

REDISTRICTING:
SHAPING GOVERNMENT FOR A DECADE

ROSE INSTITUTE OF STATE AND LOCAL GOVERNMENT

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By

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In 1981, most states will complete their decennial redistricting,--that is, they will redraw the boundaries of their congressional and state legislative seats. On the surface, these redistrictings are merely to up-date the boundaries in each state and to recreate relatively equal election districts. The new population count of the 1980 census will require a reapportioning of congressional seats among the states, with as many as ten states gaining representation and eight states losing representation. The growing, declining and shifting populations within the states will also require--in some states major, in other states minor--readjustments of state legislative district boundaries.

The experience of the 1960s and 1970s, however, if not the entire history of reapportionment and redistricting in the United States, should be enough to warn us that redistricting is far more than a routine and disinterested exercise in redrawing maps. Where the lines are drawn--and there is always a number of choices--will affect the careers of incumbents and the future opportunity of challengers, the party balance in Congress and the state legislatures, the representation of minority groups and even the role of local governments in state and national politics. It is not to exaggerate, then, to suggest that where the lines are drawn will shape government for a decade.

The 1960s saw a judicial "reapportionment revolution": in a series of landmark decisions the U.S. Supreme Court imposed "equality of population" as the basis of representation. The doctrine of "one man-one vote" was used to compel states to create legislative districts "based substantially on equality" and congressional districts that were as nearly equal "as is practicable." By the close of the 1960s, nearly all legislative and congressional districts were based on population; compared with the districts of the 1950s, indeed, they had become models of equal-population.

Yet, population-based representation proved to be controversial in ways unforeseen by the court. In part, the problem was that at the very same time as the "one man-one vote" rulings, a revolution was occurring in redistricting technology. Computers were used to shape both the demographic and political characteristics of new districts. The search for political advantage, always a key part of the redistricting process, gained immensely in sophistication. Gerrymandering--the design of district lines for partisan and other political advantage--was widely charged, even against the most precisely "equal" districting plans. The charges were embittered by disappointed expectations. Ethnic minorities, urban voters, suburban voters, minority parties--all hoped for more from the rhetoric of "one man-one vote" than equal representation could provide. There was also the perception that redistricting had become a much less predictable process than before. Districts shaped by computerized head-counts could stretch across county lines or dip for population into widely separated areas. The traditional territorially-based restraints, once written into many state constitutions (compactness, convenient contiguity, access to county towns, and county boundaries), could now be ignored in seeking political gain.

Today, expectations previously focused on population equality are turning to the redistricting process itself. Can it be reformed to assure "fair representation"? Many different groups see their political fortunes at stake in a process that can decide not only the fate of individual legislators, but the character and partisan composition of legislatures, even the outcomes of the policy process itself. A further movement of reapportionment reform has begun. Thus, Common Cause, in a current nation-wide campaign, advocates "non-partisan" redistricting by "independent" commissions. Others propose the use of "anti-gerrymandering" standards or criteria for legislatively-conducted redistrictings. Yet others believe that the only remedy is to open the redistricting process to public scrutiny and broad group

involvement. A new chapter of the "reapportionment revolution" seems about to unfold.

The paragraphs that follow offer a summary of some of the major features of the law, politics, and technology of redistricting. A final section comments on possible future developments.

The Courts and the Reapportionment Revolution

The law governing redistricting is almost exclusively a product of judicial decision (see Appendix A). Beginning in 1962, the U.S. Supreme Court assumed jurisdiction in complaints of "malapportionment" and popularized the concept of "one-man, one-vote." After nearly two decades of redistricting litigation, the Court remains the sole arbiter of redistricting law.

The Supreme Court decisions in the 1960s that enforced equal population as the basis of allocating local governmental, state legislative and Congressional seats mark a watershed in the theory and practice of representative government. Prior to these decisions, population had been one basis for apportionment, but land (units of territory such as counties or parishes or townships) had served as another.

The proper weight that should be given to population or to land in apportionment had always troubled representative governments. In England, the "rotten borough"--Old Sarum, a medieval town that had lost its population, but not its parliamentary representatives, was the classic example--became an issue of controversy as early as the 17th Century. In America, the colonies also used both population and land units as bases for apportionment. Controversies arose, even then, over the population inequities of land-based systems. Thomas Jefferson, for example, sharply criticized Virginia's county-based system (in which the smallest county had 951 voters, while the largest had 22,105), because "among those who share the representation, the shares are unequal." The Northwest Ordinance of 1787 established a population basis for the apportionment of territorial legislative seats

("one for every 500 free male inhabitants"). But the U.S. Constitution, guaranteeing two U.S. Senators and one member of the House of Representatives to each state, regardless of population, returned to a partially land-based system.

After 1787, state legislatures differed widely in apportionment practices. A majority of the states admitted to the Union employed population as the basis for apportionment; but several states followed the "national plan" of basing one house on population, the other on land units; and others, although they employed population as the principal basis for apportionment, modified it with requirements that each county have a minimum of one representative or that no county have more than some set maximum of representatives.

In the 20th Century, land-based systems of representation came under increasing pressure: mass movements of population and the growth of great industrial centers produced ever greater population disparities among counties and other electoral units in the states. Yet state legislators, perhaps because they owed their election to the existent system, were often unwilling to reapportion. Indeed, in several states, rurally-dominated legislatures sought to perpetuate themselves by changing over to land-based apportionment schemes or by freezing existing plans into law.

The stalemate between the established powers protected by the apportionment formulae and the newer, urban-based groups and interests came to crisis after the 1920 Census reported a majority of Americans, for the first time, residing in urban areas. For the only time in American history, Congress refused to approve a reapportionment of congressional seats. And, following suit, the great majority of state legislatures violated provisions in their state constitutions and left the 1901 or 1911 state legislative and congressional district lines in place.

The power of apportionment and districting was perhaps never so clearly demonstrated as when these stalling tactics essentially foreclosed any political or

legislative solutions to the stalemate. As long as apportionment decisions remained in the hands of malapportioned legislatures, the system was largely immune to change.

Initially, the Courts remained aloof and repeatedly avoided involvement in redistricting and reapportionment political maneuvering. As late as 1946, in the case of Colegrove v. Green, the U.S. Supreme Court denied relief to Illinois residents challenging a congressional districting plan that gave one district nine times the population of another. In dismissing the challenge, the Court held that malapportionment was not "justiciable"--not appropriate for judicial remedy. "The Courts," said Justice Felix Frankfurter in presenting the Colegrove majority opinion, "ought not to enter this political thicket."

Finally, in 1962, in a dramatic turnabout, the U.S. Supreme Court took jurisdiction over complaints against malapportionment. The landmark decision was Baker v. Carr, a case in which urban residents of Tennessee contested the make-up of the rurally-controlled State Legislature and its failure to reapportion since 1901. The Court, reversing the Colegrove holding, ruled that complaints against malapportioned legislatures were justiciable.

The Court refused, however, to specify what levels of population disparity would be constitutional and remanded the case to the lower federal court. It was not until 1964, in the cases of Wesberry v. Sanders and Reynolds v. Sims, that the Court began the development of population standards. Wesberry struck down Georgia's congressional districting plan, holding that "as nearly as is practicable, one man's vote in a congressional election is to be worth as much as another's." In Reynolds, the Court ruled that legislative districts for both houses of a bicameral state legislature must be "based substantially on population."

Baker, Wesberry, and Reynolds produced a flurry of citizen suits challenging malapportionment in state legislatures. By March 1964, 26 states had approved new

apportionment plans. Alabama, Oklahoma, and Tennessee were redistricted under court-drafted plans; several states redistricted under court threats of postponement of elections or at-large elections. In Delaware, a court order gave the legislature 12 days to reapportion; Wisconsin was given 19 days, and Michigan 33 days. Faced with these examples of judicial severity, most states voluntarily undertook reapportionments.

At the time of the Reynolds decisions in June 1964, court action on reapportionment was underway in 39 states. The 1964 decisions further accelerated the process. Two years later, legislatures in 46 of the 50 states had brought their apportionments into some degree of compliance with judicial standards of population equality. Indeed, by this point, several states were experiencing their second reapportionment of the decade: legislatures that had been reapportioned before Baker now adopted new plans. In a few states, reapportionment had been handed over to specially created commissions, established by statute or by constitutional amendment. In some states, too, constitutional provisions requiring geographic or other modifications to population-based apportionments were abandoned or amended. Elsewhere, states created multi-member and flatorial districts in order to preserve the boundaries of traditional political subdivisions in their districting systems. A number of states actually changed the size of their state legislatures in order to accommodate to population-based apportionments.

Although in the period 1963 through 1965 there were movements in Congress (principally, the so-called "Dirksen Amendment") and in the states (backed by groups such as the American Farm Bureau Federation) to limit the effect of the court decisions, these faltered and faded from sight by the late 1960s. Nearly all the state legislatures were effectively based on equal population; thus there was no longer any impetus in the movement to resist "one man-one vote."

The Warren Court had given a remarkable demonstration of judicial power:

the problems of population malapportionment, and the associated phenomena of rural overrepresentation and urban-suburban underrepresentation, were remedied in little more than half a decade. Yet, as is so often the case, the solution itself generated new difficulties.

The collapse of traditional districting arrangements and the emphasis on population equality, combined with the availability of new computer technology, yielded unpredicted opportunities to politicians. "One man-one vote" gerrymanders--districts designed to maximize political advantage within the confines of population equality--became common. The first response of the Court was to make the requirement for population equality even more stringent, as if more precise equality would check the reach for political gain. Thus, in Swann v. Adams and in Kirkpatrick v. Preisler the Court struck down districting plans that at any earlier period would have been considered impeccably equal. This approach, however, actually produced a further escalation of the competition for political advantage in redistricting. Legislative majorities used the judicial emphasis on exact equality as a justification for drawing bizarrely shaped districts that cut freely across county and other subdivision boundaries. Challengers, pursuing different political objectives, authored their own slightly more "equal" gerrymanders. Gradually, the courts were forced to the understanding that equality was not a check, but a stimulus to gerrymandering.

The Court began to signal a new approach in 1973. The apparently inconsequential distinction of the early decisions between state legislative districts, which must be "based substantially on population," and congressional districts, which must be as nearly equal "as is practicable," now became critical. In a congressional districting case from Texas, White v. Weiser, the Court favored a plan so nearly equal that the maximum deviation was no more than 400 census persons above the ideal sized district and ten under the ideal. "Equality" in congressional districting

thus appeared to be an absolute requirement. In two state legislature districting cases, however, the court began to permit greater flexibility in the interpretation of the meaning of equality. In the first case, Mahan v. Howell a redistricting plan was upheld for the Virginia State Legislature, in which the population variance was 16.4 percent from the ideal. In the second case, Gaffney v. Cummings, Connecticut's 1971 state legislature redistricting plan was upheld, despite a deviation of 7.83 percent between the largest and smallest districts.

The Court's new approach to state legislative redistricting was hailed by commentators as marking a more mature and realistic perspective on the wide range of factors involved in districting. In Mahan, for example, the Court permitted Virginia's large deviations in district size on the grounds that the state had attempted to maintain the "integrity of political subdivisions lines," balancing the benefits of equal-population districting with the benefits of enhancing the role of local governments in state politics. In the same spirit, the smaller but still significant population variances upheld in Gaffney were justifiable to the Court in light of Connecticut's effort to accommodate "proportional representation" of the two major parties in the state's legislature. In relaxing the strict standards of exact mathematical equality, it was argued, the Court permitted the states to exercise discretion in selecting the factors, beyond population, that would be involved in their own legislative redistrictings. Yet, the Court's new approach is clearly open to criticism if the pronouncement that "minor deviations in mathematical equality" must no longer be "justified by the states" is taken by some states--as it almost certainly will--to be an open invitation to gerrymander with impunity.

Perhaps the most reasonable conclusion to be reached from the first 18 years of redistricting litigation is that the central problems of redistricting remain, for the most part, unresolved. The courts rightfully provided relief to the geographical, economic and political interests that had been gerrymandered out of political power

by the malapportioned congressional, state legislative and local governmental districts of the first half of this century. Unfortunately, the courts have been either unwilling or unable to remedy the other, less obvious, forms of partisan, bipartisan or racial gerrymandering that continue to threaten our representative system. Indeed, the courts, at least to date, have assiduously avoided any direct confrontation with these more insidious forms of gerrymandering, preferring instead to tighten or relax the criteria of population equality as an indirect approach to the problem.

It is unlikely that the 1980s will see any major shift in the Court's approach to redistricting law. The techniques of gerrymandering have kept well abreast of the courts' twists and turns and with each successive experience with redistricting, the political process has become more sophisticated and complex. This is not to suggest that the courts will not play a significant role in the redistrictings of the 1980s; it does appear, however, that the U.S. Supreme Court at least may wish to heed Justice Frankfurter's advice and refrain from going any further into the "political thicket" of redistricting.

POLITICIANS AND REDISTRICTING

The task of drawing new congressional and state legislative district lines is, in most states, the responsibility of the state legislators themselves (see Table I). In the case of local government redistricting, each government body (county supervisors, city councils, school districts, etc.) usually drafts its own redistricting plan.

TABLE I
Redrawing the Lines

<u>State Legislative Districts</u> Initially Responsible Agency for Redistricting	<u>Number of States</u>
State Legislature	38
Bipartisan Commission	10
Governor	2
<u>Congressional Districts</u> Initially Responsible Agency for Redistricting:	
State Legislature	43
Bi-partisan Commission	1
One Member Elected At-Large	6

Source: Alfred Balitzer, *The Commission Experience*,
Rose Institute of State and Local Government, 1979.

The redistricting plan proceeds through the legislative process in much the same way as any piece of legislation. The details of the plan are usually prepared by a committee whose membership is determined by the majority party leaders, and the bill is approved by a simple majority vote of the full legislature. To become law, it must be signed by the Chief Executive of the state and is vulnerable to his veto.

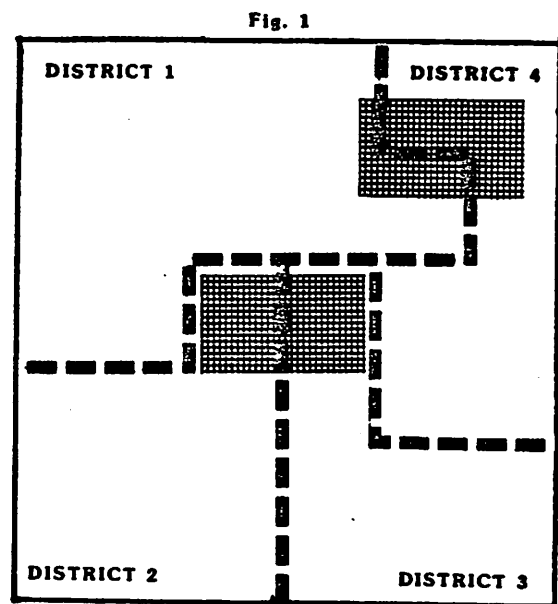
Not surprisingly, political considerations play a major part in the process. Individual legislators struggle to maintain their incumbencies by drawing "safe" districts; legislative leaders seek to strengthen their positions by rewarding sup-

porters with improved district boundaries or by punishing their opponents with "competitive" districts; majority parties develop plans to perpetuate their majority status and to shelter them from future electoral tides. Gerrymandering--or redistricting for partisan and other political advantages--is widely, almost universally practiced.

The basis of all gerrymanders is the effort of power holders to perpetuate or add to their power in the legislature. There are two main types of gerrymander: (a) the bipartisan or "incumbent survival" plan; (b) the partisan or "majority party" plan.

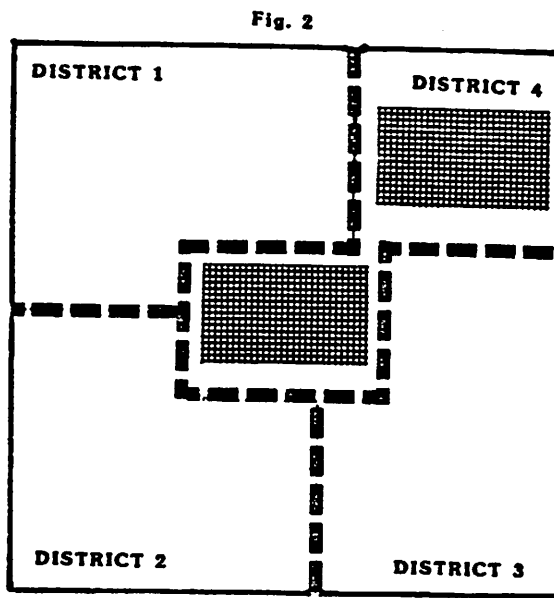
In bipartisan gerrymanders, the aim is simply to preserve incumbent legislators, generally by adding to the number of their party registrants within the district. The tell-tale signs of such a gerrymander are increased majorities for all or most incumbents, reduction in two-party competition, or even the elimination of electoral challenges in many districts. The partisan gerrymander has the aim of maintaining or adding to the

number of seats held by the majority party. The basic technique is to waste votes for the opposition party. This may be achieved by concentration of the voters of the minority party in as few districts as possible (see Figure 1): these districts will then produce huge majorities for minority party representatives, but at the price of preventing or limiting effective minority party competition in other districts. Alternatively, the wasting effect may be achieved by dispersal of the voters of the opposition party (see Figure 2): by dividing up concentrations of



DISPERSAL OF MINORITY PARTY
VOTER "DILUTION"

minority party strength among a number of districts, but assuring that the minority voters will always fall short of a majority in these districts, the majority party wins additional seats. Another technique that is sometimes used in partisan gerrymanders is to establish multi-member districts that have the effect of submerging or limiting the voting strength of minority parties. The tell-tale sign of a partisan gerrymander is that the percentage of the seats held by the majority party in the legislature is significantly higher than its percentage of the two-party vote in the preceding election.



**CONCENTRATION OF MINORITY PARTY
VOTER "PACKING"**

Redistricting Politics. The process of drawing new district lines can involve many other political considerations besides incumbent security or partisan advantage. The power struggle may spill over into many areas of the political process. The future careers of leading politicians may be affected, intra-party disputes and rivalries may be involved, even the resolution of major policy issues may be at stake. A few typical situations are sketched below:

***Future Careers.** Legislators see redistricting as both a threat and an opportunity, the outcome of which may decisively affect their future political careers. Often, district lines are drawn with an eye to a bid for higher office: assemblymen, for example, interest themselves in the shape of neighboring senate or congressional districts in which they may someday run; (equally, of course, senators and congress men watch and guard against the development of future challenges). Sometimes, a legislator will seek to head off a

problem in his party primary: perhaps this can be done by stretching the district across county lines so that a primary challenger will have more difficulty in gaining a following or have to deal with two county organizations; perhaps the key is to exclude potential challengers from the district, bypassing their residences; or perhaps it can be done by adjusting registration percentages. Sometimes, the aim is to use the redistricting to enhance a future bid for statewide office: perhaps this can be done by including areas of strong fundraising potential in the new district; perhaps it necessitates dropping an area that poses difficult or controversial issue problems; or perhaps the key is simply to improve party registration in the district in order to add to the incumbent's reputation as a vote-getter or to make it safer to assume a position as a party leader in the legislature.

***Ethnic Minorities.** Redistricting has peculiar importance for ethnic minorities, many of which are concentrated in urban centers. Typically, minority spokesmen claim that "fair representation" requires districts that will elect members of their own group. (Occasionally, however, the contrary argument is made: in Miami in the mid-1960s, for example, some black leaders reportedly preferred at-large elections in multi-member districts, because they believed that single-member districts would produce one or two black winners at the price of several very conservative white representatives). In some cases, heavy ethnic minority districts can only be constructed at the expense of white incumbents. Especially in states where Democratic legislative majorities have been based on the loyal voting behavior of ethnic minorities, the creation of ethnic seats may endanger Democratic control of neighboring districts: the creation of a district that will assure the election of a black representative, for example, typically involves the concentration of Party loyalists and the "wasting" of their votes in a top-heavy Democratic district.

***Intra-Party Politics.** Questions of legislative and party leadership are always raised by redistricting. A leader's control over the legislative party may be enhanced, diminished, or broken in the process. Typically, promises of future support of a leader are involved in the adjustment of district boundaries. Sometimes, a legislative leader will engineer a district to assure the defeat of an opponent and secure the election of a supporter. (The most dramatic form of this tactic is when two opponents are thrown together in one district and forced to compete against each other). In this way, the gerrymander may become a weapon of intra-party warfare. Partisan gerrymanders put majority party leaders to their greatest test, for they typically require some incumbents of the majority party to accept a reduction in their margin of safety (i.e., very safe incumbents must share some of their loyalist voters in order to shore up or build majorities in neighboring districts). Inducements must be

found to hold such incumbents in line: promises may be made of funds or other assistance in the next election; or perhaps the key is found in commitments on future legislation or in promises of patronage or appointments. If the leader fails to make appropriate concessions, rivals for the leadership may find their opportunity, and factions within the majority party caucus will form and re-form. The task of the minority party leader is no less demanding, for he must find ways to counter the very attractive offers made to the members of his caucus who have been identified as candidates for top-heavy minority party districts.

***Inter-Party Politics.** The task of the majority party leadership is made much more difficult if the minority party is capable of countering every deal with proposals of its own (e.g., by committing to preserve or add to a majority party incumbent's margin of safety in its own plan). Sometimes a governor of the minority party is able to garner support for a veto of a majority plan by exposing or countering different accommodations. In such situations, redistricting quickly leads to inter-party warfare. Frequently, in legislatures where the margin of majority control is slight, redistricting will center around a complex process of trades and counter-trades, as each party leadership seeks to hold its own caucus in line behind its own plan. In such circumstances, of course, the shrewd incumbent who is willing to risk charges of party disloyalty may competitively raise his bid to improve his own district and in other ways squeeze advantage from the process. In some cases, the majority party finds itself unable to carry its plan through the legislature, or is blocked by a gubernatorial veto. Then redistricting often becomes publicly controversial, involving the regular party organizations, the press and the media, and is typically resolved only by court intervention.

The Technology of Redistricting

Not so long ago, in the era before the application of computer technology to politics, it was common for politicians and their staffs to spread out maps on their office floors and, using adding machines to work their arithmetic, slowly build new districts from census tracts and precincts. Such a procedure was not only infinitely laborious, but also prevented the full reach for political advantage. The redistricting team might start out at one end of the state, for example, build satisfactory districts until they reached the other end, and then find that they were

short of majority party registrants or had miscalculated the population needed for the final districts. The task of "rippling" additional voters from one end of the state to the other presented huge difficulties in this kind of non-automated redistricting. Often, too, the plans would be built using only the most primitive political and demographic information: politicians backed their hunches after "eye-balling" a few statistics, or simply guessed what the political impact might be of adding or subtracting territory from districts.

In redistricting, most decisions must be made sequentially: one boundary change requires another, which requires yet another, and so forth. The computer is able to speed each decision, so that the whole process is accelerated. Many more alternatives, based on very much fuller information, can thus be considered.

Early Uses of Computers in Redistricting: Computer Modelling. During the 1960s a number of computerized redistricting systems were created. They were aimed to optimize goals such as equality of population, district compactness, and various demographic standards. Most of these systems were designed to operate with population and demographic data, but not with vote history or registration data. Only one system--the Kaiser-Nagel system--saw extensive practical use:

***The Forrest Method.** This system was used to create districts for possible reapportionment plans in New York and New Jersey in 1963. The system used geographic information in the form of an x,y coordinate representing the center of each census unit. These center coordinates were placed on a master data tape for the state and processed through a program that examined and broke down the state into diminishing fractions. When the computer completed a pass, it had broken down the population with regard to geography and continued to break down each fraction until the desired number of districts was created. Each succeeding pass started from a perpendicular direction with respect to the previous pass. The state was thus broken down into rectangular districts with deviations of one-half to one percent variation from the mean. The x, y coordinates were then converted back into geographic units and plotted on an electronic plotting device.

***The Weaver-Hess Method.** This system was used to create a preliminary redistricting plan for the State of Delaware in 1963. It is best characterized as a "compactness" system where the location of a citizen from the center of his district is minimized. The system started with the same basic procedure as the Forrest system. Each enumeration district was assigned geographic x,y coordinates which were placed in the computer. In the Weaver-Hess method, however, a center of population was selected (by estimate) for each district to be created. The computer then multiplied the population of each enumeration district times the square of the distance from the population centers. This product is called the moment of inertia, and each enumeration district was assigned by the computer to a population center so that each center had the lowest sum of moments of inertia, while also having the correct population assigned to it. After the new legislative districts were formed, the exact center of population of each district was determined. The computer then repeated the entire procedure over and over again until a new trial failed to produce districts with better equality of population. The districts formed were not necessarily geographically compact, but they were compact in terms of population distribution.

***The Ohio State University Method.** This program produced districts substantially equal in population that were basically wedge-shaped, but formed around a circular central district. The districts were designed to be heterogeneous in nature, combining the center city, the suburbs and the rural areas. Like the Forrest method, the geographic input was in the form of the x,y coordinate representing the centers of the census units. The starting point in this method was specified at or near the center of the urban area. Using this starting point, the program scanned the census unit positions in a circular manner. The radius of the scan circle was increased until the population total was equal to that required for a district. This central district assured center city representation. Upon completing the center district, the scan process was changed. Starting with some specified bearing, the census units were collected as the scanning ray was rotated over the sector. When the total population equalled that of the desired district, a district was formed and the process continued until the ray had been rotated through the full circle.

***Kaiser-Nagel Method.** This system was designed to start with existing legislative districts and to modify them to conform to new criteria. The system took the original districts -- or, perhaps, a set of preliminary districts -- and transferred geographical units from one district to another.

These different modelling systems were not more widely employed in actual redistricting because they failed to meet the political needs of legislative users. They also suffered from various technical deficiencies. Even the most practical and sophisticated of the modelling approaches, the Kaiser-Nagel method, suffered from certain weaknesses:

- *The accuracy obtainable by trading whole census tracts might not be acceptable for use under the strictest court standards.
- *The original accuracy of the political data was lost when it was keyed to census tracts.
- *The system was slow because proposed district boundaries had to be converted into tabular form for input into the computer programs and then converted back into graphic form before they could be evaluated by legislators.

Moreover, all these systems failed to capitalize fully on the major advantage of the computer in the redistricting process: namely, the ability to sample and present information from a very extensive demographic and political data base. The data bases on which these systems operated represented only one single time-period, i.e., the party courts, election results, and demographic figures for a particular year. As a result, the political decision maker could develop only a weak understanding of how an area would vote; he had no information, for example, on how the voting characteristics of an area were shifting over time.

Contemporary Computer Districting Systems. Today, Computers have finally fulfilled the early expectations; they can now be used to aid redistricting decisions from the beginning of the district formation process to the final steps of analysis and evaluation. No longer cumbersome and inflexible, contemporary computer hardware and programming techniques can correlate population head-courts, demographic data, political registration, vote history and even election day turnout

with census geographical units (enumeration districts, census tracts, block groups, blocks) to design or evaluate any districting plan conceivable. Moreover, a sophisticated geographical retrieval system combined with the proper equipment (plotters and color-graphic terminals) allows the line-drawers or analysts to work with both tabular and graphic data to see the district under consideration.

The new systems, in short, are entirely "user-oriented"--that is, tailored to meet the specific needs and interests of the legislators, commissions or judicial users. They also incorporate the most advanced software and make use of a variety of advanced equipment (digitizers, plotters, etc.), and yet can be operated by non-technical staff, after a few hours of orientation and training. The old computer districting systems frequently forced the line-drawers to meet the narrow needs and limits of the computer; the new systems place the speed, accuracy and increased data processing and memory capabilities of the modern technology at the disposal of the user.

Basically, geographic retrieval is accomplished by placing a map on a digitizer--a table with x and y axis scales that are read by an electro-optical encoder, a pen-like stylus. The stylus is used to trace out an area on the map and transmit the selected x, y coordinates to the computer. The computer then reports the pre-selected data totals for that area: population, demographic characteristics (e.g., ethnic composition, age, income, education, occupation, home values) and political profile. The computer reports can take the form of a screen-read or printout summary of each variable or a graphic display of the area (color graphic or multi-color plotter print) using a scale of colors to represent each variable.

Modelling and simulation functions are also possible on the new systems. For example, projections can be made for an entire district based on specific criteria, and assessments can be made of its future voting behavior in different political

circumstances. In addition, search functions can be incorporated into the system to provide the user with the ability to determine the areas in a state that possesses certain specified characteristics: minority groups, partisan vote history trends, home-values, educational backgrounds. The results of such a search can be either listed or plotted so the user can grasp the geographical patterns.

These features of a geographic retrieval system are applicable to every stage of the districting process. Current districts, for example, are analyzed for population deviations from the newly determined "ideal district" (1980 population divided by number of legislative seats); new districts are built -- beginning anew or with current district lines -- by adding or subtracting census geographical areas; proposed districts are instantaneously analyzed for demographic and political characteristics; proposed districts are numbered and boundary lines stored to prevent the user from accidentally including areas already assigned to other districts; district areas are plotted or graphically displayed to guarantee contiguity and compactness and to allow user to review general shape of proposed districts and the tentatively derived plan are analyzed and evaluated for acceptance or fine-tuning; the steps taken, the decisions made, and the methodologies employed in the formation of each district can be recorded for review by the legislature, commission or by the courts. Each of these steps are completed faster and more accurately by the computer-assisted techniques.

These technical advances have resulted in what only may be styled as another "reapportionment revolution". They place in the hands of those responsible for redistricting and almost unlimited array of information from which to pick and choose in drawing new district lines. Most important, this new technology permits the line drawers the luxury of analyzing a dozen or more complete redistricting plans before settling on a particular plan.

It goes without saying, of course, that the computer's virtue can engineer the nearly perfect gerrymander just as well as advance the goal of "fair and effective representation."

Redistricting: The Future

In a great many states, redistricting has already emerged as a public issue. The national and state party organizations placed special priority on protecting or winning gubernatorial races and upper and lower state legislative house majorities in the last-ditch effort to control (or influence) redistricting. In a few states, redistricting politics have been blamed for the harsh battles that have ensued over legislative leadership positions. The electronic and print media have also begun to cover some of the basic background of the reapportionment and redistricting "story."

The first hints of the potential controversy that may be inseparable from this decade's round of redistricting were aired after the announcements of the preliminary census counts. As expected, the census, once again, confirmed the continued migration of Americans away from the so-called frost-belt states and major urban centers. Also as expected, the preliminary census results were greeted with cries of "undercount!" and claims of U. S. Bureau of the Census mismanagement. The criticism has been sufficiently wide spread, in fact, that orderly processing of the census data may be disrupted, if not delayed. A few federal district courts have further complicated the process by rejecting the census counts in several states and municipalities and advocating the use of population "estimates" for redistricting. The status of the Census must await the U. S. Supreme Court's ruling on whether to accept the lower courts' judgments. However the court rules, the redrawing of the district boundaries will be made no easier by

the confusion and uncertainty generated by the Census.

A second factor that may affect the immediate future of the redistricting is the national movement of "reapportionment reform" that seeks to take redistricting out of the hands of state legislatures by constituting bipartisan or non-partisan redistricting commissions. Active and sometimes successful in the late 1970s, the movement appears to have stalled. Yet, as redistricting approaches, it is likely to resurface, especially in carefully targeted key states.

With the high stakes at risk, a number of state legislatures and state party organizations are now devoting more resources toward developing the extensive political/demographic data bases so critical to redistricting decisions. The new technology--which was used in only a few states in the late 1960s and early 1970s--is almost certain to be much more widely applied. The increasing concern that we may be experiencing a "voter revolution," with voters exercising more and more independence, also enhances the prospect that the 1980 redistrictings will be conducted with much greater sophistication than in the past.

The final element in the equation is that many different interest groups have begun to realize their stake in redistricting. Groups that find themselves confronted by hostile majorities in state legislatures see that the publicly-appealing concept of a non-partisan, commission-directed redistricting might result in major, beneficial change in legislative membership. Unexpected alliances -- for example, between business groups and minorities -- are forming to "re-shuffle the legislative deck." In many states, the press and media might throw their weight behind "model districting plans" or "community-of-interest redistricting."

Some of these developments are already obvious. But what exactly will happen is, of course, a matter of very uncertain prediction. The paragraphs below outline some of the factors that are likely to play a role in the redistrictings of the future.

The Challenge to Legislatively-Conducted Redistrictings. In 38 states redistricting is the initial responsibility of the legislature. It was a responsibility, however, that many legislatures found difficult, or even impossible, to perform in the early 1970s: in more than a dozen states, federal or state courts stepped into the process to impose their own plans (See Table II). Great political turmoil surrounded the redistricting process in a number of other states, and their final legislative plans were often intensely controversial.

In a sense, the legitimacy of legislatively-conducted redistrictings is now under challenge. It is widely charged that there is an inherent "conflict-of-interest" in allowing state legislators to draw district lines -- for "incumbent protection" is the aim, and the result, of many legislative plans. The claim is also made that legislatively-conducted redistricting undermines two-party competition, not only in individual safe districts, but in state-wide politics. Parties are weakened, the argument insists, by the security of their office-holders, for there is no need to field high-quality candidates. Districts that are top-heavy with registrants of one party tend to select candidates who represent the extreme, ultra-loyalist wings of the party. Moreover, the responsiveness to public opinion of individual office-holders and of legislative parties is lessened, for they can ride out all but the most massive electoral tides in the security of safe districts. The policy process itself, it is claimed, is distorted, for there is less need to seek support from different interests or to build diverse issue coalitions. Indeed, many groups (particularly ethnic minorities), it is said, are permanently shut out of the policy process by party-controlled districting. Thus the indictment embraces many facets of the representative system -- its competitiveness or its responsiveness, the quality of representation, its capacity to produce effective polity, and the adequacy of group participation in politics.

TABLE II

Court Drawn Redistrictings

	<u>Lower House</u>	<u>Upper House</u>	<u>Congress</u>
Alabama	Federal Court (1972)	Federal Court (1972)	Legislature (1971)
Alaska	State Court (1974)	State Court (1974)	One Member
California	State Court (1973)	State Court (1973)	State Court (1973)
Connecticut	Commission (1971)	Commission (1971)	Federal Court (1972)
Illinois	Legislature (1973)	Legislature (1973)	Federal Court (1971)
Iowa	State Court (1972)	State Court (1972)	Legislature (1971)
Kansas	Legislature (1973)	Federal Court (1972)	Legislature (1971)
Louisiana	Legislature/Federal Court (1972)	Legislature/Federal Court (1972)	Legislature (1972)
Maine	State Court (1974)	State Court (1972)	Legislature (1971)
Maryland	State Court (1974)	State Court (1974)	Legislature (1971)
Michigan	State Court (1972)	State Court (1972)	Federal Court (1972)
Minnesota	Federal Court (1973)	Federal Court (1973)	Legislature (1972)
Mississippi	Federal Court (1978)	Federal Court (1978)	Legislature (1972)
Missouri	State Court (1971)	Commission (1971)	Federal Court (1972)
New Jersey	Commission/State Court (1973)	Commission/State Court (1973)	Federal Court (1972)
New Mexico	Legislature/State Court (1972)	Legislature/State Court (1973)	Legislature (1971)
North Dakota	Federal Court (1975)	Federal Court (1975)	One Member
Oregon	Secretary of State/State Court (1971)	Secretary of State/State Court (1971)	Legislature (1971)
Virginia	Legislature (1972)	Federal Court (1971)	Legislature (1972)
Washington	Federal Court (1971)	Federal Court (1972)	Federal Court (1972)

Source: Council of State Governments, 1977

Legislative control of the redistricting process is supported by a number of counter-arguments:

***Stability and Continuity.** There is a public interest, it is claimed, in the stability and continuity of representation. Effective legislative service requires experience in the traditions and procedures of the legislature. Substantial numbers of long-tenured members (who necessarily represent safe districts) are required to assure the professionalism of the legislative body and to prevent sudden, disruptive change in the conduct of the public business. From this perspective, therefore, any effective districting plan will provide for a degree of "incumbent protection." Proposals for non-legislative redistrictings ignore this criterion, with the risk that large numbers of novice legislators would be elected.

***Inherently Political Character of Redistricting.** It is argued that the creation of districts is an inherently political process. Proposals for non-partisan redistricting would merely cloak the politics of the process. So-called "non-political" or "non-partisan" commissions would be drawn willy-nilly into politics: the drawing of district boundaries cannot but involve political judgments and political results. But such commissions, to the extent they are artificially isolated from the political system, would be unable to accommodate and respond appropriately to political pressures. The argument concludes that this is the task of the legislature, a body that is supremely qualified to balance interests and to compromise among different groups.

***Community of Interest..** The legislature, it is claimed, is better able than any other body to produce districting plans that promote "community of interest." No one is more expert than the individual legislator on the political character of his district--its mix of opinions on issues, its centers of group power. In redistricting, the incumbent's political interest is generally to reduce the cross-pressures of opinions. He will seek a district that does not suffer from intense strains and divisions, in which group conflict is tempered, and that will support consistent policy positions. Such districts, it is argued, are much more likely to contain true communities of interest than any created by "non-partisan" boards or commissions. The heterogeneous constituencies, in which many conflicting groups are jumbled together, that might result from non-legislative districting could render effective representation impossible.

***An Historic Responsibility, Well Performed.** The whole history of representative government, it is argued, suggests that redistricting is a legislative responsibility. Legislatures have traditionally carried the responsibility for their own apportionment and, even in the best ordered of modern democracies, generally continue to do so. The argument continues that the historical record is one of effective and responsible performance. It is said that judgments should not be based on the redistrictings of the late 1960s and early 1970s: it was the difficulty of adapting to the wholly new ground rules of "one-man-one-vote" that caused many legislative plans to fail in that period. Moreover, it is claimed that the problem of the partisan gerrymander has been much exaggerated: in state after state, so-called gerrymanders have not led to any reduction in two-party competition. Indeed, it is pointed out that many of the most notorious gerrymanders were quickly followed by the rise to power of the minority party.

The Redistricting Commission. The national movement of "reapportionment reform" is currently headed by Common Cause. The Common Cause approach has three main elements: establishment of an independent, non-partisan reapportionment commission in every state; strict anti-gerrymandering standards; and prompt judicial review. The argument for the approach is summarized in the Common Cause publication, "Reapportionment: A Better Way":

The purpose of political gerrymandering is to shut people out of the political process. Reapportionment reform is designed to benefit the public by broadening political participation and increasing electoral competition. Reapportionment reform is designed to strengthen the political process by providing an incentive for political parties to bring new ideas and new people into the process. By reforming the reapportionment process and improving state legislatures, states may increase public respect for state government and strengthen the role of state government in our federal system. . . Common Cause proposes a reapportionment process designed to produce districts that are fairly drawn as well as districts of substantial population equality. Unlike district lines produced by political gerrymandering, fair district lines are not drawn to pre-determined election results.

Implementation of this approach is sought via voter approval of a constitutional amendment -- either proposed by the legislature or petitioned to the ballot by citizen initiative. The proposed Common Cause amendment provides for the following:

*Decennial Reapportionment in Single Member Districts. The amendment provides for reapportionment of state legislative and congressional districts in 1981 and every tenth year after that. Single member districts are required.

*Establishment of Commission. The amendment provides for the establishment of a five member reapportionment commission in the first year of redistricting and every tenth year after and at any other time of court ordered reapportionment. Four members of the commission are appointed by the legislative leaders -- one each by the President of the Senate, the Speaker of the House, the Minority Leader of the Senate, and the Minority Leader of the House. The four members select a fifth member who serves as chair. None of the five members may be a public official. The amendment requires the legislature to provide by law for the qualifications, duties, and powers of commissioners, procedures for the selection of commissioners and filling of vacancies, and adequate funding for the commission.

*Population Parameters. The amendment provides that districts in each house shall have "population as nearly equal as is practicable" based on the federal census. Specific population parameters are established to give definition to the requirement of substantial population equality. For state legislative districts, the amendment provides that the average percentage deviation of all the districts of a house from the average population of all districts in that house shall not exceed one percent. No district shall have a population which varies from the average population of all districts unless necessary to comply with one of the other reapportionment standards. In no case shall a district have a deviation from the average of more than five percent. Thus, the maximum allowable deviation from the highest to the lowest populated district is ten percent. In the event of a court challenge, the commission has the burden of justifying any deviation.

For congressional districts, the amendment provides that the same standards shall be used as for state legislative districts except that no district shall have a population deviation of more than one percent from the average population of all districts.

***Use of Traditional Jurisdictional Boundaries.** The amendment provides that district lines be drawn to coincide with the boundaries of political subdivisions (for example, towns and counties) to the extent consistent with the requirement of substantial population equality.

***Compactness and Convenient Contiguity.** The amendment requires districts to be "compact in form and composed of convenient contiguous territory." The amendment provides that the aggregate length of all district boundaries shall be as short as practicable consistent with the constitutional requirements of substantial population equality and maintenance of political subdivision boundaries. The amendment establishes a judicially enforceable compactness requirement by providing that in no case shall the aggregate length of all the districts exceed by more than five percent the shortest possible aggregate length of all the districts under any other plan consistent with the population and political subdivision standards. The same compactness standard applies to district lines within local political subdivisions that have two or more complete districts.

***Ban on Use of Political Information.** The proposed amendment provides that: "No district shall be drawn for the purpose of favoring any political party, incumbent legislator, or other person or group." The amendment prohibits the commission from taking into account the addresses of incumbent legislators. The commission may not use the political affiliations of registered voters, previous election results, or demographic information other than population headcounts for the purpose of favoring any political party, incumbent legislator, or other person or group. The amendment further provides that no district shall be drawn for the purpose of diluting the voting strength of any racial or language minority group.

***Judicial Review.** The amendment provides that the state supreme court has original jurisdiction over apportionment matters. The model authorizes any registered voter to file a petition to challenge a reapportionment plan or to compel the commission or any person to perform duties required by the model. Challenges to an apportionment plan must be filed within forty-five days of adoption of a plan. The court must give apportionment matters precedence over all other matters and must render a decision within sixty days after a petition is filed. The court may declare a plan invalid in

whole or in part and must order the commission to prepare a new plan.

***Duration.** The amendment provides that reapportionment plans remain in effect for ten years unless invalidated or modified pursuant to court order. A plan shall not be subject to amendment, approval, or repeal by initiative, referendum, or act of the legislature.

The Role of Interest Groups and Media. Many different groups are beginning to be alerted to their stake in redistricting -- whether in the shape of individual districts, or in the outcomes of an entire plan, or in the choice between legislative and non-legislative processes. The groups principally concerned include:

***Minorities.** In the period 1971-1973, in a number of states, blacks lobbied aggressively for districts that would increase the numbers of black congressmen and state legislators. A widespread conviction arose among many blacks that they were blocked in this aspiration by the "white liberal establishment," which gave precedence, so it was claimed, to the preservation of white incumbents. In the Southwestern states, Mexican-Americans suffered similar frustrations. They also faced additional difficulties, since the Census count provided little information on Spanish-speaking population, and the dispersal of Mexican-Americans over the agricultural areas of the states (in contrast to the urban concentration of black population) blocked the creation of more than a handful of "ethnically-representative districts." These minorities have already made clear their determination to press for new districts in 1981; they may be joined by several other ethnic groups.

***Business and Industry.** The elections of 1972 and 1974--which occurred when anti-business sentiment was running at high levels--produced legislative majorities in many states that have remained critical of business and industry. Undoubtedly, many business groups--particularly, perhaps, those that have suffered under increased regulation--will not wish to see these majorities perpetuated via the redistricting process. The outlook, then, is that such groups may seek to influence redistricting, perhaps by allying with public interest groups in pressing for commission-type amendments, or by proposing model plans for more competitive districts.

***Professional Groups.** Doctors and lawyers, and many other professional groups that perceive their steadily increasing stake in the legislative process in Congress and the states, may also be drawn into redistricting politics. Professional associations are generally organized on a county-by-county basis in the states, and some groups may now press for giving greater weight to the use of county boundaries in redistricting. The tactics of professional groups will undoubtedly vary, depending on the legislative configurations they confront and their political needs. A likely approach in some states, however, is the creation of model districting plans. Such plans--perhaps co-authored with a variety of group allies--may become an important means of imposing constraints on legislatively--conducted redistricting.

Although coverage was given by the press and media to the court reapportionment decisions of the 1960s, the actual redistricting processes of 1971-73 attracted relatively little attention. In part, this may be explained by the technical character of the process and the difficulty of interpreting it to the general public. In part, however, it was also due to the success of many legislatures in restricting public involvement in and understanding of the process. It is likely that the redistrictings of 1981-1983 will receive much more critical scrutiny from the press and media. Controversy and public interest will certainly be generated by Common Cause or other commission-type amendments; group involvement in redistricting is likely to be much more intense than previously, and this will also lead to greater coverage.

Analysis of Districting Plans. It is likely that the period 1981-82 will see the development by different groups of a sophisticated ability to evaluate and critique redistricting plans. The new computer technology permits very rapid read-out of political and demographic characteristics: indeed, an entire plan, even for a large state, can be analyzed in as little as 24 or 48 hours. Possible developments here include:

***Business, Professional and Minority Groups.** Legislatures may find that their plans are subjected to almost instant analysis by groups that have developed their own data bases and geographic retrieval systems. Information on the political and socioeconomic composition of proposed districts may enable such groups to exert pressure for changes in redistricting plans.

***Press and Media.** It is not unlikely that some newspaper and media organizations will also develop a computerized capability for analyzing districting plans. There is then a prospect that the public debate on redistricting will be informed by much more accurate and comprehensive data than in the past.

***Counties, Cities, and Local Communities.** Analytic capability may strengthen the position of local governments and other official bodies to play a role in redistricting.

Conclusion

The 1960s did, indeed, produce a "reapportionment revolution," but one that is far from complete. One may safely predict that in the time remaining before redistricting we will see a mounting controversy over the law, politics, and technology of redistricting. The reason for this controversy is obvious: the redistricting plans that are finally written--whether by state legislatures or by commissions, or as the result of a complex bargaining process involving many official and unofficial participants--will shape government for a decade.

APPENDIX A

The Key Court Decisions

Baker v. Carr (1962) 369 U.S. 186.

A group of urban residents of Tennessee challenged the make-up of the rurally-controlled state legislature. Although the Tennessee constitution provided for a population-based apportionment and required decennial reapportionments, no apportionment changes had been made since 1901--despite great population growth and shifts. By 1960, lower house districts ranged from 3,454 to 79,301 in population--a disparity of 23 to 1; upper house districts ranged from 39,717 to 237,905--a 6 to 1 disparity. The Court held that the issue was justiciable, that the federal courts had jurisdiction over complaints against malapportioned legislatures.

Gray v. Sanders (1963) 372 U.S. 268.

The case presented a challenge to Georgia's county unit system of voting in statewide and congressional primary elections, which gave each county a certain number of votes, usually the number of its seats in the state legislature. The court held that use of the system deprived city residents of equal protection of the laws and ruled that "within a given constituency, there can be room but for a single constitutional rule--one voter, one vote."

Wesberry v. Sanders (1964) 376 U.S.1.

The Court struck down Georgia's Congressional districting plan, holding that Article 1, Section 2 of the Constitution required that "as nearly as is practicable one man's vote in a congressional election is to be worth as much as another's."

Reynolds v. Sims (1964) 377 U.S. 533.

The Court announced decisions in six reapportionment cases on June 15, 1964, which came to be known collectively by the name of the first case, Reynolds v. Sims, from Alabama. The rulings held all six state reapportionments unconstitutional and delineated the basic case law in redistricting:

*The Equal Protection clause of the XIVth Amendment to the U.S. Constitution "requires that the seats in both houses of a bicameral state legislature must be apportioned on a population basis."

*Legislative districts must be substantially equal.

*Mathematical "exactness of precision" may be impossible, but apportionment must be "based substantially on population."

*Even if approved by a majority of the people in an initiative or referendum, an apportionment that is not based on substantial equality of population is unconstitutional. "A citizen's constitutional rights can hardly be infringed upon because a majority of the people choose to do so."

*Any other basis for representation, other than population, is discriminatory. "Legislators represent people, not trees or acres." They are "elected by voters, not farms or cities or economic interests."

Swann v. Adams (1967) 385 U.S. 440.

The Court continued to elaborate its definition of equality of population. Florida's state legislative reapportionment plan was overturned because it contained upper house districts ranging from 15.09 percent above the average district and 10.56 below and lower house districts ranging from 18.28 percent above to 15.27 percent below.

Kirkpatrick v. Preisler (1969) 394 U.S. 526.

The Court ruled that the State must make a good-faith effort to achieve precise mathematical equality. Unless population variances among congressional districts are shown to have resulted despite such effort,

the State must justify each variance, "no matter how small." The Court held that Missouri had failed to justify the deviations in its 1967 redistricting plan even though population variances were only 3.13 percent above and 2.84 percent below the average district size.

Whitcomb v. Chavis (1971) 403 U.S. 124.

A challenge was presented to a state legislative reapportionment in Indiana on the basis that the use of multi-member districts resulted in invidious discrimination against the black voters of Indianapolis. The Court held that the challengers had not proven that the multi-member districts had operated unconstitutionally to dilute or cancel the voting strength of racial or political elements in the state. In a 1960 case, Gomillion v. Lightfoot, (364 U.S. 339) the Court had outlawed racial gerrymandering, finding that the city boundaries of Tuskagee, Alabama, had been drawn to exclude Negro voters in violation of the 15th Amendment. In 1964, in Wright v. Rockefeller, (376 U.S. 52) however, the Court dismissed a challenge to New York's Congressional districts brought by voters who charged that Manhattan's 17th "silk stocking" District was gerrymandered to exclude Negroes and Puerto Rican citizens. Wright and Whitcomb are widely cited as evidence that the Court is unwilling to deal with the whole problem of gerrymandering, whether racial or partisan gerrymanders.

Mahan v. Howell (1973). 410 U.S. 315.

This case establishes a "double standard" for state legislative and congressional districts, where state legislative district variances are justified by standards set in Reynolds, Kirkpatrick and Witcomb. In this

instance, the Court upheld a 1971 Virginia State Legislative redistricting plan with population variances from its largest to the smallest district of 16.4 percent. The Court held that this plan "may be reasonably said to achieve the rational state policy of respecting the boundaries of political subdivisions." The ruling should be compared with White v Weiser (412 U.S. 783, 1973) where the Court rejected a Texas congressional redistricting plan with maximum deviations of 2.43 percent above and 1.7 percent below the average district, on the grounds that the deviations were not "unavoidable" and that the districts were not as mathematically equal as "reasonably possible."

Gaffney v. Cummings (1973) 412 U.S. 735.

Upheld a 1971 Connecticut state legislative redistricting plan, despite a deviation of 7.83 percent between the largest and smallest districts, and despite rather clear evidence of the use of partisan data in the drawing of the district lines. This case should be compared with Wright v. Rockefeller (1964) and Whitcomb. These three cases are widely cited as evidence that the Court is, to date, unwilling to deal with the problem of gerrymandering.

Chapman v. Meier (1975) 420 U.S. 1.

Established a distinction between the standards to be met in court-written and legislatively-written redistricting plans. In this case, the U.S. District Court in North Dakota had written a plan that had created multi-member districts where they had not previously been used. The Supreme Court limited the flexibility of lower courts to institute such plans.

United Jewish Organizations v. Carey (1977) 430 U.S. 144.

Legislative modification of a New York redistricting plan (in order to bring it into compliance with the 1965 Voting Rights Act) had divided a community of Hasidic Jews to establish several substantially non-white districts in Kings County. The Court upheld the plan, ruling that such a use of racial criteria is justified by legislative policy, specifically the Voting Rights Act of 1965.

APPENDIX B

Examples of Gerrymanders

Since the original salamander-like district drawn in Massachusetts during the governorship of Eldridge Gerry (hence, the "Gerrymander"), the "art" of gerrymandering has been identified with the wild and contorted shapes on redistricting maps. Even though gerrymanders can result in compact and regularly shaped districts—and are more and more likely to take this form with the new redistricting technology—suspicions are always raised when districts take on the shape of boots, hammers, anvils, birds in flight, bird claws, horse heads, cow heads (with horns), doughnuts and letters of the alphabet.

The district maps included in this appendix were all drawn in the 1970s, under the strict standards of "population equality." This is by no means a complete selection of even the most colorful examples of the gerrymanders of the 1970s. They do, nevertheless, illustrate what is still possible in redistricting, and what we might expect in the 1980s.

Gerrymandering in California

Before California was redistricted by a panel of special masters appointed by the state Supreme Court, the state legislature approved one of the most blatantly gerrymandered plan ever proposed in the State's (and perhaps the Nation's) history. The following maps are from California Assembly Bill No. 12, a redistricting plan authored by the Democratic majority and vetoed by the Republican governor in 1971.

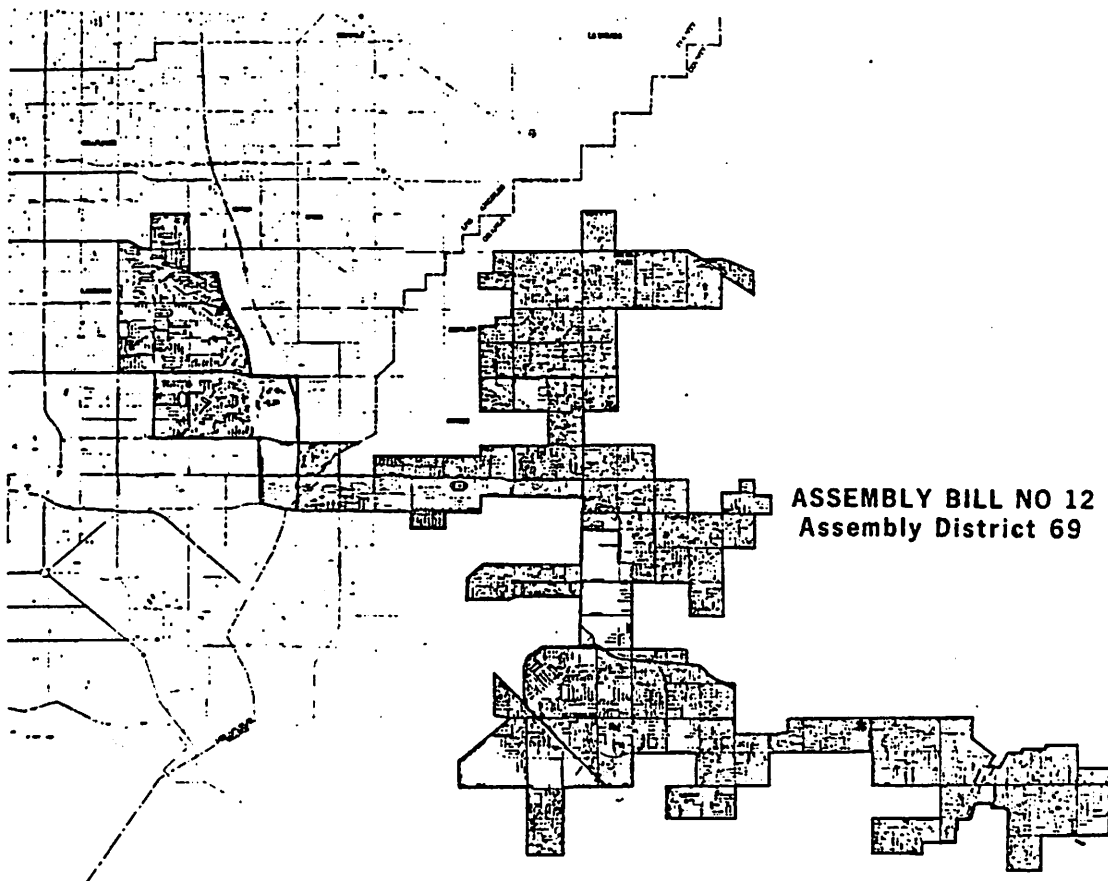
Map 1 is a good illustration of the sophisticated use of precinct data (vote history and registration data) in district design. The greater part of the proposed district lies within Orange County, an area of traditional Republican strength; but a part of Los Angeles County is also included. Each precinct in the area that had better-than-average Democratic voting proclivity was surveyed: the best were aggregated into District 69 (sometimes referred to as the "Corydor") to secure the re-election of Assemblyman Kenneth Cory. The district stretches octopus-like through Republican territory, sending out tentacles to pick up Democrats in widely separated areas. Parts of 13 cities in two counties are included; but none of the cities falls entirely within the district.

Map 2 is a dramatic illustration of the use of narrow, very thinly populated corridors to link centers of population many miles apart. There are three areas of heavy population in the district: at the top left and right-hand corners of the district and in the extreme tip of the curving "tail" at the bottom of the map. Each population center is located in a different county (Contra Costa, San Joaquin, Santa Clara). The district meanders almost a hundred miles through the California Coast Range; it by-passes almost a million people in the populated areas of Alameda and Santa Clara counties.

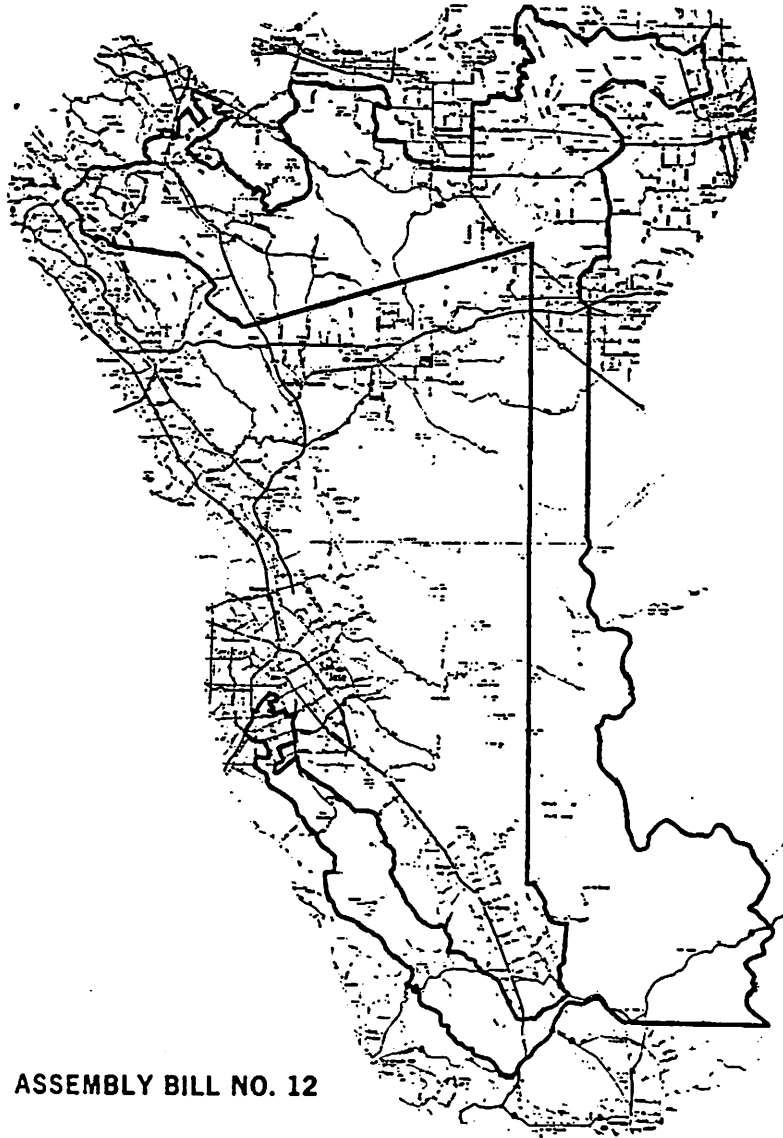
Map 3 illustrates the practice of carving districts out of city precincts and balancing political characteristics through the addition of agricultural areas. In this case, a virtual swathe is cut through the center of Fresno. The district was created to assure the election of a Democratic candidate and the defeat of a popular, long-term Republican incumbent (Kenneth Maddy).

Maps 4 and 5 show two bizarrely shaped districts (District 78 in San Diego and District 19 in the Bay Area) that resulted from the reach for political advantage. District 78 assumed its shape as the result of an effort to concentrate Republican voters. District 19 is almost--not quite--divided into three: note the impact in the neighboring district, which balloons into the 19th through a pencil-thin corridor.

MAP 1



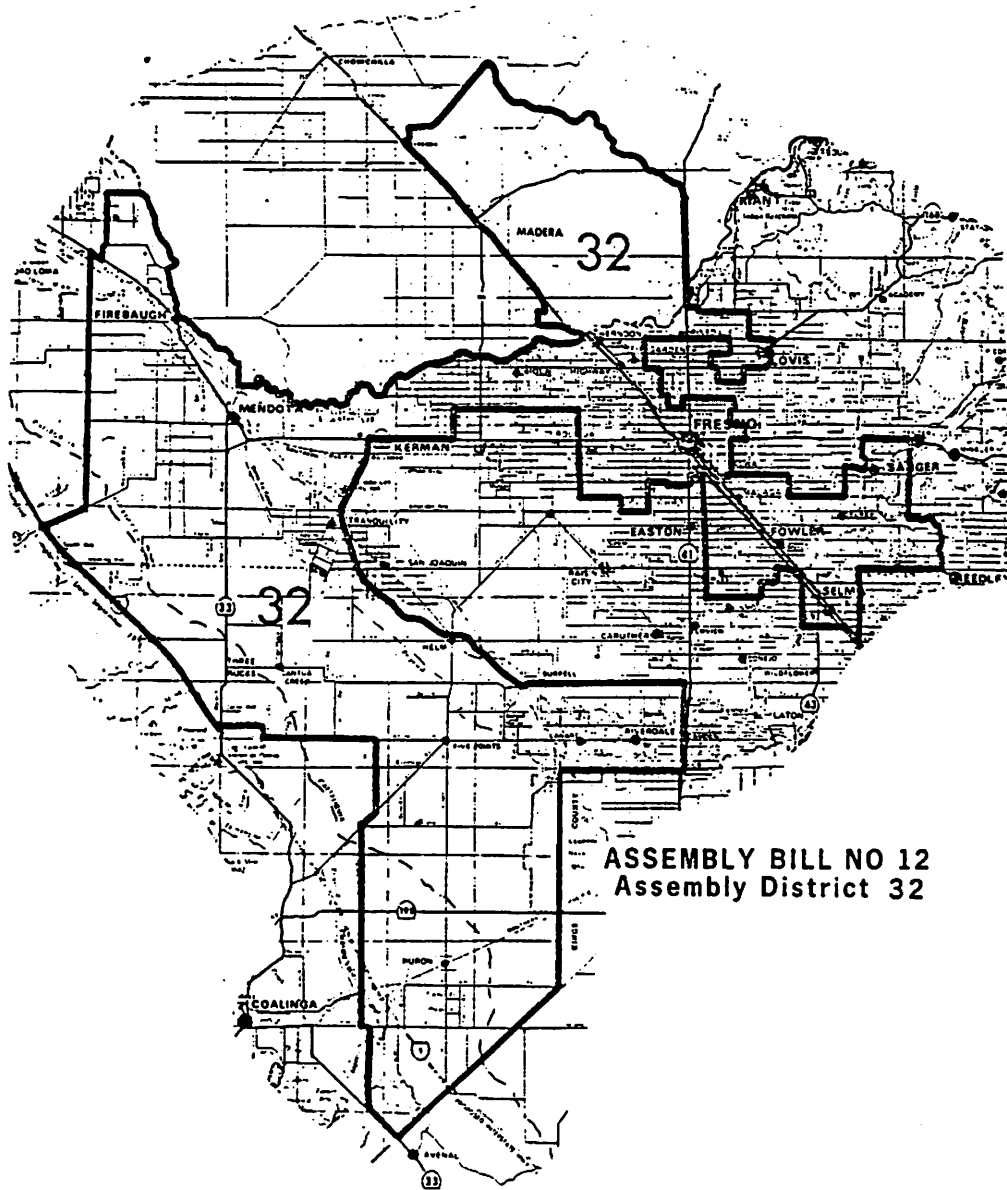
MAP 2

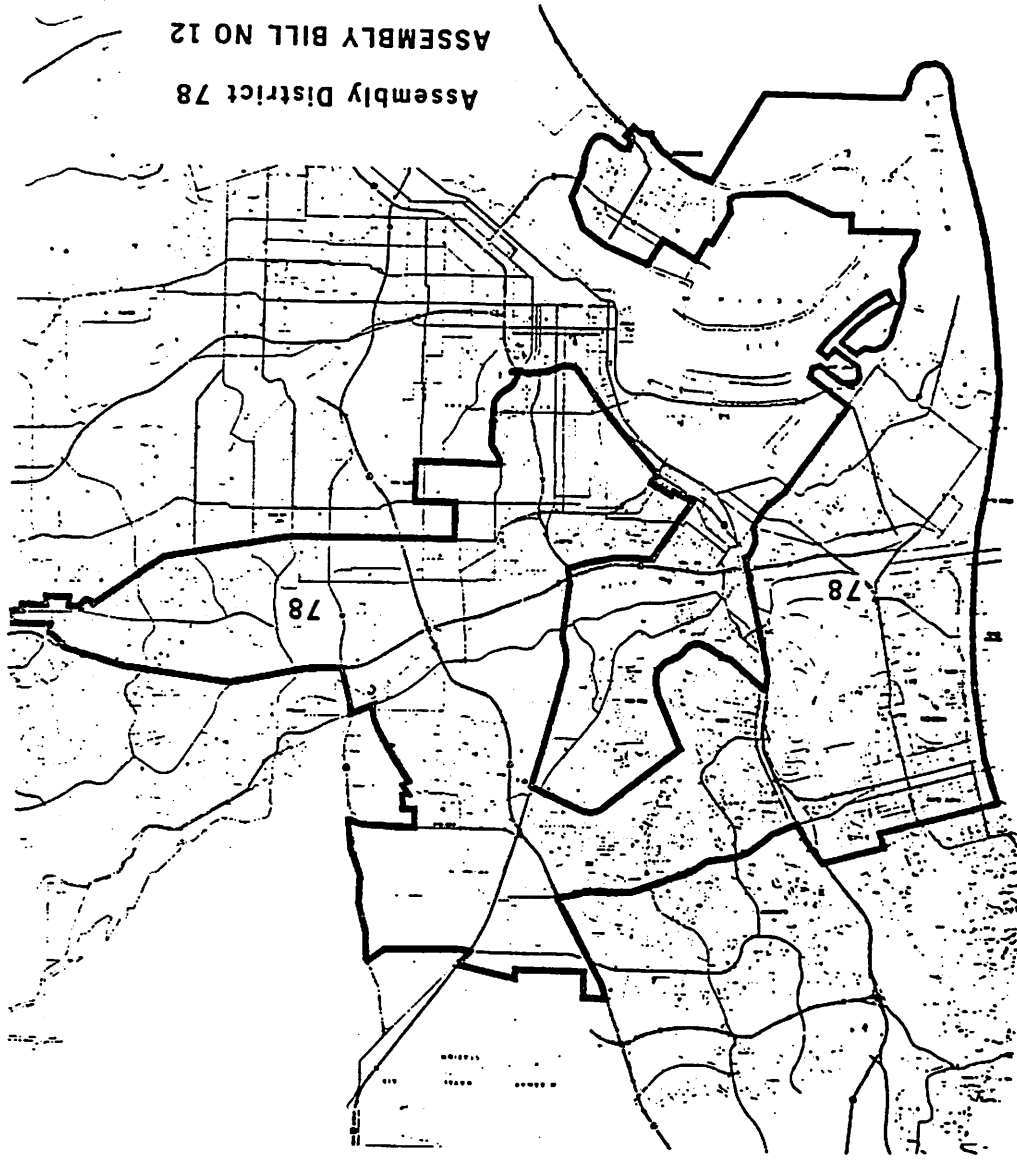


ASSEMBLY BILL NO. 12

Assembly District 10

MAP 3

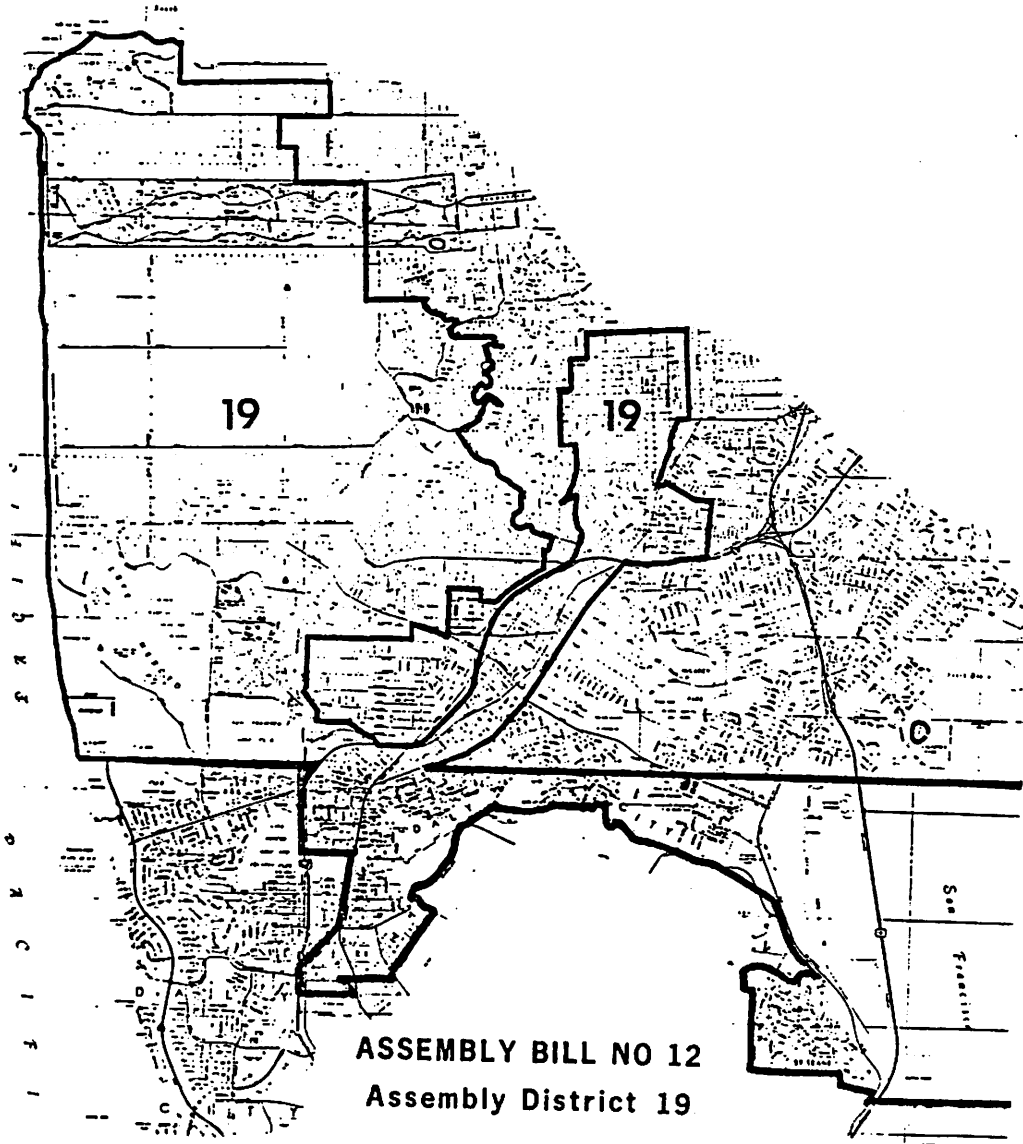




Assembly District 78
ASSEMBLY BILL NO 12

MAP 4

MAP 5



ASSEMBLY BILL NO 12
Assembly District 19

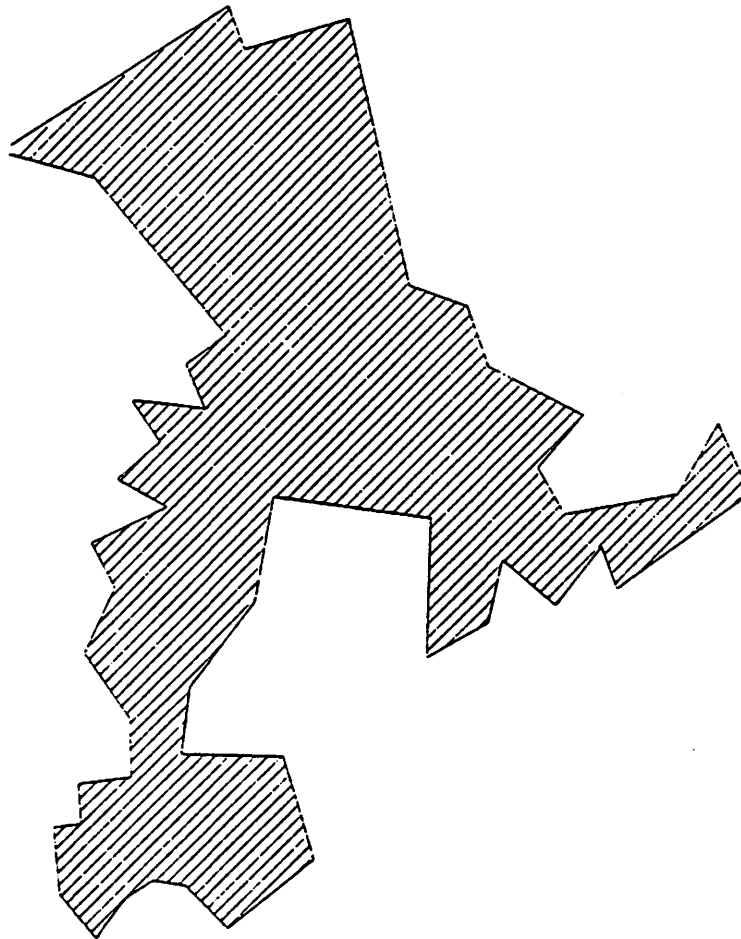
Gerrymandering in Pennsylvania

Maps 6, 7, and 8 are taken from the current, official district maps of the House of Representatives of Pennsylvania. The redistricting plan was devised by a five-member bipartisan commission and upheld as constitutional by the state Supreme Court (by a 4-3 vote) in 1973. Using partisan political data, the commission developed an "incumbent-protection" gerrymander in which incumbents from both parties were given favorable districts. In those case when it was impossible to avoid placing two incumbents in the same district, effort was made to prevent matching incumbents from the same party. As might be expected, these goals required carefully drawn lines--concentrating or dispersing party registrants or including or excluding the incumbents' residences, as the circumstances required.

P E N N S Y L V A N I A

HOUSE OF REPRESENTATIVES DISTRICT 193

1971 REDISTRICTING



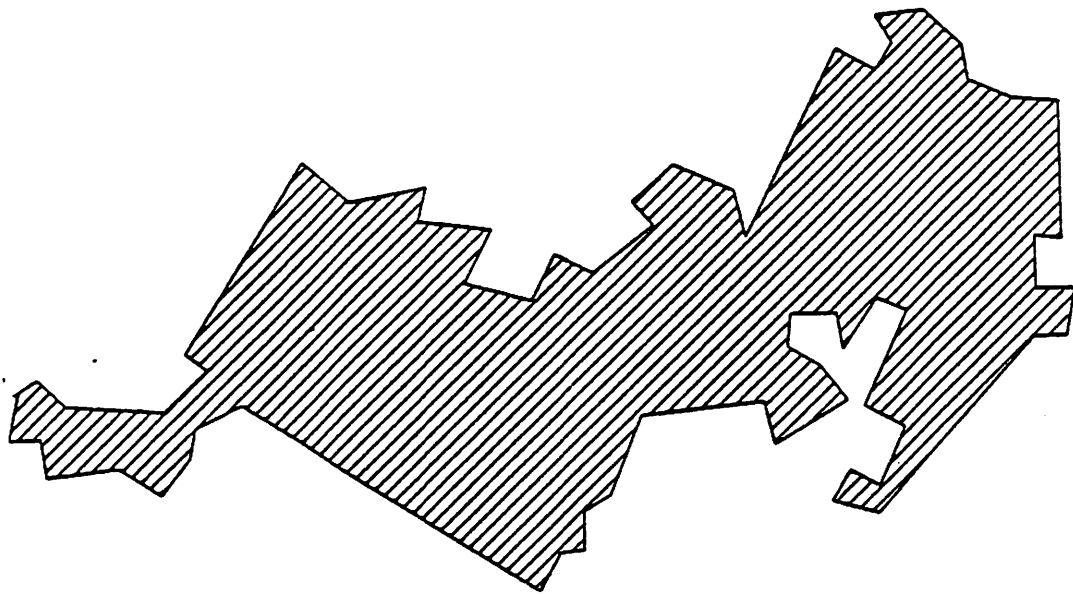
MAP 6

PLOTTED BY ROSE INSTITUTE



MAP 7

P E N N S Y L V A N I A
H O U S E O F R E P R E S E N T A T I V E S D I S T R I C T 7 2
1 9 7 1 R E D I S T R I C T I N G

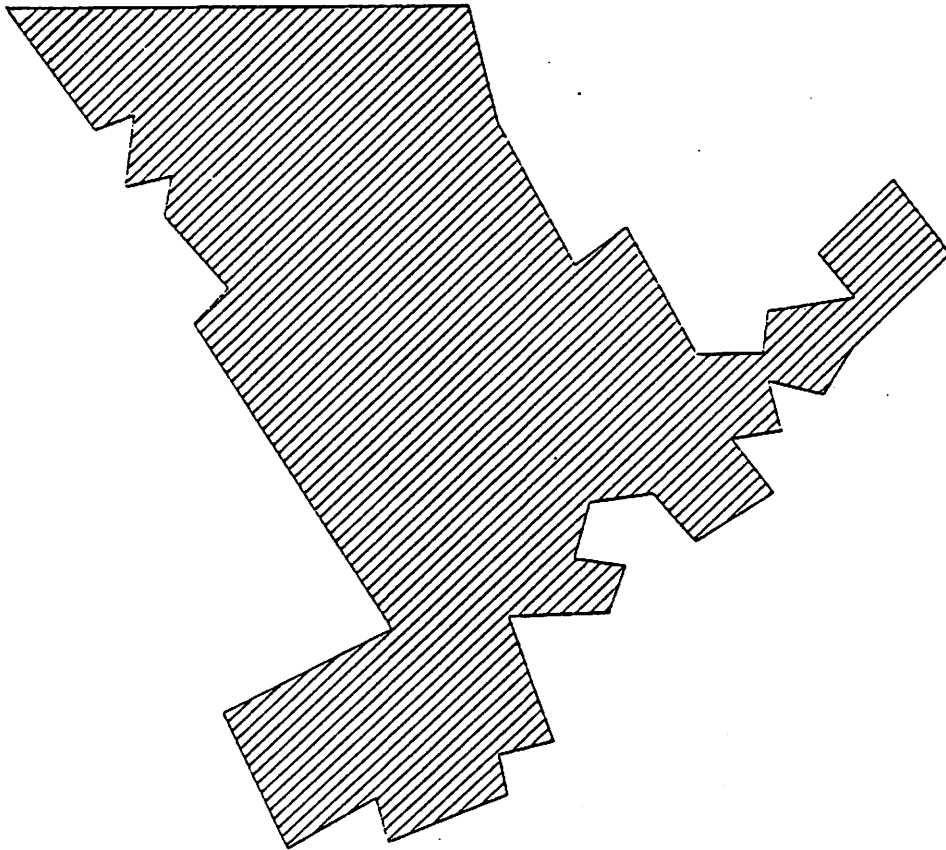


PLOTTED BY ROSE INSTITUTE



MAP 8

P E N N S Y L V A N I A
HOUSE OF REPRESENTATIVES DISTRICT 119
1971 REDISTRICTING



PLOTTED BY ROSE INSTITUTE



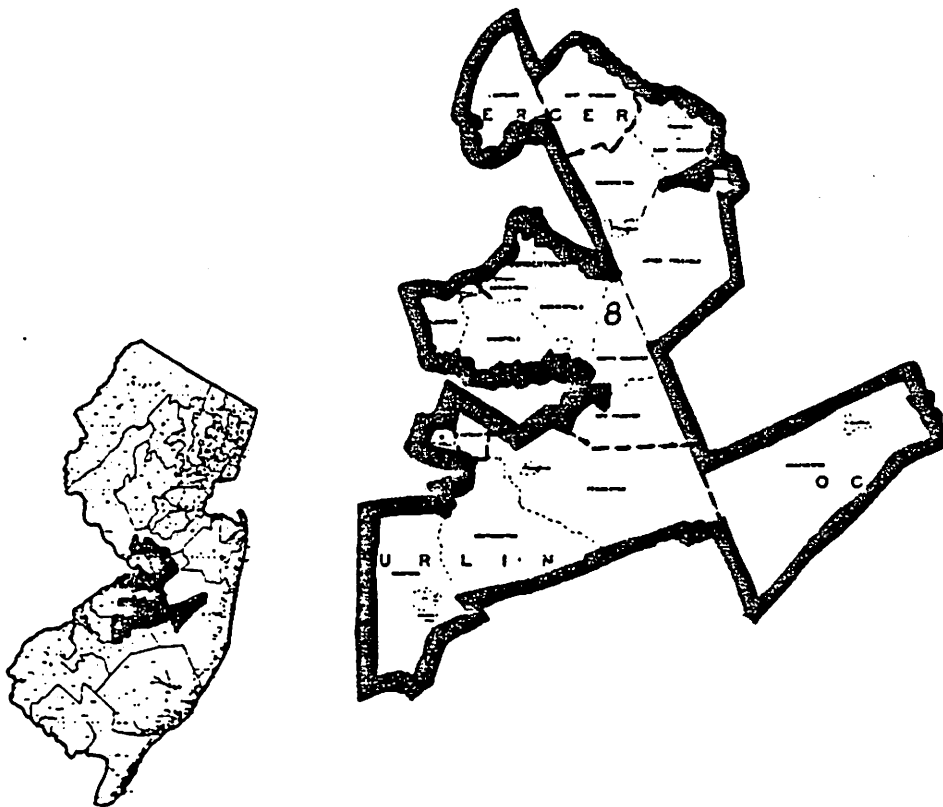
Gerrymandering in New Jersey

From 1967 to 1973, New Jersey's state legislative districts were redrawn for each successive election. In 1973, the state Supreme Court finally accepted a strict one-man,one-vote plan that intentionally balanced party representation in both houses of the State Legislature.

Map 9 and Map 10 show two of the districts included in the plan: the 8th District which cuts across four county lines to favor Republican candidates; and the 9th District which includes areas of three counties to favor Democratic candidates.

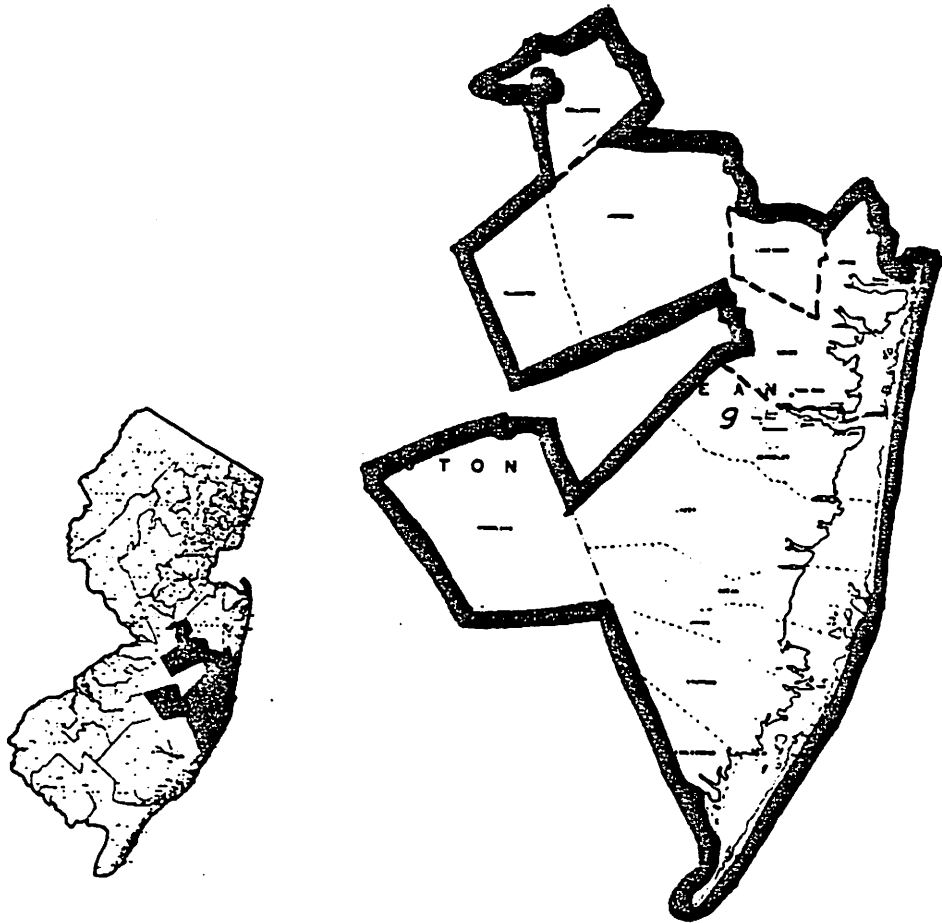
MAP 9

8TH DISTRICT



MAP 10

9TH DISTRICT



Gerrymandering in New York

In 1971, the Republicans continued the long tradition of gerrymandering politics in New York. Concerned primarily with maintaining their control of the state senate, they nevertheless drew a plan which attempted to maximize their party strength in both houses of the legislature.

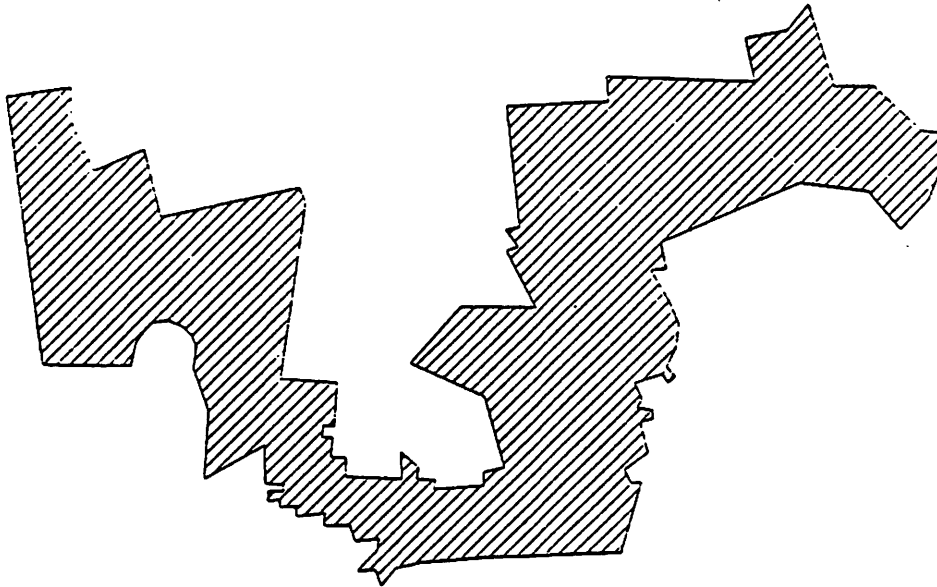
Maps 11, 12, and 13 show the lengths to which the legislators were willing to go to reach their political objectives.

N E W Y O R K.

STATE SENATE DISTRICT 33

1971 REDISTRICTING

MAP 11

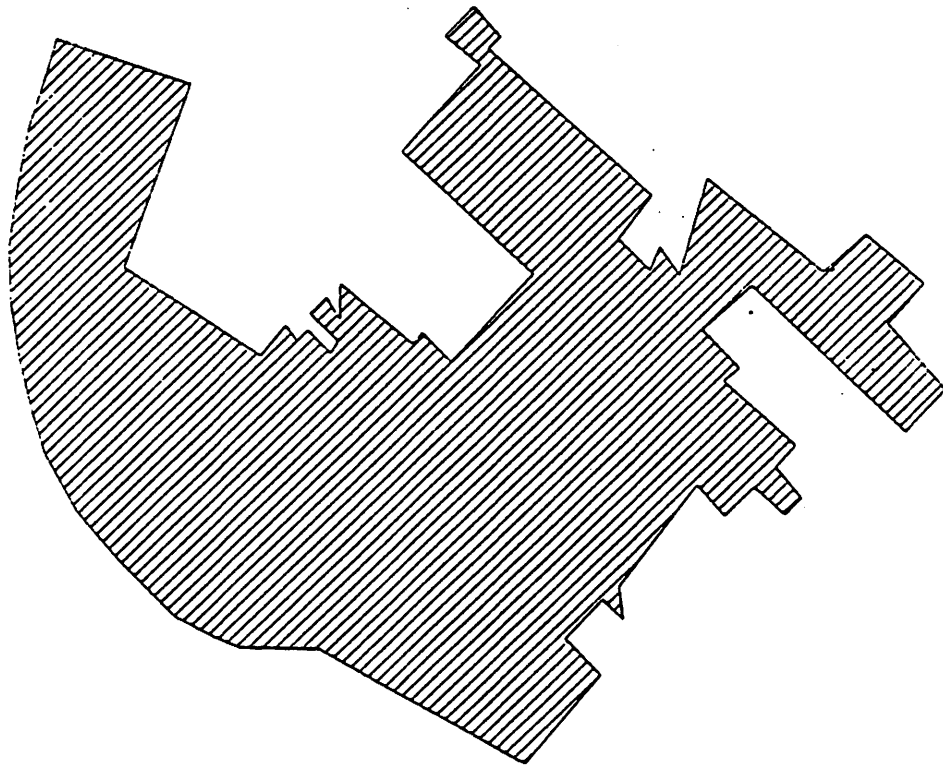


PLOTTED BY ROSE INSTITUTE



MAP 12

**NEW YORK
STATE ASSEMBLY DISTRICT 49
1971 REDISTRICTING**



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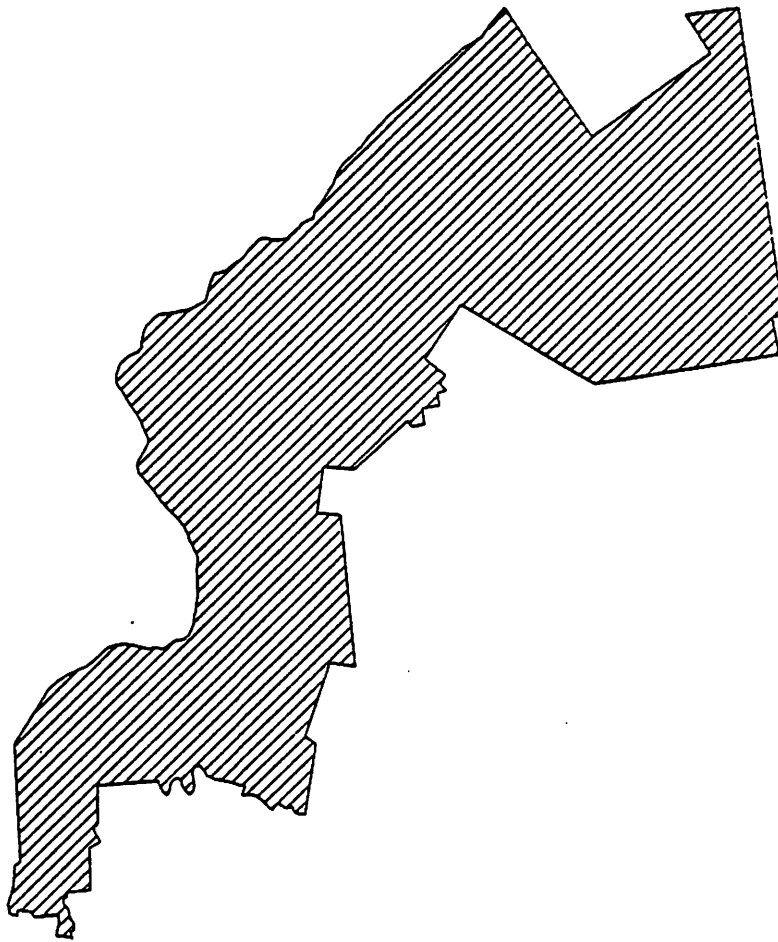


MAP 13

N E W Y O R K

STATE SENATE DISTRICT 45

1971 REDISTRICTING



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(Note: Publications of the National Municipal League (for example, its Compendium on Legislative Apportionment and Court Decisions on Legislative Apportionment)

and the sections on representation in the National Civic Review should be consulted. Congressional Quarterly publications (for example, Congressional Districts in the 1970s, 1974) and CQ Weekly provide detail on individual states and congressional districting. Publications of the Council of State Governments (for example, the latest edition of Book of the States and American State Legislatures: Their Structures and Procedures, rev. ed., 1977) are extremely informative. A number of U.S. Government agencies and departments publish materials that should be reviewed, including: U.S. Department of Commerce, Bureau of the Census, (see, e.g., County and City Data Book, Congressional District Data Book, Statistical Abstract of the United States); Advisory Commission on Intergovernmental Relations (see, e.g., Apportionment of State Legislatures); Library of Congress, Legislative Reference Service (see, e.g., Legislative Apportionment: The Background and Current Status of Developments in Each of the 50 States). A number of state governments have also published materials on redistricting.)

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