Changing the scale and changing the result:
evaluating the impact of an electoral reform on the
2000 and 2004 US Presidential election

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Abstract
The ‘perverse’ outcome of the 2000 US Presidential election, whereby the candidate with most ‘popular votes’ was defeated in the Electoral College, has situated renewed interest in electoral reform there. One option discussed is the Maine/Nebraska system (sometimes termed the Mundt-Coudert scheme) which changes the geography of the contest somewhat. One-fifth of the Electoral College votes are retained for the winner of the popular vote contest in each of the States, with the remainder being allocated to candidates who win in each of the separate Congressional District contests. This paper evaluates the likely outcome of the 2000 and 2004 Electoral College contests if this scheme had been in place. It shows that the 2000 result would not have been changed, but the 2004 outcome would have been even more favourable to the Republican candidate, because his vote total was much more efficiently distributed than his opponent’s.

George Bush’s victory in the 2000 US Presidential election, despite getting fewer votes than Al Gore, was the stimulus for considerable discussion regarding the nature of the Electoral College system used for those contests. Alternative methods of conducting a Presidential election were canvassed, with most promoted on the grounds that they could not lead to another ‘perverse’ outcome whereby the most popular candidate in the contest for votes failed to be elected. (See, for example, the essays in Thompson, 2002, and Schumaker and Loomis, 2002.)

Because of this and other perceived defects of the Electoral College system, a number of options has been debated for some time, including (see, for example, Longley and Braun, 1972, and Peirce and Longley, 1981):

- The automatic plan, which eliminates the need for the Electoral College to meet because its members are required to vote for the candidate to whom they are pledged (one member did not do so in 2000) and so delivers victory to the candidate with most Electoral College votes;
- The proportional plan, whereby each State’s Electoral College votes would be allocated to the candidates according to their percentage of the votes cast there (this option was proposed in a referendum in Colorado in 2004, but defeated by a margin of 2:1);
- The direct vote plan, whereby the Electoral College would be abolished and the Presidency awarded to the winning candidate in a nation-wide popular vote contest; and
- The district plan, whereby each State would have two votes in the Electoral College for the candidate winning in the State-wide popular vote contest, and its other Electoral College votes would be allocated to the candidate who won in each of its Congressional Districts.

1 An early example was a special issue of The CQ Researcher (Volume 10, Number 432, December 2000).
The last of these is already deployed in two States – Maine and Nebraska – where separate contests are held for Electoral College votes in each of the State’s Congressional Districts (which have one vote each) as well as State-wide (where the victor gets two votes). As such, although there has been little discussion about its wider adoption, it offers an interesting – geographical – option whose possible impact on recent election results is worth exploration.

The reasons for Bush’s victory over Gore in the Electoral College were to be found in the geography of the 2000 election, in particular the geography of where the two main contestants won their support (Johnston, Rossiter and Pattie, 2001, 2005). Bush defeated Gore because more of his popular votes were cast in the right places than was the case for his opponent: the geography of his support was more efficient than was Gore’s.

Would a different geographical architecture for the election – the Maine/Nebraska system – have delivered a different result in 2000? That question cannot be addressed directly, because if the election had been conducted within that framework then the parties would almost certainly have organised their campaigns differently, some voters who abstained may have voted (and vice versa), and some who did vote may have supported a different candidate. Nevertheless, it is possible to re-run the 2000 Presidential election (and also, for comparative purposes, the 2004 contest) as if it had been held using the Maine/Nebraska system in every State, to evaluate the possible outcome under that different set of rules. This is not a ‘true’ natural experiment, therefore, but it provides insights into the importance of geography in the conduct of elections and especially the translation of popular into Electoral College votes within different architectures.

In this paper we report on analyses of the 2000 Presidential election in the United States as if it had been run using the Nebraska/Maine system, but assuming that the geography of support for Bush, Gore and the other candidates was the same as observed in the actual contest. We also report similar analyses for the 2004 Bush-Kerry Presidential election. These analyses use a method for identifying the various geographical components which produce biased election results, previously deployed to demonstrate the importance of geography in both the US and the UK (Johnston, 2002; Johnston et al, 2001; Johnston, Pattie and Rossiter, 2001; Johnston, Rossiter and Pattie, 2005).

**Electoral bias**

Many electoral systems that use geographically-demarcated territories (such as Parliamentary constituencies in the UK and Congressional Districts in the USA) produce election results that are disproportional, in that the percentage of seats won by each of the parties is incommensurate with its percentage of the votes cast. (This pattern has long been noted: see, for example, Rae, 1971; Lijphart, 1995; Norris, 2004; Gallagher and Mitchell, 2005.)

As well as producing disproportional election outcomes, such systems also tend to result in biased outcomes, defined here as the difference between two parties in the seats that they would have obtained if they had received the same share of the votes cast. For example, an election might produce a disproportional outcome with party X
getting 55 per cent of the votes and 60 per cent of the seats, and party Y 45 per cent of the votes but 40 per cent of the seats. If the votes and seats shares (X with 45 per cent of the votes and 40 per cent of the seats; Y with 55 and 60 per cent respectively) it would not also be biased; the disproportionality was the same in each case. But if when X got 45 per cent of the votes it obtained only 30 per cent of the seats, with Y getting 55 and 70 per cent respectively, it would be not only disproportional but also biased. With the same share of the votes – 55 per cent – Y got a larger share of the seats than X did.

Whereas disproportionality can be measured directly from the observed election result, bias cannot: the election cannot be re-run with a different result. Thus estimates of bias have to be based on various simulation experiments (see, for example, Gelman and King, 1994; Grofman, Koetzle and Brunell, 1997; Blau, 2002: for the US Electoral College, see the approach in Yunker and Longley, 1976). In this paper deploys a method developed by Brookes (1959, 1960) which has been adapted for study of the Electoral College (Johnston, Rossiter, and Pattie, 2001, 2005). It evaluates bias as the difference in the number of seats that each party would obtain if they had an equal share of the votes cast, assuming a uniform switch in votes cast across the various districts. Thus, for example, if party X won 52 per cent of the votes and party Y won 48 per cent, in an election fought across 100 districts, 2 percentage points of its vote total would be taken from X in each district and reallocated to Y. Each would then have 50 per cent of the votes and if the system were unbiased, they would have the same number of seats (50).

Bias can emerge in the translation of votes into seats because of various aspects of the geography of the system. These are the equivalent of the well-known electoral strategies of malapportionment and gerrymandering, although – as Gudgin and Taylor (1979) made clear – it is possible to have election results that are the outcomes of either or both of ‘unintentional malapportionment’ and ‘unintentional gerrymandering’.

Unintentional gerrymandering effects – usually termed efficiency effects – reflect the distribution of a party’s support across the districts within which the election is fought. For example, if a party won 51 per cent of the votes in total, the most efficient distribution for it would be to get 51 per cent in every district – and thus win all of the seats. For every percentage share of the votes, some distributions are more effective than others. Deliberate gerrymandering can alter the efficiency of a party’s vote total, by changing the geography of its support across the districts. But without gerrymandering, some districting schemes will produce a more efficient outcome for a party than others, depending on the geography of its support – as Gudgin and Taylor (1979) demonstrated.

Unintentional malapportionment effects – usually termed size effects – result from variations in district size (its number of voters). More votes are needed for victory in large than in small districts, so one party may be disadvantaged over another if it tends to win in larger districts. The resulting bias will favour the party which is stronger in the smaller districts. Bias can also result from variations across districts in

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2 Yunker and Longley’s (1976) study of bias in the Electoral College uses a very different approach based on Banzhaf’s (1965, 1968) concept of electoral power. This only allowed the relative importance of voters in the various States to be assessed, however.
turnout. Even if districts are of equal size, if turnout is lower in some than others the stronger party in areas with lower turnouts will be advantaged – as will parties that are stronger in areas with a larger third-party presence.3

Electoral bias is thus the result of several interacting geographies, and can occur without any deliberate intent to manipulate the map of electoral districts. That bias can be decomposed into its two major contributors – size and efficiency – with the first further sub-divided into electorate, abstentions and third-party votes subcomponents. Brookes’ method identifies these four separate contributors to bias and thus allows identification of those aspects of the geography of a contest which result in a biased outcome in any particular contest.

*The US Presidential elections of 2000 and 2004*

The Brookes methodology has been applied to the results of the last two US Presidential elections, and the results of those analyses are summarised here as a baseline for evaluating the later analyses of what might have ensured if those contests were conducted using the Maine/Nebraska system. (For a full discussion of these results, see Johnston, Rossiter and Pattie, 2005. Throughout this paper, we have used the ‘official’ results of the 2000 election in Florida, while recognising that these were strongly contested and it is widely believed that Gore rather than Bush won there – and so would have been elected to the White House.)

The figures in Table 1 show a pro-Bush bias by a negative value and a pro-Gore/pro-Kerry bias by a positive value. There is a clear difference between the two elections. In 2000, if Bush and Gore had received equal shares of the total number of votes cast (i.e. 48.171 per cent each: in the actual contest, Bush received 47.998 and Gore 48.343), there would have been a bias towards Bush of 52 seats (out of an Electoral College total of 538). Four years later, with equal vote shares at 49.542 per cent each (instead of 51.084 for Bush and 48.000 for Kerry), there would have been a bias towards Kerry of 40 seats. In both cases, therefore, if the two candidates had been equal in their shares of the popular vote, nevertheless one of them would have obtained a clear majority in the Electoral College. In 2000 this would have been Bush, very largely because his votes were more efficiently distributed than were Gore’s, although in addition Bush tended to win in the smaller States (i.e. those with the smaller voting age populations relative to the number of Electoral College votes). In 2004 the victor would have been Kerry: Bush retained his advantage by winning in the smaller States, but Kerry’s votes were more efficiently distributed than were Gore’s four years earlier (for reasons set out in detail in Johnston, Rossiter and Pattie, 2005).

*The Maine/Nebraska system*

Once the allocation of a State’s Electoral College votes was determined by the popular vote at each quadrennial presidential election, the accepted practice became ‘winner takes all’ – the candidate who obtained a plurality of the State’s popular votes was allocated all of its Electoral College votes. (For a brief overview of the history of the Electoral College, see Kimberling, 1988, and Peirce and Longley, 1981.) This

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3 These argument are developed fully and exemplified in Johnston et al (2001).
became a major source of both disproportionality and bias, although the latter was not formally recognised and measured. Thus at some contests in the twentieth century a candidate getting little more than 60 per cent of the popular votes won nearly all of the Electoral College votes. (Reagan, for example, won 90.89 and 97.58 per cent of the Electoral College votes in 1980 and 1984 respectively, on the basis of 50.7 and 58.8 per cent of the popular votes.)

In 1969 the State of Maine adopted an alternative procedure for allocating its Electoral College votes. Two of those votes were allocated to the winning candidate in the State-wide popular vote; the remainder were to be allocated to whichever candidate topped the popular vote in each of the State’s Congressional Districts. This was not the first time such a system had been deployed: 6 of the 24 States used it in the 1820 election but all abolished it over the next decade, with Maryland the last user, in 1832 (Archer et al. 2006). It was briefly revived in 1891 in Michigan, and although it was repealed in the following year a legal challenge against its adoption during that brief period saw it ruled constitutional (in the case of *MacPherson v Blacker* 146 US 1).4

The system was promoted nationally over a number of years by Senator Karl Mundt of South Dakota, who took up a campaign initiated by Representative Coudert of New York (see Peirce and Longley, 1981, 136ff). It was first re-introduced in Maine at the 1972 Presidential election, and remains in place. Its introduction there was not as the result of any widespread interest in electoral reform, however: instead its sponsor in the State Legislature lobbied hard for support and it was carried by his colleagues, and signed into law by the Governor, without much debate. Although welcomed by some, it was not a universally-welcomed change – a leader in the *Portland Press Herald* on 24 March 1969 called it a ‘ridiculous plan… [that would] disenfranchise large numbers of voters in one congressional district or another’.5 Its continued use probably reflects the fact that it has never had to be implemented: at every subsequent election, the Presidential candidate who won the State-wide popular vote also won a plurality in every Congressional District.

Nebraska adopted the same system in 1991,6 it was first used there in 1996 but, as in Maine, the State’s Electoral College delegation has never been split. The case made by both the State Senator (a Democrat) who promoted the Bill and a Republican supporter was couched in non-partisan terms, arguing that in a State ‘winner takes all’ contest a substantial minority of voters can have no impact on the result, but they would if they were concentrated in one of the State’s Congressional Districts.

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4 We are grateful to Fred Shelley for this information. The 1892 judgement stated that ‘The Constitution … recognizes that the people act through their representatives in the legislature, and leaves it to the legislature exclusively to define the method of effecting the object’. (With thanks to Mark McKenzie for directing us to this.) It was cited in the litigation over the disputed Florida result in 2000, as the Supreme Court having stated that ‘the State legislature has plenary power, full power, in respect to the appointment of Presidential electors, and that power cannot be eroded, even by the State Constitution’ (http://www.wfsu.org/gavel2gavel/transcript/00-2349.htm).

5 http://www.electionreform.org/ERMain/priorities/ec/maine/pph3_24_1969.htm We are grateful to Ben Forrest and Doug Hodgkin for this information.

6 The State Senator introducing the Bill in Nebraska in 1991 noted that similar legislation had passed the State Houses in both Connecticut and North Carolina: it failed to get final approval there, however.
(Nebraska had only three): this, it was claimed, is ‘more democratic’. After a largely
unfocused debate it passed the State’s Government, Military and Veterans Affairs
Committee by 5-0, with two abstentions and one absentee. It was then presented to the
full Legislature as a compromise between the current system and abolition of the
Electoral College (its promoters nevertheless pointing out that if it had been in place,
it would have made no difference to results in the State since 1964). It was carried by
25-18 after a brief debate in which it was clearly not seen as a major issue.

The Maine/Nebraska system this shifts the origin of most of the Electoral College
votes from the State-wide contests to each State’s constituent Congressional Districts.
Nationally (and including the District of Columbia) this split has just under 19 per
cent of those votes cast for the winner in the State-wide contests, but the percentage
varies across the States. In the smallest, with only one Congressional District (such as
Wyoming and DC), two-thirds of the State’s Electoral College contribution comes
from the State-wide contest; in the largest (California, which has 52 Congressional
Districts), less than 4 per cent of its Electoral College votes is derived from the State-
wide contest. This geography of the system would undoubtedly be reflected in parties’
campaign strategies, should the system be introduced more widely.

Re-running the 2000 and 2004 elections using Maine/Nebraska

What would have been the outcomes in 2000 and 2004 if the Maine/Nebraska system
had been used throughout the country? To address this issue, voting data for President
by Congressional District were obtained from Polidata, and data on the voting age
population in each District from the US Bureau of the Census website. Two data sets
were then constructed for each election. The first comprised the 435 Congressional
Districts plus one ‘pseudo-district’ for the District of Columbia. The second covered
the State-wide portion of the pseudo-contest. For this the number of votes in each
State for each candidate, and the voting age population, were collated, giving 51
observations (the 50 States plus DC). It was then doubled – as each State has two
Electoral College votes under this part of the scheme – giving 102 observations in all.

The outcome of each of the 2000 and 2004 elections using the Maine/Nebraska
system is given in Table 2. Both would have resulted in comfortable victories for
Bush, even though in 2000 Gore obtained a larger share of the popular vote. In 2000,
Bush would have won 30 of the States, yielding 60 Electoral College votes, and 229
of the 436 Congressional Districts. His popular votes were clearly more efficiently
distributed at both scales than were Gore’s. In 2004, they were even more efficiently

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7 The discussion in this paragraph is based on a transcript of the debates of Nebraska’s LB115, in both
Committee and the full Legislature. We are grateful to Diana Bridges, Legislative Records Historian in
the Clerk of the Legislature’s office, for providing us with a copy of the transcript.
8 We are grateful to Clark Bensen of Polidata for his considerable assistance in obtaining these data.
9 Voting-age population is the best available indicator of the size of the population who might vote at
any election, given the difficulty of obtaining data on registered voters at the State level, let alone that
of the Congressional District. It necessarily incorporates not only those who are eligible to register to
vote, but do not do so, but also those who are ineligible, such as felons who have served their
sentences. Because both groups are concentrated in some States, the correlations between the voting
age population, the eligible population, and the registered electorate are not complete, but the voting-
age data are the best available for the current purpose. (The correlation between the voting-age
population and the registered electorate across the 50 States in 2000 was 0.985.)
distributed, giving him a 96-vote lead over Kerry in the Electoral College, compared to 34 in the actual outcome.

If applied in all of the States, the Maine/Nebraska system would have operated to Bush’s advantage at both of those contests, therefore, relative to the ‘winner takes all’ system operating in 48 of the States – given the caveat about assuming that everybody voted the same way under both systems as they had in the ‘actual’ election. This was because Bush won in more States and Districts than both Gore in 2000 and Kerry in 2004, which suggests that geography was working in his favour. To evaluate whether that was the case, the results were analysed – as in similar work on single-member constituencies elsewhere (e.g. Great Britain: Johnston, 2002) – to identify the amount (if any) and components of the bias that would have resulted.

The results of both elections if there were equal vote shares are given in Table 2. In 2000, there would have been virtually no difference between the outcome using the current system and that using Maine/Nebraska: Bush would have defeated Gore by 295:243 in the Electoral College under the current system and by 296:242 under Maine/Nebraska. Changing the system would not have changed the overall outcome in this very close contest: the loser in the popular vote would have remained the victor in the Electoral College.

That was not the case with the 2004 election, however. Under the present system – as previously discussed (Johnston, Rossiter and Pattie, 2005) – Kerry would have defeated Bush by 40 seats in the Electoral College if there had been an equal share of the popular votes. Under Maine/Nebraska, on the other hand, Bush would have prevailed in the Electoral College by a margin of 46 votes. Changing the scale would have changed the result very markedly, because of the way in which the biases operated at the State and Congressional district levels.

The size of the bias components for each of equal-share elections under Maine/Nebraska at State and CD levels is in Table 3. Each portion of each election (i.e. State-wide and by Congressional District) would have favoured the Republican candidate, George W. Bush. In the State-wide contests – shown in the first block in the table – Bush would have had an advantage of 30 Electoral College votes over Gore (out of 102) if they had obtained equal shares of the votes cast. (Bush would have won by 66 votes to 36, despite each getting 48.171 per cent of the popular votes cast.) Most of this pro-Bush net bias emanated from differences in voting age population between the States that each candidate would have won (relative to their number of Electoral College votes), though there was also a small pro-Bush advantage as a result of his votes being more efficiently distributed than Gore’s. In 2004, Bush again had an advantage through victories in the smaller States, but this was in large part countered by Kerry’s popular votes being slightly more efficiently distributed across the States. In general, and not surprisingly, these results are similar to those obtained when analysing the election under the prevailing rules in every State (Table 1).

Turning to the second block of results in Table 3, referring to the popular vote in the Congressional Districts, each election would have produced a substantial bias favouring Bush if it had been fought using the Maine/Nebraska system. Gore and Kerry both had an advantage over Bush in the abstentions component – they tended to
win in Districts that had lower turnout levels. Gore also had an advantage in 2000 on the voting-age population component, because he tended to win in smaller Districts than Bush. This advantage was not available to Kerry, however, not because the geography of his support was very different from Gore’s at an aggregate scale, but because the redistricting that occurred between the two elections removed most of the cross-District variation in electorate size. Countering the size advantages that accrued to his opponents, however, was Bush’s very substantial lead on the efficiency component – by 51 Electoral College votes in 2000 and 60 in 2004 (out of a total of 436). As a result, Bush would have defeated Gore by 230 to 206 Electoral College votes in this part of the contest in 2000, and would have beaten Kerry by 238-198.

Combining the two components of the elections – the State-wide and Congressional District contests – gives the Electoral College outcomes with the two candidates having equal vote shares shown in Table 2. In 2000, a change to the Maine/Nebraska system would have produced almost exactly the same result as the current ‘winner takes all’ system in all but those two States: Bush would have defeated Gore by 54 Electoral College votes – he would have won 55 per cent of those votes to Gore’s 45 per cent, even though both had the same share of the popular vote.

In 2004, however, a change to the system would have produced a very different outcome. The ‘winner takes all’ system would have favoured Kerry if the two candidates had achieved the same share of the popular votes cast (49.542 per cent), but the Maine/Nebraska system would have reversed that, with Bush winning by 292-246 in the Electoral College. Geography worked for Kerry at one spatial scale – that of the States – but not at a combination of scales – States and Congressional Districts, with the Congressional Districts contributing 81 per cent (436) of the 538 votes in the Electoral College.

The importance of scale in spatial analyses of continuous distributions – such as those of populations and voters – has long been recognised as part of the modifiable areal unit problem. This analysis of the 2004 US Presidential election brings that importance into clear focus. In an election conducted at the State scale alone, Bush’s votes were less efficiently distributed than were Kerry’s. In one conducted partly at the State scale but mainly at that of the Congressional District, on the other hand, the advantage was reversed.

The reason for this is given in Table 4, which shows three statistics for each candidate in an election conducted using the Maine/Nebraska system – with equal vote shares. Their popular votes are divided into three categories:

- **Wasted votes** are those which gain no Electoral College votes, because the candidate loses in the State/Congressional District;
- **Effective votes** are those which win candidates Electoral College votes, and are counted as one more than the number of popular votes won by the losing candidate (thus if \( X \) gets 1000 votes and \( Y \) gets 1500, all of \( X \)’s votes are wasted and 1001 of \( Y \)’s are effective – they win the Electoral College vote for \( Y \); and
- **Surplus votes** are the popular votes obtained by the winning candidate which are additional to those needed for victory (in the above example, 499 of \( Y \)’s votes would be surplus).

From these three, another statistic can be calculated:
• **Percentage of votes that are effective**, which is a candidate’s effective votes expressed as a percentage of his total (i.e. wasted, plus effective, plus surplus).

At the State level, the geography of popular vote winning clearly favoured Kerry. He wasted many fewer votes (per Electoral College vote) in the States that he lost than wads the case for Bush where he lost; this was only partly countered by Kerry’s slightly larger number of surplus votes per Electoral College vote won. As a result, a much larger percentage of Kerry’s popular votes were effective (a gap of 9.6 percentage points). Where Bush beat Kerry, he beat him by relatively large margins; where Kerry beat Bush the margins were much less – hence Bush’s greater accumulation of wasted votes, despite winning in more States (Table 2).

At the Congressional District level, the situation was reversed, however. Kerry had more wasted votes per seat lost and also more surplus votes per seat won: as a result over 15 per cent fewer of his votes were effective than were Bush’s. Within States, therefore, Bush’s support was much more efficiently distributed: where he lost, Kerry won by relatively large margins; where he won, Kerry came a closer second. Kerry got too many votes in the wrong places. He had votes in the right places in the State component of the election, but not in the more dispersed Congressional District component where Bush prevailed because he was popular in a larger number of places than Kerry.

**Conclusions**

In elections using districts and the ‘winner takes all’ principle for allocating legislative seats, both disproportional and biased outcomes are the norm, as shown in detailed analyses of the operation of the UK electoral system (Johnston et al, 2001). Occasionally, because of this disproportionality and bias, a ‘perverse’ outcome may occur, when the party with the highest number of votes cast is not the victor in the allocation of seats. (This has happened twice in recent British history – 1951 and February 1974 – and also twice in New Zealand – in 1978 and 1981). Such a perverse outcome characterised the US Presidential election in 2000, and re-stimulated debates over the nature of the Electoral College and possible electoral reform in the US.

Disproportionality, bias and ‘perverse’ results are all the consequences of geography – both the geography of the districts in which the contest occurs and the geography of the behaviour by both candidates/parties (where they campaign hardest etc.) and electors (are they more likely to abstain or vote strategically in some places than others, for example). Furthermore, as we have demonstrated here, the scale of that geography matters. A candidate/party may be advantaged at one scale but not at another – as the example of Kerry in 2004 so clearly demonstrates.

Views about the Electoral College are very polarised within the USA. There are those who support its continued existence because, as the Founding Fathers intended, it places the federal principle on which the United States were founded as a foundation of its electoral system. It requires that each President has support in a majority of the States and thus ensures that candidates campaign more widely than might be the case if victory in the popular vote were all that mattered – irrespective of where such votes were cast. (See the arguments of several of the authors in Gregg, 2001.) Others argue the contrary position – that the Electoral College should be abolished. (Edwards –
2004, p. 150 – for example, characterises it as ‘an extraordinarily complex system for electing a president, one that has the potential to undo the people’s will at many points in the long journey from the selection of electors to the counting of their votes.’) If the Electoral College were retained, however, it need not be in the current ‘winner takes all’ form: States could decide to allocate their Electoral College votes proportionally across candidates according to their shares of the popular vote there, or they could adopt the Maine/Nebraska system and alter the geography of translating votes into seats – at least for the majority of Electoral College votes (c.80 per cent) which would depend on victory in the CDs rather than the States.

Should there be a change to the system for electing the US President – an issue that the *MacPherson v Blackler* decision indicated was a matter within the jurisdiction of the various States – then political behaviour will undoubtedly change to reflect the changed rules. If that change involved not the removal of the Electoral College (which could only be done by a Constitutional Amendment) but alterations to the method of identifying each State’s delegation to the College by adopting the Maine/Nebraska system (which individual States can do), then new geographies will undoubtedly emerge. The example used here of re-runs of the 2000 and 2004 elections shows that such a system will favour the candidate with the widest spread of support across the 435 Congressional Districts plus the District of Columbia. Over the last fifty years it seems that this would almost certainly have benefited the Republicans at every contest, and perhaps have changed the result of two. Nixon would probably have beaten Kennedy in 1960, and Ford and Carter would have tied in 1976. Of course, as stressed above, a different geography for the contest would have stimulated different geographies of campaigning but, given the Democrats’ current relative strength in urban-industrial America and the Republicans’ widespread majority support across much of the remainder of the country, there would have to be a substantial change to the geography of Democratic party support as a result of such changed geography of campaigning – both in terms of policies and in ‘getting out the vote’ (Green and Gerber, 2004) – to overturn what appears to be a very substantial Republican advantage. Geography matters – in this as in so much else that relates to elections (Johnston, 2005) – and political geographers thus have an important role to play in debates over electoral reform.

**References**


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10 Full data on this are available in a paper by Clark Bentsen on *Electoral College Warfare* published on the Polidata website (www.polidata.org).

11 In would almost certainly stimulate greater gerrymandering aimed at producing Congressional Districts which supported one of the parties.


Table 1
Bias components at the US Presidential elections of 2000 and 2004: a positive number indicates a bias favouring the Democratic party candidate and a negative number indicates one favouring the Republican candidate

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voting-Age Population</td>
<td>-16</td>
<td>-14</td>
</tr>
<tr>
<td>Abstentions</td>
<td>-2</td>
<td>1</td>
</tr>
<tr>
<td>Third Party Votes</td>
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<td>0</td>
</tr>
<tr>
<td>Efficiency</td>
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<td>52</td>
</tr>
<tr>
<td>Interactions</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-52</td>
<td>40</td>
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Table 2  
The results of the 2000 and 2004 US Presidential elections if they were held under the current and the Maine/Nebraska systems

<table>
<thead>
<tr>
<th>Year</th>
<th>Bush</th>
<th>Gore</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>Actual result</td>
<td>271</td>
</tr>
</tbody>
</table>

Result if Maine/Nebraska system used

<table>
<thead>
<tr>
<th>Level</th>
<th>Maine/Nebraska</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>60</td>
<td>66</td>
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<td>CD</td>
<td>229</td>
<td>230</td>
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<tr>
<td>Total</td>
<td>289</td>
<td>296</td>
</tr>
</tbody>
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Result with equal vote shares

<table>
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<tr>
<th>System</th>
<th>Maine/Nebraska</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>State level</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>CD level</td>
<td>255</td>
<td>230</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Bush</th>
<th>Kerry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Actual result</td>
<td>286</td>
</tr>
</tbody>
</table>

Result if Maine/Nebraska system used

<table>
<thead>
<tr>
<th>Level</th>
<th>Maine/Nebraska</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>CD</td>
<td>255</td>
<td>230</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>296</td>
</tr>
</tbody>
</table>

Result with equal vote shares

<table>
<thead>
<tr>
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<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>State level</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>CD level</td>
<td>238</td>
<td>238</td>
</tr>
<tr>
<td>Total</td>
<td>292</td>
<td>292</td>
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</table>
Table 3
Bias components at the US Presidential elections of 2000 and 2004, if the Maine/Nebraska system were used in all States: a positive number indicates a bias favouring the Democratic party candidate and a negative number indicates one favouring the Republican candidate

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voting-Age Population</td>
<td>-23</td>
<td>-16</td>
</tr>
<tr>
<td>Abstentions</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Third Party Votes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Efficiency</td>
<td>-7</td>
<td>10</td>
</tr>
<tr>
<td>Interactions</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-30</td>
<td>-6</td>
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<tr>
<td><strong>Congressional District Level</strong></td>
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<tr>
<td>Size</td>
<td></td>
<td></td>
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<tr>
<td>Voting-Age Population</td>
<td>14</td>
<td>0</td>
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<tr>
<td>Abstentions</td>
<td>11</td>
<td>20</td>
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<tr>
<td>Third Party Votes</td>
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<td>0</td>
</tr>
<tr>
<td>Efficiency</td>
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<td>-60</td>
</tr>
<tr>
<td>Interactions</td>
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<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-24</td>
<td>-40</td>
</tr>
</tbody>
</table>
Table 4
Wasted, surplus and effective votes for Bush and Kerry at the 2004 US Presidential election, if it were fought using the Maine/Nebraska system in all States

<table>
<thead>
<tr>
<th></th>
<th>Bush</th>
<th>Kerry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasted votes per Electoral College vote lost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State level</td>
<td>574,465</td>
<td>410,050</td>
</tr>
<tr>
<td>CD level</td>
<td>98,292</td>
<td>116,281</td>
</tr>
<tr>
<td>Surplus votes per Electoral College vote won</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State level</td>
<td>126,933</td>
<td>142,793</td>
</tr>
<tr>
<td>CD level</td>
<td>56,227</td>
<td>67,588</td>
</tr>
<tr>
<td>Percentage of votes effective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State level</td>
<td>39.1</td>
<td>48.7</td>
</tr>
<tr>
<td>CD level</td>
<td>45.7</td>
<td>32.2</td>
</tr>
</tbody>
</table>