LARGEST REMAINDER

(Not quite Quota Notes)

No. 2   **September 2008**

In this issue

Introduction

We've made it to a second issue! Thanks for your feedback – keep those emails and letters coming.

If you do not wish to receive *Largest Remainder* please let us know at president@electoralreformaustralia.org.

Meeting, 23 June 2008

At this meeting the development of a Branch website was further discussed. Branch member Patrick Lesslie presented a web design proposal and he was contracted to undertake the work required. The website (still a work in progress) can be found at www.electoralreformaustralia.org

There was further discussion of the revision of the PRSA's Proportional representation manual and the need to include up-to-date information such as the availability of software for counting ballots. It was felt that the manual should be freely available on the internet.

It was agreed that the PRSA (NSW) should undertake a membership drive and expand its mailing list.

Meeting, 11 August 2008

This meeting was dominated by discussion of the proposed website.

Amidst some discussion of the impending local government elections, it was agreed that we write to the Administrator of Wollongong Council recommending that the Council be reconstituted as a single-ward council elected by PR, with the Robson rotation and all the frills.

Annual General Meeting, Monday 13 October 2008, 7:30pm

The next meeting of the PRSA (NSW Branch) will be the Annual General Meeting

It will be held on Monday 13 October at 7.30 pm at 74 Thompson Street, Drummoyne.

This meeting will elect the Committee for the next 12 months. The Committee should consist of 9 members (elected by PR of course) who then elect from amongst themselves a President, 2 Vice-Presidents, Secretary and Treasurer. All members are welcome.

There is a membership form attached to this newsletter.

PR quotables …

"Also welcome would be an electoral system which acts on the principle of proportional representation, giving minor parties a voice in both houses of the national parliament": Joel Fizgibbon, Defence Minister, in the inaugural Edmund Barton Lecture, Newcastle University, July 2008

"I will also, on behalf of the Australian Greens, push for proportional representation in our house of government. Most European parliaments have it. Under recent referenda, the ACT took it on board. So did the New Zealand people.

"It simply means this: on the day after an election, everybody wakes up to find that somebody she or he voted for is in the parliament to represent them. Compare that with the current, stultified, single-member, Westminster option that we have in place here in Australia: on the morning after the election, half the electorate wakes up to find that their vote was in vain, that somebody they not only did not support but also resent is the only person from their electorate in the parliament to represent them": Senator Bob Brown, First Speech, September 1996

The Great Moot Poll

The following article, in the form of a play, is Chapter 6 from an unpublished manuscript by PRSA member Ralph Rowlatt.

Ralph's Great Moot Poll is an extension of Rowland Hill's school boy election carried out by open voting with no ballot papers, mentioned in Enid Lakeman's *How democracies vote* (4th ed. London, 1974. p. 114)

Ralph was born in England in 1915. A man of strong Christian principles, he was imprisoned as a conscientious objector during World War II.

He came to Sydney with his wife and 4 children in 1956 and worked as an architect with the Department of Works. After his retirement in 1975, Ralph completed an Arts degree, obtained his driver's licence and bought his first car. His wife, Iris, died in 2000, and Ralph now lives in Toronto.

Ralph was "converted" to PR when he read a little secondhand book - which is still *SOMEWHERE* on his bookshelves - that he bought for 3 pence. Ralph has been a consistent writer of letters-to-the-editor and has a still unresolved dispute with the PRSA about the transfer of surpluses.

THE GREAT MOOT POLL: a mellow-drama in two scenes

(The CITIZENS are about to hold their annual election for four Mootmen to represent them in their local Moot. The CITIZENS are rather odd; even their elections are rather odd. Inside the old Moot Hall where the election is to be held, there are no voting booths, no ballot boxes, not so much as one ballot paper. There is nothing whatever in the Hall, except for seven small platforms, each bearing a photograph of one of the candidates. These worthies rejoice in the classical names of Alpha, Beta, Gamma, Delta, Zeta, Iota and Kappa.

As the curtain rises we see the CITIZENS – forty of them – assembled in the ante-room to the Moot Hall. Standing at its entrance is an impressive and gorgeously-arrayed figure, the POLLMASTER, equipped for conducting the election with a loaded clipboard and a felt pen)

Curtain up!

SCENE ONE

POLLMASTER

Welcome, Citizens, to this year's Moot Poll. Please enter, and each of you stand by the photograph of the candidate you most want as your Mootman.

(The CITIZENS obediently surge in to the Hall; after some scurrying and pushing they form the seven groups as they were directed, thus):

First count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	
13	10	5	4	4	3	1	= 40

(The POLLMASTER notes these figures on his clipboard)

POLLMASTER

Now, some of you Alpha-people may be thinking that your man has more votes than he needs to win a seat, and you would like to move to another candidate. You, Kappa-voter, have probably realised that your man hasn't a chance and you would like to move to someone who has.

(General murmurs of assent from the two groups)

So the first thing I must do is to work out the minimum number of votes a candidate must have in order to win a seat.

FIRST CITIZEN

Well, there are 40 voters and 4 seats, so the minimum is 40 divided by 4 *(Frowns)* – that's 10 each exactly; because, if 4 candidates get only 10 votes each, there are no more votes for all the others.

POLLMASTER

Good try! But fewer will do, because the others can have some of the votes, but not enough to win. For instance, if each of the 4 winners had only 9 votes each, that's 36 altogether, there are only 4 votes left over – not enough to win. On the other hand, if the 4 winners had only 8 votes each, that's 32, there would be 8 over, and one other candidate may get the lot. So 9 is the minimum, that is, the quota. Alpha and Beta both have more than 9 votes, so I declare them elected forthwith. Alpha has the bigger surplus (4), so I will deal with that first. 4 of you Alpha people can move to other candidates – *(Some of the more eager Alpha voters begin to move off)* – Not yet! Just any 4 won't do. They might all go to Gamma; a different 4 might go to Iota or someone else. No, the 4 must be chosen on the same proportion as the next choices of all of you.

SECOND CITIZEN

Bushed already!

POLLMASTER

Then keep quiet, listen and watch! All you 13 Alpha voters, go and stand in front of the candidate who is your second preference – all except any of you who have Beta for your second preference as he is already elected; you will have to move to your third preference.

(The 13 Alpha-voters move off and form sub-groups in front of the five eligible candidates – the POLLMASTER sees that they do not mix with the first preference people already there – thus):

Gamma	Delta	Zeta	Iota	Kappa	
1	1	2	1	8	= 13

POLLMASTER

Thank you! Now, there are 13 altogether and 4 are surplus, so the proportion of the surplus to the total is 4/13. So I have to multiply each subtotal (1,1,2,1,8) by 4/13 to find the number of votes that can be spared from each subgroup to go to the next-preference candidates.

(He figures rapidly on his clipboard and announces the resultant surpluses)

Gamma	Delta	Zeta	Iota	Kappa	
4/13	4/13	8/13	4/13	2 6/13	= 4

SECOND CITIZEN

But you can't transfer 8/13 of a voter – not of me, anyway:

POLLMASTER

No, of course not – I'll have to ignore the fractions and transfer whole numbers of whole voters; selected, according to the rules, at random.

(He goes to the only subgroup which qualifies for this treatment – Kappa's – selects 2 citizens and directs them to stand behind Kappa's first-preference group. There are thus 3 voters with the Kappa photograph and 6 voters left in the subgroup in front of them).

SECOND CITIZEN

Well, I suppose that's right, but only 2 voters have moved from Alpha to Kappa, though Alpha did have a surplus of 4. What about those 2?

POLLMASTER

They represent the total of the untransferable fractions.

(He directs two more voters from the Alpha-Kappas to stand aside to represent the dropped fractions. The five subgroups are now 1,1,2,1,4 respectively and form Alpha's quota of 9; the POLLMASTER directs them to return to the Alpha photograph. The seven groups are now):

Second count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
9	10	5	4	4	3	3	2	= 40

POLLMASTER

Now I will deal with Beta's surplus of 1. All you 10 Beta-firsts, form subgroups in front of your next preferences, except of course in front of Alpha.

(Surprisingly, all 10 line up in front of Delta)

POLLMASTER

This time the surplus fraction is 1/10, and as there are ten of you with Delta, he gets 1/10 of the surplus multiplied by 10, which is 1.

THIRD CITIZEN

That was obvious!

POLLMASTER

I know, but we have to work the system exactly. <u>You</u> *(pointing to the nearest of the 10 Beta-Deltas)* stay with Delta and the other 9 go back to Beta to form his quota.

(The ten CITIZENS move accordingly. The POLLMASTER's clipboard now reads):

Third count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
9	9	5	5	4	3	3	2	= 40

POLLMASTER

Now I must exclude the candidate at the bottom of the poll. There are two candidates there with the same number of votes -3- as there were at the end of the second count; but at the end of the first count, Iota had 3 and Kappa 1, so Kappa is the candidate to be excluded now. You 3 Kappa voters, move to your next preferences, but obviously not to Alpha or Beta!

(Two CITIZENS move to Delta and 1 to Zeta. The POLLMASTER annotates his clipboard to match. It now reads):

Fourth count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
9	9	5	7	5	3	--	2	= 40

POLLMASTER

Iota is now at the bottom of the poll, so he is excluded next. You 3 Iota voters, move to your next preferences as between Gamma, Delta and Zeta!

(Two of the Iotas move to Gamma and 1 to Zeta. There is more scribbling on the clipboard, which now reads):

Fifth count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
9	9	7	7	6	--	--	2	= 40

POLLMASTER

Zeta is now due for exclusion and his votes transferred, but as there will then be only as many candidates left as there are seats, it is necessary only to exclude Zeta and declare the result of the election to be:

Mootmen	Seniority
Alpha	1
Beta	2
Delta	3
Gamma	4

The poll is now over. Thank you for coming and –

(But THIRD CITIZEN has been peering at the clipboard and is disturbed by what he sees):

THIRD CITIZEN

Wait on, Mr Pollmaster! When you distributed Alpha's surplus, you passed only 2 on to Kappa and the other 2 dropped out because they represented the fractions that couldn't be passed on. If these 2 could have been included, Zeta might have got 8 instead of 6 and won a seat; and, as between Gamma and Delta with 7 each, Delta would have kept the seat, because he was higher at the fourth count and Gamma would have lost. In other words these 2 dropped votes might have brought Zeta in rather than Gamma!

FOURTH CITIZEN

(Latching on) Yes, and much the same applies to the 2 votes you passed at random from Alpha to Kappa. They were passed on again when Kappa was excluded. A different 2 from Alpha to Kappa might have brought Zeta in instead of Delta!

POLLMASTER

Well, yes, but the rules require surplus <u>whole</u> votes to be passed on and fractions to be dropped. Likewise, transferred votes representing surpluses have to be selected at random – how else could I do it?

FOURTH CITIZEN

I don't know offhand, but if the result depends on your random choices instead of what the voters have decided on their ballot papers, there ought to be a better way!

POLLMASTER

Alright, alright! I'll have a think. Everybody back here this time next week!

SCENE TWO

(As the curtain rises, there are the forty voters and the POLLMASTER, all as before except that, in addition to his clipboard and felt pen, the POLLMASTER has a pile of what look like school exercise book).

POLLMASTER

Quiet, everybody! I think I've got something that will deal with our problems. Anybody changed his mind about how to vote? No? Good! Then all of you file past me and take one of these.

(The CITIZENS line up and collect a "book" each)

POLLMASTER

You will observe that inside each book there are ten pages of perforated paper, just like sheets of stamps; the stamps are numbered 1 to 1000, 100 stamps to a page. These ten pages constitute your vote.

The first time we tried, I couldn't transfer fractions because I couldn't divide up voters; but you <u>can</u> divide your vote up, as you will see.

THIRD CITIZEN

So far, so good; but as we have 1000 stamps each and the quota last time was 9, does that mean that the quota this time is 9000?

POLLMASTER

No, fewer will do. There are still 4 seats, but the voting strength is not 40 voters but 40,000 stamps. The quota is therefore 40,000 divided by (4 plus 1), plus 1, which equals 8,001 stamps. Check it out for yourselves: if 4 candidates get a quota each, that is 32,004 stamps altogether, that leaves only 7996 stamps for all the other candidates – or, at the most, for one of them.

(A pause for silent mental activity, then a few murmurs of assent)

POLLMASTER

Anyway, sort yourselves out as before according to your first preferences, Oh, I had better declare Alpha and Beta elected, as before.

(This last remark is confirmed by voters as they move into first-preference positions, but the figures this time are for total stamp values, not total voters, thus):

First count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	
13,000	10,000	5,000	4,000	4,000	3,000	1,000	= 40,000

The POLLMASTER notes these figures on his clipboard).

POLLMASTER

Now, all you Alpha-firsts hold 13,000 stamps between you, yet Alpha needs only 8,001 for his quota. This means that you need to give Alpha only 616 stamps each, which is 8,008 altogether. This is 7 too many, or 0.007 of a vote, which is probably too small to affect the result, but we shall see. All you Alpha-firsts, therefore, tear out 616 stamps each and give them to me.

(The POLLMASTER collects six whole sheets and 16 stamps from each voter. He puts 8,001 with Alpha's picture as his quota, and 7 stamps in a separate pile as dropped votes)

POLLMASTER

I now have to distribute Alpha's surplus - that is the 384 stamps which each of you 13 Alpha-firsts still hold. As your total quota was 7 stamps too many, so your surplus is 7 stamps too few, or 4,992 altogether. Now go and stand with your second-preference candidate, as before.

(This is done, as before, and the total stamp values for each candidate are shown next below).

	Gamma	Delta	Zeta	Iota	Kappa	
Voters	1	1	2	1	8	= 13
Stamps	384	384	768	384	3072	= 4,992

POLLMASTER

Thank you! I now have to add these stamp values to the first-preference figures for each of these five candidates, with a note of the dropped stamp values.

(He performs the now familiar scribblings on the clipboard; looking over his shoulder we can see the following):

Second count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
8,001	10,000	5,384	4,384	4,768	3,384	4,072	7	= 40,000

POLLMASTER

Now for Beta's surplus! You 10 Beta firsts hold 10,000 stamps. Beta needs only 8,001 for his quota; that is he has a surplus of 1999. This means you 10 voters need give Beta only 801 stamps each or 8,010 in total. This is 9 stamps too many and not likely to affect the result.

(The POLLMASTER collects eight whole sheets and one odd stamp from each voter, and puts 8,001 with Beta's picture as his quota and 9 stamps in a separate pile as dropped votes)

POLLMASTER

I now have to distribute Beta's surplus – the stamps you Beta firsts still have. Just as your total was 9 stamps too many, so your surplus is 9 too few, or 1990 altogether. Go and stand with your second preferences, as before.

(And since the Beta firsts have not changed their minds, they line up in front of Delta as before)

	Gamma	Delta	Zeta	Iota	Kappa	
Voters		10				= 10
Stamps		1,990				= 1,990

POLLMASTER

That's it! Now to add Delta's extra values and present the third count.

(He makes his calculations; the clipboard result is as follows):

Third count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
8,001	8,001	5,384	6,374	4,768	3,384	4,072	16	= 40,000

(Meanwhile, the citizens are beginning to understand how the POLLMASTER's new system is working and there are murmurs of appreciation as they see how he is solving the two problems they set him).

POLLMASTER

I must now exclude the candidate at the bottom of the poll. This is not Kappa, as it was before, but Iota. He has his original 3 voters still with him, with 1,000 stamps each, plus the voter who came from Alpha with 384. You 4 voters, move to your next preferences.

(Two of the 1,000 stamp voters go to Gamma; Zeta gets the other 1,000 stamp voter and also the 384 stamp voter. The POLLMASTER notes these additions and draws up the fourth count):

Fourth count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
8,001	8,001	7,384	6,374	6,152	--	4.072	16	= 40,000

POLLMASTER

Now I must exclude Kappa. He has with him his original 1,000 voter and the eight 384 voters from Alpha. You 9 voters, move to your next preferences!

(The 1,000 voter and three of the 384 voters move to Delta, who thus obtains 2,152 more stamps; the other five 384 voters, with their 1,920 stamps, go to Zeta. The clipboard is brought up-to-minute as follows):

Fourth count

Alpha	Beta	Gamma	Delta	Zeta	Iota	Kappa	Dropped	
8,001	8,001	7,384	8,526	8,072	--	--	16	= 40,000

POLLMASTER

And that is it! Gamma, of course, is next to be excluded, but I need not do anything about his stamps, because after his exclusion there are only four candidates in the running and they become the winners.

THIRD CITIZEN

(peering over the POLLMASTER's shoulder) I notice that, not only has Zeta won this time instead of Gamma, but that Delta holds his seat because of his higher vote in the last count, whereas before, his seniority depended on his position at the previous count!

POLLMASTER

Yes, that is because so little of the total vote was wasted – only 0.016 of a vote, 16 stamps, and they wouldn't have been of any use to Gamma, as he was 688 behind Zeta! With no random selections, we do know that the final result is the only one possible! And here it is!

Mootmen	Seniority
Alpha	1
Beta	2
Delta	3
Zeta	4

(The CITIZENS burst into loud cheers for the POLLMASTER; there are no complaints whatever and amid scenes of happy confusion the CURTAIN FALLS)

Comments and/or contributions to:
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Any response to this article?
Did your family or friends perform the play
after dinner just for fun?