**Gerrymandering and the Larger Topic of Voter Suppression**

Gerrymandering is a form of political districting that is arguably as old as the nation itself (if not canonized until later), a form of political disenfranchisement, and likely an outcome of any form of district based representative democracy, if intentional or not. Throughout our nation’s history, gerrymandering has, and continues to occur at all levels of subdivisions of the population, and will likely affect the political discourse of our country for the remainder of its days. In this paper, which serves as a supplemental body and extension to the presentation and simulation, we will examine the history of Gerrymandering in the United States, look at some of the major ways in which it has shaped the nation, examine its effect, and look at some of the ways in which we can attempt to deal with gerrymandering. Finally, we look at what our simulation shows about how easily even an apparently unbiased system can result in gerrymandering in an unevenly clustered voting population.

**The history of the term gerrymandering**-

Gerrymandering derives its name from a combination of the name of a Foundering Father, Governor, and Vice President Elbridge Gerry, and a characterization of a districting map that he signed off on while Governor which resulted in a number of oddly shaped and ill proportioned districts including one notably large one that appeared as a ‘mythical salamander’ (side note - to modern eyes this looks much more like the mythical cockatrice than a salamander, mythical or otherwise) looming over a large portion of smaller districts on the map. It was widely and accurately held at the time that the district map was designed as it was by members of his Democratic-Republicans party in order to give themselves a political advantage. While no reference can be found that any of the architects of the district map ever admitted openly to the intended purpose after the fact, it is of note that while this map was drawn for the 1812 map, as early as 1787 Gerry made his opinion of honoring the popular vote clear when he declared “The evils we experience flow from the excess of democracy. The people do not want virtue; but are the dupes of pretended patriots”. However, while the process bears his name, Governor Gerry was not the first politician in the nation to go about the process, and in fact, the nation’s political system is, in its foundation, effectively gerrymandered.

**The implicit gerrymandering/vote negation of the Senate**-

As it is defined, gerrymandering refers to the drawing of boundaries of electoral districts in a way that gives one political party an unfair advantage over its rivals, or that dilutes the voting power of members of an ethnic or linguistic minority group. As it is defined, a narrow read of the definition may lead one to think that the Senate, with it’s limit of 2 seats per state may be less inclined to being gerrymandered than house and local positions which number much higher and allow for many subdivisions of the state into new and exotically absurd shapes.

However, the Senate was, in its inception, designed to disenfranchise a group of individuals - those elected to the house of representatives by the popular vote, in favor of that of the state. During the debate over the formation and composition of the senate, while it was fairly uniformly considered to be of high importance that the body be composed of individuals who were elected to longer terms of office in order to keep the less beholden to the whims of the population, and it was generally considered it should be smaller, there was some debate as to if they should be elected in a similar manner, based on national population, or, as it was decided, based on a set number per state.

When considering the idea that the Senate should exist as a body apart from the House to check its actions, one should be mindful of who the founding fathers were within the scope of the nation. The majority of the founding fathers were much wealthier and much more educated than the common person in colonies at the time (in addition to being white and male). To this end, when they thought about the idea that the House, as an extension of the voting public, would sometimes need to be checked by a body less beholden to the whims of the public, what they were really saying (and said on occasion in fairly clear terms) that those who were in line with their own beliefs, and who would help defend their interest when it was in opposition to the larger populace. If we, as we fairly should, consider this group of economic and privileged elite as a separate party for political purposes from that of the less enfranchised, then the mere contrivance of the Senate was an action of gerrymandering. Furthermore, by relegating seats on the Senate on a state by state basis, then the end result of this partitioning is reducing the value of the individual vote in an uneven way (even at that time the population disparity between the largest of the colonies an the smallest was in the range of a 20x divide) that is functionally identical to purposed gerrymandering in its effects on the democratic system.

**The formation of expansion States as a method of gerrymandering/suppression**-

While the creation of the Senate did by many accounts succeed in its mission of placing a check on the house, it did also lead to the predictable imbalance of representation between states with larger (free, and able to vote) populations and smaller states with different interests and agendas. A power imbalance that plagues us to this day. However, the issues inherent with this system and its own ability, akin to gerrymandering, to suppress the voting power of the populace is perhaps not clearer at any time in the history of the nation than during the build up to the American Civil War.

During this time of expansion, the rift between the north and the south of the nation over a number of issues was growing, but chief amongst those was the issue of slavery, and both sides knew that a change in what was essentially a perpetual power deadlock in the Senate could lead to either the north ending slavery in the south, or the south enforcing its will on the north. Of course, this meant that every time a new state was admitted to the union, it ran the risk of unbalancing the status quo, and allowing one side victory over the other.

While a whole range of different approaches were taken to address this problem as it was seen, such as the Missouri Compromise, to oversimplify there overall trend was to allow in one new free state for one new slave state and vise vera. This points to the power of the Senate body as essentially a tool to ignore the common vote, surplanting a popular public unfavorable view of the institution with a system put into place by a small number of people to suppress the vote. It also, somewhat comically lead to the formation of a new state in the northeast (Maine) during westward expansion entirely to keep the balance

**Gerrymandering in the more modern world and the ethical problems it presents-**

To focus more narrowly on a tighter definition of gerrymandering and its effects, we need do no more than to look at the more modern post civil war era. Gerrymandering is seen in its most clear and its effect laid the most bare after each census count during the corresponding redistricting, where it happens via two methods, often referred to as “cracking” and “packing”, and whether used separately or in combination, the power of both methods on the outcome of elections cannot be understated.

Cracking is the process of splitting up votes that are likely to not be in favor of a given party amongst a number of districts that are strongly likely to vote in your favor, thereby relegating them to a powerless minority in those districts. However, if a voting block is too strong, you might rather pack that block into a small number of heavily biased districts, which, while they will be lost to your party individually, will allow your party to keep control of the state as a whole.

An additional form of gerrymandering, one that does not apply to all states, based on state laws, is what is known as prison gerrymandering. In this case, in states where prisoners do not have the right to vote, but do count as population for purposes of districting, a prison/prisons will be attached to a smaller population of voters in order to make the valid as a district, blatantly disregarding the principal of one person, one vote, in even broader terms then gerrymandering would otherwise.

Gerrymandering, as alluded to above, generally occurs for one of two reasons (usually both at once), either to support the chance of incumbent reelection, or to increase the power of a party in a state. Gerrymandering has also been done historically to disenfranchise the voting power of minorities in the political system. While this was prohibited by the Voting Rights Act for much of recent history, in 2010 the Supreme Court struck down Section IV (4b) of the law (preclearance), which essentially made the act unenforceable, resulting in an effective end to protections against racially based Gerrymandering.

The ethical implications of gerrymandering are clear and simple, but profound. Gerrymandering is at its core, and unapologetically, a means by which the individual’s vote is essentially zeroed out by means of block counting of results. Gerrymandering has exactly one end goal - to make the votes of a favored group have an end effect that is greater than that of an unfavored group. It is our position that this is undemocratic, unethical, and damaging to our democratic process. The results of gerrymandering can be seen in large scale events, such as the 2016 election in which the winner of the popular vote (by a margin of nearly 2.9 million) lost the electoral vote due to electoral districting, the 5th such occurrence in American history. It can also be seen more locally, on the smaller scale, such as in the recent fiasco of our own state’s obviously gerrymandered district map ruled unconstitutional by a five judge appellate panel in April, one which would have have almost halved the amount of Republican voter representation from about 22% of the state population to about 14% of the districts in the state.

**Ways to reduce gerrymandering -**

There are a number of means by which it has been suggested we can deal with gerrymandering. These cover a spectrum from small changes to the system to complete overalls of the voting system. We will touch briefly on a few of these systems here, starting with what is generally considered the most popular system, neutral systems. In most neutral systems either an outside group that is considered to be reliably apolitical or a board of members of both parties come together and work on a district map with the assumption that the end product, either due to lack of bias or a cancelation of bias will come up with a map that is less biased because maps are not drawn, as is often typical, essentially by the party of power.

Another proposed system that has gained some popularity is the so called “I cut, you choose” system where one party proposes a district map, then the other party picks one district from that map, locks it in place, and then recuts the remainder of the map. It then turns to the first party to pick one district from this map, recut the remainder again, and so on until all districts are cut. The idea being that no matter how either party hedges their bet at any given step, the other party can choose a schema of their choice from the next step and so on.

Finally, a number of proposals exist that would seek to change the voting system in a way that reduces the potential of gerrymandering greatly from the current systems generally in place. Ranked choice systems, for example, where a voter cast a ranked choice, which would allow for vote transfer, combined with cumulative voting and multi district voting would essentially water down the the existence of the district, and turn races into ranked regional or state votes, presumably resulting in an end selection of representatives closer to the public’s overall political leanings, much like in many parliamentary systems in other nations. This would have the added effect of increasing the viability of third party candidates as they would be effectively running in a larger field, and ranked choice would allow an individual to vote for them while still supporting a major party candidate.

**What our simulation shows -**

For our simulation, we built a simple 2d grid that can be populated with any number of population centers of either Republicans or Democrats. It seeds these parties at random across the map, and then looks to district them in two simple ways - either by columns or rows. It returns the map, and a tally of how many districts would swing either way or be “purple”. While we only have it run one tally as written, it really shows its utility when run a couple times. Given, for example, running the simulation on a balanced playfield of 5 clusters of each party across a 5 x 5 field, across 5 executions of the script (and therefore 10 total results, 5 horizontal, 5 vertical) in a sample run, the simulation resulted in 4 unbiased results (3 of which were heavy competition - mostly purple, and 1 of which only contained 1 contested district), 4 results with republican leaning districts totals, and 2 with democratic leaning district totals.

The goal and utility of this simulation is not to show how a large number of even cuts of a random system bias (they do not, law of large numbers and all), but to show how even a bias can be introduced in districting, and how even a seemingly “fair” system of rectangular districts can in fact be used to disenfranchise voters and gerrymander a state/nation. A possible implication of this finding would be that it seems likely that any geographically underpinned system of voting for a representative is likely to be biased due to the nature of geography and human settlement trends. This would further suggest that a more representative system would be one in which the system is at least partially untethered from locals and moved to a larger area, such as in the final system mentioned above when discussing methods by which the problem of gerrymandering can be addressed.