Election of the Green Party Cathaoirleach, 2007

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ABSTRACT   *In the autumn of 2007 the Green Party elected a new Cathaoirleach (Chairperson) by means of a ballot of all of its members. What made the election especially interesting to students of politics is that it took place using a voting system that is rarely used in real political systems, the Borda Count. Because the Green Party was willing to make the full set of electoral data available for analysis, it was possible not just to review the actual result but to consider what the result would have been under alternative voting systems and to investigate some theoretically relevant counterfactual scenarios. In this report, I set out the background and outcome of the election and then use the full set of data to comment on its relevance to some theoretical debates about voting.*

Background

The Irish political system is unusual in its use of the Single Transferable Vote (STV), which invites voters to indicate their preferences among all of the candidates on the ballot paper. There are in principle many other possible procedures for counting such ballots, and their properties have been investigated in a substantial theoretical literature (for more accessible discussions, see in particular Black, 1958; Dummett, 1984, 1997; McLean, 1987; Emerson, 1998, 2007).

The Green Party Constitution specifies that the 'Party Cathaoirleach shall be elected for a term of two years by preferendum through a national ballot of members, except where two candidates are nominated, in which case a simple majority will apply' (Green Party, 2007a). The term 'preferendum' was coined by Peter Emerson in the 1990s (Emerson, 2007) and is also referred to by him, and below, as the Modified Borda Count (MBC). In an election with n candidates, the standard procedure of a Borda Count is for each voter's first preference to be given n points, their second preference $n-1$ points, and so on. The total points given to each candidate are added together, and the candidate with the greatest number of points wins. The MBC is one of several variants of the Borda Count, of which more below. Although Europeans will be familiar with the use of a Borda-like procedure in the Eurovision Song Contest, there are few cases of its employment in real-world

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political decisions (Electoral Reform Society, 2007). Some simulations have been attempted (for example, Baker and Sinnott, 2000), but the use of the count in the Green Party election provides a rare occasion to study its use in a significant political context.

The election occurred as the result of the appointment of the incumbent Cathaoirleach, John Gormley TD, to the post of Party Leader in July 2007. Five candidates were nominated, each requiring the support of 30 party members: Bronwyn Maher, a Dublin City councillor; Dan Boyle, who lost his Dáil seat in the 2007 general election and was subsequently appointed to the Seanad; John Barry, co-chair of the Green Party in Northern Ireland; Phil Kearney, a long-standing party activist; and Paul Gogarty, TD for Dublin Mid-West. Each of the candidates prepared a one-page election address that was sent out with ballot papers; some also referred voters to personal websites. All of the candidates mentioned their relevant experience within the party and in public life, the organisational challenges of the party and the need to ensure that the voice of the members was heard. A common theme was the role of the Cathaoirleach in maintaining the party's independent identity in the context of the new coalition government, with the candidates from outside the Oireachtas arguing that they were the best placed to give independent expression to members' views. There was very little mention of policy differences. None of the statements were openly critical of entering into coalition or of what became the Lisbon Treaty, the two issues that are perhaps the most divisive within the party itself, each of which was the subject of a special conference in, respectively, 2007 and 2008. Maher, who has had a long association with and was publicly supported by the anti-coalition and anti-treaty former MEP Patricia McKenna, may have been perceived by some as a dissident on these issues (she subsequently declared herself against the treaty; *Irish Times*, 19 January 2008). It is also possible that she received some support from those who were unhappy about the way Councillors had been treated in relation to a decision to support Fianna Fáil candidates for the Seanad. By contrast, Boyle was widely perceived as the candidate most closely connected with the party leadership, and had worked closely with John Gormley in the negotiations for entering government. The most visible difference among the candidates, apart from the fact that Maher was the only female candidate, was the level of public office they had achieved. The three public representatives engaged in well-orchestrated campaigns, mobilising supporters in local and wider networks. The other two candidates mounted much more limited campaigns.

The election took place by a postal ballot of party members, with a closing date of 19 October. The party had grown rapidly in recent years: at the end of 2004 it had only 674 paid-up members, but by the time of the election 1581 members were entitled to vote (Green Party, personal communication). A total of 778 ballots were validly returned (one of which was spoiled) and were counted at the Green Party head office in Dublin using a straightforward spreadsheet calculation. The results are presented in Table 1 in the order in which they appeared on the ballot (Green Party, 2007b). Boyle was duly declared elected.

Table 1. Published results of the Green Party election.

Candidate	Score (points)
A: Cllr Bronwen Maher	2180
B: Senator Dan Boyle	2415*
C: Dr John Barry	1883
D: Phil Kearney	1490
E: Paul Gogarty TD	2237

Note: *Winner.

With the permission of the Green Party, I carried out an analysis of what the results would have been under some alternative counting systems, as follows:

- *Plurality* ('*first past the post*'). This system usually requires electors to mark only their favourite candidate. In the current exercise it was simulated by counting first preferences only.
- *Borda Count 'Raw Score'*. In this five-candidate election, five points are assigned to a voter's first preference, four to the second, and so on, and zero points are assigned to unidentified preferences. This method can encourage a form of tactical voting in which voters rank their favourite candidate first and give no rank to any other candidate (a so-called truncated ballot).
- *Borda Count Fraction Method*. This system is the variant of the Borda Count proposed by Dummett (1984) and others. In a five-candidate election, five points are assigned to a voter's first preference, four to the second, and so on, and the sum of the remaining points are divided equally among unranked candidates. It still, arguably, provides some incentive for truncation as a form of tactical voting since someone who votes for only one of *n* candidates gives that candidate twice as many points as the other candidates.
- *Modified Borda Count*. This method adopts a third way of dealing with truncated ballots, which is for the number of points given to a voter's first and subsequent preferences to be determined by the number of candidates the voter actually ranks. Thus, if a voter has ranked only three candidates in an election, the first choice candidate is given three points, the second two points and the third choice is given one point. This approach is designed to eliminate the tactical advantage of voting for only one's first preference. It was the method used in the election under review.
- *Condorcet*. This method uses the ballots to determine, for each pair of candidates X and Y, whether the number of voters preferring X to Y is greater than the number preferring Y to X. The winner of the election is that candidate, if any, who defeats every other candidate. (There are various suggestions in the literature for dealing with cases of 'cyclical majorities' in which there is no clear winner, but these only arise here hypothetically – see below.)

● *Single Transferable Vote* (also known as *Alternative Vote*, popularly known in Ireland as PRSTV). As this is a familiar feature of Irish politics, it does not require a complete explanation here. Broadly speaking, the first count involves counting all first preferences. If no candidate wins a majority of the votes cast, the candidate with the lowest number of first preferences is eliminated and their votes are transferred to their supporters' second preferences. If this second count still leaves no candidate with a majority, the candidate with the lowest total is eliminated, and their votes transferred to the remaining candidates according to the preferences indicated on the ballots. The process continues until one candidate has a majority of the votes.

The point of including three variants of the Borda Count was to see whether the outcome of the election depended on the particular method employed. The data used were those contained in the party's own spreadsheet listing the preferences on each ballot. (As this was not an audit of the election, it was not considered necessary or appropriate to work from the original ballot papers.) Comparisons were made using an appropriately designed spreadsheet. The spreadsheet was also used to investigate some theoretically interesting questions about the election.

Results

The results of applying different counting procedures are presented in Table 2. Boyle was the victor under all six systems. It will be noted that the scores for the Modified Borda Count accord with those issued by the party. It will also be noted that all six systems yielded the same rank ordering among the five candidates.

The results show that in this election, given these ballots, there would not have been any difference in the outcome had one of the other methods been used. In this sense it can be said that Boyle secured a robust victory. Yet it is well known that in different electoral systems voters have incentives to fill out their ballots differently (i.e. to vote 'tactically'). It is therefore worth considering whether tactical voting could have led to a different electoral outcome under a different procedure, and also whether there was any evidence of tactical voting in the current election.

In the theory of voting, 'tactical' voting consists of indicating preferences on the ballot paper that are different from one's real or 'sincere' preferences, for the sake of achieving a better outcome. All electoral systems are in principle open to tactical voting, but different electoral systems encourage different tactics. Most obviously, under a plurality system voters have a strong incentive to vote for one of the two leading candidates, so we cannot assume that the first preferences in the current case represent what the results would have been in a first-past-the-post election. It seems clear in this case, however, that Boyle would also have won under the plurality system, since he was the Condorcet winner and had strong support from those who gave first preferences to other candidates. However, this result is not strictly entailed by voters' preferences. For example, if nearly all of the 315 voters who preferred Gogarty to Boyle had voted tactically for Gogarty, but all of the 436 who preferred

Table 2. Election results under different counting systems.

| | Candidate | | | | | |
System	A: Maher	B: Boyle	C: Barry	D: Kearney	E: Gogarty	Untransf.
Plurality						
First preferences only	165	273	103	38	198	
Winner		Boyle				
Borda count						
First preferences	165	273	103	38	198	
Second preferences	150	170	156	81	173	
Third preferences	183	105	122	148	134	
Fourth preferences	125	101	175	166	91	
Fifth preferences	77	88	137	236	114	
Not scored	77	40	84	108	67	
Raw score	2301	2650	1992	1526	2380	
Winner		Boyle				
MBC method	2180	2415	1883	1490	2237	
Winner		Boyle				
Fraction method	2467	2741	2168	1750	2530	
Winner		Boyle				
Condorcet count						
Number preferring A to B	−123	Therefore B beats A				
Number preferring A to C	139	Therefore A beats C				
Number preferring A to D	305	Therefore A beats D				
Number preferring A to E	−49	Therefore E beats A				
Number preferring B to C	220	Therefore B beats C				
Number preferring B to D	355	Therefore B beats D				
Number preferring B to E	121	Therefore B beats E				
Number preferring C to D	212	Therefore C beats D				
Number preferring C to E	−180	Therefore E beats C				
Number preferring D to E	−290	Therefore E beats D				
Winner		Boyle				
Single Transferable Vote						
First count	165	273	103	38	198	
transfers	13	9	6	Elim	9	1
Second count	178	282	109		207	
transfers	42	27	Elim		30	10
Third count	220	309			237	
transfers	Elim	127			78	15
Fourth count		436			315	
Winner		Boyle				

Note: Untransf. equals Untransterable and Elim. equals Eliminated.

Table 3.   Counterfactual scenarios (see text for details).

Scenario	Issue	A: Maher	B: Boyle	C: Barry	D: Kearney	E: Gogarty
1	Tactical voting, plurality system	124	273	67	25	288*
2	Tactical voting, MBC system	2143	2442*	1846	1453	2380
3	Tactical voting, MBC system	2244	2285*	1932	1507	2237
4	Tactical voting, MBC system	2248*	2181	1952	1557	2237
5	Independence of irrelevant alternatives, MBC system	2032	2334	1711	1782	2492*
6	Truncated voting, Raw Score system	1830	2120	1535	1144	2380*
7	Truncated voting, MBC system	1729	1921*	1438	1115	1516

Note: *Winner.

Boyle to Gogarty had voted 'sincerely' for their first preference, Gogarty would have won a plurality election (Table 3, Scenario 1). Such a scenario seems highly unlikely.

Turning to the outcome of an STV count, there seems to have been no possible strategy by which Boyle could have been defeated. This is because strategy can only be used against a Condorcet winner in an STV election if one can ensure that that candidate is eliminated before the final count, and this requires that each of two other candidates have more votes at that stage. Since Boyle's first-preference votes were more than one-third of the total, this could not have been the case.

In the case of a Condorcet count, the main opportunity for strategy is to generate a cyclical majority that triggers a supplementary counting procedure. If all of those voting Gogarty first and Boyle second had tactically ranked Maher ahead of Boyle, they would have generated a cyclical majority with Maher defeating Boyle, Boyle defeating Gogarty, and Gogarty defeating Maher. In such cases, a supplementary test is used to decide the winner; for example, the person who wins the greatest number of pairwise contests, or the person with the highest Borda score (Dummett, 1984). As it turns out, the strategy just described would not have dislodged Boyle from victory under these supplementary tests and no other similar strategy appears to be more promising.

In a Borda system, the object of tactical voting is to increase the gap between the candidate you want to win and that candidate's most likely challenger. Its most obvious form is to rank your own preferred candidate first and to give the lowest rank to the challenger, although there are more subtle forms, such as voting first for your second preference because you think your first preference has no chance of victory. It is of course impossible in the current analysis to determine whether any of the actual ballots were tactical, but I see no reason for thinking that Boyle's victory depended on such voting. For example, let us imagine that all of the voters who ranked Boyle first and Gogarty fifth had sincerely considered Gogarty second best but had ranked him fifth for tactical reasons. If all those voters had voted 'sincerely' by ranking Gogarty second, Boyle would still have won (Table 3, Scenario 2).

Similarly, suppose we imagine that everyone voting for Boyle first and Gogarty third or lower had actually preferred their number two to Boyle but had perceived that candidate as destined to fail. Reversing all of those preferences would still have given victory to Boyle (Table 3, Scenario 3). It is nevertheless quite possible that the low level of first preferences for some of the candidates reflects tactical voting for candidates perceived as front-runners. Unsurprisingly, 90 per cent of those who voted Barry second or Kearney second gave their first preference to one of the three leading candidates. That would have been a rational strategy for people who sincerely preferred Barry or Kearney but judged correctly that they were unlikely to win the election.

If widely practised, tactical voting can lead to results that everyone regrets. For example, if all of those voting Gogarty first and Boyle second had ranked Boyle as fifth, the victor would not have been Gogarty but Maher, someone over whom they all preferred Boyle (Table 3, Scenario 4). Proponents of the Borda system maintain that the unpredictability of tactical voting gives voters a strong reason to vote sincerely (Dummett, 1984; Emerson, 2007).

In the theoretical literature, an issue commonly raised about the Borda count is that, under some circumstances, the question of whether candidate X or Y wins depends on whether some third candidate, Z, is on the ballot. Such an occurrence is said to violate the principle that Arrow (1963) dubbed, somewhat unfortunately, the principle of the 'independence of irrelevant alternatives'. In the present case, the outcome would not have changed if either Maher or Gogarty had been absent from the ballot paper, so it seems unlikely that the principle was violated. A related question is whether Gogarty could have won if there had been a very similar candidate (a 'clone') who was ranked just below him by all voters. This was tested by inserting a 'clone' of Gogarty in place of Kearney, and preferences adjusted accordingly. In such a case, Gogarty would indeed have won the election (Table 3, Scenario 5). It is of some interest in this regard to consider Miriam Lord's speculation that Gogarty, who has a reputation within the party as an expert tactician, helped Kearney to be nominated with the intention of 'split[ting] the field in his favour' (*Irish Times*, 20 October 2007: 9). In fact, 'splitting the field' is counter-productive in a Borda Count election, since if you present voters with two similar candidates, both of whom they prefer to yourself, it works to your disadvantage. If, however, Gogarty had expected Kearney to be treated as a 'clone' by his supporters, encouraging his candidacy would have been a rational strategy. The truth in the present case is much more mundane: in fact, several of the candidates cooperated to ensure that everyone had an adequate number of nominators, and the ballots show only a slight benefit to Gogarty from the inclusion of Kearney.

The question of what the data show about the different versions of the Borda Count is yet another issue that relates to strategic behaviour. Table 1 shows that Boyle would have won the election under all three versions, but this assumes away the incentive for truncation in the 'raw score' system. That incentive can be easily revealed by observing that if all of those voting Gogarty first had indicated no further preferences, Gogarty would have won a 'raw score' election (Table 3,

Scenario 6). Of course, if all of the voters had adopted the same tactic then Boyle would have won, and in fact the procedure would have turned into a version of the plurality system. It is interesting to note that the MBC system seems to create a positive *disincentive* to truncate, as under that system Boyle's margin of victory over Gogarty would actually have increased (from 178 to 405 points) if all of Gogarty's supporters had truncated their ballots (Table 3, Scenario 7).

At a more general level, the fact that Boyle would have won the election under any voting system raises the question of why the Borda Count should be used at all, rather than the more familiar (to Irish voters) STV system or even the plurality system. This is of course a much bigger question than can be addressed here and I only wish to point out that the current results should not be taken as implying that there is nothing to choose between them. One interesting difference, raised by Peter Emerson (personal correspondence), is that the different systems give very different impressions of the relative popularity of the candidates. The plurality system makes Boyle seem seven times more popular than Kearney, even in the absence of tactical voting, while under the MBC system he seems less than twice as popular. The 'popularity ratio' in STV is harder to define, but would arguably be based on the first count and so look the same as plurality. An appropriate measure of the popularity ratio under the Condorcet procedure would be the number of electors preferring Boyle to Kearney ($n = 549$) divided by the number preferring Kearney to Boyle ($n = 194$), according to which Boyle appears a little under three times as popular (Figure 1).

Although the main aim of this report was to use the election as an opportunity to investigate the operation of a Borda Count procedure in a real political situation, it seems appropriate to comment briefly on what the ballots tell us about intra-party
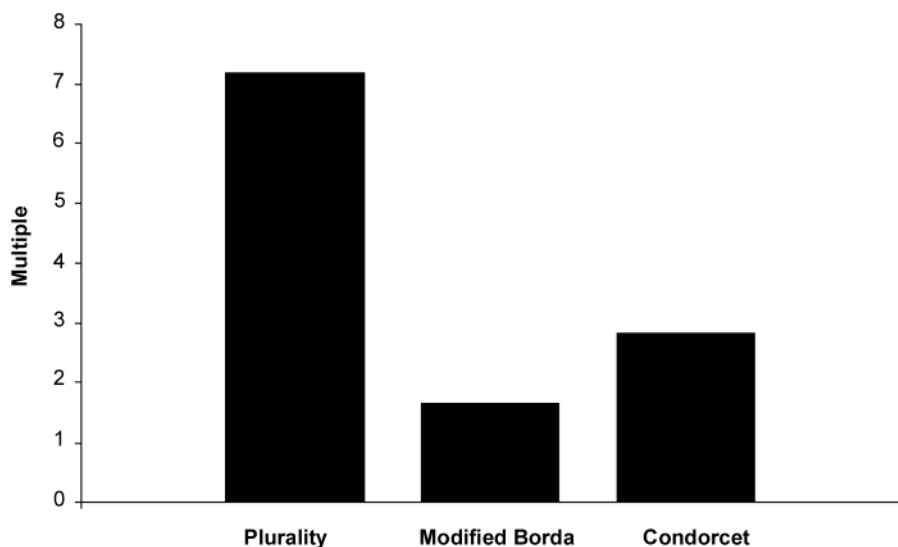

Figure 1.   Apparent popularity multiple of Boyle to Kearney.

politics. At first glance, the election of Boyle can be seen as an endorsement of the party's current leadership and its entry into government, but a closer examination reveals that ballots do not show a strong polarisation between Boyle and Maher. A majority (57 per cent) of those voting Boyle first gave their second or third preference to Maher, and *vice versa* (where the majority is 56 per cent). This may show nothing more than that both candidates were seen by many voters as well qualified for the role of Cathaoirleach. But if there is a political lesson for the party leadership, it is perhaps that the membership is less sharply divided internally than the votes at recent conferences may have suggested, in the sense that many of those who voted with the leadership on those occasions have strong reservations about both coalition with Fianna Fáil and the Lisbon Treaty. This reading is consistent with research conducted by Garry (n.d.), who reported on a 2003 survey showing that only 7 per cent of Green Party members favoured coalition with Fianna Fáil and that 82 per cent voted against the Nice Treaty.

Conclusion

The recent election of the Green Party Cathaoirleach provided a rare occasion to study the operation of the Borda Count in a real-life political context. In this report, I have shown that, given the ballots as submitted, the outcome of the election would have been the same under any of six possible voting systems. In light of the fact that different systems generate different strategies, I investigated whether the outcome could have been different under alternative procedures, but concluded that this was unlikely. I also argued that there is no evidence that the outcome was itself dependent on tactical voting, although tactical voting might well have occurred, and I illustrated the well-known point that widespread strategic behaviour might have altered the outcome in unpredictable ways. Although this unpredictability has been seen by advocates of the Borda Count as an incentive for 'sincere' voting, the final test of this argument will lie in the accumulated evidence of real-life cases. In the meantime, what *is* predictable is that political actors will make a closer study of the strategic opportunities that the Borda Count seems to offer.

Acknowledgements

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