A Case Against Florida's Election Technology in the 2000 United States Presidential Election

A Research Paper submitted to the Department of Engineering and Society

Presented to the Faculty of the School of Engineering and Applied Science
University of Virginia • Charlottesville, Virginia

In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science, School of Engineering

Kaitlyn Bruns
Spring 2023

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Advisor
Benjamin Laugelli, Department of Engineering and Society

Introduction

The 2000 United States Presidential Election is one of the most controversial elections in history. At the end of Election Day, whichever candidate won Florida's electoral votes would win the presidency, but the margin between Al Gore and George W. Bush was so small—just under 1000 votes—Florida law required a recount (Posner, 2001). Controversy ensued because of ballot transparency, faulty voting punch card machines, and questionable decisions from Florida's public officials but ultimately ended in a Supreme Court battle which delivered the electoral votes to Bush. The current understanding of this controversy is a lack of clarity in Florida's laws regarding a vote recount and a failure to produce easy-to-use ballots that can be accurately read by a machine. This current understanding is limited because it does not give thought to the social and political power of the election technology itself. By not recognizing the political control election machines and ballots had over the results of certain Florida counties, one may be led to believe issues with voting were exclusively a result of constitutional and technical errors, but they are instead an expression of the government and technology designers empowering some groups of the electorate while marginalizing others.

Election technology used in the 2000 US presidential election performed social and political work in Florida by prioritizing the votes of white and high socioeconomic status citizens and disenfranchising the votes of black and low socioeconomic status citizens. This is evidenced by increased voting barriers for majority black districts, higher rates of inconsistencies and errors in the voting count and recount for majority black counties, and differences in election machine feedback and user interface quality distributed with racial and socioeconomic bias. I will use technological politics—a framework developed by Langdon Winner—to argue that election machines hold political power and authority and that they subsequently shape privilege and

representation among the groups specified above. To support my argument, I will examine data from public official and voter surveys, voting records and their corresponding county demographics, peer-reviewed journal articles, and analyses from other scholars.

Background

In the following paper, I will refer to election technology and election machines interchangeably. Both encompass the voting ballots, the accessibility to the ballots, voter registration lists, and the machine which interprets the ballots. The term election machine, and in turn election technology, refers to the larger, more complex system which controls elections from start to finish versus the single, technical object which scans ballots.

Literature Review

While several scholars have examined the legality of factors that contributed to the 2000 presidential election and their effect on the electorate's trust in democracy, they have not adequately considered how the election machines themselves wielded political power to contribute to this specific case of disenfranchisement. Fischer's essay "Discretion and Politics: Ruminations on the Recent Presidential Election and the Role of Discretion in the Florida Presidential Election Recount" examines how discretion played a role in the controversy of the Florida recount as opposed to the election machines themselves. Discretion can be legally defined as the power of a judge or public officials to act on their own judgement (Fischer, 2001). Fischer identifies a variety of scenarios where discretion was both overused and misused during the election process: the Florida Secretary of State rejected valid votes from a county because the local election board submitted them late, local boards were responsible for interpreting ballots that were unreadable by election machines, and ambiguous laws regarding recounts and contesting left room for dubious interpretation. These instances had the potential to seriously

impact the election results because the margin of error of the election was greater than the vote difference between Gore and Bush (Fischer, 2001).

Opposed to considering the discretion of Florida officials or the role of the election machines, Stephen C. Craig and his team challenge the role of elections as a legitimizing institution. As a result of the Bush v. Gore decision by the Supreme Court, Florida officials did not have the discretion to enact a recount, so the recount stopped, and George W. Bush won the presidency. The 2000 presidential election specifically failed because it did not fulfill its duty as a legitimizing institution. They suggest one of the ways Gore's supporters rationalize Bush securing the presidency was due to a "failure of state and local officials to ensure an honest vote tally on election day," but the team does not identify the particulars behind the failure. After examining data from Florida and national surveys regarding the 2000 presidential election, they found that those who supported the loser Al Gore exhibited lower than average levels of satisfaction with democracy and were more likely to say the electoral process was unfair (Craig et al., 2006).

Fischer and Craig's team both try to explain the root of controversy that stirred in the aftermath of the election. What each of these authors fail to do is move beyond the legal and social analysis of Florida officials and the electorate and explicitly hold the election technology responsible for at least some part of the controversy. By analyzing the 2000 United States presidential election through the lens of technological politics, I can fill the gap in understanding between election technology itself and the numerical results and social outcomes of the presidential election. By treating the election machines used as entities that are enacting social and political power, I can go beyond the legal and social analyses scholars have previously published and more carefully consider this failure of justice and care.

Conceptual Framework

To analyze the 2000 United States presidential election, I will use technological politics—a framework developed by Langdon Winner—to argue the election technology that was used and its accessibility was inherently political and that it went beyond the purpose of its technical design to control social power and justice. According to Langdon Winner's article "Do Artifacts Have Politics?" technological artifacts have "political properties" which can be defined as "arrangements of power and authority in human associations as well as the activities that take place within those arrangements." These political properties—which are often unavoidable if not inherent—come about regardless of a designer's intention. The condition of modern politics is tightly intertwined with the design of its technical networks, and the studying of a technology's social origins can give insight into "human ends to technical means" (Winner, 2017).

Explicit and implicit bias of designers create intentional and unintentional consequences in society, respectively, and these consequences reflect the political work of an artifact as it is adopted and ingrained into public life. By political work, Winner means the act of a technology empowering some groups while marginalizing others, and this is performed by way of shaping power dynamics and social privileges. Because of this cycle, certain artifacts enact more (or less) justice and care than their surface-level technical work would suggest, so it is necessary to address their potential for impact over previously established power relations.

Drawing on Winner's technological politics, I will analyze three separate examples of how the election machine and its accessibility protected white and high socioeconomic status votes and marginalized black and low socioeconomic status votes in Florida during the 2000 United States presidential election: decreased accessibility for predominantly black counties,

higher rates of errors in voting counts and recounts for majority black districts, and racial and socioeconomic bias concerning feedback and user interface quality.

Analysis

Preserving the confidentiality and integrity of the electoral process is critical infrastructure for the United States. The design and accessibility of election voting machines has been—and continues to be—a threat to this infrastructure. During the 2000 presidential election, Florida electoral officials and election technology designers failed to maintain the election's integrity by compromising its accessibility and universal suffrage.

Voting and Accessibility Barriers

As a political and social actor, election technology created new and reinforced existing voting barriers and distributed them unfairly with a bias towards counties with high black populations or with a lower socioeconomic status. In the nearly 250 years since the United States was founded, despite voting being a right granted to citizens in the Constitution, a variety of different groups have faced disenfranchisement based on demographics like socioeconomic status, gender, and race. The Voting Rights Act of 1965 made voting barriers that primarily affected black citizens like poll taxes, literacy tests, and other legal obstacles illegal. Despite this landmark in suffrage protection, previously disenfranchised groups—especially black people and lower income groups—still face more voting and accessibility barriers, and this is evident in Florida in the 2000 presidential election.

One major modern controversy is the restoration of voting rights for convicted felons. Because Article I of the Constitution grants states the authority to control elections, many states have different policies from one another regarding felon voting policies: lose voting rights permanently, voting rights restored after prison, voting rights restored after prison and parole,

and voting rights maintained through time in prison. In Florida, some felons may lose their right to vote permanently, but less serious offenses allow voting restoration after the terms of their sentence is complete. This promise was violated in the 2000 presidential election. Agresti and Presnell found that felons who had their voting rights previously restored were purged from voter registration lists—about 88% of which were black. In 2000, same-day registration in Florida was not allowed, and policy required voters to register a minimum 29 days before Election Day. As a result, citizens with the right to vote showed up to their voting locations, had been removed from registration lists unfairly, and were not able to vote (Agresti & Presnell, 2002). The erroneous purging of voter lists prevented those affected from being able to vote, and because this overwhelmingly impacted black people, this accessibility barrier reinforced a previous political history of disenfranchising black votes. The voting technology itself enacted political power by taking away black peoples' suffrage at a higher rate than white peoples'.

For black people who were registered, several reports found evidence to suggest accessibility to election machines was purposefully made more difficult for them as well. Hanes Walton Jr. found several instances of the government blatantly limiting the accessibility of election machines for majority black counties. One example is that "Florida state politicos and highway patrolmen set up roadblocks in African American neighbors on election day to conduct license checks, car checks, etc." This contributed to polling places closing despite having long lines of eligible voters that had not yet casted ballots; additionally, there was a pattern of new voter registrants not showing up on voter registration lists in counties like Gadsden and Jefferson which had high black populations (Walton, 2001).

Similar data was found by a team from the United States Commission on Civil Rights which investigated voting rights violations in the election and found a higher number of voting

barriers in counties with higher black populations and greater poverty. Voters of counties with high black populations and of low socioeconomic status complained about "inexperienced poll workers, antiquated machinery, inaccessible polling locations, and other barriers to being able to exercise their right to vote" (United States Commission on Civil Rights, n.d.). All of these elements together paint a picture of—at the least—blatant disregard by the Florida government to provide adequate electoral assistance to all of its countries and—at the most—an unmistakable attempt to disenfranchise black votes. According to technological politics, regardless of whether the Florida government was intentional about enacting the accessibility barriers I have presented above, the election technology they put into circulation performed political work. It did so by blocking black people from being able to access election machines in the same way as their nonblack counterparts, and in turn, reduced their voting authority.

Errors in Voting Counts and Recounts

By closely examining the original voting count and subsequent recount in Florida, a pattern emerges from the voting technology: erroneous ballots presented much more often in districts with higher black or lower income populations than their counterparts. After Florida's initial ballot count, the difference between the vote count for Bush and the vote count for Gore was so small a recount ensued. Legal precedent and protocol were—at most—insufficient. As a result of the recount, issues surfaced with the butterfly ballots used in some districts regarding their high error rate with undervotes and overvotes. An undervoted ballot can be described as one that has less selections than the maximum number allowed; an overvoted ballot can be described as one that more selections than the maximum number allowed. These could occur because election machines failed to properly punch out the hole the voter selected which resulted in a term coined "hanging chad." Moving forward, I define undervoted and overvoted ballots as those

that are rejected, invalidated, or present with errors. In Walter Mebane's article "The Wrong Man is President! Overvotes in the 2000 Presidential Election in Florida," he establishes it is well known black people and Democrats were disproportionally affected by ballot quality and mistakes. The number of overvotes estimated to be cast for Gore—the Democratic candidate—is higher than those thought to be cast for Bush—the Republican candidate—in every single one of the eight different ballots used in Florida that election cycle. After personally evaluating over 50,000 overvotes ballots that were discarded due to a defective electoral administration and poor machine quality, had they been counted, Mebane estimated Gore would have won by over 30,000 votes (Mebane, 2004). This suggests that the election machines and ballot design had a direct impact on the final vote count in Florida. As a result, the poor design of election technology used in majority black districts had the power to influence the results of the election and perform political work.

In addition to Mebane manually observing rejected ballots, other scholars have also identified unsettling inconsistencies in the relationship between the frequency of successful vote counts and the racial demographics of the corresponding country. Paul M. Schwartz found that votes from Gadsden County—the only majority black county in Florida—were 68 times more likely to have their ballot rejected than adjacent, majority white Leon County. What was the primary difference between these two counties? Leon County had brand new, user-friendly election machines. Schwarz attributes this dramatic difference to a technological divide between the two counties, and I can use it to promote the narrative that election technology has the potential to control elections. Extending his ideas using technological politics, I can use Schwarz's conclusion as evidence that the election technology in Florida performed political work and had direct authority in the outcome of the election.

While I have shown that ballot errors occurred more frequently in counties in Florida that were majority black, some scholars have challenged and tried to invalidate data that has been collected supporting my argument—specifically data presented by the United States Commission for Civil Rights (USCCR.) In 2003, John Lott published a chapter in *The Journal of Legal Studies* denying that black people in Florida had their ballots invalidated at higher rates than white people, and in turn refuted an article he had previously published for the United States Commission on Civil Rights. The USCCR came to the conclusion black people were systemically denied suffrage by evaluating the correlation between race and ballot rates and examining the impact of felons who had their voting right restored still being removed from voter registrations (United States Commission on Civil Rights, n.d.). He states that these reasons were not enough to support the USCCR's claims, and it was in fact Republican and citizens of high socioeconomic status that took the brunt of effects of poorly design ballots and accessibility barriers (Lott, 2003).

Many scholars disagree with Lott's reasoning and find the elements to the USCCR's argument more than sufficient. Researcher Allan J. Lichtman refutes Lott's claims in "What Really Happened in Florida's 2000 Presidential Election" by drawing attention to his flawed research design and inaccurate representation of data. He objectively notes, "Throughout the state, election officials rejected as invalid more than out of every 10 ballots cast by blacks, compared to only about one in 50 ballots cast by whites." As a result, if the rates for rejected ballots for black people had been equivalent to white people, over 50,000 additional votes would have been counted. Considering the final vote count between Gore and Bush was less than 1000 votes and less than 5% of black Floridians are Republicans, the number of rejected ballots was—at a minimum—over 48 times the difference between the two candidates and certainly had the

potential to change the course of the election in this scenario (Lichtman, 2003). This reinforces the theme that the election technology wielded political power by tending to protect the votes of the white electorate while simultaneously invalidating the votes of the black electorate.

Differences in Election Machine Feedback and Ballot Quality

Errors in vote counting go beyond faulty election machines that punched out ballots unreliably and invalidated them but also extends to the design of the ballots themselves. Butterfly ballots used in some Florida counties during the election were notoriously deceptive and difficult to use. As a result, politicians and computer scientists redeveloped election technology from the ballot-punch cards to touchscreen user interfaces. While this transition may have resolved technical issues with the election machines, it does not begin to consider the social and political factors which resulted in the use of misleading ballots and faulty machinery. Alan Agresti and Brett Presnell presented data from the 2000 presidential election in Florida that showed a systematic trend between user-friendly ballots and wealthy counties and between the notoriously confusing "butterfly ballots," undervotes, overvotes, and poorer counties. The butterfly ballots purposefully misled voters aiming to cast for Al Gore to instead cast for third-party candidate Buchanan because of a confusing layout and can be seen below. Note that it is distributed across two pages. Typical ballots (and those previously used in most counties in Florida) were designed to be filled out page-by-page. Because there were no clear instructions, if a voter approached this ballot like ones they had previously used in the state, they would have bubbled 4 instead of 5 when voting for Al Gore. They would have logically assumed the second candidate on the page coordinates with the second bubble on the ballot; however, in this case, the second candidate on the page coordinates to the third bubble. The most common criticism of the

butterfly ballot was a lack of instruction and misaligned rows, and scenarios like the one described above resulted in confusion and user error.

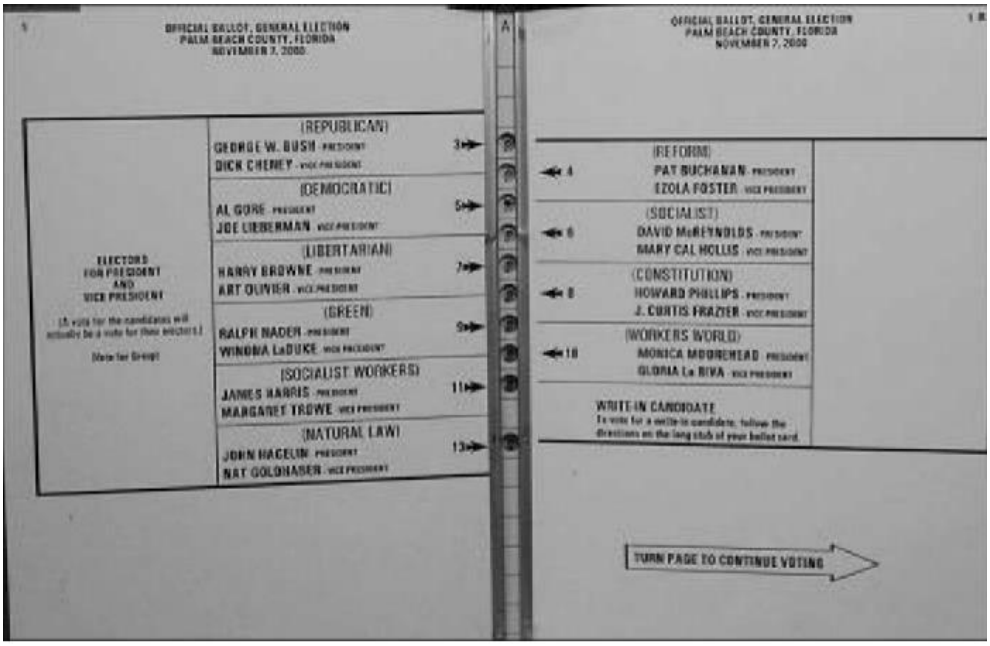

Figure 1: Example Butterfly Ballot

In one specific county that used this butterfly ballot, "Buchanan's proportion of the vote on election-day ballots was four times his proportion on absentee (non-butterfly ballots)" and this trend was not seen in other non-butterfly ballot Florida counties (Wand et al., 2001). It is scholars' assumption that this was caused by voters intending to cast for Gore but being misled by the design of the butterfly ballot (Agresti & Presnell, 2002). In predominantly black precincts of Duval County, presidential candidates were dispersed over two separate pages and were more likely to be overvoted as a result of confusion regarding the split-up sections of the ballot. 3% of ballots marked overvoted were identified with clear voter intent for Gore, and had they been counted, would have garnered Gore about 700 more votes—enough to win the election (Agresti & Presnell, 2002). Ballot design is an integral part of the election technology network, and its usability and interpretability directly impacts voter success rate. Although often just pieces of paper, poorly designed ballots could be one of the reasons an election is won or lost.

As opposed to focusing on ballot design, Paul M. Schwarz highlighted the importance of user feedback and showed the quality of technology and feedback was distributed in Florida with a bias which exacerbated racial and socioeconomic discrimination. He analyzed the five most popular types of voting systems used in the state's election and their respective failure rates: optical precinct (0.83%,) lever machine (0.89%,) punchcard central (3.93%,) optical central (5.68%,) and paper/hand (6.32%.) Precinct systems are tabulated at precinct level while central systems are tabulated at a central elections office. Schwarz notes, "The first two voting technologies used in Florida provided considerably more information to the voter about whether or not her ballot would be counted." Counties with higher black populations were more likely to use optical central systems, and because of a lack of machines with adequate feedback, a statistical analysis showed the strongest predictor of ballot-rejection rates was a country's racial composition (Schwarz, 2002). This pattern can be seen with counties of lower socioeconomic voters as well. Poorer counties were more likely to use central elections offices due to cost and resources, so as a result, those voters faced rejection rates nearly 7 times greater than richer counties because they were not provided with election technology that provided adequate user feedback (Schwarz, 2002). Florida officials granted suffrage on unequal terms, and they used election technology to do it.

Elements on ballot design and feedback combine to either make voting easier or more difficult for the electorate. Predominantly black and poorer counties were unable to access the newer, more user-friendly election technology that was utilized by predominantly white and richer counties. Because user feedback was dispersed with a racial and socioeconomic bias which harmed black people and low socioeconomic status citizens more significantly than other

groups, the election machines acted as a political weapon; consequently, the technology itself had authority and control over the election.

Conclusion

A higher number of voting barriers for largely black districts, increased error rates in voting counts for majority black counties, and inconsistencies in election machine feedback quality and ballot usability administered with racial and socioeconomic bias prioritized the votes of white and high socioeconomic groups in Florida during the 2000 United States presidential election and marginalized the votes of black and low socioeconomic groups. By viewing Florida's electoral machines in the 2000 presidential election through the lens of technological politics, we can identify how the technology exhibited political power and gain a deeper understanding of how technology designed to perform Americans' most basic right to suffrage can be weaponized against previously disenfranchised groups. Acknowledging the ability technologies have to perform social and political work and reinforce power relations—regardless of intent—is a key step towards careful, considerate, and just design.

References

Agresti, A., & Presnell, B. (2002). Misvotes, Undervotes and Overvotes: The 2000 Presidential Election in Florida. *Statistical Science, 17*(4), 436-440.

Craig, S. C., Martinez, M. D., Gainous, J., & Kane, J. G. (2006). Winners, Losers, and Election Context: Voter Responses to the 2000 Presidential Election. *Political Research Quarterly, 59*(4), 579-592.

Fischer, J. M. (2001). Discretion and Politics: Ruminations on the Recent Presidential Election and the Role of Discretion in the Florida Presidential Election Recount. *University of Cincinnati Law Review, 69*(3), 807-862.

Lichtman, A. J. (2003). What Really Happened in Florida's 2000 Presidential Election. *The Journal of Legal Studies, 32*(1), 221–243. https://doi.org/10.1086/368371

Lott, John R., Jr. 2003. Nonvoted Ballots and Discrimination in Florida. *The Journal of Legal Studies, 32*(1), 181–220.

Mebane, W. R. (2004). The Wrong Man is President! Overvotes in the 2000 Presidential Election in Florida. *Perspectives on Politics, 2*(3), 525-535.

Posner, R. A. (2001). Bush v Gore: Prolegomenon to an Assessment. *The University of Chicago Law Review, 68*(3), 719-736.

Schwartz, P. M. (2002). Voting Technology and Democracy. *New York University Law Review, 77(3),* 625-698.

United States Commission on Civil Rights. (n.d.). Voting Irregularities in Florida During the 2000 Presidential Election Executive Summary. https://www.usccr.gov/files/pubs/vote2000/report/exesum.htm

Walton, H., Jr. (2001). The Disenfranchisement of the African American Voter in the 2000 Election: The Silence of the Winner and Loser. *The Black Scholar, 31*(2), 21-24t, https://doi.org/10.1080/00064246.2001.11431139

Wand, J., Shotts, K., Sekhon, J., Mebane, W., Herron, M., & Brady, H. (2001). The Butterfly Did It: The Aberrant Vote for Buchanan in Palm Beach County, Florida. *American Political Science Review, 95*(4), 793-810. doi:10.1017/S000305540040002X

Winner, L. (2017). Do Artifacts have Politics?. In *Computer Ethics* (pp. 177-192). Routledge.