

Election Integrity 2018: Are We Better Off Than We Were in 2016?

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An interview with Douglas Jones focuses on ensuring election integrity and considers areas of concern.

Douglas Jones is a professor of computer science at the University of Iowa. He has been one of the leading authorities on voting technology for the past 20 years and was a principal investigator for the National Science Foundation-funded ACCURATE project [A Center for Correct, Usable, Reliable, Auditable, and Transparent Elections (accurate-voting.org)]. His recent book with coauthor Barbara Simons, *Broken Ballots: Will Your Vote Count* (see “For Further Reading:

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Election Integrity”), is the seminal work on current voting technology and highly recommended, as is Jones’ recent talk (www.youtube.com/watch?v=i3ZN3JVd-KI). Much of Jones’ professional work is available on his website: www.cs.uiowa.edu/~jones.

This is the second email exchange between myself and Doug Jones on the subject of election integrity. In October 2016, we focused on voting machines. This time we enlarge the scope to election integrity. This “interview” resulted from our email exchanges during August and September 2016 and is included in this issue to coincide with the 2018 midterm elections.

HAL BERGHEL: One problem with ensuring confidence in the integrity of elections has always been the haphazard maintenance of voter registration lists. This is the hot button issue for many partisan voter suppression advocates [consider, e.g., <https://www.eip-ca.com/presentations.htm> and <https://www.washingtontimes.com/news/2018/>

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feb/26/lawsuit-100000-noncitizens-registered-vote-pa/]. Of course, there is a difference between poorly maintained voter registration lists and voter impersonation fraud, but this distinction seems to be lost on such partisans. What has been done in recent years to validate, maintain, and protect these lists?

DOUGLAS JONES: Historically, voter lists were maintained by county election offices, with very little central control. One of the changes brought about by the Help America Vote Act of 2002 (HAVA) was the centralization of these lists at the state level. Section 303 requires this and that all local election officials have online access to their state's central list. Centralization of these lists means that, after an in-state move, voters' old voter registration is automatically deleted when they register at their new address.

HB: What are the risks of maintaining voter registration lists online? To what extent may these risks be mitigated

by the use of provisional ballots and same-day registration?

DJ: If an outside attacker can get into the voter registration system, there is the possibility that they could change or delete voter registration records. In 2016, the Illinois Board of Elections acknowledged that outside attackers had gained access to its voter registration system.¹ In that case, apparently, no voter registration data were altered. But, had the attackers altered or deleted voter registrations, they could have disenfranchised voters. Even requesting absentee ballots on behalf of voters can cause problems. In 2013, an overzealous campaign worker in Miami used his computer to file online absentee ballot requests on behalf of 20 local voters. He was caught because all of the requests were submitted in quick sequence from the same computer.² A more sophisticated attack, filing the requests from different computers and asking that the ballots be mailed to faraway places, could have disenfranchised a significant number of voters.

If the voter registration system has been compromised so that a voter is incorrectly omitted from the voter list or marked as having already voted, we have one very important defense, provisional ballots. Section 302 of HAVA requires that voters be offered a provisional ballot if they affirm that they are registered and eligible to vote. State and local election officials are then required to investigate whether the ballot should indeed be counted. Unfortunately, the rules for counting provisional ballots vary significantly from state to state, and, in some states, voters must take additional actions before their provisional ballots can be counted.³

In 17 states plus the District of Columbia, there is a stronger defense: same-day voter registration.⁴ Advocates of same-day registration emphasize its effect on turnout as its primary benefit, but, in states with same-day registration, if a hacker has deregistered a voter, the voter can simply reregister at the polling place. The one weakness of this is that the ID requirements

FOR FURTHER READING: ELECTION INTEGRITY

- » A. Berman, *Give Us The Ballot: The Modern Struggle for Voting Rights in America*. London: Picador, 2015
- » T. Campbell, *Deliver the Vote: A History of Election Fraud, an American Political Tradition—1742–2004*. New York: Basic Books, 2006.
- » J. Conyers and A. Miller, *What Went Wrong in Ohio: The Conyers Report on the 2004 Presidential Election*. Chicago: Chicago Review Press, 2005.
- » D. Jones and B. Simons, *Broken Ballots: Will Your Vote Count?* Stanford, CA: Center for the Study of Language and information, 2012.
- » M. C. Miller, *Fooled Again: The Real Case for Electoral Reform*. New York: Basic Books, 2007.
- » A. Rubin, *Brave New Ballot*. New York: Morgan Road Books, 2006.
- » T. Wang, *The Politics of Voter Suppression: Defending and Expanding Americans' Right to Vote*. Washington, D.C.: Century Foundation, 2012.

for registration may be stronger than those for voting and not all voters may be able to get the necessary documents before the polls close.

HB: What does the scientific and scholarly research show regarding the effect of increasing voter ID requirements on election integrity (i.e., is it more likely to discourage illegal voting or suppress legal voting). And what does research reveal about the extent of individual voter fraud—e.g., either by voter impersonation, voter nullification through filing absentee ballot requests, et cetera? Is this really a problem?

DJ: Approximately 7% of all US citizens may not have ready access to documents to prove their citizenship, and 11% may not have government issued photo ID documents.⁵

The Heritage Foundation, a proponent of voter ID requirements, maintains a national database of voter fraud cases; as of this writing, they have identified 1,145 proven instances of voter fraud over the past decade or so.⁶ This database mixes voter impersonation and ineligible voting—which voter ID requirements can defend against—with misuse of absentee ballots and other problems that are very difficult to defend against with ID requirements.

It is difficult to estimate the fraction of votes that are fraudulent from the Heritage Foundation data, but the number of cases they have identified that could have been prevented by strong voter ID requirements appears insignificant compared to the fraction of citizens who would have difficulty satisfying a voter ID requirement.

It may well be that many citizens with marginal documentation are unlikely to vote anyway and therefore not impacted by voter ID requirements. But it is also clear that the number of voter fraud cases that stronger ID would deter seems extraordinarily small compared to the number of potential voters impacted by ID requirements.

The Heritage Foundation data do raise serious questions about absentee

ballot fraud. There is evidence that, in some jurisdictions, corrupt political machines make significant use of absentee ballot fraud in order to maintain their grip.

There is evidence that the number of noncitizens voting in the United States, while small, may be significant.⁷ While there is controversy about the significance of this work, one noteworthy result is that voter ID requirements pose no problems for most noncitizens attempting to vote. US drivers licenses and other common identity documents are useful as proof of residence, but not citizenship.

HB: Is there legitimate research that shows that motor-voter based registration encourages illegal voting?

DJ: The National Voter Registration Act of 1993, Section 8(d), makes it difficult to strike names from the voter rolls in fewer than four years without voters affirming that they have moved. The result of this, particularly in areas with high turnover, is large numbers of registrations for voters who have long since left and registered elsewhere. These “duplicate registrations” are the basis for many allegations of voter fraud, although the vast majority of voters who are involved are unaware that they remain registered at a previous residence.

HAVA has reduced the severity of this problem by centralizing in-state voter registration lists, but the problem remains for voters who move between states without properly informing their former jurisdiction that they have moved.

HB: What is the current status regarding the use of auditable paper ballots, voter verifiable paper audit trail, and so forth? How many states, what percent of votes cast, et cetera? (https://ballotpedia.org/Voting_methods_and_equipment_by_state#cite_note-verify-1)

DJ: Over 64% of US counties use paper ballots, mostly machine counted.⁸

The use of direct-recording electronic (DRE) voting machines peaked around 2006 and has gradually declined since, while optical-scan usage has gradually increased.⁹

It is worth noting, however, that technological advances blur the categories used in the studies cited. Some of the DRE machines have voter verifiable paper trails, allowing effective audits. On the other hand, the most recent generation of ballot scanners also serve as ballot marking devices. These include touch-screen interfaces and can be configured to print paper ballots directly into the scanner, without giving the voter the option of inspecting the ballot before it is scanned. While this configuration is valuable for voters with disabilities, it makes these machines vulnerable to software attacks that cannot be corrected by audits.

HB: One would think that a critically important consideration of any election is the ability to audit the results and confirm the outcomes. However, as VerifiedVoting.Org (<https://www.verifiedvoting.org/resources/post-election-audits/>) and the National Conference of State Legislatures confirm,¹⁰ many states lack adequate auditing procedures or have no legal requirements at all (Alabama, Arkansas, Delaware, Georgia, Louisiana, Maine, Mississippi, New Hampshire, Oklahoma, and South Dakota), and ten states (Hawaii, Nebraska, North Carolina, North Dakota, Rhode Island, South Carolina, Utah, Texas, Virginia, and Washington) do not require that the audits be conducted in public. Have you observed any recent trends regarding election audit legislation that would give one room for optimism?

DJ: The numbers quoted are an extraordinary improvement over the situation 50 years ago. In 1965, California passed the first post-election audit law requiring the hand counting of a random sample of the cast ballots.¹¹ This was the only such law in the country

for a number of years, until the 2000 presidential election led other states to adopt similar laws.

Phillip Stark proposed risk-limiting audits a decade ago. California began experimenting with risk-limiting audits in 2010, and Colorado reported the result of a pilot project in 2015.¹²

Unfortunately, among states that do perform election audits, the utility of those audits varies immensely. Some states allow electronic tabulation as part of the audit, some states only audit the canvassing process and not the actual ballot counts, and some only audit regular ballots and not provisional or absentee ballots. Some states permit the audit to correct the election outcome if discrepancies are found, while others do not.

HB: Obviously states may be reluctant to require expensive auditing procedures. However, this does not explain the reluctance of states to endorse inexpensive, risk-limiting audits such as those proposed by Phillip Stark and his colleagues (<https://www.stat.berkeley.edu/~stark/Vote/index.htm>). Why aren't more states moving to inexpensive, risk-limiting audits?

DJ: In speaking to election officials, I have heard various reasons. Some hold that recounts of close races are frequent enough to make audits unnecessary. I have also heard that the public demands instant results and that both audits and recounts diminish public confidence in the electoral process by delaying the election results and creating the appearance of uncertainty.

I do not believe that these are sound arguments. I suspect that the real reason for opposition to audits rests on three arguments. First, nobody enjoys the possibility that mistakes they made will be exposed. Second, once someone has been told that they won an election, they do not welcome anything that raises questions about that election. Finally, audits, even inexpensive ones, do cost money.

Finally, while risk-limiting audits are possible with some election procedures in current use, they are, at best, tricky. If we accepted auditability as an upfront requirement for our voting systems, we would make small changes, both procedural and technological, that would make the process considerably more straightforward.

HB: It is claimed that the Mueller investigation seems to have produced considerable tangible evidence about Russian involvement in the 2016 US presidential election.¹² Please comment on your perception of the level of threat of foreign interference in future US elections.

DJ: Regardless of the existence of any collusion between Russia and any campaign within the US, it seems clear that Russia did meddle in the 2016 race. There is ample evidence that they have also meddled in several European races. I believe that we must assume that they believe that their meddling was a success, and, based on that success, we must assume that they will invest in additional meddling.

The scary thing about the meddling we have evidence of is that, while technologists have been raising warnings about technical vulnerabilities of the voting systems, it appears that Russia's greatest successes have been elsewhere. Instead of hacking voting systems, they have learned how to hack the electorate itself. This in no way reduces my concerns about technical vulnerabilities in voting machines, but it makes me very concerned about the decline in conventional journalism and the rise of crowdsourced social media as a primary news source for much of the population.

HB: One of the consequences of the expose on the deficiencies of the Diebold Accuvote DRE voting machines is that manufacturers have gone to far greater lengths to conceal information about source code and electronics of voting machines from the public. How

confident should we be that today's voting machines are more secure than they were a decade ago?

DJ: I have no particular reason to be confident. I took my first programming course in 1968, and, if there is one thing I have learned in that half century of programming, it is that there is one product that programmers can be relied on to produce: bugs. Today's voting systems are subjected to significantly more scrutiny than those of 20 years ago, but they are also significantly more complex, integrating assistance for voters with disabilities, pollbook functions, and considerably more sophisticated user interfaces. This requires more code, and that, in turn, will produce more bugs and greater challenges for those inspecting and testing the code. If we genuinely want secure systems, we must find ways to make the security critical parts small and simple, and I do not see that happening.

HB: Only three of the last seven US presidential elections were determined by the majority of popular vote, and in two of these (2000 and 2016) the winner failed to achieve a plurality. Isn't there a sense in which the public might legitimately claim that recent elections were "rigged"?

DJ: Yes, the elections were rigged, by the framers of the US Constitution. A presidential vote cast in Montana has about three times the weight of a vote cast in California. That is how the Electoral College works. That system may have made a great deal of sense when mobility was low and electors were selected by state legislatures, but I cannot see how to justify the Electoral College system after around 1900.

It is also difficult to see how the national popular vote can be considered to be a fair measure when each state has different rules for exactly who is permitted to vote. Can felons vote? What documents are acceptable forms of voter ID, when is that ID required, and how much does it cost? If we are serious

about replacing the Electoral College with a popular vote, we must have uniform national rules on these issues.

So long as we use simple plurality to select the winner, both voters and candidates need to understand that third parties will primarily serve as spoilers, as they have done regularly over the past half century. There are numerous alternative voting systems that would make third parties far more interesting, but the one with the strongest support these days, instant-runoff voting (IRV), does not appeal to me. I have audited an IRV election (for student government at the University of Iowa), and I have difficulty seeing how to audit such an election on a national scale. ■

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