

This is a decision which could not have been made 10 years ago when Democrats worked to avoid drawing single-member districts.

Representative Rhyne, the minority leader who could be affected by a division of the 44th, says he expects the partisan fighting to become so ugly that it may be in the best interests of the state to delay the redistricting until late summer or fall, regardless of the availability of the final census figures. "Mixing something that is purely political with all the other policy decisions seems to me like a formula for making bad law."

One Person, One Vote



Whatever North Carolina does about a predominantly black congressional district and partisan gerrymandering, it will have to abide by ever-stricter standards regarding the equal division of population into districts. The federal courts will demand that legislative districts have a population deviation ratio of no more than 1.1 to one. That is, the largest district can be no more than 10 percent more populous than the

The Tools of Redistricting—From Crayons to Computers

When Gerry Cohen talks about drawing redistricting maps during the early 1980s, he evokes images of Prince Henry the Navigator. "The last time, it took us a full day to do a map," says Cohen, the legislature's bill-drafting expert and redistricting specialist. "Late at night, we'd be spread out on the floor to color in the districts." No more. In 1991, Cohen predicts, the legislative computer system will be able to spit out a new map every half hour. That ability to constantly refigure district numbers and boundaries will be the major difference between the redistricting process of the 1980s and this time around.

Redistricting in the 1990s will be driven by computers for the first time in North Carolina. The N.C. General Assembly, which in 1971 raised the prospect of purchasing a computer to help with redistricting only to dismiss the idea almost immediately, will amass computer files with more than 4.5 billion bits of information, says Glenn Newkirk, the legislature's computer guru and director of the Automated Systems Division. The assembly already operates a DEC VAX mainframe computer to which it will add what Newkirk describes as a large mini-computer just to run the redistricting program that it has purchased—at a tab of \$200,000—from Public Systems Associates of Denver, Col.

Newkirk first is loading TIGER, a 650-million character data base formally named Topologically Integrated Geographic Encoding and Referencing System, into the computers. TIGER essentially is an atlas of every census tract in the United States, with the names of almost every street, road, railroad, hilltop, and creek stored on compact discs and referenced by geographic coordinates. The programs will even include precinct boundaries for 48 of the state's largest counties. Legislators seeking to draw a map through the city of Lumberton, for example, would be able to pull up a multi-colored map on the computer screen which would show all the city's streets, the Lumber River, the railroad tracks, and I-95.

When the U.S. Census Bureau releases North Carolina's tract-by-tract 1990 census information in late February, Newkirk will then be responsible for integrating it with the TIGER files. Where TIGER recognized a city block in downtown Lumberton, for example, the census data will also recognize that block and provide census numbers for it. Thus, if legislators were hoping to draw a district boundary through the center of Lumberton along Water Street, they'd be able to keep track of the racial and partisan political compositions of the districts formed both to the south and north of the street. Then,

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The Tools, *continued*

by moving a city block one at a time, in one direction or the other, they could adjust these make-ups to serve their purposes.

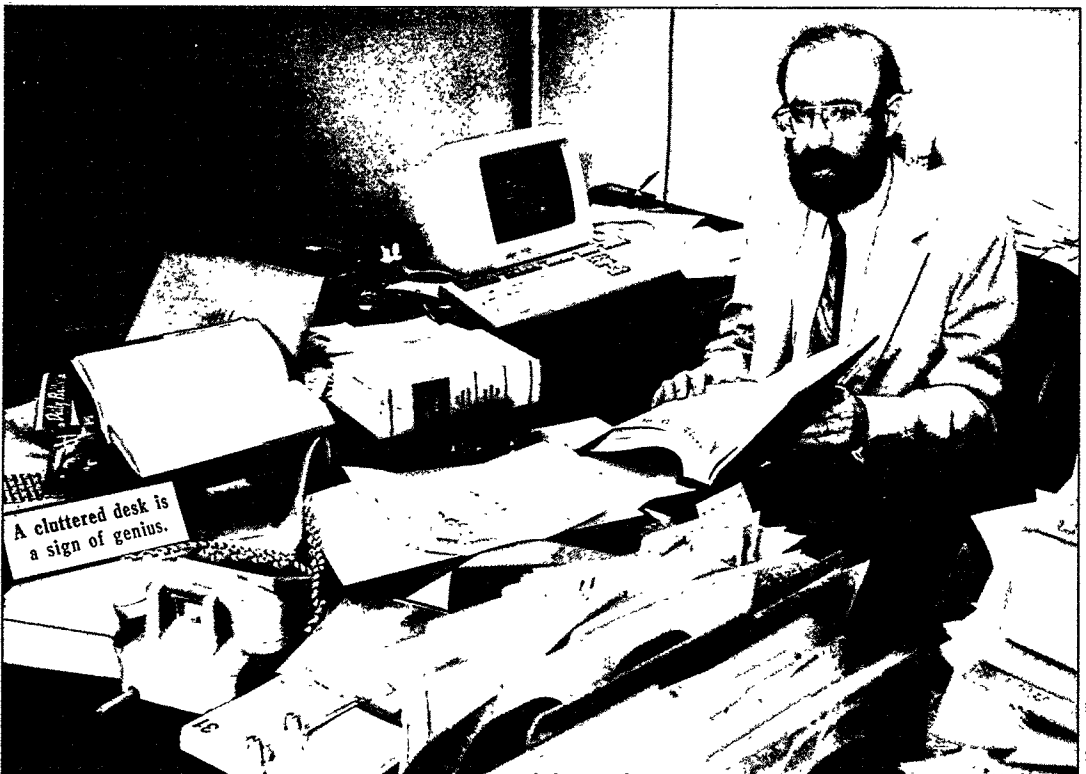
Just loading the census data into the legislature's computers will take more than six weeks to complete, Newkirk predicts, because North Carolina is such a difficult state to map. With the state's three coastlines, and with its many mountain peaks and streams, the number of geographic coordinates needed is immense. In the end, the TIGER and census data bases will comprise more than 1.2 billion bits of information. Because of the huge loading process, Newkirk worries that if redistricting plans are enacted before July 1991, and if the court or the U.S. Commerce Department orders a population adjustment, it would take several months to reload the computers with adjusted data and require more legislative work to draw new districts.

The speed with which the computers can draw new maps is a blessing on one hand and a

curse on the other. With nearly every legislator capable of drawing a map to suit individual interests, the legislature could be inundated by maps, buried in a blizzard of standard deviations, or swamped in a tidal wave of minority districts. And almost certain to add to the confusion will be the relative ease with which other entities, like the Democratic and Republican parties, key special interests, and minority advocacy groups will be able to draw their own maps using the same information the legislature has and some of the same kind of technologies.

In the 15th century, it took Prince Henry a long time to draw maps that contained many inaccuracies. But his sailors eventually mapped the east coast of Africa and circumnavigated the Cape of Good Hope in 1488. With high speed computers and precise census tract data, it remains to be seen if North Carolina legislators can draw three maps that create House, Senate and congressional districts.

—Paul T. O'Connor



Gerry Cohen, a legislative staff expert on redistricting, contemplates the 1991 task.

Karen Tam