

Topic: Online Voting

"It's not the voting that's democracy. It's the counting." — Tom Stoppard¹

My submission is on the topic of online voting. My recommendation is that Canada not allow online voting, but maintain our current paper balloting approach. To support this recommendation, I shall argue not only that the technology to conduct online elections securely does not currently exist, but more importantly that even should such technology be developed in the future, the drawbacks of allowing online voting would still far outweigh any benefits.

Let us begin by considering the experiences of our neighbour, the United States of America. While that country does not allow online voting, most of its states use electronic voting systems; and the problems they have experienced provide an instructive warning against going down any remotely similar path. Researchers from Johns Hopkins, Princeton, Rice, and Stanford Universities, the Brennan Center for Justice, and the Government Accountability Office, among others, have reported security flaws with their machine-counted elections.² The 2005 Commission on Federal Election Reform, chaired by Jimmy Carter and James Baker, warned of the threat to secure voting posed by the possibility of malfeasance on the part of the workers who operate the machines.³ U.S. voting machines have at times reported precincts with voter turnout above 100%, or negative numbers of total votes cast.⁴ In the 2000 presidential election, one precinct in Volusia County, Florida, reported negative sixteen thousand votes for Al Gore⁵; and in the 2004 contest, "25 electronic machines transferred an unknown number of Kerry votes to the Bush column" in Mahoning County, Ohio, the Washington Post reported.⁶ Twenty-six state exit polls incorrectly predicted wins for John Kerry; the National Election Data Archive Project calculated the odds of such a statistical failure as 16.5 million to one.⁷ In one Ohio precinct, Kerry won 38% of the vote whereas exit polls had him at 67% support, a one in 867 million shot if a sampling error.⁸ The final vote tallies in this election differed widely from exit polling results in 30 states⁹; and as any pollster can attest, exit polls are the most reliable, as they sample only people who actually voted. The 2011 election to fill a seat on the Wisconsin Supreme Court was decided by Waukesha county clerk Kathy Nickolaus, who "discovered" 14 300 votes on her computer late on election night.¹⁰

In fact, since the introduction of electronic voting and vote counting equipment, anomalous results have become so commonplace in the U.S. that experts have given them a name, "the red shift" (the name reflects the fact that they usually favour candidates of the Republican Party).¹¹ DeForest Soaries, appointed by George W. Bush to head a committee created to oversee security standards for voting devices, stepped down in 2005, claiming that his office had been a "charade" and telling interviewers, "But there's an erosion of voting rights implicit in our inability to trust the technology that we use. And if we were another country being analyzed by America, we would conclude that this country is ripe for stealing elections and for fraud."¹² IT specialist Stephen Spoonamore studied the "architecture map" used by Ohio in the 2004 presidential election, and stated in a sworn affidavit that what he found would, for any of his banking clients, provoke an immediate fraud investigation.¹³ Voting machine manufacturer Diebold once put large portions of

its machines' source code on its publically accessible website¹⁴, and the network of another maker of voting machines, VoteHere, was breached by a hacker in 2003¹⁵. The election-integrity activist Victoria Collier says that electronic voting has ushered in "a new Dark Age in American democracy"¹⁶; and many concerned U.S. citizens today look enviously to the North, and wish their electoral authorities had the good sense to hold paper ballot elections 'like the Canadians do'.

Despite these difficulties, electronic voting has started to make inroads in Canada as well, both at the municipal level and now the provincial, with the last New Brunswick provincial election being administered by a private electronic voting corporation, Dominion Voting. Errors in file-transfer caused delays and concerns about the integrity of this election¹⁷; and as Québec City writer Nora Loreto points out, "it is deeply unsettling to know that elections, supposedly the cornerstone of Western democracy, are being outsourced to the private sector—for profit. There is no legitimate argument for doing this."¹⁸ It also introduces the possibility of these private and partisan manufacturers manipulating their machines' tallies; in the U.S. in 2003, Diebold C.E.O. Walden O'Dell publically promised to "deliver" Ohio's electoral votes to George W. Bush.¹⁹

Recent U.S. experience, then, would argue strongly against the introduction of any electronic element into Canadian elections, let alone online voting. Yet many are agitating for the introduction of online elections, and the commission will doubtless be hearing this point of view expressed in the course of its deliberations. Why the push in some quarters for internet voting? The answer seems to be mostly that it is seen as a means of increasing voter turnout. Indeed, many seem to take for granted that voter turnout would increase with online elections. Closer inspection shows, however, that this assumption is not as firmly grounded as one might at first think. Suggestions that online voting will increase participation and be secure are "wrong on both counts", according to Cristian Worthington, owner of several technology firms.²⁰ Early online voting trials have shown negligible increases in turnout, on the order of two or three percent—which, as Worthington notes, can probably be attributed to the novelty factor.²¹ The only country which to my knowledge currently allows online voting, Estonia, ranks a dismal 130th in the world for voter turnout.²² A panel appointed by Elections BC to investigate online voting reported in 2013 that "The evidence for Internet voting to lead to increased voter turnout in B.C. elections appears to be at best mixed, and the panel is not convinced that introducing Internet voting in B.C. will result in increased voter turnout at either the local or provincial level in the long run."²³

The hypothesis that online voting will increase participation is based on the premise that a significant number of those who do not currently vote would do so if it were more convenient. Yet there is no evidence for this, and considerable evidence that most non-participants are not deterred by any supposed inconvenience of voting, but because they feel disengaged from the democratic process. Over the past century, Canada has changed from a largely rural to a largely urban nation, thus making voting much more convenient for most people; yet voter turnout has been dropping in tandem. As Loreto writes, "Campaigns and efforts to get people to vote by making it easier will fail by design, because it isn't about inconvenience; it's about feeling as if voting is totally futile."²⁴ British Members of Parliament Gloria De Piero and Jonathan Ashworth, who recently conducted a tour across parts of England speaking to hundreds of voters and non-

voters, wrote, "Sadly, we found those who don't vote were as uninterested in politics as it is possible to be. They had zero faith that there was anything any politician could do to change their lives."²⁵ It should be obvious that being allowed to vote online is not going to be the magic bullet which will reengage such citizens with their democracy. I am not saying here that reengaging disillusioned citizens is a lost cause; we unquestionably have work to do in this regard. What I am saying is that allowing online voting is not a solution.

A group of U.S. computer scientists wrote to a Virginia legislative commission in 2013 that "The technology necessary to support Internet voting while also protecting the integrity of the election and voter privacy does not yet exist."²⁶ British Columbia's Independent Panel on Internet Voting recommended against Internet voting in 2014, warning of risks to the accuracy of the results.²⁷ Even if secure systems for online voting existed in theory, international studies show that at least half of all large Information Technology projects fail.²⁸

Any online system can be hacked. Even assuming the servers hosting the vote are relatively secure, the same cannot be said for every voter's computer. A hacker could infect a voter's computer with a virus that observed or changed his/her vote, and the chief electoral officer simply cannot certify the quality of security on the computer of every Canadian.²⁹ It is also important to note that we would have to guard against not just independent hackers operating out of their basements, but the sophisticated and well-resourced experts of the intelligence agencies of other nations who might want to attempt to fix Canadian elections. And even the most secure system does not remain ever so; even now Communication Security Establishment officials are warning of new "quantum computing" systems expected to be launched within a decade which may render inadequate all current computer encryption systems.³⁰

Many people say, "I can bank online, so why shouldn't I be able to vote online?" Banking systems, however, are by their very nature different from voting systems. In banking, every transaction is recorded along with all the details of who participated, the amounts involved, and so on. If fraud is suspected, an audit trail exists that links the identity and conduct of each user, and which can be followed to help determine what happened. Because ballots must be secret, online voting systems cannot link names to votes; thus there will be no way to determine whether or not fraud has occurred or who committed it.³¹ There is no paper trail to follow up if questions are raised, and no audit trail that can be checked. The objectives of keeping elections demonstrably fair and maintaining ballot secrecy are mutually conflicting; no such paradigm exists with online banking. While no voting system is perfectly tamper-proof, a properly scrutineered paper ballot is the only way we know to meet both of these conflicting objectives. Banking systems accept a certain level of fraud as inevitable; and where fraud is detected, the transaction can often be reversed. With online voting, a court cannot order a hand count to confirm an election result; and even if fraud were confirmed, officials cannot go back after the fact and correct the error. There is also no way to ensure that the voter access data actually got to the intended voter. A voter can be coerced to sell his/her PIN number and password.³² In addition, there is no way to ensure the voter was able to vote in private, and not supervised by a dominant family member. As S. I. Petersen of Nanaimo asks, "How long before there would be YouTube videos of cats, dogs or children voting—making a mockery of the election process?"³³ With paper ballots, electoral fraud,

when it occurred, tended to be localized and limited. With online voting, fraud could potentially take place on a national scale.³⁴ As former B.C. Liberal leader Gordon Wilson points out, there is simply no substitute for showing up at a physical polling station and having one's identity verified before being allowed to cast a ballot.³⁵

Very well, some might say; but even if the technology to hold a secure election online does not exist today, it will undoubtedly be developed very soon. Perhaps; yet I would argue that this will not solve a more fundamental problem, which is that even if Internet voting could one day be made 100% secure, it can never be visibly and demonstrably secure in the way a properly scrutineered paper ballot can. This is important because without a visibly secure process, rumours of secret fixes will abound. Such rumours would surely increase cynicism about the electoral process, and quite possibly result in a decrease in voter turnout. Not every citizen can be an information technology expert. The idea of 'everyone marks a paper and puts it in a box, and at the end of the day, in front of representatives of each candidate, they dump them out and count them' is on a human scale. To move to an online or any electronic voting system is to lose this in favour of another level of 'trust the experts'. This yields conspiracy speculation. Would such speculation be baseless? Perhaps. But a conspiracy theory need not be well-grounded to deter people from bothering to vote. Get-out-the-vote efforts in the U.S. today regularly encounter resistance from those who feel that voting is pointless because they do not trust the counting machines. The only way to prevent the conspiracy speculation is to have a count that is not just accurate, but demonstrably and visibly accurate.

Voting is a fundamentally important responsibility of all citizens in a democracy, and gathering at a voting place to cast one's ballot makes it visible to the community. Voters are encouraged to bring their children with them, in order to impress upon them the importance of voting. Physically coming together as a community in this way underlines the importance of democratic participation. Voting by mobile phone, by contrast, would to an onlooker be indistinguishable from ordering a pizza. The routines and practices of our democracy must remain visible, lest they slowly fade away over time. One would not have an online wedding; in the same way, if we are to consider the act of voting important, it needs to remain visible and concrete, and not be rendered a flippancy. We want to encourage voter participation as much as possible; but surely it is not too much to ask of those who wish to participate in the democratic process to physically attend their local polling station on election day and cast their ballot along with their fellow citizens.

Paper ballot elections remain on a human scale. The automation of voting systems by online or other electronic means results in this quality being lost, and can increase cynicism and disengagement.

Some have also argued for online voting as a cost-saving measure. However, the preliminary report of the Elections BC panel mentioned earlier downplayed any potential cost-saving effects. Certainly all the polling station infrastructure would still be needed (unless it were decided that all votes needed to be cast online, which would undermine the common argument that 'you could still vote on a paper ballot if you liked'—an argument which entirely misses the point anyway.) Indeed, having both online and paper voting options would make elections more expensive, which in turn would over time increase pressure to abolish paper balloting entirely. While having online

as the only voting option would undoubtedly indeed result in less expensive elections, if such an arrangement were ever established, the expense of returning to paper balloting would present such an obstacle that online voting would be very difficult to dislodge—even if it turned out, once put into practice, to be very problematic. Paper ballot elections, especially in a large and sparsely populated land like Canada, are expensive, yes; but democracy is not something to be done on the cheap.

Secure elections cut right to the heart of our democracy. The paper ballot is, as Victoria Collier puts it, "the key physical proof of our power as citizens."³⁶ This reality is being increasingly recognized around the world. In June 2012, Ireland sent all of its electronic voting machines to the scrap heap³⁷; and in 2009, Germany's constitutional court ruled that vote counts must be something the public can authenticate without any specialized expertise.³⁸ This is really the most important point to be made, because someone being willing to resort to fraud in order to secure political power is not a remote possibility, but something inherent in our flawed human nature. People often consider electoral fraud in the same light as one might a criminal proceeding, wherein a defendant is presumed innocent until proven guilty. But when it comes to citizens' confidence in their electoral process, the burden of proof should properly be reversed. Rather than assuming an election was legitimate unless fraud can be proven beyond reasonable doubt, the public is absolutely entitled to demand that every election be visibly and demonstrably secure. No citizen should ever have to wonder whether their vote was counted, let alone be called upon to trust that it was.

As Andreas M. Antonopoulos, the information technology expert and author of Mastering Bitcoin puts it, "I don't believe in online, electronic, or machine-assisted voting. I think the most proven, most reliable, most fraud-proof, most auditable, and most fair voting system that exists on this Earth is paper and pencil."³⁹ Please make sure that we do not lose this fundamental cornerstone of our democracy in our rush to embrace the latest technological wonders. Thank you.

Notes:

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2. Collier, Victoria. How to rig an election. *Harper's magazine*, 2012 November.
3. Ibid.
4. Miller, Mark Crispin. None dare call it stolen. *Harper's magazine*, 2005 August.
5. Collier, Ibid.
6. Miller, Ibid.
7. Ibid.
8. Collier, Ibid.
9. Ibid.
10. Ibid.
11. Ibid.
12. Ibid.
13. Ibid.

14. Koerner, Brendan I. Welcome to the machine. *Harper's* magazine, 2004 April.
15. Ibid.
16. Collier, Ibid.
17. *CCPA Monitor*, 2014 November.
18. Ibid.
19. Collier, Ibid.
20. Worthington, Cristian. An open invitation to voting fraud. *Vancouver Sun*, 2011 May 10.
21. Ibid.
22. Hurtig, Mel. The Arrogant Autocrat. 2015: Hurtig Publishers, Vancouver.
23. *Vancouver Sun*, 2013 October 24.
24. *CCPA Monitor*, 2015 September/October.
25. *Guardian Weekly*, 2016 March 18.
26. *Vancouver Sun*, 2013 October 24.
27. *Vancouver Sun*, 2015 September 14.
28. *Vancouver Sun*, 2013 December 16.
29. Worthington, Ibid.
30. *Vancouver Sun*, 2016 September 24.
31. Worthington, Ibid.
32. Ibid.
33. Peterson, S.I., letter to the editor, *Vancouver Sun*, 2015 June 1.
34. Collier, Ibid.
35. *Georgia Straight*, 2011 February 17.
36. Collier, Ibid.
37. Ibid.
38. Ibid.
39. *Georgia Straight*, 2015 March 26.