

Improving Single-Winner Elections: Top-Flop Voting & Co-operative Voting

Here are two articles presenting two alternative voting methods for electing a person. These two methods are called Top-Flop Voting (see article on next page) and Co-operative Voting (the three pages after that).

What these methods have in common:

Both methods have in common the **majoritarian** aspect that if one candidate is number one on over half the ballots, this candidate wins. Both methods also generalize the majoritarian idea in some way that **reduces the vote-splitting problem**, so that if there is a group of candidates who together are preferred by over half the voters in a specific pattern, the winner is selected from that group (the pattern is not quite the same for each method).

Both methods **avoid counter-intuitive issues** that plague many election-reform proposals: adding ballots does not make the result worse from the point of view of what is stated on these ballots (called the participation criterion in the literature, all Condorcet methods fail this), nor does changing a candidate's position on some ballots for the better makes that candidate worse off (called mono-raise, voting with runoff fails this). However, it has to be said that issues very similar to what these criteria describe do creep up in the big picture when you go through a series of elections with recurring candidates or elections preceded by polls which inform voter strategies. This can happen with just about any voting method (not with ballot lottery, but good luck convincing people of doing that).

How these methods are different:

The methods differ in that **Top-Flop Voting** gives voters *more control, but also more work*. It can also be used for voting on an issue, and it outputs a sensible ranking, so that if for whatever reason the initial winner becomes unavailable, the second-placed candidate in the aggregate ranking can be taken.

For each candidate, voters can vote for, against, or stay neutral. Instead of subtracting the against-votes from the votes in support, the method takes the bigger side as the candidate's score. One may find this puzzling, and ask whether it is sensible to throw away all the data from the losing side, especially if there are almost the same number of votes for and against, so a few people voting differently would have drastically changed the score. -The reply is that doing a subtraction here is what would destroy data about some majoritarian patterns: one couldn't guarantee then that candidates getting support on more than half the ballots get ranked higher in the aggregate result than the other candidates (and likewise candidates getting a negative vote on more than half the ballots being ranked below everybody else).

Co-operative Voting has the tremendous advantage that it is *very easy for the voters*. Ease of use is usually very undervalued by unsuccessful election-reform advocates. Each candidate publishes a list before the election. A candidate's list shows who of the other candidates the candidate approves. A voter just marks one candidate, and thus gives indirect support to the approval list. Initially, each candidate gets points equal to the number of direct votes. Then, pairs of candidates that list each other as approved give each other a score boost equal to the number of direct votes the candidate with fewer direct votes got.

Why give a mutual score boost according to who got fewer votes? -It's enough to ensure that when there is a group of candidates that approve each other, at least one of them will get a score at least as high as the number of direct votes for all the candidates in the group together. Suppose the boost rule were about giving both in the pair points equal to the one with more direct support. This would not merely deal with the vote-splitting problem, but overshoot and let a party with fewer voter support and more candidates overtake a party with more voter support. A candidate always giving a boost equal to that candidate's direct votes would also avoid this, but then candidates could shoot themselves in the foot by approving others.

Which method is better depends on the context: Only when the group of voters is big (over 1000) and people can't directly interact with candidates do I recommend Co-operative Voting, and furthermore it should be embedded in an institutional setting with term limits to deal with power concentration.

What is Top-Flop Voting?

It's a single-winner voting method with three rating options for each candidate: top, neutral, flop. You can give any number of candidates the same rating. The word *candidate* here can also mean a proposal.

How do you count this?

After the last voter is done, the aggregation ranking shows 3 tiers:

1. *more top than flop*
2. *equal top-flop*
3. *more flop than top*

Perhaps unsurprisingly, a candidate that received more top ratings than flop ratings is put into the tier *more top than flop*, a candidate that is in the unlikely situation of receiving exactly the same number of top ratings and flop ratings gets put into the tier *equal top-flop*, and a candidate that received more flop ratings than top ratings is put into the tier *more flop than top*.

If there is one or several candidates in the tier *more top than flop*, that is where the winner comes from. Only if there is neither any candidate in that tier nor in the tier *equal top-flop* does the winner come from the tier *more flop than top*.

Further sorting of the candidates happens inside the tiers: Inside the tier *more top than flop* candidates are sorted based on top ratings received, the more the better. (In this tier, the flop ratings are only used to resolve ties.) Inside the tier *more flop than top* candidates are sorted based on flop ratings received, the more the worse (and here the top ratings are only used to resolve ties). For each candidate it is the bigger side of top votes and flop votes that counts here, not the average. But why count like that?

Why prefer this to average ratings or voting with runoff?

This is **more majoritarian than using mean ratings**. Top-Flop Voting guarantees that candidates rated top by more than half the voters are at the very top of the aggregate list. Likewise, candidates who receive flop ratings by more than half the voters are put at the very bottom of the aggregate list. Suppose there is a majority of voters who are fans of different candidates, but have a mutual tolerance. This **majority coalition** doesn't need sophisticated strategy and iron discipline to make sure that the winner is a coalition candidate. All they have to do is commit to vote against the candidates outside the coalition and for each coalition candidate the choice between top and neutral slot can be left to personal whim.

Something slightly odd about it is that adding a ballot that has several candidates rated the same does not always affect each of them in the same way: When you squeeze your actual opinion A over B into the same rating, the aggregate ranking might change by raising B over A. Still, as one would expect, the effect of your ballot on the aggregate is that a candidate you rated top either stays in its position relative to those you didn't rate top or moves up. Likewise a candidate you rated flop either stays or moves down relative to those you didn't rate flop (runoff voting does worse in that regard).

Top-Flop Voting retains these neat aspects of mean ratings: **You are not under pressure to put the lesser evil above your most-liked** (though this would not apply to a situation with aggregation updates while people are still voting) and can put as many as you like in top; and unlike with cumulative voting, supporting several similar candidates doesn't make all of them losers. Furthermore, it is **symmetric**, that is if people voted exactly the other way around (replacing each top vote with a flop vote and vice versa), the aggregate ranking would also turn upside down. Top-Flop Voting is **good at finding compromise**. Consider an election where only a few vote exclusively for the compromise candidate and against every other candidate while all other voters are in one of two opposed wings, putting candidates from their own wing in the top slot, all from the opposing wing in flop, and the compromise in the middle. Then, if neither wing is in the majority, the compromise wins. None of the neat things in this paragraph can be guaranteed by simple single-mark voting, single-mark voting with top-two runoff, or instant-runoff voting.

Co-operative Voting – The Most Simple Alternative Single-Seat Election Scheme

This is a proposal to make the election process more open for independent candidates and to better respect the public will. There are plenty of such proposals, but this one also keeps the voting interface very simple. This is particularly important in an environment with multiple languages. The complexity is outsourced to those who care more about elections than even electoral-reform enthusiasts: the candidates themselves.

Here's a way of making elections more diverse and competitive, and what may sound counter-intuitive, likely also a bit more co-operative. Let's call it **Co-operative Voting**. It reduces the vote-splitting problem that single-mark voting has. It doesn't require electronic counting. The count doesn't get cumbersome since normal Joe voter still votes with just a single-mark ballot.

A regular argument against proposals for electoral reform is that it would make it too hard to fill out and count the ballots. But we can take one of these voting schemes as the base, let only candidates fill out the more complex ballots, voters vote for candidates with a single mark, and we multiply each candidate's ballot by votes received. We will do something like that.

However, we should take into account how this creates a new situation, meaning what is arguably a good proposal if voters directly vote is not necessarily good as a base method here. Consider this weakness of using mean ratings to elect a candidate: *Say you vote honestly and rate your most-liked candidate at five stars out of five, and there's another one you rate four out of five. Now imagine the latter wins with just three points difference to the one you like best.* You would have been better off dishonestly giving the worst rating to everyone but your most-liked. But you aren't strictly against the winner, so this isn't the end of the world, of course. On the other hand, if rating candidates is done by the candidates themselves, this weakness of mean ratings is a big deal. Can you imagine planning for your near future under the assumption of winning an election, and then losing to someone you supported exactly because you supported them? So we are going to do something a bit different here, we ensure that as a candidate you always get back as much support as you give.

On a fixed date some time before the election, **each candidate publishes a list** of the other candidates they approve. As a candidate, you can approve any number of other candidates from any party.

The count works like this:

1. For every candidate we count the **direct votes** from Joe Public, that's your base score.
2. For every pair of candidates that **approve each other**, we add to each candidate's score a number equal to the number of direct votes received by the candidate who got fewer direct votes.
3. The candidate with the highest score wins.

Counting like this has the following properties:

Direct Majority: If a candidate gets over half of the direct votes, that's the winner, no matter what the approval lists look like. **Coalition Majority:** If there are candidates approving each other and getting over half the direct votes together, the winner will be such a candidate. **Direct-Vote Primacy:** A candidate who has fewer direct votes together with those who approve him than what another has in direct votes alone can never win. **No Self-Harm:** All else equal, adding candidates to your approval list never makes you lose the election. **Non-Diluting Support:** All else equal, adding candidates to your approval list never changes the winner to someone outside your list, unless that someone is you.

If nobody approves anybody, it works like normal single-mark voting. Suppose there is a party with several candidates running who all approve each other and nobody outside their party. If the party's candidates together get over half the direct votes, the winner will be the member of that party that got the highest number of direct votes, though not necessarily the highest number of direct votes of all candidates in the election. So, with candidates organized in and loyal to parties it works like using open party list for one seat. But the method is more open than that, since the approval lists are allowed to overlap.

Co-operative Voting – Examples

Now let's try some examples. Remember that for each pair that works together, the candidates in that pair only give each other as much approval support as the candidate with fewer direct votes can give.

Election 1:

There are three candidates called X, Y, and Z. X got 40 percent of the vote, and nobody has that many direct votes. However, Y and Z, who have somewhat similar platforms, support each other.

40% of the direct votes go to candidate X, who approves [nobody else]

36% of the direct votes go to candidate Y, who approves [Z]

24% of the direct votes go to candidate Z, who approves [Y]

We count the mutual support to get the final score for each candidate.

X: 40 = 40

Y: 36 +24 = 60

Z: 24 +24 = 48

Candidate Y wins. In this particular situation, with two of three candidates forming a majority block and the one out indifferent between the two, this works out the same as holding the usual single-mark election with a runoff rule for when nobody gets a majority in the first round. Co-op Voting is faster and cheaper though.

Election 2:

Now we work on an election with more candidates. Can you see a pattern here?

25 A [B, C]

20 B [A, C]

10 C [A, B]

30 D [E]

14 E [D]

1 F [A, B, C, D, E]

What we have here are clearly two electoral blocks, on the one side, it's A-B-C, and on the other it's D-E. There's also candidate F, and barely anyone seems to care about that one.

A: 25 +20 +10 = 55

B: 20 +20 +10 = 50

C: 10 +10 +10 = 30

D: 30 +14 = 44

E: 14 +14 = 28

F: 1 = 1

The winner is candidate A. The candidates in the block A-B-C have more than half the voters' support together, so that's where the winner comes from. The list by candidate F didn't end up giving any score-increasing support to anybody, since approval has to be mutual for that to happen.

Candidate F approving everybody else looked like a jokester, but that does not mean approving everybody else is always nonsensical. Consider a three-candidate election with one being widely seen as in the middle between the other two on the issues (and the candidates also see it exactly that way). The election draws near and it's too late for any candidate to change that impression. It makes sense for the middle candidate to approve both sides, and so get support from each side as the lesser evil. Suppose the fringe candidates also do the sensible thing, that is both approve the middle candidate and not each other. Then, that situation is **stable** in that no candidate gains by changing strategy away from that while the other two keep theirs.

Co-operative Voting – Social Context Matters

Suppose in the scenario with three candidates on a one-dimensional political spectrum with both fringe candidates approving the middle one and vice versa each candidate has less than half the voters' direct support. With Co-op Voting, if the compromise candidate gets *at least a quarter* of the direct votes, the compromise is guaranteed to win. If the voting system used is changed to plurality with runoff, the compromise needs to be number one on *more than a third* of the ballots to be guaranteed to win. This suggests that Co-op Voting is better at **finding compromise** than plurality with runoff.

However, the implicit assumption here is that parties don't act in a heavy-handed manner, that they don't forbid their candidates to approve “outsider” candidates with powerful tools to sanction noncompliance. The method should be embedded in a proper social context. By that I mean 1. the rules how you get on the ballot, 2. how to get the word out what your positions are, and 3. some base level of egalitarianism in society at large. I wouldn't be able to adequately address the third point in a hundred pages, but the other two can be dealt with by relatively simple checks and balances described in the rest of this page.

Lottery as a method to directly elect a single seat seems like a crazy idea. But quantity affects quality. If a big group is selected by lottery, this tends to be very representative of society at large. Lottery can also be used to augment the process of a single-seat election.

Getting on the ballot works like this:

Any effort to give newcomers a fair shake by improving the vote-counting rule can be thwarted by making it harder for newcomers to get on the ballot. Americans have the write-in option, which is useless outside of the smallest of the small-scale elections. The usual way for getting on the ballot is to require a number of signatures; and for that it really helps to have a lot of money. To even the playing field for getting on ballots, most spots on the ballot should be reserved for **candidates picked by lottery** (if you get picked by lottery, you can decline candidacy, but not transfer it to somebody else).

Since lottery candidates might be in a disadvantaged position when it comes to getting the word out about themselves, there should be an interviewing process with all candidates by a sortition-based jury, with the jury then voting on which of the candidates they consider best. (Since the number of people is smaller and more involved than with the general election, the voting method can be something more complex and not something based on candidate-provided lists.) This **jury recommendation** should be highlighted as such on the ballot in the general election. Also, each polling station should provide space for texts by each candidate.

To **avoid information overload**, there shouldn't be more than a dozen candidates and obtaining a spot on the ballot should be valid for two consecutive elections. The incumbent should be highlighted as such.

Getting off the ballot:

From the bag of tricks for checks and balances to prevent extreme power concentration we take an old one to refurbish, **term limits**. They are criticized for punishing achievers. If the reference point for term limits is not winning an election, but obtaining a spot on the ballot, this criticism loses appeal, especially if one can get a spot on the ballot by lottery. Another criticism of term limits is that they distort the will of the people. This can be addressed by having an exceptional rule for exceptionally popular candidates.

Instead of setting term limits in stone no matter how popular a candidate is or having long terms with a theoretically flexible yet practically unwieldy recall rule, the method could use a flexible approach to term limits and something that enables faster bad-egg disposal that recall-rule advocates want: **Terms are short**. Candidate status is automatically assigned for two consecutive identical election slates (bar withdrawal) and denied for the four elections after that. The exception is you can be a candidate a third time in a row if in the last election you win and get over 50% either by direct votes alone or with other candidates who don't withdraw support pulling you under 50% any time post-election. The **property No Self-Harm is preserved**: Those pushing you over the hurdle don't risk losing against you next election, since they won't stand in it.