

Does Ranked Choice Voting Imply A Loss of Election Certainty?

Dick Atlee, 20 January 2016

Ranked Choice Voting (RCV) is an appealing way to address significant problems with a plurality-victory election system in the case of races involving more than two candidates or issues:

- a. It eliminates the discontent associated with a victory obtained by less than a majority.
- b. It allows people to vote for whom they really want, eliminating the "spoiler" effect.
- c. It provides an incentive for candidates to reach beyond their often-extreme base of support, reducing the likelihood of incivility in campaigns.

This is accomplished by enabling voters to rank (1,2,3...) the candidates or ballot issues. The process then becomes one of checking which candidate got the least number of #1 choices, eliminating him/her and distributing his/her #2 choices as #1 choices among the remaining candidates, and repeating the process as necessary until one candidate has a majority of #1 votes.

However, because of the link between RCV and (non-transparent) electronic vote handling, the question arises: **does accepting the advantages of RCV, which are short-term, applying to a single election, mean the sacrifice of any certainty in the integrity of the election?**

The unbreakable link between RCV and electronic vote handling

The "Precinct" Level -- At this first limited level, if one wished to do the election (or an audit) by hand count, the procedure would be straightforward:

- a. sort the ballots into first-choice piles,
- b. check for majority, and if not reached,
- c. take the smallest pile and redistribute it according to second choice,
- d. repeat b and c until one pile has a majority is reached.

This could also be done by sorting the ballots into all the different permutations of rankings -- e.g., for 3 candidates, the ranking possibilities are 123, 132, 213, 231, 312, 321 -- and analyzing those.

"Exponentially" increasing complexity -- This becomes less and less practical as the number of candidates/issues and/or ballots increases. In Maine where elections tend to involve about 700,000 ballots, it would be impossible to do it at the state level, even if all ballots were gathered in Augusta. So machine tabulation is ultimately necessary, both to handle the ballots from jurisdictions without optical scanners, and to compute the final RCV results.

So what's the problem?

There have been many proofs of the hackability of electronic election systems, both touch-screens and optical scan systems. But more important, there is voluminous evidence, both in individual cases and a larger statistical picture, of manipulation of elections in which votes are

handled electronically, going back to the early days of electronic voting. This is discussed elsewhere (a good start is Prof. Jonathan Simon's book, *Code Red: Computerized Election Theft and the New American Century*. Those who deride such an idea as "conspiracy theory" have not looked at the evidence.

What can be done about it?

Auditing -- The existing solution for checking on electronically-assisted elections is random checking of some percentage of the election. This should be done by comparing hand-count results with machine results, but this is only possible with optical scanners, and some jurisdictions only require a re-run of the ballots through the same potentially compromised machine.

Randomness -- Computer security expert Stephen Spoonamore states that there is an inherent "background noise" of fraud in credit-card processing of roughly 2.5%. He states flatly that paper ballots are essential for preventing fraud in elections, and that if they are counted by optical scanners, a comparison of the machine results with a hand count of a 1-2% random sample of the paper ballots would be necessary (though perhaps not sufficient) to indicate the absence of fraud. Other election integrity advocates say this estimate is far too low. Still others say this is an academic dream, that the fact on the ground is that "randomness" can be -- and is -- seriously manipulated to hide fraud, and that even if it weren't, procedures would need to be in place to guarantee there was no advance notice to permit manipulation in the "random" jurisdictions.

In any case, while this works straightforwardly in a commonplace "plurality voting" election, its application in RCV, where *all* votes are involved in the final result, it is a lot less straightforward -- though it can be done¹.

Parallel re-run -- Another approach², TEVS (Transparent Election Validation System), developed in Humboldt County, CA, seems to hold more promise. In this, at the end of the voting, each precinct runs the ballots through a separate off-the-shelf scanner using TEVS, and then sends these ballot images to independent organizations that use TEVS to generate data and move it into a spreadsheet, which is public and can be checked by anyone. For RCV, the spreadsheet can be sorted into permutations and the results determined manually. This would seem to hold the most promise for election integrity, both now *and* under RCV.

Conclusion

In the end, we return to the fundamental trade-off question at the base of this inquiry -- is the comfort of short term improvements in single elections worth the loss of any guarantee of electoral integrity? RCV's machine dependence renders this loss inevitable in the absence of some auditing method -- those described here or some other effective method. And there is no such method included in Maine's RCV initiative. Not only that, but there is no such effective method in place in the system we have today in Maine.

1. See http://dickatlee.com/issues/elections/evote/maine_rcv/rcv_auditing_possibilities.html#1

2. See http://dickatlee.com/issues/elections/evote/maine_rcv/rcv_auditing_possibilities.html#2