Racial Gerrymandering and Geographic Information Systems: Subverting the 2011 Texas District Map with Election Technologies

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Abstract

Purpose: This research contributes to the scholarship in technical communication on race by furthering work regarding latinidad and technical documentation.

Method: This article looks specifically at the 2017 Texas court case involving the 2011 district map involving districts 23 and 35. The article also analyzes the methods with which legislative mapmakers operate and deploy GIS software.

Results: As previous researchers have noted, latinidad is often constructed in political and governmental documents within the United States to position Latinos as a threat to White Americans. Frequently, this constructed threat is mitigated by inflating the contributions of White Americans over their Latino counterparts. Yet, this examination of the 2017 court case illustrates that mapmakers can also utilize Geographic Information Systems to gerrymander districts and thus suppress Latino's voting power to help White Americans maintain political power. Most worrisome is mapmakers' deference to and citation of the Voting Rights Act to justify the creation of districts that account for and control electoral agency.

Conclusion: The article concludes by asserting that technical communicators move beyond compliance in order to account for multicultural publics and to avoid engaging in similar technological practices. It also encourages technical communicators to become more active in identifying practices that threaten democratic integrity and in using their skills to promote more socially equitable electoral practices across their teaching, research, and advocacy.

Keywords: gerrymandering, Geographic Information Systems (GIS), minority publics, maps, visual rhetoric

Practitioner's Takeaway:

- GIS software aids legislative mapmakers in learning more about a community or district. However, this technology can be used to make assumptions about district residents' cultural heritage.
- Language meant to make material conditions more equitable for minorities can be subverted to shore up resources for people in power. We must be careful to examine how the documents, policies, and technologies that we help to craft are being utilized after they are disseminated.
- District maps move beyond simply influencing our perceptions of a place; rather, they contain substantial material consequences.
- Technical communicators can use their skills in visual rhetoric and argumentation to identify manipulative visual rhetoric and to advocate for fair electoral processes for all residents.

Introduction

In the introduction to *Communicating Race and Ethnicity in Technical Communication*, Williams (2014) argues that technical communication has lagged behind other related fields of English, such as rhetoric and composition or literary studies, in highlighting how race and ethnicity inform our discipline. This aversion is not due to any lack of connection between race and the communication of scientific, technological, or workplace information. Indeed, they share a long (and problematic) history. Technical documents on how to purchase and manage slaves (Ramey, 2014), medical studies that unethically use black bodies for research (Reverby, 2009), and perennial attempts to connect race to genetics (Condit, 2010) all show that science, technology, and workplace communication are often implicated with race due to social and cultural forces.

Recently, however, we have seen more of this important work on race and ethnicity playing a larger role in technical communication scholarship regarding research (Richardson, 2014; Williams, 2012), practice (Shivers-McNair & San Diego, 2017), and pedagogy (Savage & Mattson, 2011; Haas, 2012). Such work helps to bring to the fore experiences of diverse publics not only in the uses and access of technology but also in how racial and ethnic groups are represented in technical documentation.

To illustrate, Banks (2006) argues that, due to their exclusion from communication technologies, African Americans have historically developed tactical modes and practices of engaging in and with discussions about technology in order to advocate for inclusive access to systems of power (p. 2). Most pertinent to my project is Banks' assertion that "the conventions of legal scholarship and jurisprudence provide an example of how language itself can be technologized" (p. 9) to limit African American participation within American voting and legal systems. Such "technologization" of legislative language makes itself evident through various forms: "constant gerrymandering… to dilute Black voting blocs; three strikes laws…; absurd differences in drug sentencing laws…; Proposition 209's elimination of affirmative action programs" (p. 86). Similarly, Williams (2006) has noted that the language in government regulations have historically carried elements of

distrust, deception, and disparity for racial groups. Taken together, if we see legislative documentation as technologized language with—like all technologies—limited access to only certain individuals, then we must tackle these seemingly closed off systems precisely because they carry such important weight for racially and ethnically diverse communities.

In this article, I expand on Banks' (2006) and Williams' (2006) respective discussions of legal and electoral processes by focusing on how maps and legal policies act as technologies that have been subverted to disenfranchise racial and ethnic minority voters in elections. Specifically, I analyze how legislative mapmakers in Texas subverted language from the Voting Rights Act in order to produce a visual document (the redistricted map) that mitigated the voting powers of Latino constituencies. This study, then, adds to the recent work that has been published on latinidad in technical communication and connects it to theories of mapping communication practices.

Latino Constituencies in Political Documentation

Within the last decade, there has been a growing body of work within the field that pays attention to the representation of and engagement with Latino publics. Such scholarship has argued for more attention to localized practices and languages of Hispanic communities to create documents that are usable to individuals from such cultural backgrounds (Evia & Patriarca, 2012; Danuz, 2014; Cárdenas & Kirklighter, 2014), highlighted the representation of Latino publics within business and technical documentation (Pimentel & Gutierrez, 2014; Johnson, Pimentel, & Pimentel, 2008), and focused on Latino students' cultural and linguistic backgrounds in technical communication courses (Medina, 2014; Fredericksen, 2004).

With regard to legal and government documents, research has suggested that latinidad has historically been mis-constructed in political discourse in the United States in order to continually "other" Latino individuals and culture—thus making it easier for Anglo Americans to dismiss or fear them. As Johnson, Pimentel, and Pimentel (2008) argue, in the late 1800s, the New Mexico Bureau of Immigration created brochures and other documents to bring more White Americans into the state (and decrease

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the political power that local Mexicans would have). These documents shrewdly omit the accomplishments and stories of indigenous and Latino peoples, instead promoting and exaggerating White conquistadores' perspectives. As importantly, these documents inflated the White population by "counting" certain groups of people as White in certain circumstances but not in others, thereby "making New Mexico more appealing to [an] intended White immigrant audience" (p. 228).

This logic of "double counting" populations in the United States with regard to census numbers still remains in practice today. As Pimentel and Balzhiser (2012) elaborate, the U.S. Census' treatment and conceptualization of Hispanics forces them to "choose a racial category that does not represent their racial identity" (p. 319). In effect, census takers must identify if they are Hispanic, Latino, or Spanish; afterward, they are asked to select their race from among a variety of options (Black, White, American Indian, Chinese, Korean, etc.). The problem here, as Pimentel and Balzhiser elaborate on, is that Mexican, Cuban, Hispanic, Latino, or other racial identity labels do not appear. Rather, Hispanic and Latino are considered to be ethnic markers, leaving nearly half of Latinos to mark "some other race" as their race. The designers of the census believe that Hispanics and Latinos should mark themselves as racially White or Black; but such categorizing does not take into account how Latinos self-identify. As a result, when population statistics are tabulated, latinidad is read twice: once from the Hispanic ethnicity numbers, which "serves to monitor the perceived power threat that results from the changing demographics of Hispanics in this country" and again folded into the White racial category "which serves to inflate the white count" (p. 334). In effect, counting Hispanics as a White race continues this history of whitewashing the cultural differences of Latino populations within the United States that Johnson, Pimentel, and Pimentel (2008) refer to in the New Mexico documents. Essentially, the placement of the Hispanic-origin question constructs Hispanics "as a nonwhite group that increasingly competes for material resources, government representation, and otherwise political power with an imagined non-Hispanic white group" (p. 344). Such constructions perpetuate the fears that White Americans might have about racialized "others" infringing on what is theirs.

Indeed, we can see this continued political portrayal of Latinos as threats to Anglo Americans in Whitney's (2013) analysis of Arizona's 2010 Citizens Clean Elections Voter Education Guide. The voter guide was meant to provide a snapshot for Arizonans on where candidates stand on certain political issues. That many candidates syntactically coupled "illegal immigration" with second amendment rights (or "the right to bear arms") in their position statements is significant given that, as Whitney points out, such a connection simultaneously conjures up associations with political freedoms as detailed in the constitution and, at the same time, creates a threat to those freedoms via illegal (mostly Mexican) immigrants. As alarmingly, the means of securing those freedoms against such threats are presented in this very association as well. Because undocumented immigrants are painted as dangerous criminals, putting them in the same sentence as protecting second amendment freedoms also conjures up a solution to the problem—through gun violence against Mexicans (Whitney, 2013, p. 450).

I discuss these studies to make clear how the construction of latinidad has continued to be a problem within the creation of political documentation. As I will show, Latino publics face a larger challenge via the election technologies (textual and technological) which are put in place to count their votes. In the following section, I discuss the process of redistricting, explain how that process has the potential to create gerrymandered districts, and link these discussions to work in technical communication on mapping.

Redistricting and Gerrymandering as Mapping Technologies

Since the 1960s, redistricting has been a common and regular activity undertaken every decade by legislators in the United States to better align government representation with population. That is, lawmakers need to know whether states should develop new or merge existing districts in accordance with population ebbs and flows. This is seemingly a process that is meant to facilitate fair democratic engagement.

Most of the discussions in the United States regarding the stakes for redistricting, however, did not begin until the 1960s. Prior to that, seats in the House were allocated based mostly on best guesses. However, as unstable imbalances among districts grew more

severe[1], the Supreme Court was forced to intervene and ruled that such practices violated the 14th Amendment's protection of equal representation (p. 33). Since then, the task of remapping a state's districts has become perfunctory and often contentious, in part because federal tax dollars are apportioned based on census data (Schuurman, 2004, pp. 54–55). This has meant that lawmakers have become fixated on obtaining accurate data on where people in the United States reside.

Although paper maps and census data were once sufficient to engage in these districting practices, legislative mapmakers now rely on Geographic Information System (GIS) technologies to pinpoint the shape and design of districts based on specific demographic data. We can think of GIS software as a digital version of tracing paper. If we envision a map of a county or a district, that map can be overlaid with several different layers. One layer can show zoning information—which blocks and parcels of land should be utilized for commercial or residential or mixed use. Another overlay can be layered on top to showcase the last known number of residents living in these buildings. Yet another could be placed on top to give information that is relevant about the land beneath the streets—elevation, sediment type, sewer networks, etc. These can be seen one at a time or overlaid on top of one another for a complex view of a district. As Kennedy (2013) describes, GIS "makes possible the acquisition and storage of geographical and related attribute data, for purposes of retrieval, analysis, synthesis, and display to promote understanding and assist decision making" (pp. 4–5). With the proper data on the information that is on the ground, experts in a wide range of industries can utilize GIS to aid in planning, consolidating and conserving natural resources, documenting crime and allocating proper resources, as well as facilitating new and more efficient transit options (Kennedy, 2013, pp. 10–11). Moreover, GIS can render data visually, producing maps that immediately make visible such hidden issues as health disparities (Cromely & McLafferty, 2012), residential CO_2 emissions in urban areas (Wadhwa, 2010, p. 34), helicopter pilots' aviation routes (Zouabi, 2010, pp. 48–49), and storm surge inundation zones (Degelia, 2010, pp. 62–63).

I stress, however, that people create these maps for specific purposes, and that these maps are created with numerical data regarding, for example, the demographics of a population surveyed by a pollster or the soil readings collected by a geologist. This data can be made public to allow for aggregation of information, creating richer, more complex data sets (Cromley & McLafferty, 2012, pp. 108–110). In other cases, analyses of the data can be uploaded to various places online. Esri, a GIS software platform, provides a space for researchers and government entities to upload their maps for public dissemination. For example, the city of Minneapolis, MN publishes GIS content on their official Esri account. One of their maps, "City Council Wards with Demographics," showcases the 13 wards in Minneapolis and, when one hovers over them, a pop-up window appears, containing information on population numbers and median age derived from the latest census information. In other words, this data is packaged together in order to develop a richer narrative of a ward. More importantly, I can take that packaged map and overlay it on top of a number of other previously compiled maps (or use my own data set to create a new map). For example, I can combine the Minneapolis wards map with Esri's (2017) USA Education Spending map from 2016 that "shows the average amount spent on education per household in the US" on a scale from $0 to $9,220, as derived from "Average annual amount spent on education per household; Average annual spending per household for tuition by education level; [and] Average annual spending per household for additional school necessities [sic]".[2] After overlaying them, I can click on my ward and see that there are 39,000 people living here, with a median age of 39, and that the average household spending for education is approximately $1,652 per year in my area. Additionally, I can overlay another map on average household income as well, and so forth, until I have as complete a picture of my neighborhood as the data will allow.

Not surprisingly, as the example above shows, legislative mapmakers most frequently derive data to create redistricted maps from the U.S. Census; this data allows them to trace where people live, how many people live there, and demographics about those residents (age, race, income). And although

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1   *To illustrate, Los Angeles County in California had one senator representing six million people while a rural district had only 14,000 residents (Bullock, 2010, p. 33).*

2   *Esri's statements on their methodology for data collection and analysis can be found here: https://www.esri.com/data/esri_data/methodology-statements*

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legislative mapmakers can also overlay information from voter databases on top of the census data in order to create districts that are more competitive, this process is frequently abused in order to make them less competitive. That is, mapmakers can use the data to trace contorted boundaries that purposefully leave people outside of their boundaries to better control the outcomes of their congressional races. This process of redrawing districts specifically to give one political party advantage over another is referred to as "gerrymandering." Although the practice of reconfiguring districts to favor one political group over another can be traced back to Pennsylvania in 1705 (Griffith, 1907, pp. 26–27), the actual term "gerrymander" comes from 1812 when then-governor of Massachusetts, Elbridge Gerry, redistricted the northern parts of Essex County in an attempt to win re-election. Critics who saw through this attempt mockingly referred to the new district as a "Gerry-mander," a portmanteau of Gerry and salamander, for its elongated, curved shape.

Figure 1 provides an example that helps visualize the ease with which voting districts can be manipulated (adapted from Nass, 2015). Figure 1A shows five districts, each with 10 square "precincts". Assuming that in every district 4 of those precincts regularly vote one way (light grey) and 6 another (dark grey), we can predict that the dark gray option would win every district, and thus the election. However, Figure 1B demonstrates how, with some clever reconfiguration, new districts can yield very different results. Instead of a landslide victory for the dark grey option, after redistricting the light grey wins three of the five districts. Notice how, in each of these simulations, the number of squares remains the same in each district. That is to say, this form of district manipulation seems fair in that no one district is ever overloaded with more precincts than the others.[3]

The two most common forms of gerrymandering practices are referred to as *packing* and *cracking*. In packing, the party in power attempts to "pack" as many of the opposition party's constituents into a few districts, thereby wasting voters' political power. As a hypothetical example, if a candidate regularly wins a district by 75%, moving more voters who will
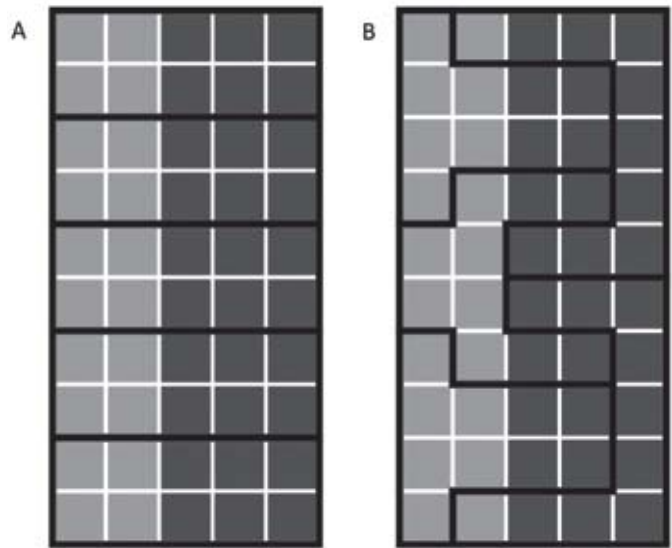
Figure 1. Two versions of four districts (adapted from Naas (2015).

support the candidate into her district and out of other, more competitive districts may help the other party win more districts. The cost is minimal here, as it would only mean further conceding a district that would have been lost regardless. In cracking, the party in power "diffuses minority strength across several districts" (Bervoets & Merlin, 2017, p. 474). Here, the focus is on breaking down coalitions or preventing them from forming altogether. If a district looks too competitive, mapmakers might move and spread some of the opposition party supporters across other districts to break down the support and keep political strength from coalescing.

That said, we should keep in mind that these digital technologies have only exacerbated this fixation with (re)districting. As McGann, Smith, Latner, and Keena (2016) assert, GIS "may make it possible to more accurately draw biased districts, but it cannot explain the decision to adopt such districts" (p. 139). Maps, even in their analogue forms, have always been prone to purposeful representational breakdowns given their constructed nature. Barton and Barton (2004) have noted the rhetorical power of maps, given that mapmakers are charged with decisions on what to include, what to exclude, and how the places that maps portray should be represented. Such power to construct visual representations of space shapes users' interpretation and expectations. For example,

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3   We can see this hypothetical situation in play in the 2012 election when "1.4 million more Americans voted for Democrats than Republicans, and yet the Republicans won 33 more seats in the House of Representatives" (Berghel, 2016, p. 91).

compared to their predecessors, contemporary maps of the London Underground present a system that "clear, articulate, and legible—all things that London as a city is not" (Trieb, 1980, p. 15).

Moreover, as ideological artifacts, maps can reveal biases and subjectivities—both hidden or overt. Barton and Barton (2004) point out that "International maps designed in the past by French cartographers often designated Germany with the French word *allemagne* rather than the German *Deutchland*. The supplantation of indigenous forms with foreign versions amounts to a repression, by linguistic appropriation of the otherness of the Other" (p. 240; see also Wallach, 2011). My point here is that we should not blame GIS as a tool, given that the desire to control how spaces are represented have been embedded within maps themselves—indeed, as we recall, the very first gerrymander required no digital overlays and relied on information about voters that was not as precise as it is today.

What we should pay attention to, however, is that in whatever form they take—whether physical or digital—district maps seek to consolidate power. They not only deploy visual cues and elements "for maximum persuasive effect with a particular targeted audience" (Prelli, 2006, p. 92) but also carry forth material consequences that stem from such representations—especially when they have been gerrymandered to produce a desired outcome. Indeed, as Amy Propen (2012) suggests, maps have the potential for enacting bodily material consequences. Propen describes the 2003 court case in which the Natural Resources Defense Council filed a lawsuit against the National Marine Fisheries Service to halt their deployment of low-frequency active sonar (LFA) in the Pacific Ocean. As Propen asserts, each entity produced its own map conveying its own projections and interpretations of the data regarding the impact that LFA sonar deployment would have on certain geographic areas. Through this case study, she notes that "artifacts such as the map can function rhetorically to make competing knowledge claims about contested space—claims that may then play a role in the shaping of environmental policy and advocating for nonhuman animal bodies" (p. 166). With this attention to the constructed nature of mapping, I highlight the material and political consequences on people that are brought about by these gerrymandered maps. Beyond the problems

that arise from partisan gerrymandering, these tools can also intentionally or unintentionally limit minority citizens' voices, and although courts have been largely permissive of partisan gerrymandering schemes (Morrill, 2004, p. 81; Monmonier, 2001, p. 48), the Voting Rights Act (VRA) has made it much less permissible to use race or language as elements by which one can redistrict. As we shall see, the current available means of gerrymandering, however, make it easier for mapmakers to justify their way around such prohibitions by, ironically, claiming that gerrymandered districts are in keeping with the VRA's efforts to allow more opportunities for minority citizens.

History of Voting Rights Act with Respect to Gerrymandering

In the following section, I will present a case study of Texas Districts 23 and 35 which showcase how these maps serve as products of technological expedience. There are two specific details regarding the VRA that we must keep in mind when looking at this case before proceeding, however. After Reconstruction, even though freed slaves were allowed to vote, many voting sites and systems in the South still found ways to prohibit voting by African Americans in subtle and explicit ways. With time, and after decades of protests, Congress passed the Voting Rights Act of 1965. Although I do not have sufficient space here to give a full discussion of the trajectory that the VRA has taken, I will focus on Sections 5 and 2, which will be most relevant to my analysis on the Texas court case.

Section 5 of the 1965 VRA provided certain provisions to a few jurisdictions in several Southern states that were particularly problematic regarding the practices mentioned above. In Alabama, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia, Section 5 requires that any proposed voting change "does not have the purpose and will not have the effect of denying or abridging the right to vote on account of race or color or [membership in a language minority group]." This, it should be noted, applied only to attempted changes in certain jurisdictions, which left many minorities still without much of a voice. In the 1975 revision to Section 5, after much advocacy by Hispanic citizens

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and indigenous peoples that "forgotten minorities" be included in the VRA, these provisions were extended to Texas, Alaska, and Arizona (Bullock, Gaddie, and Wert, 2016, p. 25).

Section 2 of the 1965 VRA explicitly "prohibits the adoption of voting qualifications that restrict or deny the right to the vote on the basis of race" (Lublin, 1997, p. 4). In 1982, Congress rewrote Section 2 to "reduce the evidentiary burden on plaintiffs challenging *existing* electoral systems" (Bullock, 2010, p. 57). In effect, this meant that minority citizens had better prospects for demonstrating that their electoral system had given them "less opportunity to participate in the political process and to elect their preferred candidates than whites had" (Bullock, 2010, p. 57). Being able "to challenge the practices that prevented [minorities] from winning elections" (May, 2013, p. 223) opened the doors to several cases of litigation. With all of that in mind, however, it should be noted that neither of these sections and updates dealt exclusively with redistricting.

Yet, these legal cases were important pieces of a larger puzzle—ones that utilized (and continue to utilize) careful attention to redistricted maps. The 1986 decision in *Thornburg v. Gingles* (1986), for example, allowed lawmakers to create majority-minority districts. The *Gingles* case helped to establish a heuristic for determining whether a minority-majority district should be created based on three characteristics. In essence, the minority group:

- Must be large enough and yet compact enough to "constitute a majority." That is, a minority-majority group cannot be constructed across a large geographic swath.
- Must be politically cohesive.
- Must show evidence that indicates that a White majority would vote in large enough numbers to defeat a minority population's candidate of choice.

Frequently, mapmakers focus primarily (or solely) on the first condition, relying only on Voting Age Population (VAP) data to create minority-majority districts, and skirting the other two conditions. This is problematic because, as the Supreme Court ruled in the 2003 case of the *League of United Latin American Citizens (LULAC) v. Perry* in Texas, focusing only on racial characteristics hides the fact that "there are divergent interests even with groups that are racially or ethnically homogenous" (Hebert et al., 2010, p. 45).

What is important to remember for the proceeding analysis is that the *Gingles* (1986) requirements seek to find connections between race and political interest. It is with these provisions and questions in mind that we turn our attention to the 2011 Texas district map.

Redistricting Texas: The 2011 Map

When the 2010 national census results necessitated implementing redistricting protocols, a large number of states were led by Republican majorities, meaning that the task would fall to Republican-organized committees. This was the case in Texas, where Burt Solomons, the Republican representative from District 65 in Denton County, chaired the committee to institute a new district plan (Perez, 2017a, p. 40). Serving along with him were 12 other Republicans and 5 Democrats. As Solomons stated that he was "not experienced or knowledgeable about redistricting law" (Perez, 2017a, p. 43), he relied on the Texas Legislative Council and the staff that he had put together to ensure that any maps the House Redistricting Committee drew up passed the measure of legality for support. One of the most important professionals that Solomons hired was Ryan Downton, whose previous redistricting experience, interestingly, the Court Findings document states "consisted of 'self-study'" (Perez, 2017a, p. 41). In February 2011, the census data was released and Solomons' group began the work of redistricting. Although several iterations were created of Texas' potential congressional districts, the final version carried many implications for minority voters across the state.

Downton was primarily responsible for using the Texas legislature's internally developed GIS software, called "RedAppl" (short for "Redistricting Application"). After his 1,000-hour training period, however, Downton reported that he had still felt unsure of the accuracy of the data and how numbers were being aggregated when precincts were split. During this time, he had access to all of the data within the RedAppl GIS:

> election returns for races (primaries, runoffs, and general elections) from 2002 and 2010…; data on total voter registration; SSVR [Spanish Surname Voter Registration]; voter turnout; selected county and city elections through the

2010 general election; total population and voting age population by race, including black, Hispanic, black and Hispanic, Anglo (white only), and other. (Perez, 2017a, p. 37)

This last point on racial information is particularly interesting to note. There is a distinction between Spanish Surname Voter Registration and Hispanic Citizen Voting Age Population (HCVAP) that needs to be made clear.

In his mapmaking, Downton retrieved information on Hispanic populations and crossed them with voting age populations. Also note that the report identified "black," "Anglo," and "Hispanic" as races. This is not exactly true according to how census information is recorded. Self-identifying Hispanics and Latinos do not appear as a racial category in the data for the maps like Black and White Americans do. We can recall from Pimentel and Balzhiser's (2012) analysis that the census asks people to mark if they identify as Hispanic, Latino, or Spanish, and then select a subcategory based on their nationality (Mexican, Cuban, Dominican, etc.). However, the census clearly states that these are not races, and all census takers—even Hispanics and Latinos—must select a race from the options such as "White," "Black, African American, or Negro," "American Indian," "Japanese," "Korean," and so forth. No Latino or Hispanic identities appear in the choices for race, though "some other race" is an option, which census takers can select and write in. As a result, both HCVAP and SSVR information are used to confirm racial demographics (Texas Legislative Council, n.d.), which can cause some discrepancies if one is aiming to redistrict based predominantly on race.

From the analysis of these population blocks and precincts, Downton developed a new district map for the following decade's election. On the surface, most of the map remains fairly consistent with its 2006 version (see http://www.tlc.state.tx.us/redist/pdf/congress_historical/c_2006G_2010.pdf) There are, however, a few notable differences. District 23 (CD 23) in the 2011 district map (see Figure 2) now stretches farther out than before and claims more territory within its boundaries. Loving, Winkler, Ward, Crane, Upton, and Reagan counties are now all engulfed by the district. Moving southward, we can see that District 23 now encompasses all of Crockett county and all of Schliecher and Sutton counties (which were all previously in

District 11). Finally, the southern portions of District 23 have also expanded to incorporate Frio and part of LaSalle county. The only area where CD 23 seems to have lost any population is in Maverick county to the very south—a point that will become important later. The overall expansion is not by itself problematic. Rather, the reasons for the redistricting as well as the political impact that such changes could have are what resulted in the plaintiffs arguing before the circuit court that these were illegally drawn lines.

Figure 2. District 23 (CD 23) in the 2011 district map

Interestingly, legislative mapmakers[4] decided that CD 23 already acted as a minority-majority district, if not in name then unofficially, because it was already over 50% Latino in terms of both Spanish Surname Voter Registration Records and Hispanic Voting Age Population. Plaintiffs in this court case, composed of local residents living in these districts as well as organizations like LULAC and the Mexican American Legal Defense and Educational Fund (MALDEF), had raised warnings about the options that the committee had been putting forth throughout this mapping process. Their biggest complaint was that CD 23 was not a Latino opportunity district (another term for a minority-majority district) and that even though Solomons and his task force would have preferred to have treated it as such to pack in more Latino voters, that other factors such as election performance helped to determine that designation.

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4   Even though Downton was primarily responsible for analyzing the data and developing new maps, I use the phrase "legislative mapmakers" to encompass all actors involved in not just creating the map but approving it as well, such as Solomons and his House Redistricting Committee (see Perez, 2017a, pp. 13–14).

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For their part, mapmakers argued that this district served as a minority-majority district given (solely) that the SSVR was already over 50%. As a result, mapmakers felt that the district provided "an opportunity for a politically cohesive Hispanic voting population to overcome any equally cohesive Anglo voting bloc" (Perez, 2017b, p. 11). We note here how policies meant to facilitate minority engagement with the political system are used as a means to justify minimizing political power (Lublin, 1997; Waymer & Heath, 2016). Treating (and expanding) CD 23 as a minority-majority district would allow mapmakers to bring in other minority populations from other districts in the name of "cohesion," when, in reality, there was no evidence that cohesion already existed in CD 23.

Unlike CD 23, District 35 (CD 35) was created as a new district in the 2011 district map. It runs along I-35 from Austin Southwest to San Antonio. Often referred to as the "upside down elephant" (Ingraham, 2014), we can see its odd, elongated shape that starts in Travis County then straddles Hays, Caldwell, Comal, and Guadalupe counties before ending at Bexar County (Figure 3). More importantly, looking at the previous House District map in place before 2010, it is evident how Downton carved up District 35 from very specific segments of districts 25, 28, 21, and 20 (http://www.tlc.state.tx.us/redist/pdf/congress_historical/c_2006G_2010.pdf). And, interestingly, this district connects certain parts of Austin with certain parts of San Antonio, via Interstate 35. Regarding CD 35, plaintiffs argued that the district had been gerrymandered—specifically created to also pack in as many Latino voters as possible, siphoning them off from other districts in a move that would dilute the Latino vote from those nearby districts. Here, too, the defendants turned to race as the main justification for the creation of the elephant. And, although Voting Age Populations in the district is an important dataset to analyze, as many of their advisors in the Texas Legislation Council had cautioned the committee, it is insufficient for creating a new Minority Opportunity District. One cannot simply create a 51% Hispanic district and claim that it is now serving the needs of the population. Despite these warnings and the numerous statements of legal issues that the committee had received throughout 2011, this final district map passed the state legislature in June 2011.
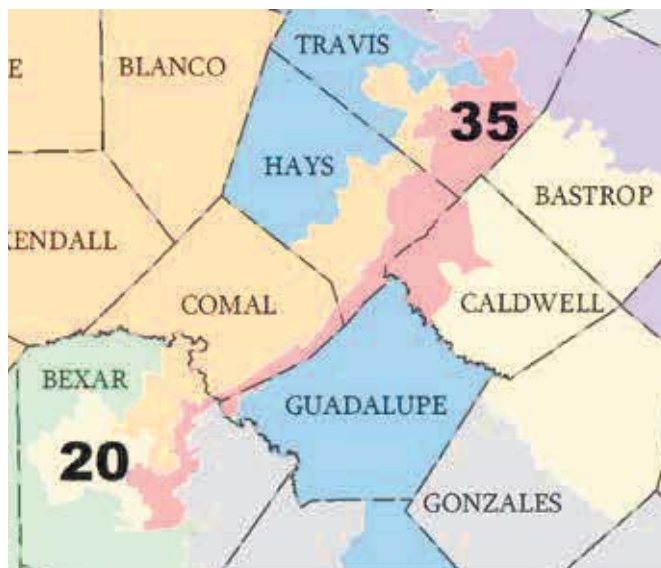
Figure 3. District 35 (CD 35), running along I-35 from Austin Southwest to San Antonio

Plaintiffs quickly launched lawsuits to have these districts fixed. Although the Congressional District Map was revised in 2013 due to these outcries, the changes that were made were not substantial enough, meaning that "infirmities from the 2011 plan remained in the interim plans that the plaintiffs contended were continuing to injure them" (Perez, 2017b, p. 4). Thus, when the district court reviewed the case in 2017, Justices Xavier Rodriguez and Orlando Garcia stated in their 2-1[5] opinion that their decision in favor of the Plaintiffs was based on the original 2011 plan because the plaintiffs were still being harmed by the districts drawn with the defendants' intent to discriminate.

The circuit court ruled that "because mapdrawers had the intent to provide Hispanic voters less opportunity to participate in the political process and elect their candidates of choice, and they effectuated that intent in CD23, CD23 violates § 2 in both intent and in effect" (Perez, 2017b, p. 29). As we will recall, Section 2, which prohibits restricting voting rights on the basis of race, eventually allowed for plaintiffs to challenge racially gerrymandered districts in court. In the 2017 decision, the justices stated that although population is certainly the most visible indicator of who resides in a district, they agreed with plaintiffs who argued that other factors such as "access to the political process" and focusing on a "totality of circumstances"

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5   *Justice Jerry E. Smith dissented.*

served as a better "barometer of dilution of minority voting strength" (Perez, 2017b, p. 13). These included: "(1) the history of voting-related discrimination in the State or political subdivision; and (2) the extent to which minority group members bear the effects of past discrimination in areas such as education, employment, and health, which hinder their ability to participate effectively in the political process" (Perez, 2017b, p. 14).[6] Additionally, given that minority-preferred candidates won the district in two of the last three previous election cycles[7], it seemed odd that a new Latino opportunity district needed to be created here. In other words, one could not simply utilize race as the driving force to "create" a solution for a problem that did not exist.

As mentioned, in addition to bringing in new Hispanic voters to CD 23, mapmakers also "cut" Maverick County in half. While mapmakers argued that this was mostly to create "balance," the Court seemed more suspicious given the circumstances that led to this decision. In the 2010 elections, Republican Francisco "Quico" Canseco was elected to the U.S. House of Representative to represent CD23. However,

> Republican leaders in the House and Senate were concerned that Canseco would lose the 2012 election unless the district was changed to protect him…. As it did in 2003, the Legislature therefore reconfigured the district to protect a Republican candidate who was not the Latino candidate of choice from the Latino voting majority in the district. And as it did in 2003, the Legislature intentionally split a largely Hispanic county (Maverick County, which is 95.7% Hispanic) and city (Eagle Pass) to exclude from CD23 politically active Hispanics who would not support Canseco, while adding in all or parts of more Anglo counties. (Perez, 2017a, pp.19–20)

The Justices were very adamant that these lines were drawn with great precision. In fact, people were "moved" in and out of the district very methodically. The Justices wrote that

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6   Berman (2015) provides examples of this historic stranglehold on Hispanic rights (pp.107–108).

7   Note that the point of majority-minority districts is not necessarily to "guarantee" a candidate of choice every election cycle. Therefore, the fact that the candidate of choice does not win every cycle does not automatically mean that CD 23 should become a Latino opportunity (majority-minority) district.

In addition to the Maverick County split to exclude politically active Hispanics who would not support Canseco, mapdrawers (specifically Downton) took steps to increase the turnout gap between Latinos and Anglos and to decrease Latino cohesion in the district…. Downton understood that manipulating Latino cohesion and turnout would affect a district's performance for minority voters. Downton admitted to increasing the district's SSVR while simultaneously intentionally manipulating (decreasing) Hispanic voter cohesion in the district by including Republican Hispanics and excluding non-Republican (Democrat) Hispanics. He stated that he did this by looking for precincts with high SSVR and including those with high voting percentages for Republicans and excluding those with lower voting percentages for Republicans. The intentional use of race to maintain or increase the HCVAP and SSVR levels was not done to provide or protect Latino voter opportunity but rather "to create the facade of a Latino district." (Perez, 2017b, p. 21)

And despite defendants' claims that these changes were made to help "maintain the performing nature of the district," as the Justices noted, the district actually did not perform as well in the subsequent elections in terms of electing minority-preferred candidates, a development that, as the Court asserted, "map drawers were not only aware of… but intended. (Perez, 2017b, p. 23).

Much like CD 23, plaintiffs contended that CD 35 is an "impermissible gerrymander," because it too relied predominantly on race. In this case, adhering to the VRA's support for minority districts was used as a pretext for targeting Democrat Congressman Lloyd Doggett. From 2005 until 2013, Doggett represented Texas' 25th district. In 2011, when the new district map was put in place, Republican mapmakers sought to unseat Doggett by limiting his base and stretching support along a narrow strip of the highway from Austin to San Antonio. Indeed, this was so carefully orchestrated that Doggett's house no longer resided within this new district (King, 2012)! The hope was that those residents living in San Antonio would not vote for him, as they were not very familiar with him and would instead vote for his competitor or that Doggett would at least tire himself out having to organize across a large stretch of space (a ploy which ultimately

failed).[8] More importantly, packing all the Democratic Hispanic voters into CD 35 diluted the surrounding districts' Democratic support, leaving them open for Republican candidates. Interestingly, because courts have mostly turned a blind eye to political gerrymandering, defendants in this case relied heavily on this argument as justification for their overt racial gerrymandering of these districts. That is, mapmakers argued that this was intended to be a *political* gerrymander and not a (purposeful) *racial* gerrymander. Yet, in their decision in the case, the justices made it clear that the former is impermissible if it results in the latter: "The fact that creation of an HCVAP-majority district also fulfilled a political goal does not mean that the district was not created with race as the predominant consideration" (Perez, 2017b, p. 41).

Much like the machinations with CD 23, there was a facade of compliance with the VRA that allowed mapmakers to convince themselves[9] that this map would serve minority voters. But, as the Court decided, the counties already seemed to perform well for Latino voters' candidates of choice. In essence, these maps served as a solution in search of a problem.

Discussion

As we have seen, previous studies have highlighted how Latinos are othered in political documentation. Such representations typically imply that Latino groups are a threat to Anglo Americans. Within this case study, we observe how election technologies go one step further and attempt to allay fears of Latino groups overtaking Anglo Americans by mitigating the political power that comes from casting votes in elections. What is most evident in the rearticulation of the Texas district map is the ease with which legislative mapmakers can engage in political gerrymandering as a permissible practice to subvert the VRA's provisions for allowing the creation of more balanced districts. What emerges from looking at this case is how those in power utilize legal and mapping technologies to make arguments justifying their actions. These technologies rest on the claim that

such actions will counterintuitively provide Latinos more political voice, not less.

Because the VRA (and the subsequent cases that stem from it) makes points about race—how it can and cannot be taken into account when developing or changing voting processes and procedures— mapmakers saw this as an opening to use race precisely to argue that the redistricted map should stay in place. Rather than erasing Latinos (Johnson, Pimentel, & Pimentel, 2008) or subconsciously associating them with violence (Whitney, 2013), the redistricted map utilized increasingly sophisticated GIS and census and voter data to insidiously promote egalitarian electoral practices while, in reality, consolidating power along racial lines.

Researchers have noted that maps narrativize data— they embed specific narratives about place for readers to consume. For example, in his analysis of Charles Booth's poverty maps of London, Kimball (2006), notes that Booth's visuals aim to present a "transparent" look at a reality that often lurked underneath the surface, telling a story that was often hidden from view. Likewise, Welhausen (2015) asserts that contemporary maps of Yellow Fever outbreaks narrativize scientific progress, giving a sense of global containment, because the disease is no longer the public health concern that it once was in the 19th century—despite the fact that "the disease remains endemic in 44 African and South American countries" (p. 275). The same can be said for district maps. Clearly, in their political and technological expediency, legislative mapmakers utilized mapping technologies to translate spatial distributions of people into visual "facts on the ground," thus creating a story of who should be grouped together, solely based on racial characteristics and not on any deeper politically cohesive arguments.

That said, such translation also manipulated what and how future state and national policies will be crafted. The fact is that, unlike other maps that represent space, district maps contain the propensity for foreclosing political agency; that is, these decisions cannot simply be "voted away," because how one votes has already been predetermined and accounted for. Regarding school district maps, Denis Wood (2010) writes that:

> while [such a] map may "only" be a representation of desire, there are significant legal reinforcements

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8   *Yoshinaka and Murphy (2009) discuss "population instability" within the context of gerrymandering in more detail.*

9   *Although, even Downton himself stated that he thought CD 35 was "borderline" in terms of its legality even when he was drawing it up at Solomons and his staff's request.*

to alter material realities to conform with these desires. If your kids already go to the school the map proposes, no change in your behavior is required. But if change *is* required… this change is made in response to a force. In the case at hand, the force is exerted by a school board *through* a map. (p. 2)

The precision with which these maps are created makes it harder for citizens to enact political power, because their localities have already been mapped and their votes have been packed or cracked. In this sense, they keep incumbents safe and make it unlikely that a change can come about. And although courts, such as the Western Texas District court, may step in to challenge the legality of these visuals, we should keep in mind that Congress (composed of those very representatives who are voted on by each district) has the "authority to regulate the operations of whatever lower courts it sees fit to create" (Geyh, 2006, p. 31; see also Toobin, 2017). This means that if districts are gerrymandered in a way that mitigates minority voices, representatives whose agendas might not include making a space for such citizens can alter the judicial avenues that minorities have relied on to gain equal footing in elections.

Implications

I end this analysis with two implications for technical communicators. The most immediate takeaway is that, although difficult, we need to move beyond compliance and instead constantly aim for promoting equity in our work. Seemingly, there is nothing wrong with the construction of the Texas C185 map created by mapmakers in 2011. Indeed, it seems to check off numerous boxes that are best practices in designing maps in GIS software. The mapmakers used different colors to visually display the boundaries between the different voting districts and do not place the same color next to districts in order to communicate contrast (Sentell, 2016, pp. 139–140). Moreover, mapmakers avoid utilizing pure green or pure red, which helps individuals with deuteranopia read their map (Leff, Davis-Holland, & Ducey, 2016). Instead, light green and light red are used and rarely placed next to each other; additionally, the use of pastels, like "cool" colors, have peaceful and calming associations (as opposed to warm colors that have sharp or emotional associations;

see, for example, Madden et al., 2000; MacLaury et al., 1992; Welhausen, 2015). There is a clear hierarchy of the data presented as well, with bold numbers indicating district numbers and the names of each county that falls under each district presented in smaller font and in capital letters. Furthermore, for districts that are too small to be legible; such as districts 2, 29, and 18; mapmakers provided insets with higher detail. Digging deeper, one could even claim that mapmakers stuck to the letter of the law by noting that minority opportunity districts were created, as the VRA stipulates.

At the same time, many might argue—as the plaintiffs did—that mapmakers ignored other parts of the regulations and were therefore not compliant. Indeed, we could look at the district court's decision as an indictment of noncompliance with the regulations. However, we should remember that this was not a unanimous decision. Tellingly, Judge Jerry Smith dissented, partly due to the fact that because the primary motivation of the mapmakers was political gerrymandering, that "race did not predominate" in the creation of these districts (Perez, 2017b, p. 41, n. 39). That is difficult to believe given how the defendants consistently used Hispanic surnames as the primary element to group or split people in these districts. Regardless, my point here is that meeting compliance alone is not enough to assure that a document will impact users in positive ways. Much as Spinuzzi (2007) noted within the context of Web design, there is a "contradiction between accessibility as compliance and accessibility as user experience" (p. 198). Following procedures may result in documents that are compliant and publishable, but they may have adverse effects on individuals. As a result, we may be left with "documents [that] privilege utilitarian efficiency (compliance with regulations to protect companies) at the expense of critique and ethical action" (Evia & Patiarca, 2012, p. 342).

To illustrate an example of how technical communicators can promote equity in their practice, as more organizations and government agencies and municipalities adopt plain language guidelines, technical writers may find it expedient to ensure that they are in compliance with those guidelines, creating a publishable document that might still not be usable by clients and constituents. In government settings where plain language guidelines have been adopted, staff must ensure that their policy documents meet certain standard, static requirements. Yet, often, technical writers have to make

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the case for more fluid understandings of audience in which they take into account how "comprehension and reading abilities intersect with class, race and socioeconomic status" (Adkins, 2017) to produce documents toward an ethical end. This dichotomy between compliance and accessibility is not surprising given that plain language guidelines are very specific and distinct from what we might normally understand as "readable" and "comprehensible" (Jones et al., 2012). Much like the mapmakers constructing these districts, we can "check off" the boxes necessary for compliance but still lose sight of the fact that individuals will be negatively impacted by our documents if we choose to ignore issues of justice and equity.

On a larger scale, this case illustrates that technical communicators need to devote our time and skills toward creating politically fair systems. Of course, it is not possible—or advisable—for technical communicators to become experts in GIS software. However, we can promote equitable election processes through our research, teaching, and advocacy work. Interrogating the rhetorical-political choices made in district maps can be a good start to becoming more involved in such work. Obviously, these visuals are heavily tied to policy, so one must have access to some demographic data and mapmakers' original claimed justification for producing this map. There are no simple ways to outright detect political or racial gerrymandering, but two aspects to consider might be:
- The racial makeup of a district
- Previous voting patterns—are minority candidates of choice being elected? If so, there are no grounds for creating a minority opportunity district.

Yet, even if our states' districts are currently not gerrymandered in any obvious way, there is no guarantee that it won't be in the future. Even when states delegate redistricting to an objective third party, the process can be very contentious (as was the case in Arizona—see Pitzl, 2011). Therefore, it may be helpful to aid in proactive efforts to stop or even prevent unethical redistricting practices.

This is in keeping with our professional roles, as Hart-Davidson (2013) notes that part of our responsibilities as technical communicators may involve putting our knowledge and skills in the community by volunteering to take part in causes such as with local advocacy projects (pp. 69–70). Many local nonprofit

groups, such as Clean Missouri, OneVirginia 2021, and RepresentOK (Oklahoma), and initiative-based organizations, such as publicmappingproject.org, have taken up the call to push for more ethical redistricting laws. Each of these organizations has calls for volunteers to help in their efforts, each with varying degrees of involvement, from working the polls to working with Python to create collaborative mapping platforms.

Serving on neighborhood boards and helping nonprofit groups with their documents and social media presence may seem small when dealing with larger, systematic injustices like gerrymandering. However, social advocacy organizations such as LULAC were part of the conglomerate of plaintiffs against Plan C185, and they frequently seek volunteers throughout their various national locations to help explain technical documentation to people in local communities. As technical communicators, we know the importance of language in documents and, though we are not legal experts, we can help point out the ways that language can be interpreted to produce iniquities in political and electoral processes. Moreover, we can collaborate with subject matter experts in these organizations on designing visuals that will help lay audiences understand the implications of proposed maps and policies. Certainly, there are other ways to become involved as well. Pryor (2017) offers her experience of creating bilingual voter registration cards for Hispanic residents as a possible action-based avenue for participation. Regardless, what matters most is taking note of these inequities and responding in ways that highlight our strengths.

In the classroom, we can teach students to interrogate legislative and mapping technologies as they pertain to electoral implications. We must remember that in traditional college settings, most of our students will be eligible to vote in general, midterm, and primary elections throughout their college careers. Asking them to study their states' district maps would be a good exercise in discussing the distribution of power. Coupling this with the different layers available via ESRI (which currently offers a free trial period) could provide a powerful example of how technological rationality impacts them on a local scale and lead to important conversations regarding the justification for both using technological tools and big data for political gain.

That said, as importantly, we must remember the direct role that race and ethnicity play in discussions pertaining to these election technologies. After all,

even our current Presidential electoral map has residual traces of James Madison's 18th -century electoral system that was created as a way to maintain slavery in the South (Amar, 2016). Such a system would give Whites power by counting Black slaves as three-fifths of a person; of course, they could not actually vote; their three-fifths representation could only help add to the power of White Americans. It should not surprise us then that the systems that have been created to promote democracy can leave many disenfranchised. Thus, we should continue to examine the ways that race and ethnicity are impacted by the legislative and mapping technologies that shape our elections and work diligently to call attention to it in our teaching, research, and advocacy work.[10]

Conclusion

We can see how district maps exhibit agency beyond psychologically influencing our representation and understanding of places. These maps dictate electoral and federal power along their seemingly (but very much not) inconsequentially drawn boundaries. We must remember, however, that as rhetorical technologies, these same maps also gather together a number of constituencies that resist such power grabs in order to promote more equitable election-based practices. As technical communicators and technical communication researchers, we should be attuned to the processes that both lead to their creation and to their dismantling in cases where they promote inequitable consequences. Through such work, we can play our part in helping to bring about just systems of democratic integrity.

Acknowledgements

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10   In a 5-4 ruling, the Supreme Court in 2018 overturned the Texas district court's decision, thus allowing the districts to stand. This signals a continuing need to pay attention to how these visuals are crafted. Given that racial gerrymanders are ostensibly no longer impermissible, it falls on local legislative action to ensure that districts are drawn in fair and equitable manners.

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