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Social Choice in the South Seas: Electoral Innovation and the Borda Count in the Pacific Island Countries

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ABSTRACT. Many of the small island democracies of the South Pacific are natural laboratories for constitutional and electoral experimentation, but have tended to be ignored by comparative political science research. This article examines one apparently unknown case of electoral innovation from the region: the use of Borda count voting procedures for elections in the Pacific Island states of Nauru and Kiribati. It introduces the basic concept of the Borda count and its relation to other electoral systems, and surveys arguments about the virtues and drawbacks of Borda count electoral systems. It then discusses in some detail the way that the Borda count is used for elections in Nauru and Kiribati, including the political impact of the system, and empirical examples of different types of strategic behaviour at work. It concludes by examining the broader significance of these cases for comparative studies of democracy, elections, social choice, and voting theory.

Keywords: Borda count • Electoral systems • Pacific Island states

Introduction

The small island countries of the South Pacific region of Oceania, which encapsulates over 20 states and related territories, have tended to be ignored in comparative studies of democracy and political institutions.¹ Most comparative accounts of democracy simply fail to examine the region altogether, or adopt a minimum population size threshold (for example, one million or even 250 000 people), which results in many of the island states being eliminated from the universe of "contemporary democracies."² Those few comparative studies that do include Pacific Island states in their analysis, however, tend to find that the Pacific is a region of remarkable success in terms of democratic continuity. For example,

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Stepan and Skach (1993) found that of the 93 countries of the world that became independent between 1945 and 1979, only 15 of them persisted as continuous democracies in 1980–89—and one-third of these were Pacific Island states. Similarly, the latest report from the US private foundation Freedom House, which publishes a detailed annual ranking of political and civil rights for every country, places the entire South Pacific in the "free" category (bar "partly free" Fiji)—a distinction shared with only one other world region, Europe, where Northern Ireland was the odd man out (Freedom House, 1999).

The South Pacific region also has the advantage, as far as comparative research is concerned, of comprising a large number of relatively small and isolated islands in which a great deal of constitutional experimentation has taken place. In the natural sciences, studies of such discrete and isolated cases have had a profound impact on the development of scholarly understanding of evolution and geography, and upon European conceptions of art, literature, and philosophy as well (see Smith, 1960; Withey, 1987). Because of their internal diversities, small-scale dimensions, and relative imperviousness to outside influence, these same communities can also play a hugely instructive role in the social sciences, providing "laboratory-like opportunities for gaining deeper understandings" in fields like anthropology and political science.³ Moreover as Larmour (1994) has noted, most South Pacific states, by virtue of their small populations and other distinctive characteristics, approximate the size of the Greek city-states that have provided western political theory with its earliest and most enduring images of participatory democracy in action.

For these reasons, many of the Pacific Islands offer exceptionally good facilitating conditions for research in both the natural and social sciences. In particular, by virtue of the region's democratic continuity and the distinctive features of its island states-such as low levels of development, small-scale dimensions and localized politics-the South Pacific presents enormous opportunities for comparative research on democratization and elections. Indeed, the region is the most diverse in the world in terms of the types of electoral systems in operation, with all the major system types represented and several unique examples of unusual voting systems also being present (see Reilly, 1997). Yet one looks in vain for discussions of Pacific Island cases in most comparative studies of electoral systems. This has had a negative impact on the development of the electoral studies field as a whole. For example: since Japan changed its electoral laws in 1994, the Pacific Island state of Vanuatu is the world's only democracy to use a much analyzed and discussed electoral system, the single nontransferable vote (SNTV)—a method of election using multi-member districts with each voter having only one vote to cast, that comparative studies have found is a near-unique form of semi-proportional system.⁴ Vanuatu has conducted six elections since its independence in 1980 under this system. Yet virtually none of the burgeoning comparative literature on SNTV systems and their political consequences analyzes or even mentions Vanuatu—despite the fact that several indepth studies of elections in Vanuatu have been conducted.⁵ Similarly, Papua New Guinea's pre-independence experience of the alternative vote (AV) represents a key test of that system's purported ability to engineer inter-ethnic moderation in an ethnically fragmented society-yet the scholarly debate on the merits and demerits of AV systems as agents of ethnic accommodation carried on for a decade without reference to, or apparently knowledge of, this crucial test case (see Horowitz, 1991; Lijphart, 1991; Reilly, 2001). Fiji's 1997 constitutional and

electoral reforms are another example of the "constitutional laboratory" nature of many Pacific Island states (Lal and Larmour, 1997).

However, probably the most remarkable-and least known-electoral anomaly of the Pacific Islands is the use of Borda count electoral systems in two Micronesian island atolls, the Republic of Nauru and the Republic of Kiribati. The Borda count is a positional, preference-based voting procedure formulated in the eighteenth century by the French scientist Jean-Charles de Borda, whose work marks a major step in the development and formalization of voting theory. While widely analyzed and often advocated as an "ideal" electoral system by voting theorists, it has generally been assumed that the Borda count has no place in the universe of real world national elections. This article shows that this is not the case. It details the use of a Borda count in two different circumstances in the Pacific. First, it discusses the development and use of a modified Borda for national elections in the small Pacific state of Nauru. Since 1971, Nauru has used this method to elect its national parliament, making it a unique case in the world. Indeed, the Nauruan version of the Borda count appears to mark the first time ever that this electoral system has been used for real world national elections. Second, in the parliament of Nauru's oceanic neighbour, the Republic of Kiribati, a "pure" version of the Borda count is used for intra parliamentary votes to determine which candidates should take part in the country's presidential election. Examination of these two cases represents a potential gold-mine of empirical information to evaluate the various theoretical claims and counterclaims made about positional voting systems such as the Borda count.

This article introduces the basic concept of the Borda count and its relation to other electoral systems. It looks at some of the arguments made by various electoral theorists about the virtues and drawbacks of the system. It then discusses in detail how the Borda count is used for mass elections in Nauru, and for intraparliamentary elections in Kiribati, and assesses the political impact of the system in each case. Finally, it attempts to answer two fundamental questions: how did two of the world's smallest and most remote countries independently invent a system that had been formulated over 200 years previously and then forgotten? And why have these important cases remained, it appears, totally unknown to scholars specializing in electoral systems and the theory of voting?

Introducing the Borda Count

The "method of marks" voting procedure proposed by the French scientist Jean-Charles de Borda (1733–1799) in Paris in 1781 represents an important step in the development of modern electoral systems, and indeed in the theory of voting more generally. The standard explanation of what has become known as the "Borda count" is contained in Borda's much-cited paper "Mémoir sur les Élections au Scrutin," which was presented to the French *Académie Royale des Sciences* in 1770 but not published until 1784. In it, Borda begins by pointing out the problems inherent in using a plurality or "first past the post" method to elect a single candidate or office-holder where there are more than two contestants. He details one of the basic paradoxes of plurality elections in a multi-candidate contest, showing that a less popular candidate can easily be chosen over a more popular one in a choice between three or more contestants. The thrust of his argument is that the candidate who beats all others in a pairwise contest can easily lose a plurality election, while a candidate who loses all such pairwise contests can still emerge as a winner in a plurality vote due to the vagaries of the electoral system. Such a system is thus clearly flawed as a means of choosing the most representative candidate or option.

Borda goes on to propose that this defect of first-past-the-post voting can be readily remedied "by the elector assigning places, first, second, etc., to all the candidates, according to the degree of merit that he assigns to each, ie 'election by the order of merit'" (quoted in Black, 1958:157). Borda then sets out the mechanics of doing this: each elector ranks all standing candidates in order of preference, from highest to lowest. Where there are n candidates, the easiest way to do this is to assign n points to one's favorite, n minus 1 for one's second choice, n minus 2 for one's third choice, and so on, all the way down to 1 point for one's least-preferred choice. (In an alternative formulation, the scores are recalibrated as n minus 1 down to 0, which enables a Borda count to be conducted as a series of pairwise comparisons.) To determine a winner, the total preference scores for each candidate are added up, and the candidate with the highest aggregate score is declared elected. This procedure has become known in the scholarly literature as a "Borda count."

Borda's proposal for choosing a representative by aggregating the total of each candidate's weighted preference scores was vigorously criticized by his more famous contemporary, the Marquis de Condorcet, who instead advocated a process of exhaustive pairwise comparisons between candidates, rather than Borda's rank-order aggregations, as the fairest method (McLean and Hewitt, 1994: 45). The "Condorcet criterion" for electoral success chooses the candidate who can win a simple majority against any other; its weakness is that often no candidate of this nature exists. Under such circumstances, any attempt to find a majority winner between more than two options "cycles" through an endless series of unstable temporary majorities. The Borda count, by contrast, always gives a definite result, and uses ranking information fully and systematically, but has its own weaknesses, most notably its vulnerability to vote truncation (voters deliberately choosing not to render a preference rank for some candidates) and broader problems of strategic voting, whereby voters may learn to truncate their preferences or to place their favoured candidate's nearest rival last on their preference rankings in order to influence the overall election outcome.⁶

These differences have practical implications: while "Condorcet voting" has often been advocated as an ideal model for choosing between two options, it is not a feasible option for mass elections, requiring as it does a systematic pairwise contest between each two candidates standing. By contrast, some method of rankordering candidates, such as the systematic comparison of preference schedules suggested by Borda, could logically be applied to mass elections once the practice of using a standard ballot paper had become widely adopted. The mechanics of the Borda count also mean that it can be conducted in one election rather than as a series of pairwise comparisons, and that its results are relatively easy to compute: Borda himself argued that his method could have wide application not just for elections but indeed for any committee decision (see Black, 1958:159). The fact that Condorcet was a pure mathematician while Borda was an applied scientist more focused on empirical experiments may well provide one explanation for the disjuncture between the two approaches.

Although several earlier formulations have been uncovered (McLean and London, 1990), Borda's proposals and description of rank-order voting have generally been accepted as the first definitive formalization of such procedures.

Borda's proposals can also be seen as the forerunner of the various "preferential" voting systems in operation for mass elections today-that is, those systems which enable some form of rank-ordering of candidates by voters, such as the alternative vote used in Australia or the single transferable vote (STV) used in Ireland. While some form of preference ranking is an implicit part of many electoral systems, prior to Borda it had traditionally not been conceptualized as a one-stage process of rank-ordering. The widely utilized method of runoff elections, for example, was originally developed in response to the requirements of decision-making in assemblies, not for mass elections. The decision-making processes of such assemblies require voters to make choices between a number of alternatives, which implies some kind of rank-ordering of preferences between the different choices presented. In practice, however, the actual expression of this preference ordering is usually achieved via sequential elections featuring successive "eliminations": that is, at each stage the lowest-ranked candidate or option drops out and successive rounds of voting between those remaining are repeated until a majority winner emerges. While the "exhaustive repetition" method continues to be used in a number of important decision-making assemblies today (the International Olympic Committee's means of choosing the venue for the Olympic Games being perhaps the best known of these), it is an impractical method for mass-suffrage political elections, where a sequence of runoffs need to be compressed from several elections into one.

One solution to this problem was what Stein Rokkan (1968: 15) described as the "great innovation" of British electoral reformers: the transferable ballot. The nearsimultaneous invention of STV by Thomas Hare in England and Carl Andrae in Denmark in the 1850s marked the first time that the introduction of preferential voting came to be considered a feasible electoral reform option for mass elections. STV's first national-level application was for elections to the Danish federal assembly, the Rigsraad, which lasted from 1855 until 1864 (see McLean and McMillan, 1996). Around the same time, Hare published his manifesto for a new form of proportional representation, *The Election of Representatives, Parliamentary and Municipal*, the first edition of which was published in 1856.⁷ Hare's proposal envisaged the entire United Kingdom as one vast constituency in which all candidates standing for the parliament would be chosen simultaneously. Voters would thus have to separately choose between (and rank-order on their ballots) several thousand candidates, whose candidacy would be highlighted by vast lists of names displayed at polling places.

Despite such obvious impracticalities, Hare's scheme was publicly championed by his mentor John Stuart Mill, who called it "among the very greatest improvements yet made in the theory and practice of government."⁸ Indeed, by enabling each voter to indicate, via a new form of ballot structure, his or her strength of feeling *between* candidates, preferential voting came to represent many broader democratic ideals in vogue in the second half of the nineteenth century, such as the growing acceptance amongst elites that people behaved in politics as rational individuals, forming their own opinions and considering their own interests, and that such diversity of opinion between thinking individuals was to be encouraged rather than repressed.⁹ Birch (1964: 63–64) has argued that preferential voting was also a logical expression of the individualist philosophy of Victorian liberalism—a point strikingly underlined by John Stuart Mill's "virtual intoxication" with STV, which he enthusiastically, although unsuccessfully, advocated as an electoral reform in the United Kingdom and elsewhere (Hart, 1992: 55).

Hare's method would, over time, influence the development of several electoral systems used for mass elections today—such as the different forms of STV used in Ireland, Malta, and the Australian Senate; the alternative vote used in Australia; and other forms of preference voting such as the "supplementary vote" used for presidential elections in Sri Lanka and introduced in 2000 to elect the new Mayor of London (Reilly, 2001). By contrast, Borda's original proposal-in which no votes were transferred, but rather lower-order preferences were first weighted to reflect their lesser rank and then counted at that lower value-languished apparently unnoticed as an option for mass elections. In truth, Borda's original proposal was focused primarily on elections to committees rather than mass elections, and in this sphere it did gain some success, and indeed was used by the French Académie for its own internal elections for a period in the early 1800s. But it was never adopted for mass elections, and seemed to slip out of favour as the great electoral reforms of the nineteenth and early twentieth centuries brought new advances in terms of mass suffrage, secret ballots, proportional representation, and other progressive innovations. By the 1950s, the Borda count and the eighteenth-century intellectual debate which spawned it was virtually unknown.

A new surge of interest in Borda's work came as a result of the publication of Duncan Black's Theory of Committees and Elections in 1958. Much of the previously lost history of eighteenth-century electoral innovation began to be analyzed and discussed again.¹⁰ But this discussion was conducted increasingly by social choice theorists, not political scientists interested in real world electoral reform. Indeed, the interests of the two groups increasingly diverged. McLean (1988) likened the situation to "ships that pass in the night," with each group unaware of and largely uninterested in the concerns of the other. The different demands of mass elections compared to those for committees, and the general inaccessability of much writing on voting theory, served to emphasize the apparent irrelevance of deeper theoretical discoveries to issues of real world elections and electoral reform. In addition, what Green and Shapiro (1994: ix) have typified as the "esoteric technical vocabulary . . . seldom understood by anyone else" of much writing on the theory of elections too often served to underline the gap between the purely academic world of social choice theory and the practical concerns of real world policymakers and reformers.

At the same time as this disabling disjuncture between theory and practice, however, the implicit strength of some methods of election such as the Borda count were being re-evaluated by a small number of theorists with an eye to their possible impact in the real world. For example, simulations by Merrill (1984) of seven different voting systems (including commonly used systems such as the runoff, plurality, successive election, and approval vote) in a hypothetical electorate of 25 voters showed that the Borda rule was the most likely procedure to select both a "Condorcet winner"—any option that can beat all others in a pairwise contest-and to achieve what he called "utilitarian efficiency"; unlike other systems its efficiency in this regard *increased* as the number of candidates grew. Because of the richness of its informational base, and its relative simplicity to conduct, Merrill's study suggested that the Borda count may in fact be the most efficient voting system for use in real world mass elections. Indeed, a number of simulations have detailed how the use of a Borda count would likely have produced different results in several US presidential races (see Joslyn, 1976; Tabarrok and Spector, 1999).

One property of Borda counts that has become increasingly recognized is their

tendency to select the most widely supported candidate, or the most broadly acceptable option, in a multi-candidate or multi-option contest. Because a Borda count asks voters to nominate their 1st, 2nd . . . nth choices, and then weights these choices in the same order as the original preferences were given, it tends to result in the election of the most broadly supported, or the least unpopular, candidate or option. Game-theoretic analyses show that the Borda count, in contrast to more commonly used systems like first-past-the-post or party-list proportional representation, has a unique and centrist electoral equilibrium, clustering around the median voter's ideal point if such a point exists (Cox, 1987). This can have important practical consequences: Dummett argues that real world electoral systems based on the Borda criterion "will be far more favourable to candidates occupying moderate positions than will the plurality system or AV, and will likewise be unfavourable to those representing extreme positions on the left/right axis . . . What it favours is widespread popularity, which may not be the same thing as the support of the median elector" (Dummett, 1997: 161–162). More broadly, Saari claims that the Borda count is "the unique method to minimize the number and kinds of [voting] paradoxes, to minimize the likelihood of a paradox, [and] to minimize the likelihood that a small group can successfully manipulate the outcome", amongst other purported qualities (Saari, 1994: 14). Some reformers have therefore campaigned for the introduction of the Borda count for real world elections, and advocated modified versions of the Borda count for divided societies in the Balkans, Northern Ireland and elsewhere (Emerson, 1998).

Despite this, it has been generally assumed that the Borda count has no record of application in the real world, much less for parliamentary elections to elect a national government. The discovery, therefore, of the reality that the Borda count has been used for over 30 years for national parliamentary elections in the tiny Micronesian Republic of Nauru, and for intraparliamentary elections in Kiribati, is something akin to finding that an exotic animal long thought to be extinct is actually surviving happily on a remote island. It also presents a treasure trove of information for researchers to draw upon when assessing the actual impacts of the system at real world elections, instead of using abstract simulations or models. And finally, of course, it is a fascinating case of electoral development in itself, which raises an intriguing puzzle: how did two of the world's smallest and most remote countries come to use a sophisticated and complex electoral system that had been formulated over 200 years previously and then forgotten?

Voyages of Discovery

Despite his reputation as a scientist, Borda's core occupation was as a naval officer, and it is thus perhaps fitting that the story of the dissemination of his electoral method begins with a series of naval discoveries. In 1781, at the same time that Borda's paper was being read before the French *Académie*, a different kind of intellectual exploration was taking place on the other side of the world. European powers, particularly Britain and France, were engaged in vigorous and competitive exploration of the Pacific Ocean, partly in an attempt to find the great southern landmass that many thought must balance the presence of the Eurasian continent on the other side of the globe. This competition between the two European powerhouses was increasingly focused on the world of science, which at the time was strongly interlinked with military and particularly naval affairs. Borda himself,

as a nobleman, had an active role in the French navy and, in addition to his formal duties, took part in a number of scientific voyages and even participated in the American War of Independence. Most of his adult life was spent as a naval scientist who "learnt to apply scientific practice at sea," in the words of one commendation.¹¹ But he never made it as far as the Pacific, having been imprisoned by the British in the Antilles in 1782 (Saari, 1994: 19).

In 1770, the year that Borda wrote his initial disquisition on voting systems, the British naval captain James Cook was in the middle of his first voyage of discovery across the Pacific, one of the greatest feats of navigation and exploration ever. Cook's voyage had an explicit scientific purpose of which Borda would presumably have approved: to observe the transit of the planet Venus across the disk of the sun. But it was also part of a broader ongoing Anglo-French rivalry in both scientific and military affairs. With the war between England and France only recently concluded, the two countries were locked in a cycle of scientific and military competition, which was being played out on the ocean waves of the Pacific as much as in Europe itself. Cook's voyage, which led to the charting of a number of hitherto unknown countries, including many Pacific Islands, New Zealand, and the east coast of Australia, decisively gave the British the upper hand, and led to the establishment of colonial settlements across much of the region, starting with the east coast of Australia (see Beaglehole, 1966).

The establishment of a British settlement and penal colony in Sydney in 1788 led to increased shipping activity across the entire western Pacific region. While many Pacific islands had been "discovered" by European powers, the great expanses of ocean left many new countries to be uncovered and, usually, annexed or conquered in the chase for global dominance. In 1798, less than a year before Borda's death, a British merchant captain sailing near the equator in the central Pacific Ocean noted in his logbook that he had sighted an island which he called "Pleasant Island" on account of its physical beauty and the pleasing demeanour of its native inhabitants. By 1830, the island was being visited regularly by European whaling ships in search of provisions. Following an increasing German trading presence, negotiations between Kaiser Wilhelm I and foreign minister Bismarck led to the island being annexed by Germany in 1888 and included in the "German sphere" of the Pacific-which at that time included New Guinea, parts of the present-day Solomon Islands, and the Marshall and Caroline archipelagos. In a gesture towards the local inhabitants, the Germans dispensed with the "Pleasant Island" appellation and renamed the island "Nauru," its traditional tribal name (see Fabricius, 1992). Further west, the Gilbert Islands, which would eventually become the core island group of the Republic of Kiribati, were first documented by Spanish explorers in the seventeenth century, and visited regularly by whaling ships and traders before coming under European rule in 1892, when a British protectorate was established.

The Borda Count in Nauru

The country that is now the Republic of Nauru is probably the most remote independent state in the world, a tiny speck of uplifted coral island in the vast and empty expanses of the central Pacific Ocean. Lying just south of the equator, it consists of a single landmass, Nauru island, a low-lying outcrop covering only 21 square kilometres, with a total population of 9919 people (1992 census) of predominantly Polynesian origin. Nauru's unusual colonial history did not end with its annexation by Germany in 1888. In large part due to popular concerns about a German presence in the Pacific, Nauru was captured by Australian forces during the World War I in 1914. A League of Nations mandate granted in 1920 named Australia, New Zealand, and the United Kingdom as co-trustees of Nauru. In 1947, following the attack by Japanese forces in the World War II, the island was placed under United Nations Trusteeship, with Australia named as the administering power on behalf of the two other co-trustees. It became an independent sovereign state in 1968. Despite various proposals to transfer the island's entire population to another location in anticipation of the exhaustion of the phosphate supplies on which their economy depends, as well as periodic financial and environmental crises, Nauru has remained a functioning state and, in September 1999, became a full member of the United Nations and the Commonwealth of Nations.

Under the terms of its administering authority, Australia was obligated to promote self-government for the people of the Trust Territory, which it reluctantly did. Nauru's first elections, to a local government council, were held in 1951. In 1965, after United Nations pressure, a legislative council was established under Australian law. Following progressive localization of this legislature, Nauru became self-governing in January 1966 and began preparations for independence. A constitutional convention was elected in December 1967 and produced a draft constitution which was accepted with only minor revisions. On 31 January 1968 Nauru became an independent state (the election to the first legislative assembly, subsequently renamed the Parliament, having taken place four days previously), thus becoming one of the first Pacific Island states to gain independence.¹²

The parliament of Nauru is the sole elected national institution. It is a unicameral assembly comprising 18 members elected for a three-year term from eight multi-member electoral districts. There are seven two-member districts and one four-member district. The districts cover the homes of the twelve traditional tribal clans, although the populations of these are now scattered throughout the island (Crocombe and Giese, 1982: 32). The parliament itself elects a president, who serves as both head of government and head of state. Nauru's formal electoral provisions appear to date from 1965, when an electoral ordinance, based on the Australian law of the time, came into effect. This was transformed into a national electoral act following the assumption of independence in 1968. Under this act, which is also based largely on the corresponding Australian legislation, Nauru inherited a preferential electoral system, the alternative vote. Much of the Nauruan electoral law replicates Australian practice: voting is compulsory, for example. Electors vote for individuals, not parties, numbering the candidates standing in the order of their preference. The instructions on a Nauruan ballot paper direct electors to "mark your vote on this ballot-paper by placing the numbers '1' and '2' where there are two candidates, '1', '2' and '3' where there are three candidates, and so on." In this regard, and in terms of the provisions outlined in the original legislation, the system follows Australian practice. Indeed, the alternative vote was the system used at Nauru's pre-independence elections and remains the system used at by-elections when only one member is to be elected.

However, in 1971 Nauru changed its electoral procedures to effectively reinvent a new form of the Borda count, and hence put in place an electoral system which is unique in the world. While the ballot structure remained identical to the alternative vote, the method by which these ballots are counted was changed. Mehra (1990: 23–24) describes the Nauruan system as follows:

In each electorate:

(1) The total number of first preference votes, second preference votes, third preference votes and so on cast for each candidate is ascertained.

(2) Every first preference vote is given the value of a unit i.e. one; every second preference vote is given the value of one-half; every third preference vote is given the value of one-third and so on, the value of each preference being the reciprocal of the number of preferences indicated by the elector.

(3) The total of the various preferences by each candidate is then calculated and a statement is made out and signed by the Returning Officer.

(4) In any constituency returning two candidates, the candidates having the highest and the next highest total votes calculated in accordance with (2) and (3) above are declared elected.

(5) In any constituency returning four candidates, the four candidates having the highest total votes calculated in accordance with (2) and (3) above are declared elected.

(6) In the event of an equal number of votes being received by any two or more candidates, a lot is drawn to determine the one candidate to remain in the field, others being excluded.

With one important exception, this is a succinct description of a Borda count. The exception relates to the value or weighting given to each preference vote: unlike Borda's proposal, which featured equal intervals between each preference vote, in Nauru the "weighting" of each preference vote relative to others depends on its place in the total preference ordering. Instead of being equally spaced-a key element of Borda's original formulation—in Nauru the weighting of votes is set at shifting intervals between 0 and 1 which are proportionate to the inverse value of the preference assigned, rather than the whole and equally spaced integers of a classic Borda count. For example, in a ten-candidate field, the classic Borda count would register the following preference score for each ballot numbered in order of preference from most to least-favoured: 1, 0.9, 0.8, 0.7 . . . 0.1. The Nauru count, by contrast, would register the same preference orderings at the following values: 1, 0.5, 0.3, 0.25 . . . 0.1. Note that only the first and last preference scores of each method correlate with each other. Because of this, the "weighting" of preferences reflects a different criterion to Borda's own: it assumes that voters care more about their higher-order choices than their lower-order ones. Figure 1 illustrates the difference between the two systems in terms of the values assigned to each preference by a sample vote.

This change in weighting under the Nauruan system creates subtle but important differences between the operations of the Nauruan system and that of a standard Borda count. Borda's original proposal was based on the assumption that for three candidates A, B, and C ranked by an elector in that same order, "the degree of superiority that this elector has given to A over B should be considered the same as the degree of superiority that he has accorded to B over C" (quoted in Black, 1958: 157). Critics at the time immediately grasped the problem with this: why assume an equality of distance between preferences? Why should it be supposed that electors' preferences are spaced equally between each candidate, rather than arrayed in some other manner? Borda's rather unconvincing justification was that "as the second candidate B is equally susceptible to all the



FIGURE 1. Comparative Preference Scores of the Borda and Nauru Counts.

degrees of merit comprised between the merits of the other two candidates A and C, there is no reason to hold that the elector who has decided this order of the three candidates has wanted to place him nearer A than C, or, what comes to the same thing, that he has attributed any greater superiority to the first over the second than to the second over the third" (ibid.).

But there are any number of reasons why a voter may want to register a greater interval between their first and second preferences than between their fifth and sixth, or vice versa. Indeed, a common critique of many preference voting systems, such as AV or STV, is that they assume equality of strength in preference orderings—so that lower-order preference votes, which may not always reflect voters "real" preferences, can and do exert an undue influence on electoral outcomes (see Dunleavy et al., 1997). The Nauruan system addresses this critique by making an assumption that is, in some ways, just as arbitrary as Borda's: it assumes that the intensity of distance between each preference score is *exponentially and inversely proportional* to the ranking given. In other words, each preference vote is accorded an exponentially smaller weight than its predecessor, and the "distance" between each preference vote is thus much greater for higher-order preferences than lower-order ones. As such, it most resembles the proposal put forward by Borda's contemporary Laplace, who argued for a geometric, not arithmetic, progression of preference scores (see Daunou, 1995: 261–263).

This has several consequences:

• It makes the operation of the Nauruan system much more majoritarian than a standard Borda count, as candidates have to attract many more lower-order preferences to overtake a leading candidate than would be the case under pure Borda rules. It effectively takes two second-preferences, three third-preferences, four fourth-preferences, and so on, to equal the value accorded to one first preference vote. Because of this, Nauru's system offers much lower prospects of

broadly-supported minor candidate winning against a dominant major candidate than a standard Borda count.

- The weighted nature of preference votes under the Nauruan system, by which each successive preference vote carries less value than its predecessor, does appear to counteract a persistent criticism that has often been expressed (especially by real world politicians) about preferential systems—that by giving too much weight to voters' lower-order preferences, which may not mean much, and not enough to their higher-order ones, such systems unduly penalize majorities and reward bland or insipid victors (for example, Winston Churchill's characterization of AV as giving results "determined by the most worthless votes given to the most worthless candidates").¹³
- The Nauruan law makes the marking of *all* preferences on the ballot a requirement for a valid vote. One consequence of this is that the Borda count's susceptibility to problems of indeterminacy and vote truncation, which had so concerned Borda's contemporary P.C.F. Daunou (1995[1803]) and others, are addressed in a rough-and-ready way: all voters must express a choice between all candidates. This means that, unlike vote-transfer electoral systems such as AV or sTV, where secondary preference votes may or may not be counted, the Nauruan system makes full use of all information given: all preferences are always counted.

How did the Nauruans manage to invent such an obscure, and in many ways complex, system? The answer is still not clear, but official records indicate that the change was made as a simplification of the original AV system transferred from Australia, in order to dispense with the need for complicated vote transfers and preference distributions. The stimulus for this move apparently came from Nauru's then Secretary for Justice, Desmond Dowdall, who convinced cabinet of the utility of the new scheme (which thus became known on Nauru as the "Dowdall System").14 Whether Dowdall had some previous exposure to Borda's writings or descriptions of them, or whether he just alighted on the system unaided, remains unclear. Whatever the process, since 1971 the Nauruan version of the Borda count has been used, apparently without difficulty, for some 12 national elections. In another distinction between the Borda and Nauruan systems, all Nauruan contests take place in multi-member districts, with a district magnitude of either 2 or 4. There is no majority threshold; the candidate(s) with the *n*-highest scores in each *n*-member district are declared elected. By contrast, Borda's proposals were aimed squarely at the problem of elections for a single office-holder, not several, and while some scholars have advocated extending the Borda count to multi-member contests, it is by no means clear that its suitability for single-office elections means that it is also an optimum way to select representatives in multi-member contests (but see Dummett, 1997: 123–124).

A final distinction between the classic Borda count and the version used in Nauru is, of course, that the Nauruan system is applied at mass elections for a national legislature, rather than for the more limited form of committee election which was Borda's focus. There are important differences between elections to a committee and to mass elections, although in practice the small size of Nauru blurs many of these. As no formal parties exist in Nauru, and all candidates stand effectively as independents, one of the defining characteristics of most mass elections—the impact of political parties—is not an issue. However, from time to time some loose alliances have developed within the parliament, often on the basis of extended family ties. The limited evidence available suggests that identity factors such as tribal allegiance, family links, and religion are major influences upon voter choice (Crocombe and Giese, 1988: 46). In addition, the small size of Nauru's electorates, most of which have only a few hundred voters in total, mean that elections often resemble those of a large private or public organization rather than a national poll. Finally, the electoral process itself is not as central to choosing executive government as may be imagined: Nauru's quasi-parliamentary system, combined with its lack of political parties and small size, means that executive government is quite unstable. Indeed, changes of government between elections, via shifting parliamentary coalitions, have been common. By one count there have been 16 changes of government between 1968 and 2000, the majority of which took place on the floor of parliament rather than via the electoral process (see Reilly and Gratschew, forthcoming).

The Borda Count in Kiribati

In contrast to the Nauru case, the Republic of Kiribati uses a "classic" version of the Borda count for an intraparliamentary, committee-style election: the nomination by parliament of candidates to stand for election to the presidency. Consisting of 33 small island atolls scattered over 3 million square kilometres of the central Pacific Ocean, Kiribati has been an independent state since 1979. The political structure of Kiribati comprises a unique mixture of presidential and parliamentary systems. Under the Kiribati constitution, the president or Beretitenti is both head of government and head of state. The office of Beretitenti is popularly elected. Once elected, the Beretitenti in turn chooses a cabinet from members of the legislature, or *Maneaba*, and is responsible to it. However, the nominations of candidates to stand for election to the office of Beretitenti are restricted to members of the Maneaba. No fewer than three nor more than four candidates may stand for election to the office of *Beretitenti*, and no other person may be a candidate. Given this, and the fact that the Beretitenti is the supreme political office under the Kiribati Constitution, the method by which members of the Maneaba decide which candidates are nominated to stand in the presidential election is obviously of great importance. This is where the Borda count comes in.

Whenever there are more than three prospective candidates for Beretitenti (which, not surprisingly, there usually are), a Borda count of all members of parliament is used to choose which four candidates will be nominated for election. Each member of the *Maneaba* casts four votes in order of preference, with 4 points awarded for the first choice, 3 for second, 2 for third and 1 for fourth. The points are then tallied and the four candidates with the greatest number of points are declared nominated. A single first-past-the-post national election is then held to choose the president. To date, since 1979, there have been six presidential elections, in 1982, 1983, 1987, 1991, 1994, and 1998. Howard Van Trease (1993) conducted a detailed analysis of the 1991 nomination contest, in which Kiribati faced its most crucial elections since independence. Having been elected the maximum three times permitted by the Constitution, Kiribati's popular first president, Ieremia Tabai, was not permitted to run again, meaning an inevitable change in political leadership. As a result, no fewer than eight names were put forward as prospective candidates for the presidential election. The previous government nominated two candidates: Teatao Teannaki (a former vice-president) and Boanareke Boanareke (a former minister). The opposition also nominated

two candidates: its leader, Teburoro Tito, and Matakite Bamatang. There were four other candidates: Tewareka Tentoa and Tabwea Teitiniman of the *Reitan Kiribati* independent group, and Roniti Teiwaki and Beniamina Tinga, nominated by another group of independents, the *Waaki ae Boou*.

The contest between these eight candidates representing four groups illuminates some of the strategic implications of using a Borda count in a committee-style election in which strategic voting is possible. Van Trease reports that, as soon as the tallying of votes began, it was immediately evident that two groups—the government and the *Waaki ae Boou*—had agreed to join forces and vote strategically by swapping preferences with each other (see Table 1 for an account of the voting patterns).

The combined voting of these two groups had a key goal: the nomination of the government's Teatao Teannaki and the *Waaki ae Boou* group's Roniti Teiwaki, and elimination of the popular leader of the opposition, Teburoro Tito, and the leader of the *Reitan Kiribati* group, Tewareka Tentoa, from the presidential contest. In this they succeeded, and the two potential challengers were eliminated as possible contestants for the presidency by the government/*Waaki ae Boou* group directing their lower-order preference votes to other, less viable, candidates and away from the major challengers. Consequently, both Teburoro Tito and Tewareka Tentoa received strong first-place points from their own supporters, but very little in the way of secondary preferences. As a result, of the four candidates nominated to contest the presidential election, "only two were genuine candidates and actually campaigned for President: Teatao Teannaki and Roniti Teiwaki. The other two candidates (Boanareke Boanareke and Beniamina Tinga) simply returned to their home islands, where they remained until election day. They did not campaign and were not regarded as serious candidates" (ibid.: 96).

This process illustrates a clear case of strategic manipulation of the Borda count at work. As leaders of their respective parties, Teburoro Tito and Tewareka Tentoa were two of the more popular politicians throughout Kiribati, and their elimination from the presidential contest was a surprise to many voters. By contrast, two of the nominated contestants were actually "dummy" candidates, neither of whom was taken seriously as candidates, and who together received less than 10 percent of the vote at the resulting presidential election, won by Teatao Teannaki. As Van Trease commented, "It remains to be seen just how long such a system will be tolerated which has the effect of eliminating popular candidates through backroom political manoeuvering" (ibid.).

Candidate	First prefs	Second prefs	Third prefs	Fourth prefs	Total
Teatao Teannaki	16x4	1x3	0x2	11x1	78
Roniti Teiwaki	12x4	2x3	1x2	13x1	69
Boanareke Boanareke	0x4	14x3	13x2	0x1	68
Beniamina Tinga	0x4	11x3	13x2	4x1	63
Teburoro Tito	10x4	3x3	2x2	0x1	53
Matakite Bamatang	0x4	9x3	1x2	3x1	32
Tabwea Teitiniman	0x4	1x3	11x2	0x1	25
Tewareka Tentoa	3x4	0x3	0x2	10x1	22

 TABLE 1. Voting for Nomination of Presidential Candidates in Kiribati, 1991 (number of votes x preference weighting).

Conclusion

The use of Borda count electoral systems in Nauru and Kiribati provides two fascinating examples of electoral innovation, and helps shed light on some of the purported theoretical qualities of Borda count systems. But examination of these cases gives rise to another, deeper question: given the inherent interest to political scientists working on electoral matters of such real world examples, why has it taken until now for the details of the Nauruan system in particular to be disseminated? The obscurity of many of the small island states in the South Pacific, and the neglect of comparative politics scholars to include them as units of analysis in their studies, is of course the major reason. This level of obscurity is difficult to overstate: in terms of Nauru at least, there has been, as far as we are able to tell, no systematic study of its electoral politics to date. The situation with regards to Kiribati is only marginally better, the very valuable studies of Van Trease and his colleagues notwithstanding. This means that any findings drawn from these cases at this point are necessarily impressionistic.

Nonetheless, some tentative conclusions can be identified. First, it is clear that the Borda count can be used successfully for both committee-style and for national elections, even in remote and under-developed countries like Nauru and Kiribati. Second, the fact that Nauru and Kiribati represent two of the very few democracies outside the developed west to have maintained a continuous democracy since independence (they have never scored less than the highest possible score of 1 on the Freedom House rankings of civil and political liberties, for example) is itself an important finding. This, combined with the reality of the low socio-economic development levels and traditional social structures of Nauru and Kiribati, suggests that these countries' choice of political institutions may have had some influence on their democratic success to date. In particular, arguments that the Borda count promotes the election of moderate or centrist candidates may draw some support from Nauru's combination of democratic longevity with a high degree of social pluralism. Finally, the Nauru and Kiribati cases illuminate the different strategic incentives that Borda counts provide when used at mass elections, on the one hand, and at smaller committee-style elections on the other. At mass elections, the likelihood of strategic manipulation of the electoral system is theoretically possible but practically remote, given the onerous information and collective action requirements that potential strategic voters would be faced with. In small committeestyle elections, however, strategic manipulation of the sort documented at Kiribati's 1991 presidential election nomination is clearly more than possible, as many critics of the Borda count have observed. In general elections in Nauru, by contrast, there is no evidence as yet for the type of debilitating strategic voting identified by critics as a key weakness of the Borda count. Yet there is precious little evidence for its absence, either. The research on this and other questions is only just beginning.

Notes

- 1. These include the Cook Islands, the Federated States of Micronesia, Fiji, Kiribati, the Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, the Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu, plus the French territories of New Caledonia, Wallis and Futuna, and French Polynesia, and the American dependencies of American Samoa, Guam, and the Northern Marianas Islands.
- 2. This includes landmark studies of comparative democracy by Powell (1982); Lijphart (1984, 1999); and LeDuc, Niemi, and Norris (1996).

- 3. Douglas Oliver, quoted in Wesley-Smith (1994: 6).
- 4. See Grofman et al. (1999). Both South Korea and Taiwan currently use "mixed" systems in which some seats are elected by SNTV, and some by proportional representation. Vanuatu is the only democracy to use a pure form of SNTV for its national elections (the non-democratic Middle East kingdom of Jordan also uses SNTV).
- 5. For an excellent discussion of the Vanuatuan electoral system, see Van Trease (1995).
- 6. See Black (1958); McLean and Urken (1995).
- 7. All references here are to the fourth edition (Hare, 1873).
- 8. Quoted in McLean and Urken (1995: 46).
- 9. Mill was so enamoured of the STV proposal he wrote that Hare's scheme had "for the first time, solved the difficulty of popular representation; and by doing so, to have raised up the cloud and gloom of uncertainty that hung over the futurity of representative government and therefore of civilization" (quoted in Hart [1992: 38]).
- 10. For a full account see McLean, McMillan, and Monroe (1998: xvii-l).
- 11. Cited in McLean and Urken (1995: 25).
- 12. For a good account see Viviani (1970).
- 13. See Hansard, 2 June 1931.
- 14. This conclusion comes from a passing discussion of the system's origins in a Supreme Court judgement that upheld the constitutional validity of the system: see Miscellaneous Cause No. 15 of 1977, *In the matter of the Electoral Act 1965–1973 and In the matter of an election in the constituency of Ubenide*, 3 March 1977.

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