Sandford Fleming as Electoral Reformer

Duff Spafford

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Duff Spafford died May 14, 2014 at the age of 78. A Professor Emeritus of Political Studies at the University of Saskatchewan, Duff had spent the majority of his life in Saskatoon and at his beloved university. He first attended the University of Saskatchewan as a student in the 1950s and, following graduate studies at the London School of Economics, he served with distinction on the University of Saskatchewan’s faculty for four decades.

Duff Spafford’s contributions to political science were highly valued both in Canada and abroad. His best known works included an award-winning book (co-edited with Norman Ward) Politics in Saskatchewan; his empirically demonstrated link between the level of highway construction and the timing of provincial elections, published in the Canadian Journal of Political Science/Revue canadienne de science politique, (a journal on which he later served with distinction as Assistant Editor); and, perhaps most important, his widely acclaimed pair of articles published a year apart in the early 1970s in the American Political Science Review on (a) the Canadian electoral system and (b) the “equilibrium division” of the vote. Much of Duff’s work was ahead of the political science curve, for unlike most fellow political scientists at the time he drew on his training in economics through the application of mathematical and statistical analysis to empirically testable questions. His meticulous scholarship gained an appreciative audience—both in Canada and abroad.

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One of Duff’s many interests was collecting antiquarian books. He assembled a remarkable collection of 19th century—often first-edition—works on electoral systems and representation, principally by the English Utilitarians. Those who shared a story or a drink with him knew that Duff would invariably offer some unexpected, often humorous but always enlightening, insight into the subject discussed. All the better if “methods of election” could somehow be worked into the topic. Even better if it lent itself to a reference to Jeremy Bentham, John Stuart Mill, or—Duff’s favourite—Thomas Hare.

His third-year undergraduate “Methods of Election” course was regarded by political science students as one of the “tougher” ones in the department, but nonetheless hugely rewarding and intellectually stimulating. One of his tricks of the professorial trade was to enliven the topic under consideration by drawing examples from a variety of worlds. That is nowhere better illustrated than in a paper Duff delivered to his colleagues and students at a graduate seminar in the Department of Political Studies at the University of Saskatchewan in 2004.

The paper, a study of Sir Sandford Fleming as possibly Canada’s first electoral reformer, afforded Duff the opportunity to touch a number of different bases in remarkably short fashion. In so doing he pulled his audience into his narrative and his analysis. We learned about Fleming’s preferred method of election, and in the process Duff skillfully drew examples from, or made passing reference to, jury selection, ancient Athens, the National Hockey League, the British Columbia Citizens’ Assembly, and the New Testament.

As the Electoral Reform issue has been broached in Canada by the Trudeau Government’s stated intent to change the method of voting, and as a tribute to Duff Spafford’s succinct and gently humorous account of Sandford Fleming’s preferred method of election, the paper is presented as delivered to the Department of Political Studies at the University of Saskatchewan a decade ago.

KEY WORDS: Sandford Fleming, Electoral Reform, Canadian Politics

First, a few facts about Sandford Fleming. He was born in Kirkcaldy, Scotland in 1827, the son of a building contractor. As a schoolboy, he showed ability at mathematics and drawing. At the age of 14, he quit school, not to return, and apprenticed to an engineer and surveyor. At 18, he came to Canada, accompanied by an older brother. For income while he studied for his examination as a land surveyor, he made sketches and town maps and sold them. He was later to
design the first postage stamp of the province of Canada—a three-penny stamp showing a beaver with trilliums in the foreground: a federal animal and a provincial flower at a single stroke!

At the age of 22, now a land surveyor and living in Toronto, he helped to found a scientific society, the Canadian Institute. Its membership quickly fell away. The story is that there was a meeting in 1850 attended by only Fleming and one other member. Instead of giving up on the Institute, they elected each other officers and decided to meet weekly instead of occasionally. The Institute survived, and Fleming made use of it as a platform for several of his projects. It still exists today as the Royal Canadian Institute for the Advancement of Science and claims to be the oldest scientific society in Canada. Among the activities it sponsors is a series of lectures on scientific subjects on Sundays at the University of Toronto.

Have I mentioned that the year before, when he was 21, Fleming built and tested a prototype of the inline skate?

In later life, he was a famous man in Canada and acquired a reputation abroad as well. He was the chief engineer—that is the person who proposed the route and construction specifications—of the Intercolonial Railway, the one that figured in the Confederation bargain, as well as the railway to the Pacific that became the CPR. Internationally, he was recognized as the leading proponent of Standard Time. There is a popular book written about this chapter in Fleming’s life: Clark Blaise, *Time Lord: The Remarkable Canadian Who Missed His Train and Changed the World* (Toronto: A.A. Knopff Canada, 2000). In Arthur Herman’s book *The Scottish Enlightenment: The Scots’ Invention of the Modern World* (London: Fourth Estate, 2002), Fleming is described as the Canadian who “best exhibited the key virtues of the Scottish mind and what it could do” (312).

Fleming was an influential advocate of the building of a telegraphic cable across the floor of the Pacific from British Columbia to Australia. He revised the Presbyterian hymnbook, and he tried to talk the French into changing the metre so that it would measure precisely forty inches. (This last may be an example of the kind of thing the Scottish mind can’t do.)

Fleming had yet another project, the one I will talk about today. The project was to reform Canadian politics by changing the way in which representatives came to be chosen. Fleming argued that instead of being elected, Members of Parliament should be chosen by lot—that is, by chance.
Fleming’s Scheme
Fleming puts forward his proposal for selecting representatives by lot in a paper delivered to section III of the Royal Society of Canada (of which he was a founding Fellow) in 1889. The paper is entitled “A Problem in Political Science,” and the problem in question is that of devising an appropriate system of representation for a democracy such as Canada’s. Fleming argues that the system of election and representation in place in Canada had failed, in part for reasons that are familiar from the writings of John Stuart Mill.

The system leaves some electors without representation—those who are on the losing side in elections—and can lodge legislative power in the hands of a minority rather than a majority. Further, the system encourages division instead of unity in the nation and conflict instead of co-operation, when unity and co-operation are required for progress. (Here, it may be noted, Fleming parts company with Mill, who was a believer in adversarial politics.) Finally, the system is unscientific.

He writes that “the problem which science may be asked to solve is simply this: to devise the means of forming an elective assembly which practically as well as theoretically will be the nation in essence” (118, italics in original). His argument is that the lot is the best means to produce an assembly that is “the nation in essence.” First, as a means of producing an assembly the lot is fair, favouring no candidate over another. Second, it could be said of an assembly so produced that it was “the nation in essence,” just as it could be said of a statistical sample fairly drawn from a population that it is “the population in essence.”

Here is a simple case that Fleming presents in his paper. Twenty electors are divided into groups of five. Each group has been formed to nominate a candidate. Three groups, or 15 electors in total, nominate and prefer candidate “A”; the fourth group, or 5 electors, nominate and prefer candidate “B”. Thus there are two candidates, A and B. The electors do not vote; instead, the winner is chosen by lot. Imagine “A”’s name being written on 15 slips of paper and “B”’s on 5 slips, the 20 slips of paper then being put in a hat and one slip drawn out. “A” would be chosen with probability p 15/20 = .75, and “B” with probability 5/20 = .25.

But hold on. Should there even be a possibility that “B”, preferred by only a smallish minority, would be chosen? Wouldn’t “B” be altogether unrepresentative of this group of 20? Yes, Fleming says, but that isn’t the
point: “We must bear in mind . . . that the primary object is not so much to have particular sections of the country, as to have the whole nation fairly represented in parliament”(120).

To get on the right track, think of four such groups of 20 making up a nation of 80. The mathematical expectation is that such a nation of 80 would have three “A”-type representatives and one “B”-type representative. The assembly of four representatives would be the nation in essence. Fleming’s concept of representation is provocative, flying as it does squarely in the face of the Canadian tendency to emphasize representation of localities, regions, and sections. Fleming insists that representation is a concept that should belong to the whole nation rather than to any of its sections.

What the electors do in this scheme is nominate. Fleming has a group of 100 electors able to nominate a candidate in a constituency with a total electorate of 2,000. Candidates might be nominated by more than one group; account would be taken of this in setting up the problem of selection by lot as in the example recently before us. All else equal, with every additional 100 people who prefer (that is, who nominate) Jones, the probability that Jones will be chosen representative will be augmented. Fleming holds that a nomination process without any of the “excitement and heated feeling” that mark popular election will bring forth worthier candidates. In any case, that a candidate has at least 100 supporters provides some assurance that the candidate is not a dud. As well, the public’s natural preference for moderate candidates will find expression more easily. Those chosen by lot from among candidates worthy and moderate will make up “an august body which as closely as possible would be a true mirror of the enlightened mind of the nation to reflect its opinions, its wisdom, and its virtues”(122).

Besides what has been noted, Fleming claimed for selection by lot that it was endorsed by the ancient Greeks and by the Christian tradition. He makes much of the latter by calling his scheme the “Apostolic” method, for when a replacement was sought for Judas Iscariot as a disciple of Jesus the lot was used to make a choice. (Acts I: 15–26.). He hints at an old idea connected with the lot, and that is that it provided a way for God to make His will known to man.
Here I digress briefly. A variation on Fleming’s scheme that admits voting at stage 1 to determine the relevant probabilities for the application of the lot at stage 2 is rather interesting (see Appendix).

Under this scheme strategic voting would never be called for because of the mediation of chance rather than the plurality rule. But this variation would in one important respect violate the spirit of Fleming’s scheme, which banishes voting altogether. There is no voting in his scheme and, for that matter, no political parties either.

What is kept out of sight in Fleming’s paper is his profound distaste with partisan politics in Canada. Blaise says of Fleming that he “prided himself as a civil servant on never having voted, nor of ever having uttered a partisan comment in public” (80). As chief engineer of two railways he had had to contend with politicians’ attempts to get the rail lines to go where local interests wanted them to go and with the goings on of politicians in the House of Commons who treated railways as partisan footblls. His own work as an engineer was criticized in the House and made the subject of investigation, and in 1880 he lost the position of chief engineer of the Pacific railway. (He got into the picture of the driving of the last spike, but that was as a member of the board of directors of the Canadian Pacific Railway.) I don’t think it is going too far to say that one of Fleming’s objects in championing the lot was to cut political parties down to size and, if possible, to eliminate them.

For the full force of Fleming’s views on parties and partisan politics one has to go to a speech entitled “Parliamentary vs. Party Government” that he delivered as chancellor of Queen’s University in 1891, the university of which he was chancellor for 35 years. Fleming begins on an indignant note with a reference to a recent political scandal, deplores the “demoralizing tendency” of Canadian politics, says we are getting more like the Americans, then launches into a long diatribe against what he calls “partyism”—the belief that a democracy cannot function without political parties. (The scandal referred to goes unidentified but is presumably the so-called McGeevy-Langevin Affair in which the federal Department of Public Works made payments to certain businesses in the province of Quebec which in turn made donations to a slush fund maintained by an MP on the government side of the House.)

“Partyism,” with its accompanying “spirit of conflict and destruction,” was an “anachronism” in an era of “construction and production,”
“human justice and human reason” (133). Fleming was an admirer of things British, the Empire especially, but took a republican view of good government. The people were “the source of all law and all power” (132). The trouble was that political parties were getting in the way of the people’s efforts to improve their condition politically and otherwise.

In the following year, 1892, the Canadian Institute published a collection of writings on the themes of electoral reform and party government. Included in the collection are Fleming’s Royal Society paper and his Queen’s University speech. The collection was put together by Fleming and published by the Institute on his initiative. On the title page is “An Appeal to the Canadian Institute on the Rectification of Parliament by Sandford Fleming, C.M.G., LL.D, Etc. Together with the Conditions on which the Council of the Institute Offers to Award One Thousand Dollars for Prize Essays.”

There are 48 items in the collection, divided about equally between the two themes. The literature on electoral reform asks a great deal of the uninitiated reader, and here it has to be said that Fleming acquires himself very well. His selections are pertinent; either he or an assistant had more than a casual acquaintance with what had been written on the subject in several countries. Besides found pieces, there are two that he had prepared: one is a description of Thomas Hare’s method of election, the other a translation of the constitution of Denmark. It is a very respectable collection.

The Canadian Institute’s offer of $1,000 for the best essay on the rectification of Parliament attracted 11 entries which were printed for internal use by the judges. Most of the entries follow well-traveled paths. The authors’ names were not revealed, but it is clear that the competition attracted some entries from other countries including one from Australia. I don’t know which entry won the money, or indeed whether it was even awarded.

I am going to leave Fleming at this point to say something about selection by lot in ancient Athens and the use of the device in recent times. (It won’t be long.)

**Use of the Lot in Ancient Athens**

The ancient Athenians used the lot extensively to choose public officials. In his *Election by Lot at Athens*, J.W. Headlam-Morley (1933, p.2) writes:
It is scarcely too much to say that the whole administration of the state was in the hands of men appointed by lot: the serious work of the law courts, of the execution of the laws, of police, of public finance, in short of every department (with the exception of actual commands in the army) was done by officials so chosen.²

Headlam–Morley (1933, p.2) argues that the lot was thought by the Athenians to be a thoroughly democratic institution, one that was in fact necessary for true democracy. Its purpose, he says, was to ensure that there would be no institution to rival the Assembly in Athenian direct democracy. For example, the Assembly would need a council of some kind. If members of the council were to be elected, rich men would try to influence the outcomes of the elections. Moreover, some members of the council would be re-elected and with time acquire the inside knowledge that would make them powerful. It would be better to select members by lot, which meant effective term limits, no guarantee of re-election, and no special access to office for anyone. There was also, he says, a “prejudice [in ancient Athens] against party organization” (34). Judges selected by lot were amateurs, and so the laws were stated simply; there was no reliance on precedent, no legal expertise, no special abilities to be ranged against the judgment of ordinary citizens. Everything was designed to make the Assembly go unchallenged.

The Lot in Recent Times

It can’t be said, I think, that the lot was ever entirely repudiated by modem democracies. Many, like Canada, use it to select jurors. But even when Fleming was championing selection by lot, social reformers were looking elsewhere for solutions to problems that concerned him—especially in the direction of novel electoral systems involving voting. I have found only one other piece published in Canada on the lot, an anonymously written pamphlet: Election by Lot: The Only Remedy for Political Corruption.³ Perhaps with two authors on the topic we could claim something approaching a Canadian tradition. The device was ignored meanwhile—as far as I can tell—in Great Britain and the United States.

But there was a renewal of interest in the 1960s in selection by lot (or “sortation” or “random selection” to use the terms now favoured) that has been sustained in a number of countries and has resulted in some interesting social experiments. One of these is going on at the moment [2004] in British
Columbia, which you will hear about in a few days when Professor Carty visits our department [then named the Department of Economics and Political Science at the University of Saskatchewan]. The reasons for the revival of interest are many, but an important one is the desire on the part of reformers to reduce or circumvent the mediation of parties between citizens’ preferences and public policy—a desire Fleming shared.

Appendix

Here is a variation of Fleming’s scheme in which voting determines the probability that a given candidate will be successful in an election. Suppose we ask electors to cast one vote each for a candidate: there are three candidates “A”, “B”, and “C”. The results are: for “A”, 45 votes; for “B”, 40; for “C”, 15. Instead of declaring “A” elected as we would under the simple plurality rule, let us deposit in an urn 45 balls marked “A”, 40 balls marked “B”, and 15 balls marked “C”. One ball is now drawn fairly from the urn, and the mark on the ball chosen determines the winner. (Or we could mark off a roulette wheel in accordance with the voting results). Anatol Rapoport mentioned this method of selection in a paper he gave to our department in the 1960s. He attributed it to an economist who was studying ways of discouraging strategic voting.

A method of selection which is in use and which employs chance is the National Hockey League entry draft under which, each summer, NHL teams choose among members of the new crop of would-be professional hockey players. The first selections go to the 14 teams who finished out of the playoffs the previous season. At one time, the first selection overall went to the team which had the fewest points. But it was alleged that teams towards the bottom of the standings late in the season were throwing games in order to get the fewest points and therefore the first selection. Chance was then introduced into the system to make finishing last less advantageous. A lottery was established according to which the last-place team would obtain the first selection with probability 0.250, the second-last team would obtain it with probability 0.188, and so on down to the fourteenth-last team which would obtain it with probability 0.005.

Endnote References

1 An Appeal to the Canadian Institute on the Rectification of Parliament: Together with the Conditions on which the Council of the Institute Offers to
award One Thousand Dollars for Prize Essays (Toronto: Copp, Clark, 1892). (Note: All page references are to that edition.)


Endnotes

4 R. Kenneth Carty delivered the University of Saskatchewan’s annual Timlin Lecture on the British Columbia Citizens’ Assembly (of which Professor Carty was Director of Research): “Doing Democracy Differently: Has Electoral Reform Finally Arrived?” March 1, 2004, Saskatoon. 19 pp.

5 Anatol Rapoport (1911–2007), then a Professor at the University of Michigan, delivered a paper in the 1960s on game theory to the Department of Economics and Political Science at the University of Saskatchewan. No record of the paper could be located nor could the date be firmly established.

6 On a concluding note I should add that in addition to the NHL selection method to which Professor Spafford refers, the National Basketball Association also uses a “weighted” lottery to allow draft picks by teams that missed the playoffs in the previous season. Among non-athletic organizations that employ modified lotteries to chose their leaders are at least two religious ones: the Coptic Orthodox Church of Alexandria for the selection of its Patriarch and the Old Order of Mennonites for the selection of their Pastors.