that gerrymandering needs no remedy because it is already politically constrained is an open, empirical question. Those familiar with recent gerrymanders, such as the one in Indiana that led to *Davis v. Bandemer* or the “Burtonization”¹²³ of California in 1981, would probably giggle at the assertion that gerrymandering was constrained by the political process.¹²⁴ Surely it would be more convincing to argue that gerrymandering is too tough a problem to ask a court to fix rather than that it is such an easy problem that it fixes itself.

121. Contiguity was, however, such a pre-constitutional principle. If one were committed to understanding the role of pre-political principles in drawing district lines, it is with contiguity, not equinumerosity, that one should begin. See *infra* part III.A.

122. Schuck, *supra* note 31, at 1327 n.19.

123. See Mitch Betts, *Gerrymandering Made Easy in 1990*, COMPUTERWORLD, August 28, 1989, pp. 1, 18 (“Burton” is “(Often used as a verb as in ‘to Burton.’) The late Congressman Phillip Burton, a San Francisco Democrat, drew an extremely partisan map for California’s congressional districts after the 1980 census. It was designed to add five Democrats to the California delegation and slaughter Republicans.”) For a good account of the brouhaha, see Lowell & Craigie, *supra* note 37.

124. One of the main reasons Schuck offers for thinking that gerrymandering is politically constrained in comparison to malapportionment is that gerrymanderers have to be active; they have to gerrymander and re-gerrymander, and every time they do it, they may have to fight. A malapportioner, on the other hand, can just sit and do nothing. Schuck, *supra* note 31. Although reapportionment cases dealt with district plans that had been passed more than 50 years earlier, the issue of apportionment/malapportionment was a constant irritant in legislatures, and at times it gave rise to strong controversy. Serious disputes arose more often than once in 10 years, and they consumed a great deal of legislative energy. See RICHARD C. CORTNER, *THE APPORTIONMENT CASES* (1970). The fact that these altercations did not result in the existing plans being modified does not prove the issue was not contentious; it is rather a tribute to the institutional gridlock that malapportionment had caused.

Schuck's last argument is that "one person, one vote" has wide public acceptance, whereas an antigerrymandering principle has no comparable consensus behind it.¹²⁵ Both prongs of this assertion are dubious. On one hand, the wide acceptance of "one person, one vote" was an *ex post* phenomenon. No broad popular movement was clamoring for the result in *Reynolds* at the time it was decided.¹²⁶ On the other hand, an antigerrymandering principle probably can claim a large and influential constituency of newspaper editorialists, good government reformers, and, in brief, the same sorts of people who would have supported *Reynolds* in 1964.¹²⁷

III. COMPACTNESS AS A REMEDY FOR GERRYMANDERING

The apportionment decisions lend credence to the notion that a valid election only occurs where the process is fair. A compactness standard could be embodied in the law using a similar "fair-process" approach.¹²⁸ The act of gerrymandering, defined as the drawing of district lines in a manner intended to inflate the districting party's majority in the legislature, violates the individual rights of those whose votes are meant to be diminished.¹²⁹ Recognizing that all district plans are partisan to some extent, courts could limit their intervention to cases in which gerrymandering violated certain clear procedural norms.

If a substantial challenge were made to the noncompactness of a district plan, for example, by proffering a more compact plan, then a *prima facie* case of gerrymandering would be made out, and the state would have to provide acceptable, nonpartisan reasons for having drawn its district lines as it did.

125. Schuck, *supra* note 31, at 1327 n.19.

126. The contrary is probably closer to the truth. When he was Solicitor General and arguing in behalf of plaintiffs in one of the reapportionment cases, Archibald Cox privately believed that the "one person, one vote" standard would be so radical a departure from American political tradition that "the country would not accept it as law." ARCHIBALD COX, *THE COURT AND THE CONSTITUTION* 288, 297 (1987).

127. *See also* note 59, *supra*.

128. Courts regularly prefer "fair process" standards over "actual prejudice" standards. For example, the Fourteenth Amendment right to equal protection may be violated where members of a racial group deliberately have been excluded from jury venire lists, *see, e.g.*, *Casteneda v. Partida*, 430 U.S. 482 (1977), even though the jurors who were chosen were concededly fair judges of the facts. The constitutional right is violated, not by an unfair outcome, but by an unfair process. By contrast to a "fair process" approach, an "actual prejudice" standard will only overturn a result where a plaintiff has in fact been harmed by discriminatory action. One way of capturing the inconsistency of legal scholars who favor *Baker* but dislike *Davis*, and the inconsistency of the *Davis* plurality itself, is to note that they would apply "fair process" rules to apportionment cases, but only "actual prejudice" rules to gerrymandering cases.

129. We do not flesh out in this article the exact contours of an equal protection argument appropriate for a legal brief, but we note that discriminatory state action should be easy to prove, and that voting rights cases merit "strict scrutiny" under the Supreme Court's current doctrine. Even under the "rational relationship" test, gerrymandering would be hard to defend.

The Third Criterion

Any voter whose vote was targeted for diminution by being deliberately placed in a minority district ought to have standing to sue.¹³⁰

Before a compactness standard can operate as a legal criterion, one must show that compactness is a valuable safeguard, that noncompactness is a reliable gauge of partisan gerrymandering, and that a workable method of determining compactness exists. The following section argues that the criterion of compactness is intimately related to other procedural safeguards which all agree are necessary for fair elections.

A. *Equinumerosity, Contiguity and Compactness*

One may take it as given that those in present charge of the government would prefer to control who gets elected to office if they could manage it. They could manage it infallibly if they were entitled to say, on an ad hoc basis, whose vote would count and whose would not. Democracy, as the term is commonly understood, precludes this sort of ad hoc choosing. Democracy implies a fairly steady state of constitutive rules that control and constrain the way in which such choices can be made. There is no possibility, of course, for these rules to be in a steady state unless they at least minimally constrain political manipulations. Such rules might specify, for example, that there must be a certain number of districts, defined beforehand; that an elector may vote only once; that an elector must vote only in the district to which he is assigned; and that whoever gets the most votes in each given district is elected.

The foregoing criteria are a bare-bones version of the sort of rules that are required in order to allow the idea of a democratic election to operate at all. The question is whether and how far these criteria could prevent those currently in power from doing what we assume comes naturally, namely, determining who wins each election. Key to the operation of these criteria is a substantive idea of what is meant by a "district."

130. These voters would most clearly have standing. Two other categories of voters are arguably harmed by a gerrymander, but it is less clear that they would have standing. First, there are the statewide minority party voters who are deliberately placed in districts to create vote-wasting supermajorities (the "packing" phase of a gerrymander). They are targeted in some sense by the districting legislation, but the *Davis* plurality seems right in suggesting that they can claim no individual harm, since in their district they are part of a majority. 478 U.S. at 140-41. Second, there are the statewide majority party voters who are placed in the minority in one of those districts that were created by partisans to waste the votes of the other party. Although these voters are not members of the targeted political party, it would be logical to give them standing because they were deliberately placed in the minority in a partisan gerrymander. Although those voters might not want to bring a suit, because doing so could harm their party's power in the legislature, giving them standing is consistent with our emphasis on the individual harm caused by gerrymandering.

A last class of voters in a gerrymander, members of the statewide majority who are placed in the majority in their districts, would not seem to have standing, unless we conceded everyone standing because of an individual right to have the government constituted by fair process.

We have an ingrained notion that an electoral district is a place, like Chicago, but a district is not necessarily so. A district could be defined as the members of the Academy of Motion Pictures Arts and Sciences, or as the members of the legal profession or the pipefitters' union, or indeed, a district could be a purely theoretical construct describing that set of voters, wherever resident, whom we designate as a district. Under the four rules we mention, assuming no others applied, it would be easy for those in power to rig favorable electoral outcomes.

Imagine a hypothetical state with ten million inhabitants, each of whom belonged to one of two parties. The state has twenty districts and is to hold an election for representative in each. Someone with absolute control over the districting process could afford to be practically indifferent to how much popular support his party enjoys. If he can identify only nineteen "friendlies" in the entire state, he will be able to win the election in nineteen districts by designating each of them as a district. Each district so constituted would then elect its representative by a majority vote of one to zero. Success could not be guaranteed in the mammoth twentieth district, comprising everyone else in the state. The vote there would depend on how popular the friendlies were in the population as a whole. In principle, they could lose by the inglorious tally of 9,999,981 to zero. The state's delegation would then be nineteen friendlies and one (very popular) "unfriendly."¹³¹

Such outcomes can be and are ruled out, of course, by further refining the concept of "district." In *Reynolds* and *Wesberry* the Supreme Court took this step by holding that all districts must have approximately equal populations. This requirement ("equinumerosity") substantially diminishes the ability to affect outcomes. If an equinumerosity constraint applies, nineteen out of ten million would come nowhere near assuring a favorable electoral outcome in even a single district, no matter how much discretion one otherwise has.

Surprisingly, however, the principle of equinumerosity is practically helpless, acting all by itself, to ensure what one would normally think of as majority rule. Suppose the voters in our state are precisely split in their support of the two parties. In theory, if equinumerosity were the only constraint, the friendlies would still be able to engineer victories for themselves in nineteen out of twenty of the districts, by ceding to the opposition an enormous majority in one district, and then cobbling up slim majorities in the other nineteen.¹³² Constructing these majorities should be a straightforward business because the

131. Majoritarianism does little to restrain partisan abuse, but it has one small virtue: it makes it difficult to win that last district. The twentieth district will be impossible to win unless the friendlies have the support of fifty-percent-plus-twenty.

132. Ideally, to make these majorities as secure as possible, the friendlies would cede the one district to the unfriendlies by a margin of 100% to zero.

The Third Criterion

rules as stated so far still allow partisans to assign any voter in the state to any district in the state.

Under this regime, an election in which the equinumerosity constraint had been conscientiously obeyed could be just as undemocratic as where one person was designated as an entire district. The result from our hypothetical state can be generalized: no matter how many districts there are, a party with 50% support can theoretically win in all the districts but one.¹³³ In a state with 45 districts (for example, California in the 1980s) a resourceful partisan hand could fashion victories in 44 of those districts. In a state with 500 districts, skimpy majorities could be arranged in 499. Admittedly, these are theoretical extremes, and as the number of districts increases it becomes harder to create safe majorities in all but one district.¹³⁴ There are, however, entirely realistic versions of this problem that make it clear that population equality alone is an all but meaningless limitation on malign partisanship.

No matter how many districts in the state, although the friendlies have the support of only 50% of the state's voters, they can, even while adhering to the principle of equinumerous districts, guarantee themselves 25% margin victories in 80% of the races.¹³⁵ Smaller margins could well be tolerable, because districts constructed without regard for where voters live do not change their character as people move about the state. If they were prepared to risk victory margins of only 10% the friendlies could guarantee themselves wins in 90% of all districts.¹³⁶

Other strange results are possible where only "one person, one vote" stays the partisan hand. For example, a minority party which controls the districting process can assure itself a majority of legislative seats as long as it polls more than 25% of the popular vote.¹³⁷ Also possible is a ferocious brand of majority rule: a party that controls the districting process and polls an amount

133. The only mathematical limit on this tactic is the requirement that the number of voters in an average district be at least twice the number of districts minus one. Thus our 20 districts must each contain at least 38 voters before we can assure wins in 19 districts with only 50% of the statewide vote. As a practical matter, the number of voters in a district will be much larger than the number of districts.

134. We have assumed apportionment on the basis of voter registration. If noncontiguous districts are apportioned by total population, the opportunities to influence elections are further increased. The crafty tactical move would be to create small majorities of voters by packing a district with nonvoting residents. In spirit, this maneuver is similar to creating one-person districts which are won by a vote of 1 to 0.

135. That is, 62.5% to 37.5%. The other 20% of the districts would be ceded to the opposition, which would carry them unanimously.

136. Specifically, the margins would be 55.56% to 44.44% in the contested districts, with the others being carried unanimously by the hapless unfriendlies. If confident enough to risk margins of only 5%, the friendlies could carry 95% of all districts, with the margin in contested districts at 52.63% to 47.36%.

137. This result depends on the same technique described earlier, where districts are ceded to the opposition by unanimous margins, thereby wasting the maximum number of opposition votes. The power of such a minority is greatly increased as its support increases beyond 25%. Thus, a party which wins 45% at the polls and controls the districting process can use this method to win 75% of the seats.

greater than 50% of the vote can, in theory, win 100% of the seats in the legislature.¹³⁸

The root cause of these undemocratic outcomes is still traceable to the inadequate constraint on what is meant by a "district." An additional rule, importing a rudimentary notion of "place," is necessary to prevent such results. The concept of contiguity remedies this defect. The idea of contiguity is so integrated with our concept of what a district is that it generally remains unanalyzed.¹³⁹ Although a majority of states have either constitutional or statutory contiguity requirements,¹⁴⁰ the Supreme Court has never said that a district must be composed of contiguous areas. Cases involving contiguity typically deal with such questions as what land is contiguous to what, or how insubstantial a connection may be without becoming noncontiguous, or when land is contiguous although isolated by a body of water.¹⁴¹ So far as we are aware, only one court has held that a district may be composed of two or more genuinely discrete, isolated, independently contiguous plots located on the same land mass.¹⁴²

Despite the courts' inattention, contiguity is not just a gracenote in the score of democracy; it is crucial, both practically and theoretically. Without the constraint of contiguity, equinumerosity is so diminished that its only real value is symbolic. A contiguity requirement exponentially shrinks the number of available districting options, because in constructing one district, the map-

138. The technique is to create a majority-minority split in each district which precisely mirrors the majority-minority split statewide. Thus a party that leads its opponent 55% to 45% in a state would create a 55-45 majority in every single district.

139. See, e.g., Grofman, *supra* note 9, at 84 ("Contiguity is a relatively trivial requirement and usually a noncontroversial one"); Richard G. Niemi, *The Relationship Between Votes and Seats: The Ultimate Question in Political Gerrymandering*, 33 UCLA L. REV. 185, 187 (1985) ("That political districts should be contiguous—that all parts of a district should be connected—is not likely to be important in gerrymandering cases because it is relatively noncontroversial."). The technical definition of contiguity is satisfied when one can travel from one part of a district to any other part without having to leave the district.

140. See Grofman, *supra* note 9, at 177-80 (Table 3).

141. See, e.g., *Wells v. Rockefeller*, 311 F. Supp. 48 (S.D.N.Y. 1970), *aff'd.*, 398 U.S. 901 (1970); *Badillo v. Katz*, 73 Misc. 2d 836, 343 N.Y.S.2d 451 (N.Y. 1973); *Holmes v. Farmer*, 475 A.2d 976 (R.I. 1984).

142. In *Dillard v. Town of Louisville*, 730 F. Supp. 1546 (M.D. Ala. 1990), the court approved a district map submitted by the town council, intended to comply with the Voting Rights Act, in which the town's fifth district was divided into two separate parts. *Id.* at 1548-49. The only case we have found in which noncontiguous territories were amalgamated into one district, this precedent has radical implications of which the court was seemingly innocent.

Even where contiguity has been adhered to, ingenuity, even audacity, has sometimes been displayed. One federal case has established that a highway bridge is sufficient to establish contiguity. *Wells*, 311 F. Supp. at 53. California's Sixth congressional district "has four distinct and detached parts. Two are connected only by water, the other two by a narrow piece of land used for railroad yards." *A Recipe for Gerrymandering*, 1 CONG. QUARTERLY, STATE POLITICS AND REDISTRICTING 149 (1982). New York's City Council proposed a map that had one district connected "for nearly two miles" by "the Coney Island Boardwalk." The district was "not contiguous at high tide." Sam Roberts, *Redistricting Oddities Reflect Racial and Ethnic Politics*, N.Y. TIMES, May 7, 1991, at B1. The plan was rejected by the Justice Department for other reasons.

The Third Criterion

maker necessarily forecloses the possibility of constructing countless others which would intersect the first.¹⁴³

But whatever contiguity adds to a gerrymanderer's burdens, noncompactness can take away. Noncompactness may render contiguity irrelevant as a constraint. For any existing scheme of contiguous districts, a single voter, no matter where in the state he lives, could in theory be included in any district by means of a gerrymandered plan that neither displaces any other voter nor renders any part of any district noncontiguous. Further, for *any* spatial arrangement of voters, a scheme of contiguous districts can be constructed such that each district contains only those voters that have been specified in advance, regardless of where they live.¹⁴⁴

If every name in the Manhattan phone book is randomly associated with one of ten districts, a map can be constructed that will place every voter in a literally contiguous district no matter which combination of names and districts are chosen. The resulting district map would certainly look odd—in places, districts might be stretched thin as telephone wires—but it can be done, regardless of where the voters live. Thus, from the viewpoint of a partisan mapmaker, compactness and contiguity are a single entity, and freedom from the constraint of compactness is equivalent to freedom from contiguity as well. In such a world, abusive results are predictable events. To rule out this sort of situation, one needs a third criterion: Districts must be compact.¹⁴⁵

143. See, e.g., Peter J. Taylor, Graham Gudgin & R.J. Johnston, *The Geography of Representation: A Review of Recent Findings*, in *ELECTORAL LAWS AND THEIR POLITICAL CONSEQUENCES* 183, 188 (Bernard Grofman & Arend Lijphart eds. 1986) ("With no constraints except equal numbers of base units per district, the number of combinations of n base-units to produce m districts is given by . . . $n!/(m(n/m)!m!) . . .$ With 20 base-units to be divided into 4 districts of 5 units each, this comes to 24,310 solutions! The addition of a contiguity constraint on the solutions will reduce this number. For Newcastle upon Tyne 20 wards combine into 334 solutions of contiguous patterns of 4 constituencies, for example.").

144. A rough analytic proof of this proposition proceeds as follows. First, consider any set of contiguous districts; imagine, for example, a chess board in which each square is a district. If we wanted the square at one corner of the board to include a resident of the square at the opposite corner, we could extend a thin tentacle from the first square that would wind along the existing boundaries of the other squares—never cutting through them—until it reached the target square. There it would stair-step around the current residents until it reached the target voter. If this can be done once, it can be done an infinite number of times. Of course districts may look quite awful. If the two squares on the opposite long diagonal wanted to swap some voters as well, they would have to extend contiguous tentacles around the boundary of the first district described above, which already cuts almost completely across the chess board. But it can be done. The only limiting assumption is that voters cannot reside precisely on the state boundary, so that there is room between them and it sufficient to insert a contiguous tentacle.

145. The available definitions of compactness, including one we hold to be the most workable, are discussed in part III.D. One may concede that, even in the absence of a compactness constraint, various real-world factors inhibit noncompact gerrymandering. For example, no line-drawer has yet had the chutzpa to run a district line through the middle of someone's bedroom (though shame did not prevent the creation of California's 32nd congressional district after the 1980 census), but even within these not-especially confining confines, partisan mapmakers can thrive. Where partisans are given a lever, they have proved willing to try to move the world. For an example of how skewed district populations were in the apportionment cases, see *Maryland Com. for Fair Rep. v. Tawes*, 377 U.S. 656, 665 (1964) (counties "with only 14.1% of the total state population" could elect a majority of the Maryland Senate; a population ratio of 32 to 1 existed between the least- and most-populous electoral counties; "Calvert County, where only 15,826 resided" was "entitled to one Senate seat, while Baltimore County, with a 1960 population of

The antimanipulation power of equinumerosity, contiguity, and compactness are mechanically interdependent: if any one is entirely ignored, then the other two fail as guarantors against partisan manipulations. At present only population equality has been constitutionally required, but if the efficacy of the equal population principle depends on at least some minimal requirement of contiguity, to that extent contiguity must also be constitutionally required. If contiguity can in its turn be rendered meaningless without a compactness criterion, to that extent compactness must be constitutionally required.¹⁴⁶

B. Compactness as a Restraint On "Partisan Lust"¹⁴⁷

The compactness requirement interdicts a technique that is indispensable to creating effective gerrymanders. People do not naturally arrange themselves to suit the purposes of a gerrymanderer. Residents must be placed in appropriate districts. Toward this end, district lines are stretched and shrunk, and in the process districts become noncompact. Thus, where compactness is a constraint, a gerrymanderer's job is noticeably harder.¹⁴⁸ A compactness requirement would not end all gerrymandering, but it would diminish its practical value to partisans. So long as partisan mapmakers are left with any discretion whatsoever, strategic line-drawing will continue to exist, but the worst cases—that category which the Supreme Court is certain must exist, but for which adequate diagnostic criteria have never been proposed—almost certainly can be ruled out.

492,428" was "likewise entitled to only one senator"). The criterion of contiguity has also been stretched to the limit. See *supra* note 141.

146. Scholars have long recognized that equal population alone is a mechanically inadequate constraint on gerrymandering, and that an overemphasis on that criterion is senseless and even counterproductive. See, e.g., Engstrom, *supra* note 5, at 278, 283 (emphasis on equal population has led to a "gerrymanderer's paradise"); Phil C. Neal, *Baker v. Carr: Politics in Search of Law*, 1962 SUP. CT. REV. 252, 278 (principle of equal population alone "may not be much more useful than one half of a pair of pliers"). Supreme Court justices have had the same intuition. See, e.g., *Reynolds*, 377 U.S. at 578-79 ("Indiscriminate districting, without any regard for political subdivision or natural or historical boundary lines, may be little more than an open invitation to partisan gerrymandering."); *Wells v. Rockefeller*, 394 U.S. 542, 555 (1968) (White, J., dissenting) ("Today's decisions on the one hand require precise adherence to admittedly inexact census figures, and on the other downgrade a restraint on a far greater potential threat to equality of representation, the gerrymander. Legislatures intent on minimizing the representation of selected political or racial groups are invited to ignore political boundaries and compact districts so long as they adhere to population equality. . . .").

147. This figure of speech is borrowed from David R. Mayhew, *Congressional Representation: Theory and Practice in Drawing Districts*, in REAPPORTIONMENT IN THE SEVENTIES 249 (Nelson W. Polsby ed. 1971).

148. Although not absolutely impossible. See, e.g., Grofman, *supra* note 9, at 89-91 (Gerrymandering "can be found in plans with wholly compact districts as well as in plans with many noncompact districts."). See also ROBERT DIXON, *DEMOCRATIC REPRESENTATION AND REAPPORTIONMENT IN LAW AND POLITICS* 459-461 (1968). Computers can endlessly crank out district plans which nevertheless conform to a fixed standard of compactness. Even under a constraint of compactness, an infinite number of district plans are still theoretically possible.

The Third Criterion

An effective gerrymander, for purposes of our argument, is one that has been designed to increase the disparity between a party's actual support among the population and its seats in the legislature, and which actually achieves this result. No one can say *a priori* the number of seats to which a party is entitled given a particular level of popular support. A compactness standard need not answer that question, which is a good reason why it can qualify as a neutral standard which avoids nonjusticiable political questions. By purely mechanical operation, a compactness requirement tends to inhibit gerrymandering. By inhibiting gerrymandering, in turn, one abets proportional representation, not by fiat, but by empirical tendency.¹⁴⁹ A compactness requirement, in other words, makes it superfluous for a court, or any other arbiter of fairness, to aim at proportional representation directly. The objection that gerrymander reform must eventually come down to judicially managed proportional representation is thus sidestepped.¹⁵⁰

A requirement of compactness would prevent effective gerrymandering. Consider again our hypothetical state with twenty congressional districts and with a voting population divided 50-50 between two parties. With an equi-numerosity and a contiguity rule but no compactness requirement, the party controlling the districting could arrange wins in nineteen of those districts.¹⁵¹ The more compactness is enforced,¹⁵² the greater the difficulty of arranging wins in nineteen districts, and the greater the risk that the gerrymander will fail or even backfire. At a certain level of compactness, even the most determined partisan with the fanciest software will be able to arrange majorities in only eighteen districts.¹⁵³ Tighten the compactness requirement further and that number will drop to seventeen, and so on. If the only acceptable plan were the *most* compact plan (according to whatever definition of compactness one were using) results more like 10-10 or 11-9 would usually emerge.

149. Statistical aberrations remain possible. In addition we can imagine two particular kinds of situations where inhibiting gerrymandering will harm proportional representation. First, under the Voting Rights Act it is possible that a minority could attain proportional representation to a greater extent than would ordinarily occur in single-member district elections. Second, a majority party may reach a bipartisan districting accord with the minority party where the effect is to closely approximate proportional representation. See *Gaffney v. Cummings* 412 U.S. 735 (1973) (upholding such an arrangement); DIXON, *supra* note 148, at 461; see also *supra* note 177 and accompanying text.

150. See Schuck, *supra* note 31, at 23; *Davis v. Bandemer*, 478 U.S. 109, 145 (1986) (O'Connor J., concurring).

151. See note 131 and accompanying text.

152. See *infra* part III.D for a discussion of the preferred standard of compactness.

153. At a certain level of compactness, arranging wins in 19 districts should become impossible in all but the statistically rarest cases, regardless of the availability and accuracy of voter information or the power of the computer. Put another way, beyond a certain level of compactness there probably will be no mathematical solution which will create majorities in nineteen districts, even though there will still be an infinite number of possible plans.

Several scholars have recognized the power of a compactness standard.¹⁵⁴ A number of other commentators have argued that a compactness standard would not have much prophylactic value,¹⁵⁵ and that, at most, a compactness standard might be useful for identifying gerrymandering but probably would not be useful in remedying it.¹⁵⁶ However, identifying gerrymandering can allow one to remedy it. A judge who can ascertain if a given districting map has been gerrymandered can enjoin its use, and the use of successor plans, until a map is submitted that does not possess the stigmata of gerrymandering. Sooner or later the mapmakers will have to produce an acceptable map.

C. Critiques of Compactness

Lowenstein and Steinberg have gone beyond simply doubting that the compactness standard would do much good; they believe that it would actually do much harm.¹⁵⁷ According to them, compactness "is not neutral. On the whole, the adoption of compactness as a criterion for drafting or evaluating districting plans will systematically advance the interests of the Republican Party and correspondingly disadvantage the Democratic Party."¹⁵⁸ The proffered reason is that predictably die-hard Democratic partisans tend to be highly concentrated in cities. Compact districts will tend to cluster these voters in a few districts where many of their votes will be "wasted." The result will be a sort of natural gerrymander favoring Republicans.¹⁵⁹

In addition to the fact that Lowenstein and Steinberg have little evidence that the Democrat-to-Republican ratio in heavily Democratic areas is consistently higher than the Republican-to-Democrat ratio in heavily Republican

154. See RICHARD MORRILL, POLITICAL REDISTRICTING AND GEOGRAPHIC THEORY 21 (1981) ("Except in isolated instances, it is quite difficult to gerrymander compactly. In most plans, the consistent operation of a compactness criterion will have a random effect on political partisanship.")

155. Few would assert that the compactness standard would do literally nothing. See Grofman, *supra* note 9, at 90-1.

156. Dixon wrote of the "myth of compactness," and disparaged "a rigid compactness rule," yet he admitted that a "rule of compactness and contiguity, if used merely to force an explanation for odd-shaped districts, can have much merit." DIXON, *supra* note 148, at 460-1. In the same vein Grofman stated that "the usefulness of requiring that districts be compact has been vastly overrated," although he then conceded "its usefulness as an indicia of possible gerrymandering," and included it as one of 12 such indicators. Grofman, *supra* note 9, at 89, 118.

157. Lowenstein & Steinberg, *supra* note 42, at 23.

158. *Id.*

159. The same argument was suggested in briefs opposing justiciability in *Davis v. Bandemer*. See Brief of Appellants at 18, *Davis*, 478 U.S. 109 (No. 84-1244) ("A preference for compact and contiguous districts is really nothing but a policy decision in favor of political groups whose support is evenly distributed about a state."); Brief Amicus Curiae of the Assembly of the State of California Prior to Consideration of Jurisdiction at 13, *Davis*, *supra*.

The Third Criterion

areas,¹⁶⁰ there is no reason to believe that “natural” gerrymanders are robust and effective without a little help from partisan friends. As opponents of gerrymander reform never tire of pointing out, even gerrymanders created with all the skill that partisans can command are fragile and often risky. Targeted voters are concentrated in a few districts in the hopes of winning many other districts by modest margins. A miscalculation that leads to a loss in a marginal district will saddle the clumsy, or unlucky, gerrymanderer with the worst of all worlds. The gerrymanderer will have created opposition strongholds where the votes of the mapmaker’s own party will have been wasted on purpose, while votes in marginal districts will have been wasted unintentionally. A few unintentional marginal losses can eviscerate an entire gerrymander, because to be effective, a gerrymander must produce wins, not just in a majority of marginal districts, but in a supermajority of those districts.

Lowenstein and Steinberg evidently believe more than they say about the resiliency of natural gerrymanders. Even if it is established that the two parties’ voter dispersion differs systematically from one place to another, Lowenstein and Steinberg must show that Republicans will win a supermajority of the marginal districts that a “natural” gerrymander creates. No published study has demonstrated this effect and we know of no good reason to suppose that it will occur.¹⁶¹ It seems equally likely that the Democrats will carry enough marginal districts to spoil a natural gerrymander. A natural gerrymander may even rebound to the Democratic Party’s advantage where their core districts were more irrefragably partisan than were the strongholds of the opposition.

A more fundamental response to the Lowenstein-Steinberg claim that compactness is merely “a Republican Trojan horse”¹⁶² is that it simply does

160. Grofman calls their data “sketchy to the point of nonexistence.” Grofman, *supra* note 9, at 92 n.67. Indeed, their reliance on non-U.S. experience, together with their concession that their analysis of the demographic picture is oversimplified, calls into question whether reliance on this proposition, which is central to their argument, can be justified.

161. To date, we have not seen any proprietary studies. The difficulties of conducting this sort of inquiry are formidable. Mere differences in voter dispersion, if shown, would not prove this effect. Appropriate analysis must consider, by state, the number of voter districts, the size of the majority and minority parties’ support based on turnout, the minimum necessary difference in victory margins between “packed” and “cracked” districts that will support a “natural” gerrymander (and this must account for the expected natural inflation inherent in single-member districts), and some measure of the expected average margin of victory in both the “packed” and “cracked” districts under a regime of compactness. The data must also satisfy a *ceteris paribus* assumption, somehow discounting all the other factors which we know influence elections—including the fact that current data on voting behavior may be skewed by the very existence and operation of gerrymanders. Enough knotty statistical issues must be overcome that probably the only way to settle this point is through empirical analysis—running thousands of computer models of compact districts and seeing what happens. Someday, somebody may do this and if so, here is our bet. First, except for cases of bipartisan gerrymanders, proportional representation will always be better served in a compact world than in a gerrymandered one. Second, any loss of Democratic seats will be traceable to the fact that Democrats do more gerrymandering. Third, there will be no discernible “natural” gerrymanders at all.

162. Lowenstein & Steinberg, *supra* note 42, at 27.

not matter, legally or ethically, that a fairness-enhancing reform will hurt one party and help another. Such considerations received and deserved no weight from the justices in *Baker v. Carr*.¹⁶³ *Baker* and its progeny have not been defended or attacked because they established ground rules that help Democrats or hurt Republicans (although a clear partisan effect was present).¹⁶⁴ Critics objected because the Constitution did not command "one person, one vote." It was and still is a fair point, but at this late date that issue must be taken as settled. Apart from that issue, it is simply a *damnum absque injuria* that fair ground rules hurt people, including innocent people, who have profited in the past from the existence and application of unfair rules.

If a compactness principle would systematically help Republicans at the expense of Democrats, it would probably be because Democrats, controlling many more state legislatures than Republicans, are in a position to do more gerrymandering.¹⁶⁵ If Democrats are harmed further because of differences in how followers of the major parties are dispersed, it should not matter legally. The destruction of gerrymandering is a worthy goal which will improve the practice of democracy. As Martin Shapiro has pointed out:

Neither party chose to represent whom they did because of their geographic stacking or dispersion or with an eye to how their choice would affect their electoral fortunes if the world were suddenly to come ungerrymandered. If geography favors the Republicans in an ungerrymandered world, that is a purely fortuitous result, unforeseeable by either party when it chose its ideologies and clientele. Such stacking ought to be treated as extraneous to the goal of constraining the self-serving actions of legislatures.¹⁶⁶

163. 369 U.S. 186 (1962).

164. See Shapiro, *supra* note 21, at 241.

By the time of *Reynolds*, the Democrats had enjoyed a majority position among voters for state and national legislatures for thirty years. Nothing could have more clearly favored the Democratic over the Republican party than a one-person-one-vote standard, which is, after all, the ultimate majority-serving standard and was so intended. . . . Why did the one-person-one-vote standard sustain its "heavy burden of persuasion?" Because it placed a major constraint on the inevitable and otherwise incurable tendency of legislators to feather their own electoral nests. If compactness or any other standard serves to constrain self-serving majority party and incumbent legislative behavior, then it meets its burden of persuasion even if it incidentally provides Republicans with even a little of the advantage that the one-person-one-vote standard gives Democrats.

Id. (footnote omitted). See also Cain, *supra* note 32, at 216 ("Given the fact that the equal population requirement is biased against the Republicans, how important is the consideration that compactness is (possibly) biased against the Democrats?").

165. It is inconsistent for Lowenstein and Steinberg to fail to point this out as a basis for opposing gerrymander reform. If there are no neutral ground rules for political discourse, it ought to be acceptable for those who favor the Democratic Party to oppose gerrymander reform for the blunt reason that, because Democrats get to do more gerrymandering, such a reform would hurt their party. Yet no one we know makes that argument—in public, anyway. By contrast, Lowenstein and Steinberg's voter-dispersion argument against compactness relies on the intuition that a natural gerrymander would be unfair because the choice of where to live is an "innocent" one—that is, it is not motivated by partisan design. Lowenstein and Steinberg thus tacitly acknowledge that there is such a thing as illegitimate partisan design.

166. Shapiro, *supra* note 21, at 240.

The Third Criterion

It is an open secret that partisan fears about a constitutional compactness criterion center on the fact that racial and ethnic minorities are concentrated in big cities. That is where a compactness criterion would pinch hardest. Generally, these minorities are disposed, and African-American populations markedly disposed, to vote Democratic.¹⁶⁷ Democrats have a particular, institutional stake in opposing the incorporation of the compactness criterion into law, because they fear that this would concentrate Democratic voters more than it would Republican voters.

Yet this issue is not only of concern to the Democratic Party. After all, many minority voters define themselves first as a member of a minority group, and only secondarily as a Democrat (or whatever other political party). The minority voters' interests and those of the political party to which they adhere are not in all respects and at all times congruent.

A single-member district system inflates the power of the majority party in the legislature, by a factor which increases geometrically with the size of the majority's public support.¹⁶⁸ The smaller a minority group, the more likely that its members will be ineffectually scattered and the less likely that it will form a majority in any one district. A small minority group may never have a chance to send one of its own to the legislature, although it can become a part of a coalition and thus influence whoever does get elected. The interest of such a minority group may well be best served by having its members concentrated in one or a small number of districts in order to create a comfortable majority in as many districts as possible. This intuition animates the federal Voting Rights Act,¹⁶⁹ which, in outlawing the dilution of minority voting strength, often mandates the deliberate concentration of minority voters in particular voting districts.

Even if this concentration, combined with minority voting patterns, costs the Democratic Party many "wasted votes," it would nevertheless remain true that this aspect of the compactness criterion dovetails with one of the goals of the Voting Rights Act. The primary antagonism, in other words, would not be between the compactness criterion and the interests of the Democratic Party; it would be between the interest of minority-group voters in electing a minority member to office, and the interest of the Democratic Party in maximizing the electoral success of Democratic candidates of whatever race.¹⁷⁰

There can be no a priori claim that minorities would necessarily be better off being represented by Democrats of whatever race than by having the

167. See, e.g., CAIN, *supra* note 67, at 71-72.

168. See Grofman, *supra* note 9, 52, at 55-56.

169. 42 U.S.C. § 1973 (1975).

170. The divergence between Democratic and minority interests on the issue of redistricting already has resulted in some surprising collaborations between minorities and the Republican Party. See Richard L. Berke, *Redistricting Brings About Odd Alliance*, N.Y. TIMES, April 8, 1991, at A1; *The Battle of the Pastry Cooks*, ECONOMIST, May 18, 1991, at 27.

realistic chance of being represented by one of their own race (regardless of party). This question is one that minority groups are well able to answer for themselves. Congress, in enacting the Voting Rights Act, apparently believed that minorities would consistently prefer the chance to elect a minority representative.¹⁷¹

Bruce Cain discredits the compactness criterion on a strictly non-partisan basis.¹⁷² Cain lists all the "good government" values that an ideal electoral district would possess and then argues that these values are only uncertainly related to a compactness standard. For example, the compactness criterion may make it difficult to preserve "communities of interest," however these are defined, and it may make it impossible to cleave to existing political boundaries.¹⁷³ Compactness may even conflict with the "good government" value of proportional representation.¹⁷⁴ Thus, Cain argues, there is no principled reason to favor compactness.

There is, however, at least one principled reason that lies not in any particular "good government" value but rather in the relationship between district-making and democratic process. Apart from any independent value compactness may have as a principle of democracy,¹⁷⁵ once one acknowledges that gerrymandering is a pathology of democratic government, one needs no better reason for embracing the compactness principle than that it makes effective gerrymandering more difficult.

The primary purpose of gerrymander reform is to prevent vote dilution carried out under the auspices of state government, and to redress the legal wrong to those whose votes are deliberately wasted. Because gerrymandering works by distorting the correlation of votes to seats, one advantage of gerrymander reform is a natural improvement in that correlation. Any increase in proportional representation is, however, merely collateral to reform.¹⁷⁶ By

171. See generally *United Jewish Org. of Williamsburg v. Carey*, 430 U.S. 144, 158-59 (1977).

172. CAIN, *supra* note 67, at 32-51.

173. *Id.* at 40. For example, "communities of interest" might refer to racial or ethnic minorities or, in a flood control district, to riparian owners of property along a river.

174. *Id.* at 35-6.

175. See *Karcher v. Daggett*, 462 U.S. 725, 756 (1982) (Stevens, J., concurring). Our argument stresses the prophylactic value of compactness in preventing gerrymandering over any other virtues it possesses. Yet commentators, Cain most prominently, have too quickly dismissed the independent normative value of compactness. See CAIN, *supra* note 67, at 34-51. The geographical organization of districts has several things to recommend it. Most obviously, where one lives is a dominant fact in a person's life. (The slang expression "gets you where you live" captures the essence of this idea.) Contemporary academic writing undoubtedly has laid heavier stress on other aspects of life than geography, especially on race and socioeconomic standing, to sort out generalizations about people, but where you live, the geography statistic, gets you where you live as well. The strangers that impinge on one's life tend to live nearby rather than far away, and the public concerns of virtually every local community tend first of all to things near to home: property taxes, roads, public schools, police and fire service, snow removal, trash collection, and so on. The idea that "all politics is local politics" deserves more than grudging recognition. It is, in fact, the motivation behind having local district elections in the first place.

176. Indeed, we should prefer a less proportional, but procedurally fair election, to a proportional, but rigged one.

The Third Criterion

the same reasoning, it is a collateral injury where compactness worsens proportional representation, as it does in a few cases.

The most likely case is one in which racial minorities have achieved a level of representation under the Voting Rights Act beyond what their numbers might warrant in ordinary single-member district elections. However, a race-conscious electoral policy, assuming we are to have one, can be accommodated to a legal compactness standard by the simple expedient of requiring that noncompactness be explained by the mapmaker. If the explanation is that noncompactness was forced by the requirements of the Voting Rights Act, this should be legally sufficient.¹⁷⁷

A second instance where compactness would impede the “good government” value of proportional representation is the case of a bipartisan districting accord, which might well lead to closer proportional representation for both the minority and majority parties than unrigged elections would allow. The Supreme Court upheld such a bipartisan plan in Connecticut in *Gaffney v. Cummings*.¹⁷⁸ The wisdom of allowing such bipartisan gerrymanders is highly suspect. The problem of self-constituting assemblies remains. We should be skeptical of legislators’ attempts to persuade us that when they design district maps which make their own seats as safe as possible, they are motivated by an austere concern for the public weal. Even assuming, as we reluctantly must after *Gaffney*, that such arrangements are permissible, it is possible to accommodate them within the law simply by saying that the value of such bipartisan arrangements justifies their noncompactness.

D. Choosing a Workable Compactness Standard

In this section we show that there is a conceptually adequate and practically workable mathematical measure of compactness. Finding such a measure is critical to meeting the requirement in *Baker* that there exist “judicially discoverable and manageable standards”¹⁷⁹ with which to approach what might otherwise be labeled a “political question.” There are, in fact, a number of ways of measuring compactness, described by a recondite literature.¹⁸⁰ One of these, as we now show, is superior to the others, but it is not essential to the argument for compactness that a particular criterion of compactness be proposed and defended. As Shapiro notes, “[i]f the only reason to oppose compactness is that there is no simple test for it as there is for equal popula-

177. The value of such a policy has been ably discussed elsewhere. See, e.g., CAIN, *supra* note 67, at 166.

178. 412 U.S. 735 (1973).

179. *Baker v. Carr*, 369 U.S. 186, 217 (1962).

180. For a compendium of proposed compactness measures, see *Karcher v. Daggett*, 462 U.S. 725, 756 n.19 (1983) (Stevens, J., concurring). Justice Stevens briefly and somewhat inaccurately characterizes the Schwartzberg method that is proposed herein.

tion, then we can easily overcome this obstacle by thinking in terms of constraints rather than ideals."¹⁸¹ Compactness that constrains gerrymandering is compactness enough. Realistically, any one of a number of possible standards, if rigorously applied, could improve the current practice of districting.

Nor is it necessary to provide an a priori description of an ideal electoral district. A proposal to defeat gerrymandering need not include such other desiderata as preserving the seats of respected incumbents or the integrity of "communities of interest." These and numerous other criteria have been recommended as guidelines for legislative districting in the public interest.¹⁸² But it is not true that because many districting criteria are available, there is no way to choose among them.¹⁸³ There exists a world in which politicians can remain free to weigh the merits and demerits of these many alternative criteria, but in which, for all practical purposes, they cannot commit the excess of gerrymandering. The burden of this section is to describe this world and to show that a judge can get there from here.¹⁸⁴

181. Shapiro, *supra* note 21, at 236-37.

182. For a good list of the "major proposed public interest criteria for legislative districting," see Lowenstein & Steinberg, *supra* note 42, at 11; see also Grofman, *supra* note 9; CAIN *supra* note 67, at 52-77 (discussing "good government" criteria). Our intent is to define a district in a way that does not import into the definition other substantive criteria, for example, that it should be closely competitive between parties, or that it should encompass a "community," or that the population should live near the geographic center.

183. See, e.g., Lowenstein & Steinberg, *supra* note 42 at 11; Arend Lijphart, *Comparative Perspectives on Fair Representation: The Plurality-Majority Rule, Geographical Districting, and Alternative Electoral Arrangements*, in REPRESENTATION AND REDISTRICTING ISSUES, *supra* note 40, at 143, 145-47. Grofman uncharitably suggests that these proliferations are so much argumentative rope-a-dope: "The argument that there is no way to measure partisan gerrymandering provides a smokescreen behind which gerrymandering can be hidden." Grofman, *supra* note 9, at 154.

184. Compactness is not the only antigerrymandering criterion that has been proposed. See, e.g., Niemi, *supra* note 139, at 195-201 (discussing the so-called "swing ratio," a sophisticated, incremental measure of proportional representation). Furthermore, many of the indicia of gerrymandering mentioned by Grofman, *supra* note 9, at 117-18 could probably be fashioned into formal restraints on gerrymandering.

Some commentators have suggested that strict adherence to existing political boundaries would prevent at least the worst excesses of gerrymandering. This approach is a false trail. As a practical matter, the constraining power of adhering to political boundaries is limited. Individual counties are often strangely shaped and noncompact considered by themselves, and the forms that can be created by sets of contiguous counties, even compact ones, can be made extremely noncompact. Further, the deviations which always will be necessary to conform to "one person, one vote" will remain entirely unconstrained. At best, adherence to political boundaries can serve as a rough approximation of a mathematical compactness measure, preventing, perhaps, the worst cases of gerrymandering. There seems to be no good reason, however, to settle for an approximation when infinitely more sensitive and discriminating compactness measures are available.

As a normative matter, existing political boundaries are only weak elements of good districting practice, and are routinely ignored whenever more important stakes are on the table. Many political boundary lines, especially county lines, are practically of marginal importance to most people. While courts have given these boundaries a certain amount of deference, especially in state legislative districting, see, e.g., *Brown v. Thomson*, 462 U.S. 835 (1983), there is little reason to believe that the quality of statewide or congressional representation would be enhanced by cleaving to them.

Ironically, political boundary lines are often the fossil record of old gerrymanders. In pre-colonial days, the boundaries of districts were constantly adjusted in response to transient political needs. GRIFFITH, *supra* note 11, at 25. There is no obvious reason to enshrine these ancient gerrymanders, save the Burkean principle that any given status quo is entitled to a strong presumption. It is a venerable philosophy, but

The Third Criterion

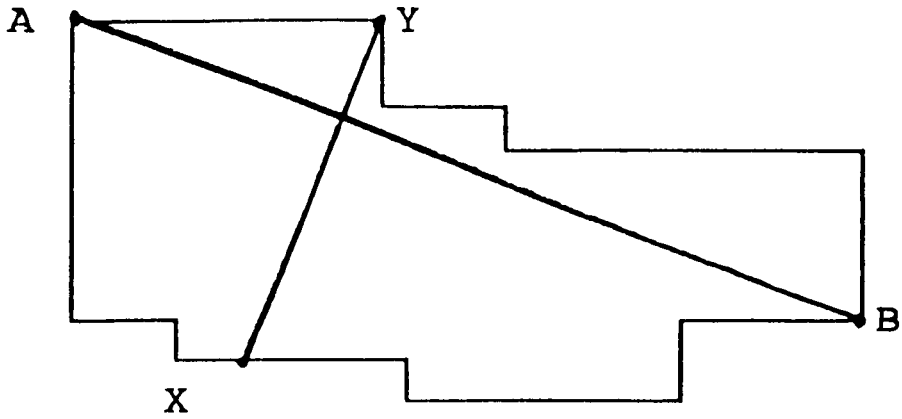


Figure 1

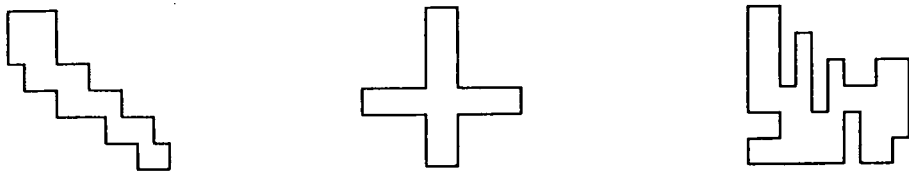


Figure 2

it was of little use to the Supreme Court in *Baker, Reynolds, and Wesberry*.

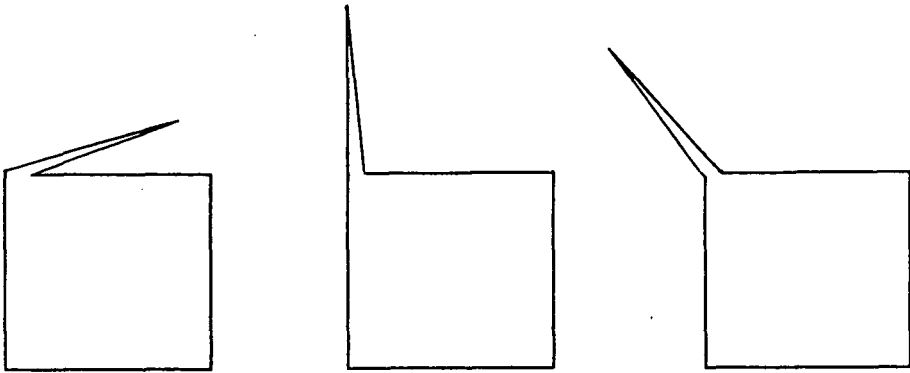


Figure 3

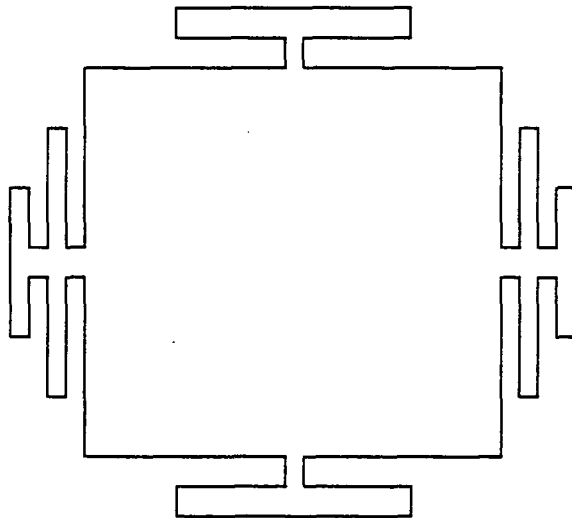


Figure 4

The Third Criterion

Ideally, a compactness measure should have two qualities. First, it should measure the right thing, the thing that gives it antigerrymandering power. Second, it should be infinitely discriminating. It should gauge a range of shapes across a spectrum, giving incrementally better scores to shapes which are incrementally more compact. The best way to understand these characteristics is by illustration. Suppose that, in calculating compactness, we divided the longest straight line whose endpoints were within a district by the longest line perpendicular to it whose endpoints were also in the district. A score of 1 is the lowest and best for any one district. (In figure 1, divide the length of line A-B by the length of line X-Y.) This simple method will weed out many long, thin districts which would be deemed noncompact by any reasonable measure.

The problem with this method, however, is that it is not discriminating. It is so insensitive, in fact, that one might question whether it measures the right thing. A district shaped like a rectangle might score exactly the same as one shaped like a cross. Both scores may be "perfect." If a rectangle and a cross both have perfect scores, what (non-circular) argument would justify the claim that they should not? It must be remembered that one need not possess a platonic definition of "compactness." One only needs a kind of compactness that frustrates gerrymandering.

This is why the perpendicular-line rule fails. It does not adequately discriminate against partisan behavior. It cannot tell the difference between a district plan constructed of tiled squares and one which is a jigsaw puzzle of irregular shapes where the perpendicular maximums of individual districts happen to be equal. But partisan mapmakers most assuredly can tell the difference. Such people would much prefer the leeway to make T-shaped or L-shaped districts, or shapes in between, as such leeway facilitates the business of including and excluding voters. In other words, it facilitates gerrymandering.

Measures based on length-width displacements and the like are generally inadequate because of their inability to discriminate. For example, one of Iowa's statutory definitions of compactness measures the difference between the line drawn from the northernmost point in a district to the southernmost point and the line drawn from the point furthest east to the one furthest west.¹⁸⁵ Deviations that do not alter these four critical points have absolutely no effect on the district's score. The Iowa measure is thus blind to any connivance that occurs within the four "walls" to the north, south, east, and west, although this may be very important to partisans. (See figure 2, in which each figure has an identical, "perfect" score.)¹⁸⁶

185. IOWA CODE § 42.4(4)(b) (1981).

186. The Iowa measure also suffers from the odd defect that the same shape, when rotated slightly, may yield a different score. As the simplest example, consider an equilateral triangle with sides of 10 miles. Its base runs from east to west, and obviously measures 10 miles. Its north-south measurement will be the

Morrill has a somewhat different measure, that compares the length of a district's minimum diameter to the length of its maximum diameter.¹⁸⁷ As long as the maximum and minimum diameters are held constant, the opportunity remains for partisans to manipulate district boundaries—unobjectionably, insofar as Morrill's criterion is concerned.¹⁸⁸

There have been much more ambitious schemes for ascertaining compactness.¹⁸⁹ Reock, for example, suggested that the area of a district be divided by the area of the smallest circle which can circumscribe the district.¹⁹⁰ This formula is relatively easy to use, incorporates a reasonable notion of compactness,¹⁹¹ and generally prefers shapes which a reasonable person would perceive as compact. It is also infinitely sensitive in the sense that every change in the perimeter, no matter how minute, will affect the score.

It is not, however, an infinitely discriminating measure, as figure 3 illustrates. Each shape is a square district, but with the same sized spike added to capture a desired block of voters. For the simple reason that each of the spikes is differently oriented, the Reock measurements are vastly different. (The area of each district is the same, but the area of the circumscribing circles are not.) However, there is no justification for these shapes possessing different scores. In a state of *ex ante* uncertainty about the actual populations to be gerrymandered, the ability to create spikes is worth a certain constant amount to gerrymanderers. In other words, to a gerrymanderer, the *a priori* expected value of each shape is identical. Figure 4 yields an even more striking example of a bad result, actually a perverse result. The protruding sinuosities make this gerrymandered-looking shape nearer in area to the circle which circumscribes it. Its score thus improves; figure 4 scores better than a square. This result is

height of the triangle, or about 8.7 miles. Yet if the triangle is rotated even slightly, then its northernmost and southernmost points exist at two of the corners, at a distance of 10 miles; and at the same time its easternmost and westernmost points are defined at two corners, again at a distance of 10 miles; as a result its score is perfect.

187. MORRILL, *supra* note 154, at 22. The term "diameter" undoubtedly means any line segment whose endpoints bisect a district's perimeter. A definition of diameter that does not require literal bisection means that any line segment can be rendered arbitrarily small.

188. There are an infinite number of districts having any specified ratio of *X* to *Y* between the maximum and minimum diameters. Gerrymanderers will hate some of these possible districts and will love others, but Morrill's measure would score them exactly equal. The measure is also capable of producing anomalous results. Depending on a district's shape, it may be true that an irregular addition to a district's perimeter will shift the endpoints of the diameters in such a way that the Morrill score will actually increase.

189. One measure is based entirely on an analysis of a shape's "indentedness." Peter J. Taylor, *A New Shape Measure For Evaluating Electoral District Patterns*, 67 AM. POL. SCI. REV. 947 (1973). It gives perfect scores to all shapes which are convex. *Id.* at 948. Because the measure does not account for elongation of a shape, a long, thin strip of land would score better than a square with one small indentation. The standard also does not recognize curved lines, but must have them "converted" to straight lines before calculating indentedness. *Id.* at 950.

190. Ernest C. Reock, *Measuring Compactness as a Requirement of Legislative Apportionment*, 5 MIDWEST J. POL. SCI. 70 (1961).

191. Above all this measure favors districts where the points at the perimeter are more or less equidistant from a shape's center. The worst scoring shapes under this regime are long and thin.

The Third Criterion

not “wrong” in terms of the essential quality which Reock’s formula purports to measure, which is a shape’s ability to fill up a circle. It is, however, wrong because it does not prevent gerrymandering.¹⁹²

A related attempt to define compactness derives from the physical concept of the “center of gravity” of an object.¹⁹³ This method ascertains the “moment of inertia,” or axis of rotation, of a two-dimensional shape in the same way a center of gravity is determined for a massive object.¹⁹⁴ Compactness is the sum of the squared distances of every point in the shape in relation to the moment of inertia. The “points” may be either geographic points or units of population.¹⁹⁵ This method renders literal what Reock’s measure only approximates: compactness is the relation of every point in a shape to the shape’s center.

This benchmark has some anomalies of its own. First, it is far tougher on larger districts than on smaller ones with identical shapes, because squares increase exponentially as numbers get larger. The same proportionate “spike” costs more in a larger than in a smaller district, because, for example, the difference between nine-squared and ten-squared is only one one-hundredth of the difference between 90-squared and 100-squared. As an embarrassing consequence, the “center of gravity” score can give backwards results—a large, compact district could score worse than a small, noncompact district.

There is a potential “fix” for this problem, namely renormalizing districts by setting their areas equal to a fictional constant before calculating the center of gravity. This esoteric procedure can be manipulated in its own right because

192. A measure proposed on two 1990 California ballot initiatives (both of which were defeated) seems to have similar shortcomings. See Legislative Ethics Enforcement Initiative § 7(i)(6) (1990); Independent Citizens Redistricting Initiative, art. IV A, § 6(b)(6). The measure, common to both, divides the population subsumed within a district, by the population of the straight-edged polygon which circumscribes that district. The former divided by the latter cannot fall below a certain percentage. In its technical aspects this measure has the same “concavities” problem as does Reock’s measure. A five-pointed star circumscribed by a pentagon, for example, would allow ample leeway for a gerrymanderer to ply his trade in the concave spaces between the spikes of the star. Further, if the majority of a district’s population were centered in one area, the remainder of the population could be acquired by tentacles which could range far and wide across relatively unpopulated areas. One version of the initiative recognizes this problem, and specifies that “[p]opulous adjacent territory shall not be bypassed to reach distant populous areas.” Independent Citizens Redistricting Initiative, art. IV A, § 6(d)(4). There is, however, no accepted understanding of terms like “bypass” and “populous adjacent territory.”

The second problem with the measure is that it imports a substantive criterion into the definition of compactness, favoring districts where the majority of the population lives near the center. Nothing in principle is wrong with this feature, but this paper is meant to show that one can define compactness in a way that prevents gerrymandering without pretending to know what “good” districts look like.

193. James B. Weaver & Sidney W. Hess, *A Procedure for Non-partisan Districting: Development of Computer Techniques*, 73 YALE L.J. 288, 296 (1963); Henry F. Kaiser, *An Objective Method for Establishing Legislative Districts*, 10 MIDWEST J. POL. SCI. 200 (1966).

194. This central point may also be conceptualized as the “average location” of a shape. It is thus analogous to the statistical technique of determining the “least squares” line to describe graphic data. See Weaver & Hess, *supra* note 193, at 296-97.

195. Iowa’s second statutory measure of compactness combines both these concepts in an exotic hybrid: “the ratio of the dispersion of population about the population center of the district to the dispersion of population about the geographic center.” See IOWA CODE § 42.4(4)(c) (1981).

the unit one chooses for the constant can substantially influence the resulting scores. Furthermore, like the Reock system, the center of gravity benchmark would unjustifiably show different scores for the shapes in figure 3.¹⁹⁶ Nevertheless, another objection demands recognition. As the reader will already have concluded, this procedure is just too complicated. Even without the fix, it requires more mathematics than the average lawyer, certainly than the authors, can command.

The center of gravity measure does have one *prima facie* redeeming characteristic, and that is that the maximum score under this standard would indicate an unimpeachably compact districting scheme. It is not enough, however, for a compactness measure accurately to identify perfect-scoring plans. A good measure of compactness must reliably distinguish among, and order along, the spectrum of plans, from the very bad to the very good. This capacity to discriminate continuously is important, because practically speaking it is probably not possible to extirpate every last bit of partisan discretion to draw district lines. Even under equal population standards a certain minimal flexibility to depart from absolute equality has been allowed.¹⁹⁷ The ability to make comparisons, not to identify states of perfection, is what a measure has to be good at in order to be useful.

As a practical matter both the center of gravity standard and the Reock standard would permit a great deal of gerrymandering.¹⁹⁸ The trick is to make districts generally compact but replete with uncomely fractals at the borders, shapes which, so long as they were properly oriented, would do little to harm the district's score. This strategy could be extremely effective close to population centers. Neither Reock nor the center of gravity standard can measure what might be called the smoothness of a district's line. Both measures would register the silhouette of a circular saw blade as almost perfectly compact. Those serrated edges, which could be quite useful to a gerrymanderer, would essentially be ignored. A straight-edged polygon, of much lesser

196. Aficionados will appreciate why this is so. The three figures would have only slightly different centers of gravity, but the distance squared to the furthest-flung points would be dramatically different. As with Reock's measure, the center of gravity standard is consistent within its terms. Our argument is simply that these must be the wrong terms because they do not prevent gerrymandering. Note, however, that in regard to the "independent" value of compactness (e.g. defining communities of interest, or making travel in the district easier) the center of gravity standard is adequate.

197. See *Brown v. Thomson*, 462 U.S. 835 (1983).

198. In *Acker v. Love*, 496 P.2d 75 (Colo. 1972), the court propounded a measure whose advantages and defects are similar to both the Reock and to the center of gravity standards. A compact district was defined as "a geographic area whose boundaries are as nearly equidistant as possible from the geographic center of the area being considered . . ." 496 P.2d at 76. (The standard arguably contravenes the one embodied in the Colorado Constitution. See *infra* note 200.) The result is a reasonable test, although, like the center of gravity test, it is insensitive to deviations that are oriented more or less perpendicular to the district's center. In other words, spikes of identical size and shape score differently depending on which way they point.

The Third Criterion

a priori value to a gerrymanderer, might score no better than the blade under either the Reock or the center-of-gravity measure.

For the purposes of defining legislative compactness, there are two superior standards. The first may be called "minimum line length." The second is a slightly modified version of a standard proposed by Schwartzberg.¹⁹⁹ A minimum line length standard requires that the length of all district lines in a state, when added together, be as short as possible. Unlike the other measures considered so far, minimum line length is concerned solely with the compactness properties of the set of districts in a state, not with the compactness of any particular district within the set. It notices and measures exactly what gerrymanderers are trying to do, namely, distort the lines of individual districts in order to achieve a global result favorable to their client.²⁰⁰

While minimum line length would probably be a workable tool to combat gerrymandering, it is subject to theoretical and practical objections. Minimum line length focuses on a set of districts and does not pay attention to the configuration of any individual district. The standard may result in districts which are not particularly compact. Minimum line length is oblivious to whatever good government values individual district compactness may serve. Whether this is a grave problem depends on the outcome of the debate over whether compactness possesses independent normative virtues.²⁰¹

There is a weightier and more practical objection to the minimum line length standard. To the extent that any departure at all from the standard is allowed—and inevitably there will be some leeway allowed—the standard is relatively easy to subvert. If the minimum line length solution in a state is 1000 miles with a permissible deviation of five percent (50 miles),²⁰² the gerry-

199. Joseph E. Schwartzberg, *Reapportionment, Gerrymanders, and the Notion of "Compactness,"* 50 MINN. L. REV. 443 (1966).

200. Colorado's state constitution, one of two with a compactness provision, incorporates the minimum line length standard. COLO. CONST. art. V, § 47. Although this is one of the best of the compactness measures, for unknown reasons Colorado's judges have chosen to ignore it in favor of the contrived standard of *Acker v. Love*; see, e.g., *In re Reapportionment of the Colorado Gen. Assembly*, 647 P.2d 209, 211 (Colo. 1982).

Michigan is the other state with a constitutional compactness provision. It requires, somewhat impenetrably, that districts be "as rectangular in shape as possible" but does not further define the standard. MICH. CONST. art. 4, § 2. See generally Grofman, *supra* note 9, at 84-86; 177-183.

Dixon has gone so far as to use the minimum line length criterion as a definition of compactness, apparently without extended analysis. Robert Dixon, *Fair Criteria and Procedures for Establishing Legislative Districts*, in REPRESENTATION AND REDISTRICTING ISSUES, *supra* note 40, at 16. Common Cause has chosen the standard as its preferred method of enforcing district compactness. See Bruce Adams, *A Model State Reapportionment Process: The Continuing Quest for 'Fair and Effective Representation,'* 14 HARV. J. ON LEGIS. 825, 874-75 (1977).

201. Compare Karcher v. Daggett, 462 U.S. 725, 756 (1983) (Stevens, J., concurring) ("To some extent, geographical compactness serves independent values; it facilitates political organization, electoral campaigning, and constituent representation."), with CAIN, *supra* note 67, at 34, 50-51 (discussing intrinsic value of compactness); see also *infra* note 175.

202. Common Cause suggests an allowable deviation of five percent. Common Cause, *Toward a System of 'Fair and Effective Representation,'* (Washington, D.C. 1977) at 51.

manderer will still be left with the discretion to draw fifty miles of grotesque, non-compact district lines. Small non-compact districts, which will always be in cities, would generally do little to unsettle a minimum line length score. Indeed, as long as a single district in our hypothetical state had a perimeter of less than 50 miles, a gerrymanderer could give it any shape he chose, however tormented.

States with more districts would yield longer total minimum line length solutions, and would thus yield more miles of leeway. More populous states, which have more congressional districts, would give greater room for gerrymandering. These larger states are the ones in which both major parties are strong and thus in which gerrymandering is apt to be an exceptionally important factor in maintaining political control.

A different criterion of compactness is better than minimum line length and indeed every other standard we have mentioned. This is the measure proposed by Schwartzberg, which defines compactness in terms of the effectiveness of a shape's perimeter in capturing area.²⁰³

Schwartzberg's measure deals with the ratio of a shape's perimeter to its area. Not every ratio of perimeter-to-area, however, will adequately gauge the compactness of that area, as the following illustration shows. Consider two squares of different sizes, one with two-mile sides and one with ten-mile sides. The smaller square has a perimeter of eight, an area of four, and therefore a ratio of two. The larger square has a perimeter of forty and an area of 100, or a ratio of 0.4. Both shapes, though identical, have very different scores.

Placing the perimeter-to-area ratio on an absolute scale will avoid this anomaly. For any length of perimeter, whether ten centimeters or ten miles long, a circle encloses the maximum possible area. Every other shape must somewhere make a concession of some kind, so that perimeter will not be used with the greatest possible efficiency to capture area. The absolute measure of a shape's efficiency is determined by dividing the area of the shape by the area

203. Schwartzberg, *supra* note 199.

The Third Criterion

of a circle with a perimeter of equal length.²⁰⁴ When this formula is applied, all identical shapes, regardless of size, score the same.²⁰⁵

The Schwartzberg criterion measures a gerrymanderer's self-indulgence as surely as a breathalyser measures a drunkard's. Any deviation from any given shape that changes a district's area and perimeter to the same extent, no matter where the protrusion is added, which way it is oriented, how far it is from the district's center, or how it is shaped, will degrade the district's Schwartzberg score by an identical amount. The Schwartzberg measure highlights the best features of the other criteria of compactness. It charges points when districts are longer than they are wide; when boundaries are far from the center; when lines are indented; or indeed whenever they are longer than they have to be. The Schwartzberg test also measures "smoothness," taking away points for any irregularities in a boundary line, even in a generally compact district.²⁰⁶ The superiority of the Schwartzberg measure from the

204. The compactness of any shape can be obtained by using the following formula: (4 times π , multiplied by the district's area) divided by (the square of the length of the district's perimeter.)

This is not literally Schwartzberg's measurement, but a variant. Instead of using the ratio of areas, he used perimeters. Thus the "relative compactness" of a shape "may be determined by finding the ratio of its perimeter to the perimeter of a circle of equal area." Schwartzberg, *supra* note 199, at 444. Both formulae really measure the same thing, and are mathematically translatable—the modification proposed here yields a score that is always the inverse of the square of that yielded by Schwartzberg's method. But our measure is easier to use and understand. It yields scores as a fraction between "zero" and "one," with "one" being the highest. Schwartzberg's method yields scores on a scale from "one" to "infinity" (again with "one" being the best). Hence, the significance of a Schwartzberg score may be comparatively difficult to grasp. Our variant is close enough to the original that we refer to it throughout as Schwartzberg's measure.

205. For example, squares, regardless of size, score .785. Comparing each shape to a circle with a similar perimeter is mathematically equivalent to setting all perimeter lengths equal to the same number of fictional units and then comparing areas. Grofman's preferred measure of compactness—perimeter divided by the square root of the area—achieves the same standardizing effect. Grofman, *supra* note 9, at 85-6 n.42.

206. Adopting the principle of Schwartzberg-compactness would present a minor problem of practical administration, namely, what one does with jagged natural boundaries like rivers, coastlines, and so on. It would make little sense in terms of inhibiting gerrymandering to penalize mapmakers for distorted boundaries which they had no hand in making. The entire problem disappears if we adopt a simple convention. Let mapmakers draw any fictional, "rounded" lines they want for the purpose of determining the compactness score, provided that: (1) all land actually in a district must be contained within its rounded boundaries; and (2) neither water, nor land which is not part of a district, may be included in the "area" component of the Schwartzberg calculation.

These rules guarantee that any boundary lines drawn over water or other states will be as short as possible. The most avid gerrymanderer would have no reason to elongate lines over water because this would needlessly degrade the score by adding perimeter without adding area. Lines drawn according to these two rules would always be straight, and move directly from each natural outcropping to the next. So, for example, if all of eastern Texas were a single district, the Gulf Coast boundary would be compassed by a single straight line from Port Isabel to Sabine Pass, well to the seaward of both Corpus Christi and Galveston. Similarly, if all of southwest Texas were a single district, the "rounded" line would cross over a good deal of Mexican territory.

The "rounded" boundary will hug a coastline or other irregular natural contour in the same way a rubber band would if it were stretched over a scale model of that feature. The artificial line will describe a shorter perimeter—the choice of scale will determine how much shorter—than the actual boundary would. This will neutralize the effect of natural contours on the district's compactness score.

Situations may still arise where mapmakers are able to use natural borders to accomplish partisan gerrymandering. The rounding convention will make it hard to identify these situations. These "natural"

antigerrymandering point of view is simply that it assigns identical scores to shapes that possess identical a priori value to gerrymanderers. Thus, each of the shapes in figure 3, above, have (and ought to have) identical Schwartzberg scores.

There is one sense in which the Schwartzberg measure apparently fails to charge identical scores to deformed figures with identical a priori value to gerrymanderers. If one of the districts in figure 3, had, rather than a "spike," an indentation of the same size, it would score worse under the Schwartzberg standard. This is something of an anomaly because both shapes should have an equal value to would-be gerrymanderers. The difference exists because projections add to a figure's perimeter while adding to its area; but indentations add to perimeter while subtracting from area.

Perhaps this kind of discrepancy is inevitable when one uses a compactness measure that looks not at the set of districts but rather at each individual district. However, gerrymanderers do operate globally, worrying about the set of districts rather than one particular district at a time. They should value an indentation and an outcropping identically because both can be used equally to manipulate populations. Despite the theoretical objection to the Schwartzberg criterion, it nevertheless works perfectly well in practice. The Schwartzberg standard is so sensitive to any deviation that it is impossible to comfortably gerrymander using either maneuver.²⁰⁷ Adding perimeter in a greater proportion than area will always drop the score. In that sense there are no "wrong" results: districts with appendages or indentations will always score worse than those without.²⁰⁸

One of the strengths of Schwartzberg-compactness is that it can be made compatible with other public policy goals while still retaining its anti-gerrymandering power. In other words, Schwartzberg-compactness remains a meaningful concept even if it is overlaid on the decision to adhere to existing political boundaries,²⁰⁹ to create bipartisan gerrymanders,²¹⁰ to implement the goals of the Voting Rights Act,²¹¹ or to avoid diluting particu-

opportunities should be rare, however, and can be dealt with, if it is thought necessary to do so, by the adoption of some standardized unit of border measurement, as Schwartzberg himself suggested.

207. Think of a perfectly circular district, with a perimeter of 100 miles and an area of about 795 square miles. Its Schwartzberg score is perfect: 1.0. If a "spike" of two miles (one mile out and one mile back) is added which does not add any appreciable area, the score is degraded to a .96. If a similar four-mile spike is added, the score becomes a .92; and it drops to a .83 for a ten-mile addition (five miles out and back).

208. Further, an outcropping from one district will typically (though not always) result in an indentation in another, so the overall score will tend to be adequately penalized.

209. A constitutionally permissible goal of legislative districting; see *Reynolds v. Sims*, 377 U.S. 533, 578 (1964).

210. See *Gaffney v. Cummings*, 412 U.S. 735 (1973).

211. 42 U.S.C. § 1973 (1988).

The Third Criterion

lar preferred communities of interest.²¹² Even if one of these objectives, even if all of them at once, are given priority over compactness, the Schwartzberg standard can nevertheless be used. The new "ideal" would simply become the highest scoring plan which manages to embody these other goals as well. District plans would never be held to a certain fixed standard, but rather would be compared with one another.²¹³ The best conceivable district plan in Maryland might have an average compactness score of no more than 0.20, owing to that state's irregular shape. It should still be incumbent upon those who draw the district lines to explain why their plan scores only a 0.10. If the goals that a mapmaker claims to be pursuing can be met with a plan which is far more compact, a suspicion of pretext is justified.

IV. CONCLUSION

At the heart of any serious thought about gerrymandering lies a black hole in idea space. There is no generally accepted theory of representation that would allow one to specify what a legislature needs to look like in order to be worthy of its name. Democracy in this country has been vernacular, pragmatic, traditional, and, in its detail, stunningly a-theoretical.²¹⁴ We cannot trace to a unified theory of democracy even formal macrostructures like political parties or the committee system that organizes life in most legislatures, let alone the diffuse network of customary and informal means that influence the agendas that are set and the decisions that are made. The fine details of our political culture seem to have more germinated like dandelions than evolved as the cultivar of some set of organic axioms. Our democracy is a tangle of traditions and habits ordered into a set of institutions that have been accepted as the voice of the People.

These institutions, robust as they have been, are still vulnerable. Legislatures are susceptible to manipulation through the districting process. Changing only the lines on a map and not a single vote, the People's voice can be dramatically altered. Those who draw those lines can become master ventriloquists of the People's voice. To assert that this is a serious problem of democ-

212. Another constitutionally permissible goal of legislative districting, *see, e.g.*, *Davis v. Bandemer*, 478 U.S. 109, 116, 176-77 (1986).

213. In this way the Schwartzberg measure avoids the general criticism of compactness found in Niemi, *supra* note 139, at 190 ("[W]hen boundaries have to be violated, there is presently no objective way to measure the significance of alternative divisions . . . it is difficult to see how the Court can set standards for compactness and for respecting political and community boundaries."). Also beside the point is the observation that there is nothing "desirable per se about districts that look like squares or circles," or that it is "rare indeed to find regular geometric figures . . . that can be aggregated into neat geometric patterns," Grofman, *supra* note 9, at 90, or that the circle is an improper ideal because it cannot be "tiled" like a hexagon or square, Charles H. Backstrom, *Problems of Implementing Redistricting*, in REPRESENTATION AND REDISTRICTING ISSUES, *supra* note 40, at 50. Neither shapes of a particular kind, nor "tiling" is contemplated by the standard. (Variations in population density make tiling impossible in any case.)

214. *See generally* DAHL, *supra* note 25, at 145-151.

racy, one need not claim that mapmakers often have grabbed illegitimate power, although the evidence overwhelmingly indicates that they have done so, and even more often have tried to do it. One need only believe that they have the means, motive, and opportunity. Sophisticated observers understand, of course, that the People and their voice are fictitious constructs, but they are not meaningless; that other, older fictitious construct, the body politic, lives by such myths. One may reasonably fear for its health if it had to do without them.

We have shown how easy it is to exploit, under current practice, the rules of legislative constitution in opportunistic ways. Admittedly, neither the theory nor the practice of American democracy tells us what a single-member districting plan ought to look like, or what the good is that a "good" plan would try to capture. Fortunately, an empirical remedy like ours allows one to frustrate gerrymandering without a clear picture of what rules of ideal districting such manipulations transgress.

The theory of gerrymandering, though not the practice, has remained in a fairly primitive state, but a few of the matters that lie in its shadow have tolerably clear outlines. First, it is clear that what we mean by "legislature" involves representation, itself a theoretically confounding term but one which does have a widely shared substantive meaning. Second, part of that received meaning implies proportional representation. "Proportional" in turn implies a frame in which proportion can be observed, that is, a district. "Districts" in turn imply places, contiguous parcels of real estate with equal populations. What our analysis adds is the practical note that contiguity without compactness is a lever without a fulcrum.

As central to American democracy as proportional representation is the Madisonian characteristic of centering, rather than scattering, political debate. The objective of centering, however, is potentially in conflict with that of proportionality. Some of the most familiar prototypes of proportional representation scatter debate like giant political centrifuges.²¹⁵ It is an arduous demand to make of a political system that it simultaneously center political debate and retain essential characteristics of proportional representation. The genius of Madison's simple artifice is that a legislature elected by representational districts both centers and, in gross, proportionally represents. The vulnerability of this mechanism to manipulation remains one of the great unsolved practical problems of American democracy. Indeed, it may be the best argument against Madison's system.

215. Israel's Knesset, more a cultivar than a dandelion, is very rational in design, very defensible in theory, very representative, very democratic, very proportional, and yet, in operation, a very cranky vessel of democratic practice. See generally SAMUEL SAGER, *THE PARLIAMENTARY SYSTEM OF ISRAEL* (1985). See also GREGORY S. MAHLER, *THE KNESSET* (1981). Mahler's diagram of the evolution of Israel's political parties (Figure 2.1 at 40) makes graphic how fluid and dispersed Israel's political life has been.

The Third Criterion

The equal population standard has helped to solve this problem by further defining the notion of a district. The compactness criterion is the required next step. It is beyond the scope of this essay, to say nothing of its authors, to say whether a particular district ought to be compact or how compact it ought to be. But we can answer an easier question: whether a compactness criterion complicates the business of gerrymandering. It does. The third criterion will make the gerrymanderer's life a living hell. That's why we're for it.