

2/4/2/1/5/8.

CONSTITUTIONAL ASSEMBLY

THEME COMMITTEE 2 STRUCTURE OF GOVERNMENT

THEME COMMITTEE MEETING

ELECTORAL SYSTEM (BLOCK 6)

**SUBMISSIONS RECEIVED
(As at 25 MARCH 1995)**

VOLUME 8

**INDEX OF SUBMISSIONS ON THE ELECTORAL SYSTEM RECEIVED FROM
THE PUBLIC/ORGANISATIONS (As at 25 MARCH 1995)**

	INDIVIDUALS		
NO	NAME	CATEGORY	PAGE
163	Davies CRL	Electoral system	1
164	Duvenage A	Electoral system	2
165	de Villiers M	Electoral system	3-52
166	du Toit DM	Electoral system	53
167	Klopper M	Electoral system	54-55
168	Maathlo P	Electoral system	56-61
169	Ngirane G	Electoral system	62-65
170	Stemmet A	Electoral system	66-75
171	Stemmet J	Electoral system	76-85
172	Steenkamp T	Electoral system	86-88
173	Steiner A	Electoral system	89
174	Stocks RK	Electoral system	90-94
175	Stuart SG	Electoral system	95-96
176	Willis P & Salters D	Electoral system	97
177	Van Wyk E	Electoral system	98-100
	ORGANISATIONS		
178	Institute for Advancement of Human Rights, Democracy, Individual Right to Mother Tongue	Electoral system	101-105

INDIVIDUALS

0876

P.O.Box 159,
PLATWAL. 0304.
3rd February 1995.

CONSTITUTIONAL
ASSEMBLY

16 FEB 1995

001505

The Chairperson,
The Constitutional Assembly,
P.O.Box 15,
Cape Town. 8000.

Dear Sir/Madam,

The concept of one-man-one-vote has merit in that it gives every citizen of the land the satisfaction that he/she has had a say in electing the government of the day. Ideally this applies to first world countries, but is totally unsuited for a country with such a diverse cross-section of people as South Africa.

Taking into account the ratios involved, it is ridiculous, that a university professor's vote carries the same value as that of a street-sweeper. Likewise a person who has invested his/her life savings in a home or business cannot be expected to vote on a par with a shack-dweller who has simply occupied land without any capital outlay.

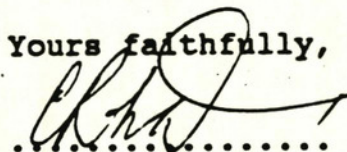
A system of qualified franchise must be included in the Constitution in order to create a balance of values and eliminate unrealistic promises made by unscrupulous politicians. Anyone with nothing to lose will vote for that party which offers him/her everything on a plate, whereas the person who has made a contribution to the country will consider all the options before making their choice.

In order to qualify for additional votes a citizen would have to prove his/her right to these by submitting whatever criteria are set out by yourselves, to an official appointed to this task. The level, depending on a the standard set, could go from 1 for the lowest category to 10 for the highest category. The number of votes allocated would be stamped into their I.D. book. This proof would then be presented in the normal manner at the polling booth.

At the polling station there would be different colour ballot papers for each category which will be issued to the voter according to his/her vote entitlement. He/she would then make only one cross. When it came to counting, these would be arranged by colour and the total simply multiplied by the number dedicated to that colour.

This proposal is not an attempt to disenfranchise the disadvantaged but a means of ensuring that an economically stable and balanced government is elected which will be to the benefit of the country as a whole.

Yours faithfully,



C.R.L.Davies.

34 Klipvank Road
LADYSMITH
3370

24 January 1995

The Executive Director
Constitutional Assembly

Dear Sir

May I suggest the following :

1. In order for a person who is eligible to vote in the national (general) elections, they are to have a tax clearance number. That is whether they are eligible to pay tax or not, they must still be processed in order to obtain a voting number.
2. In order to vote in local government elections, eligible voters must have a clearance number showing that they have paid all dues owing (rates and taxes etc.)
3. The government should supply birth control methods free to all families.
4. Thereby implementing a control of the size of families - say having more than two children or anymore if at present they have more than two children, to have to pay a tax on each additional child. (say R100 per child per year)?
Thus giving the country a chance to recover its resources. (It works in China).
5. Pensioners should not have to pay taxes.

Remember most of Africa is bankrupt, only because nobody pays taxes.

Think ahead

Yours faithfully

A. DUVENAGE



University of
Durban-Westville

PRIVATE BAG X54001 DURBAN

4000 SOUTH AFRICA

TELEGRAMS: 'UDWEST'

TELEX: 6-23228 SA

FAX: (031)820-2383

☎ (031)820-9111

**CONSTITUTIONAL
ASSEMBLY**

The Constitutional Meeting

PO Box 15

Cape Town

12 February 1995

17 FEB 1995

001519

Dear Legislators

Enclosed please find a copy of a booklet of mine, namely, *The Mathematics of Voting*, which compares many different voting systems, showing the advantages and disadvantages of each. You may find it interesting and useful in your important task of deciding on the future constitution of South Africa. Please also note the photocopy of an article I wrote for *Finance Week*, 24-30 March 1994, showing a drawback of the apportionment method which was chosen for the interim constitution and suggesting an alternative one.

Best wishes with your important endeavour.

Yours sincerely

A handwritten signature in black ink, reading 'Michael de Villiers'.

Prof Michael de Villiers
Mathematics Education

A QUESTION OF FAIRNESS

How SA's legislators have chosen the wrong method of apportioning seats under the Interim Constitution

An interesting mathematical problem with the list proportional representation (PR) chosen for the new SA is determining the 'apportionment' of available seats to the different parties, according to the proportion of votes they each gain.

The problem is that dividing the number of available seats according to the proportion of votes gained may not necessarily yield an integral number of seats to each party. In such cases how is a fair apportionment of seats made?

The following article presents two mathematical criteria for judging the fairness of the apportionment of seats. Using these criteria the method adopted in the Interim Constitution is criticised and an alternative method proposed.

In the Interim Constitution for the general election of April 27-29 the following apportionment method has been legislated:

3. For the purpose of filling the two hundred seats in the National Assembly, the total number of votes cast in the general election shall be divided by two hundred and the result shall be the quota of votes per seat.

4. The total number of votes cast in favour of a registered party, shall be divided by the quota of votes per seat and the result shall, subject to item 5, determine the number of seats allocated to that party.

5. Where the formula set out in item 4 yields a surplus fraction not absorbed by the number of seats allocated to the party concerned, such surplus shall compete with other similar surpluses accruing to any party or parties, and any undistributed seat or seats (in terms of the formula set out in item 4) shall be awarded to the party or parties concerned in sequence of the highest surplus. (Draft Constitution, Nov 17 1993, p 144)

The apportionment of the 200 seats of the National Assembly from regional party lists is described in a similar fashion.

The proposed method in the Interim Constitution is referred to in the literature as Hamilton's method, the Vinton method or the method of 'greatest remainders'.

It is best known as Hamilton's method,

after Treasury Secretary of the American Congress Alexander Hamilton who first proposed this method in 1792 for congressional apportionment of seats to the different American states. It was vetoed by President George Washington at the time and was not used for its original purpose until the period 1850-1901. Today it is found in PR systems

The author, Michael de Villiers, is professor of mathematics education at the University of Durban-Westville.

in Costa Rica, Switzerland and for the federal parts of Sweden's one house.

It works as follows. Each political party is first allocated a number of seats equal to the integral part of its ideal representation, the fractional part being discarded. So, if party A is ideally entitled to 3.67 seats, it is first allocated 3 seats.

The number of seats allocated to all the parties is then totalled, and if the total falls short of the designated house, then the house is filled by allocating additional seats in descending order to the parties from the largest to the smallest discarded fraction.

As a simple illustration of Hamilton's method, see table 1, showing the results of a fictitious election with five parties and the number of seats each should receive in a house of 26 seats.

Initially parties A, B, C, D and E are respectively allocated the following seats: 9, 7, 5, 3 and 1. But, this accounts for only 25 of the 26 seats. Party D, having the highest

Table 1
Elections for a house of 26 seats

Party	Votes	Seats	Surplus
A	9 061	9	0.061
B	7 179	7	0.179
C	5 259	5	0.259
D	3 319	3	0.319
E	1 182	1	0.182
Total	26 000	25	0.200

fraction (0.319) is thus allocated an additional seat, for a total of 4.

Now imagine that the size of the house in the five-party example is increased from 26 to 27, and do the calculation again by the Hamilton method (table 2).

In the 27-seat house, parties A, B, C, D and E are now respectively allocated 9, 8, 6, 3 and 1 seats. But, paradoxically, although neither the total number of voters nor the proportion of votes for party D has changed, D now has fewer seats in a larger house!

This troubling paradox is called the Alabama paradox, having first been detected

Table 2
Elections for a house of 27 seats

Party	Votes	Seats	Surplus
A	9 061	9	0.061
B	7 179	8	0.179
C	5 259	6	0.259
D	3 319	3	0.319
E	1 182	1	0.182
Total	26 000	27	0.200

in some calculations in that state.

The frequent occurrence of this paradox in the congressional apportionment of the US eventually led to the abandonment of Hamilton's method.

One may, perhaps, smugly respond by saying: "So what? The number of seats in our National Assembly has been fixed at 400 - so that paradox can never occur here."

But such a response exhibits political naivete, since it is conceivable that SA's National Assembly will have to be expanded in the future to keep track of an ever-growing population, eg if the ratio of Assembly representatives is to be maintained constant to the total population.

In addition, Hamilton's method violates another more serious criterion of fairness, to be discussed below.

One criterion of evaluating fairness in PR is that of *quota*. For example, if a party has an ideal number of 6.71 seats it should receive no less than six and no more than

seven seats in the final allotment. It is not difficult to prove mathematically that Hamilton's method will always satisfy quota.

Another, more significant criterion of fairness is that of *consistency* with any changes in the relative proportion of the vote or size of the Assembly. One way to achieve this is to require that if party A's ideal number of seats increases and party B's decreases, then party A should get no fewer seats and party B more.

As we have seen, Hamilton's method violates this criterion of consistency. Sceptics of politicians and political parties will be delighted to learn that Balinski and Young demonstrated in 1982, using the criterion of consistency, that no apportionment method can always satisfy the consistency and quota requirements. Thus we are faced with the conclusion that there is no perfect apportionment method.

Some compromise has to be made. Either we must sacrifice the principle of staying within quota, or the possibility of consistency paradoxes must be accepted. So which is the better choice?

Balinski and Young argue for avoiding consistency paradoxes rather than always staying within the quota. They have furthermore proved that only the so-called 'divisor methods' will always avoid consistency paradoxes. By comparing various

divisor methods, they have concluded that the so-called Webster's method is not only least likely to violate quota but also stays very near to it when it does. Additionally, Webster's method is the only divisor method that is unbiased to the relative sizes of the parties.

Webster's method is named after Daniel Webster who proposed it in the US Congress. It has been reinvented in other guises and is also known as the 'method of odd numbers' or the 'Sainte-Lague' method. It is used today for PR in Denmark, Sweden and Norway; it has been recommended by Reynolds for use in SA (see A Reynolds, *Voting for a new South Africa*, Masken Miller Longman, 1993).

Webster's method calls for finding the largest divisor when divided into the number of votes of each party which would respectively yield numbers for each party, when rounded according to standard conventions (ie down for fractions of less than 0.5 and up for fractions of 0.5 and above), sum to the size of the Assembly.

Consider the application of this method for the house size of 26 (table 1). Say we choose a divisor of 1000, then we obtain:

9061/1000	= 9.061 rounds off to 9
7179/1000	= 7.179 rounds off to 7
5259/1000	= 5.259 rounds off to 5

3319/1000 = 3.319 rounds off to 3
1182/1000 = 1.182 rounds off to 1

Since the numbers on the right only sum to 25, we therefore have to look for a divisor smaller than 1000 to obtain the desired sum of 26. It turns out that 957 is the greatest (integer) divisor that produces a sum of 26, for example:

9061/957	= 9.468 rounds off to 9
7179/957	= 7.501 rounds off to 8
5259/957	= 5.495 rounds off to 5
3319/957	= 3.468 rounds off to 3
1182/957	= 1.235 rounds off to 1

The last column is therefore the Webster allotment. Although the method may at first glance seem tedious, it is simple to do the calculation by calculator or computer. Perhaps more importantly, it is likely to be as easily understood by the general voter as Hamilton's method.

Given the serious flaws in Hamilton's method as briefly outlined here, it is something of a mystery how it came to be chosen for SA's Interim Constitution. It would appear that the legislators involved did not bother to consult the relevant and extensive literature in this area.

Since Webster's method avoids these flaws, it is recommended that it replace Hamilton's method in the new Constitution to be drawn up after the April elections. ■



Discipline

North deals
Game all

♠ A 7 2	♠ Q 6 5
♥ K Q J 10 9 8 7 6	♥ 2
♦ A	♦ Q 10 9 8 6 5
♣ A	♣ 4 3 2
♠ K J 10 9 4	♠ 8 3
♥ A 5	♥ 4 3
♦ 7 2	♦ K J 6 4
♣ 9 7 6 5	♣ K Q J 10 8

The bidding:

North	East	South	West
2♠	pass	3♠	pass
3♥	pass	4♠	pass
4♥	pass	pass	pass

A fundamental aspect of bridge is discipline, not only in bidding but in partnership trust and understanding as well.

The diagrammed monster was picked up by North in March's Sandringham pairs tournament. With the potential of small and perhaps grand slam in the combined hands, he opened a forcing two clubs. Partner's response of three in that suit showed slam interest with clubs providing tricks.

After North's three hearts, South pressed further with four diamonds. North didn't care much for either of partner's responses and with what appeared to be no definite entry to dummy for discards (aces are nice, but how can you get across the table with only singletons in partner's suits?), settled for a very conservative four hearts.

South went into the tank but, much to her credit, reasoned that her partner, knowing her responses were positive,

had settled for game only, so game only be it!

East got off to a tremendous lead, a trump. When dummy was spread declarer smiled. His caution was vindicated. West took the ace of trumps, returned another, and the defence waited to collect another two tricks.

They thought they had performed brilliantly, and they had, but much to their chagrin, each of the other five declarers were in slam going off, some one, others two.

Discipline earned North-South a well-deserved top!

Next week's calendar

Wednesday March 30
JBC: Park, graded 3
Friday April 1 through Sunday April 3
TBU: Teams

ALAN BULTON
& DOUGLAS EYLLINGER

A QUESTION OF FAIRNESS

How SA's legislators have chosen the wrong method of apportioning seats under the Interim Constitution

An interesting mathematical problem with the list proportional representation (PR) chosen for the new SA is determining the 'apportionment' of available seats to the different parties, according to the proportion of votes they each gain.

The problem is that dividing the number of available seats according to the proportion of votes gained may not necessarily yield an integral number of seats to each party. In such cases how is a fair apportionment of seats made?

The following article presents two mathematical criteria for judging the fairness of the apportionment of seats. Using these criteria the method adopted in the Interim Constitution is criticised and an alternative method proposed.

In the Interim Constitution for the general election of April 27/29 the following apportionment method has been legislated:

3. For the purpose of filling the two hundred seats in the National Assembly, the total number of votes cast in the general election shall be divided by two hundred and the result shall be the quota of votes per seat.

4. The total number of votes cast in favour of a registered party, shall be divided by the quota of votes per seat and the result shall, subject to item 5, determine the number of seats allocated to that party.

5. Where the formula set out in item 4 yields a surplus fraction not absorbed by the number of seats allocated to the party concerned, such surplus shall compete with other similar surpluses accruing to any party or parties, and any undistributed seat or seats (in terms of the formula set out in item 4) shall be awarded to the party or parties concerned in sequence of the highest surplus. (Draft Constitution, Nov 17 1993, p 144)

The apportionment of the 200 seats of the National Assembly from regional party lists is described in a similar fashion.

The proposed method in the Interim Constitution is referred to in the literature as Hamilton's method, the Vinton method or the method of 'greatest remainders'.

It is best known as Hamilton's method.

After Treasury Secretary of the American Congress Alexander Hamilton who first proposed this method in 1792 for congressional apportionment of seats to the different American states. It was vetoed by President George Washington at the time and was not used for its original purpose until the period 1850-1901. Today it is found in PR systems

The author, Michael de Villiers, is professor of mathematics education at the University of Durban-Westville.

in Costa Rica, Switzerland and for the federal parts of Sweden's one house.

It works as follows. Each political party is first allocated a number of seats equal to the integral part of its ideal representation, the fractional part being discarded. So, if party A is ideally entitled to 3.67 seats, it is first allocated 3 seats.

The number of seats allocated to all the parties is then totalled, and if the total falls short of the designated house, then the house is filled by allocating additional seats in descending order to the parties from the largest to the smallest discarded fraction.

As a simple illustration of Hamilton's method, see table 1, showing the results of a fictitious election with five parties and the number of seats each should receive in a house of 26 seats.

Initially parties A, B, C, D and E are respectively allocated the following seats: 9, 7, 5, 3 and 1. But, this accounts for only 25 of the 26 seats. Party D, having the highest

Table 1
Elections for a house of 26 seats

Party	Number of votes	Number of seats	1st round	2nd round
A	9 081	9.081	9	0
B	7 179	7.179	7	0
C	5 259	5.259	5	0
D	3 319	3.319	3	4
E	1 182	1.182	1	1
Total	26 000	26	25	26

fraction (0.319) is thus allocated an additional seat, for a total of 4.

Now imagine that the size of the house in the five party example is increased from 26 to 27, and do the calculation again by the Hamilton method (table 2).

In the 27-seat house, parties A, B, C, D and E are now respectively allocated 9, 8, 6, 3 and 1 seats. But, paradoxically, although neither the total number of voters nor the proportion of votes for party D has changed, D now has fewer seats in a larger house!

This troubling paradox is called the Alabama paradox, having first been detected

Table 2
Elections for a house of 27 seats

Party	Number of votes	Number of seats	1st round	2nd round
A	9 081	9.081	9	0
B	7 179	7.179	7	0
C	5 259	5.259	5	0
D	3 319	3.319	3	4
E	1 182	1.182	1	1
Total	26 000	27	26	27

in some calculations in that state.

The frequent occurrence of this paradox in the congressional apportionment of the US eventually led to the abandonment of Hamilton's method.

One may, perhaps, smugly respond by saying: "So what? The number of seats in our National Assembly has been fixed at 400 — so that paradox can never occur here."

But such a response exhibits political naivete, since it is conceivable that SA's National Assembly will have to be expanded in the future to keep track of an ever-growing population, eg if the ratio of Assembly representatives is to be maintained constant to the total population.

In addition, Hamilton's method violates another more serious criterion of fairness, to be discussed below.

One criterion of evaluating fairness in PR is that of *quota*. For example, if a party has an ideal number of 6.71 seats it should receive no less than six and no more than

seven seats in the final allotment. It is not difficult to prove mathematically that Hamilton's method will always satisfy quota.

Another, more significant criterion of fairness is that of *consistency* with any changes in the relative proportion of the vote or size of the Assembly. One way to achieve this is to require that if party A's ideal number of seats increases and party B's decreases, then party A should get no fewer seats and party B more.

As we have seen, Hamilton's method violates this criterion of consistency. Sceptics of politicians and political parties will be delighted to learn that Balinski and Young demonstrated in 1982, using the criterion of consistency, that no apportionment method can always satisfy the consistency and quota requirements. Thus we are faced with the conclusion that there is no perfect apportionment method.

Some compromise has to be made. Either we must sacrifice the principle of staying within quota, or the possibility of consistency paradoxes must be accepted. So which is the better choice?

Balinski and Young argue for avoiding consistency paradoxes rather than always staying within the quota. They have furthermore proved that only the so-called 'divisor methods' will always avoid consistency paradoxes. By comparing various

divisor methods, they have concluded that the so-called *Webster's method* is not only least likely to violate quota but also stays very near to it when it does. Additionally, Webster's method is the only divisor method that is unbiased to the relative sizes of the parties.

Webster's method is named after Daniel Webster who proposed it in the US Congress. It has been reinvented in other guises and is also known as the 'method of odd numbers' or the 'Sainte-Lague' method. It is used today for PR in Denmark, Sweden and Norway; it has been recommended by Reynolds for use in SA (see A Reynolds, *Voting for a new South Africa*, Masken Miller Longman, 1993).

Webster's method calls for finding the largest divisor when divided into the number of votes of each party which would respectively yield numbers for each party, when rounded according to standard conventions (ie down for fractions of less than 0.5 and up for fractions of 0.5 and above), sum to the size of the Assembly.

Consider the application of this method for the house size of 26 (table 1). Say we choose a divisor of 1000, then we obtain:

9061/1000	= 9.061 rounds off to 9
7179/1000	= 7.179 rounds off to 7
5259/1000	= 5.259 rounds off to 5

3319/1000 = 3.319 rounds off to 3
1182/1000 = 1.182 rounds off to 1

Since the numbers on the right only sum to 25, we therefore have to look for a divisor smaller than 1000 to obtain the desired sum of 26. It turns out that 957 is the greatest (integer) divisor that produces a sum of 26, for example:

9061/957	= 9.468 rounds off to 9
7179/957	= 7.501 rounds off to 8
5259/957	= 5.495 rounds off to 5
3319/957	= 3.468 rounds off to 3
1182/957	= 1.235 rounds off to 1

The last column is therefore the Webster allotment. Although the method may at first glance seem tedious, it is simple to do the calculation by calculator or computer. Perhaps more importantly, it is likely to be as easily understood by the general voter as Hamilton's method.

Given the serious flaws in Hamilton's method as briefly outlined here, it is something of a mystery how it came to be chosen for SA's Interim Constitution. It would appear that the legislators involved did not bother to consult the relevant and extensive literature in this area.

Since Webster's method avoids these flaws, it is recommended that it replace Hamilton's method in the new Constitution to be drawn up after the April elections. ■

Discipline

North deals
Game all

♠ A 7 2
♥ K Q J 10 9 8 7 6
♦ A
♣ A

♠ K J 10 9 4
♥ A 5
♦ 7 2
♣ 9 7 6 5

♠ Q 6 5
♥ 2
♦ Q 10 9 8 6 5
♣ 4 3 2

♠ 8 3
♥ 4 3
♦ K J 6 4
♣ K Q J 10 8

The bidding:

North	East	South	West
2♣	pass	3♣	pass
3♥	pass	4♣	pass
4♥	pass	pass	pass

A fundamental aspect of bridge is discipline, not only in bidding but in partnership trust and understanding as well.

The diagrammed monster was picked up by North in March's Sandringham pairs tournament. With the potential of small and perhaps grand slam in the combined hands, he opened a forcing two clubs. Partner's response of three in that suit showed slam interest with clubs providing tricks.

After North's three hearts, South pressed further with four diamonds. North didn't care much for either of partner's responses and with what appeared to be no definite entry to dummy for discards (aces are nice, but how can you get across the table with only singletons in partner's suits?), settled for a very conservative four hearts.

South went into the tank but, much to her credit, realised that her partner, knowing her responses were positive,

had settled for game only, so game only be it!

East got off to a tremendous lead, a trump. When dummy was spread declarer smiled. His caution was vindicated. West took the ace of trumps, returned another, and the defence waited to collect another two tricks.

They thought they had performed brilliantly, and they had, but much to their chagrin, each of the other five declarers were in slam going off, some one, others two.

Discipline earned North-South a well-deserved top!

Next week's calendar

Wednesday March 30
JBC: Park, graded 3
Friday April 1 through Sunday April 3
TBU: Teams

ALAN SULTROW
& DOUGLAS EITZINGER

the mathematics of voting

is democracy mathematically obtainable?

Michael de Villiers

*Dept. of Mathematics Education
University of Durban-Westville
4000 Durban
South Africa*

Dedication

To the memory of Upton Shandu who was tragically killed in his flat in Esikhawini on 29 July 1993 by (as yet unknown) assailant(s).

He will be remembered for his input in the TV series "*Maths-No Problem*" as well as many other contributions to Mathematics Education at a regional and a national level. He will be sadly missed by all who had the privilege of knowing him.

Contents

	Page
Introduction	1
Some election results	1
Exercise 1	2
Types of ballots	
Exercise 2	4
Types of election decision procedures	5
Plurality decision procedure	5
Run-off decision procedures	5
Exercise 3	7
Exercise 4	7
Condorcet's decision procedure	8
Exercise 5	9
Borda's decision procedure	10
Exercise 6	10
Arrow's theorem	11
Is society irrational?	12
Proportional representation	15
Exercise 7	15
List proportional representation	16

Hamilton's method	17
Exercise 8	17
Exercise 9	18
Jefferson's method	19
Exercise 10	20
Webster's method	21
Exercise 11	21
Quota method	23
Exercise 12	24
The single transferable vote (STV)	25
Exercise 13	27
Concluding remarks	28
Bibliography	29
Solutions	31

"If time permitted I could prove that there are ... as many (methods) as there are fractions between zero and one." - Walter Wilcox

"A man may be very sincere in good principles without having good practice." - Samuel Johnson

Introduction

On 27 April 1994 a much-awaited historic event is scheduled to take place in South Africa, namely, the first fully democratic elections. It might therefore be of particular interest and importance for mathematics teachers and pupils to look at the mathematics of voting at this point in time. In a modest way, it is hoped that this could positively contribute to the general voter education of our nation.

The purpose of this article is to demonstrate the application of mathematics to political science, and thereby challenging the stereotype that mathematics is of value only in certain applied sciences like Physics, Chemistry, Computer Science, etc. It is aimed at the high school level and mainly involves elementary mathematical concepts such as percentages, fractions, integers, etc., although more challenging modelling exercises involving algebra and computer programming are also provided.

The reader should work through the exercises to gain maximum benefit from the discussion in the text. Answers to the exercises are provided at the back.

Some election results

In Table 1 the results of two elections are shown (from Malkevitch, 1985:1). In the second case the candidate everybody thought the *least likely to win* was the eventual winner (prevailing opinion polls suggested this candidate was the least popular). How could so many people be mistaken? Why does this phenomenon sometimes happen?

1968 (Senator: New York)

(Expected winner)	Javits	1 902 986	(winner)
	O'Dwyer	1 333 362	
	Buckley	<u>629 944</u>	
		3 866 292	

1970 (Senator: New York)

	Goodell	1 434 472	
(Expected winner)	Ottinger	2 171 232	
	Buckley	<u>2 288 190</u>	(winner)
		5 893 894	

Table 1

Let us briefly review the procedure used to elect the candidate in Table 1. Each voter cast a vote for his/her favourite candidate. The votes were then counted, and the candidate with the largest number of votes was declared the winner. This method of choosing as the winner, the person with the largest number of votes, is called the *plurality method*. (There is the possibility that an election could result in a tie but with a large number of voters this is not very likely).

Surely, you may ask, there is nothing wrong with this procedure. Isn't that what democracy is all about? Allowing each voter to select his/her favourite candidate and choosing the one with the most votes? Doesn't this procedure ensure the selection of the "*choice of the people*?"

However, closer analysis reveals that the surprising win of Buckley was due to the fact that the political views of Goodell and Ottinger were very much alike. It is therefore quite conceivable that Ottinger's supporters would have voted for Goodell had Ottinger not been a candidate. Similarly, Goodell's supporters would probably have voted for Ottinger had Goodell not been a candidate. Had Buckley therefore stood in a two-way race against either Ottinger or Goodell, it is conceivable that he would probably have lost. So here we have the paradoxical situation of a weaker candidate only representing 39% of the votes emerging as the unexpected winner, since the majority view of 61% was *split up* amongst the other two candidates (24% and 37% respectively).

Another example, this time from South Africa, is given in Table 2 (data supplied by Dirk Laurie, Dept of Mathematics, Potchefstroom University). Here we find that the National Party candidate won with only 39% of the votes in a clearly conservative constituency with the CP and HNP splitting 61% of the vote.

1987 (MP: Hercules)

National Party	6114	(winner)
Conservative Party	5253	
Herstigte National Party	<u>4123</u>	
	1 5490	

Table 2

(Note: the term "*voters*" will henceforth be used to refer only to those who actually voted, and not to all eligible voters).

Exercise 1

- (a) With 1 000 voters and the plurality method of voting what is the smallest percentage of the total vote that is sufficient to elect a candidate if there are three candidates? Four candidates? Five candidates? Ten candidates? Comment on the desirability of the plurality method in such cases.

(b) Consider a situation with m voters and n candidates. If we define a function $\text{INT}(x)$ such that the $\text{INT}(x)$ of any real number x is the largest integer smaller than or equal to x (e.g. $\text{INT}(3.7) = 3$; $\text{INT}(3) = 3$), write a formula for the smallest percentage of the total vote that is sufficient to elect a candidate using the plurality method.

Perhaps you are now having a few doubts as to the fairness of the plurality method even though it is still widely used in many countries, for example, Britain and in countries historically influenced by Britain, such as the USA, New Zealand, Canada, India, and the (past) white electoral system in South Africa. If the plurality method is unfair or undemocratic, why is it used? Are there any other alternatives?

The answer to the first question is that a paradoxical situation like those in Tables 1 and 2 can only arise when there are 3 or more candidates. If we are dealing with only two-candidate constituencies, then the plurality winner clearly represents the majority choice. In other words, the plurality system or method works quite well in two-candidate constituencies, i.e. in countries with two-party systems. However, the problem arises when there are more than two candidates or political parties involved.

Given the plethora of divergent political views in South Africa represented by at least eight major role players such as the ANC, Azapo, CP, DP, IFP, LP, NP, PAC and others, it speaks for itself that plurality does not appear to be an appropriate system. In fact, this system has not been seriously proposed by any party or political scientist for our new constitution (compare Reynolds, 1993:25).

What are the alternatives to plurality? The fact is that there are so many alternative systems that the real problem is: how does one choose among them? What are the advantages and disadvantages of these different systems?

In what follows we will only look at some possibilities and illustrate how mathematics can help us analyse and compare them. To start with, it is important to distinguish between two aspects of any election, namely,

1. the way in which the votes are cast (the ballot) and
2. the way in which a winner is chosen (the election decision).

Types of ballots

Instead of a voter just marking his/her favourite choice as in a standard ballot, a voter could rank candidates from most preferred to least preferred (by, for instance allocating numbers 1, 2, 3, ... etc.). In other words, for each voter one could draw up a *preference schedule* as shown in Figure 1a if s/he prefers A to B (or C) and prefers B to C. The preference schedule shown in Figure 1b means that the voter prefers A to B or C but is indifferent between B and C.



Figure 1

Note that in a standard ballot if a voter has either the preference schedule in Figure 1a or 1b, s/he would cast a vote for A. However, potential information that could be valuable is being lost in the standard ballot.

If a voter ranks candidates by simply indicating his/her relative preference of candidates in order of merit without specifically indicating the extent to which one candidate is preferred to another, such a ballot is called an *ordinal ballot*. However, suppose a voter prefers A to C only a little bit but C to B a lot, a voter may for instance on a scale of 1 to 10 (low to high) rank candidates as shown in Figure 2. Such a ballot is called a *cardinal ballot*. We will however not further on discuss this latter type of ballot, although the reader is obviously free to pursue the design of election systems based on this type of ballot.

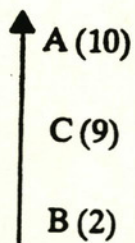


Figure 2

Exercise 2

- If a voter is never indifferent between candidates, how many different preference schedules are possible for three candidates? Four candidates? Five candidates? n candidates?
- If a voter is indifferent between candidates, how many different preference schedules are possible for three candidates? Four candidates? What do you notice?
- Comment on some possible disadvantages of using ordinal or cardinal ballots.

Ordinal ballots are used extensively in Australia and to a lesser degree in the Republic of Ireland, Malta and Tasmania. Ordinal and cardinal ballots are often also used in consumer or other surveys, and for the election of officials in clubs and societies.

At present it seems that none of the parties at the negotiating table in Kempton Park are proposing an ordinal or cardinal ballot for the new constitution. It seems that the main argument

advanced against their use is the high level of illiteracy and innumeracy. But Reynolds (1993:64) responds to this argument as follows:

"There are strong arguments that the concept of a preferential order is a well established principle especially in black families. Traditional extended black families are to a certain degree hierarchical and ordered.

Everyday life in South Africa offers us examples of items being listed with numbers from the top to the bottom. A football supporter will know that the 'Swallows' are in fourth place in the league, the 'Kaiser chiefs' are just above them in third, the 'Jomo Cosmos' team is second and the 'Orlando Pirates' team is at the top in the first place.

It requires no great leap of sophistication to transfer this logic to a ballot paper ... There is a grave danger in underestimating the South African people."

Types of election decision procedures

In this section we will investigate election decision procedures based on ordinal ballots. For the sake of simplicity we will assume that they were all produced without indifference. The result of a fictional election result with a total of 26 voters (from Malkevitch, 1985:13) is shown in Figure 3.

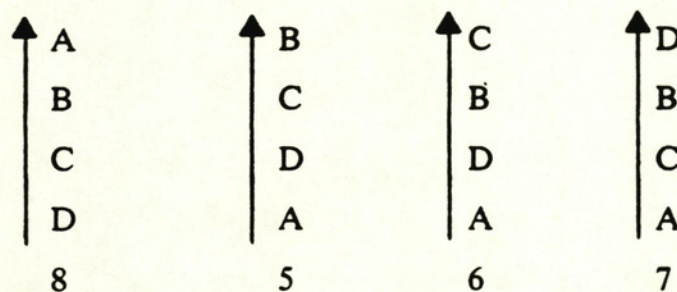


Figure 3

Plurality decision procedure

To decide the results of the election in Figure 3 using this method we simply add the number of first place votes of each candidate. (This procedure is equivalent to using the plurality method with the standard ballot described earlier). For example, the number of first place votes for A, B, C and D is respectively 8, 5, 6 and 7. Therefore, according to this method A would be the winner.

Run-off decision procedures

If one candidate does not obtain a majority of the first place votes, we could eliminate all the candidates except the top two first place vote getters, and hold an election between the remaining two candidates. An advantage of the ordinal ballot is that voters need not go to the polls a second time, as this information can readily be extracted from the preference schedules.

...in Figure 3, we would therefore have a run-off between candidates A and D since they were the two highest first place vote getters. By scratching the other two candidates, the new preference schedules would look as shown in Figure 4.

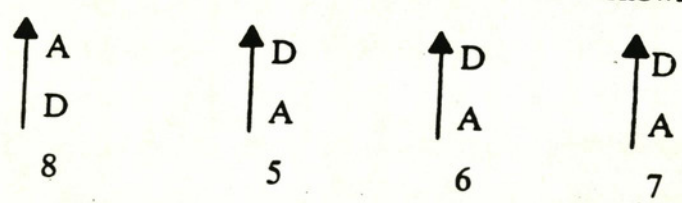


Figure 4

In the second and third preference schedules the votes of the people who respectively wanted B and C as first choices (and C and B as second choices) are transferred to D as their third choice. Therefore, D would get a total of 18 votes, as opposed to the 8 of A, and be declared the winner.

Another variation is the *sequential run-off* procedure. It works as follows: Based on first place votes, eliminate the lowest vote getter. Now hold a new election on the remaining candidates. Repeat the process eliminating one candidate at a time until a single victor emerges.

In our example in Figure 3, we would for instance first eliminate B, the lowest first place vote getter, to obtain the preference schedule shown in Figure 5. Therefore, A, C and D will respectively get 8, 11 and 7 first place votes, which means that D is next eliminated. This gives us a run-off between A and C, with C emerging as the eventual winner with 18 votes against the 8 of A.

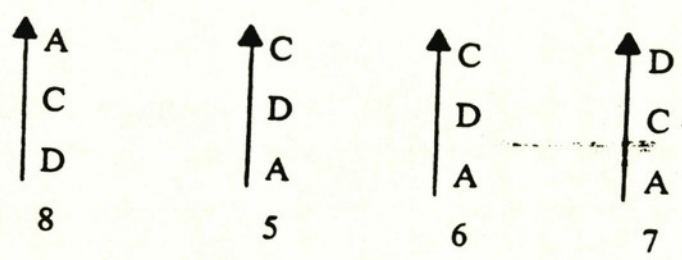


Figure 5

Still another variation is the *sequential pairwise run-off* procedure. This method has been used in the American House of Representatives to vote between different options for a bill. First, one pair of decision options is considered and a vote is taken; then, the winner is paired with another option for another vote. This procedure of pairing and voting continues until a final winner is selected.

To illustrate this method consider again the preference schedules in Figure 3. Suppose two names are randomly drawn from a hat. Let's suppose the first two selected are C and D, then from the

preference schedules in Figure 3, it should be clear that C would be the winner with 19 votes as opposed to the 7 of D. Suppose A is next drawn from the hat and paired with C. Again C would emerge as the winner with 18 votes as opposed to the 8 of A. However, if we now pair C off with B, the last remaining candidate (or option), B emerges as the winner with 20 votes as opposed to the 6 of C.

Exercise 3

- (a) Suppose when using a sequential pairwise run-off, A and B were first paired off, then the winner thereof against C, and lastly the winner thereof against D. Would B still be the winner? Investigate some other possibilities as well.

As shown in the preceding discussion, we obtained four different winners from the same election by the application of four different election decision procedures. Which winner is the "best" choice?

Consider again Figure 3. Although A is the plurality winner, it should be noted that s/he is the least popular candidate of all voters other than those who voted for A. Candidates D and C are the respective winners of the standard and sequential run-offs, but generally do not have a lot of support. A careful study of the preference schedules shows B is the first or second choice of every voter. It would therefore seem that B, as chosen by sequential pairwise voting is a good choice as a compromise winner. Is the sequential pairwise run-off procedure therefore the "best"?

Exercise 4

- (a) If there are n candidates in a sequential run-off, how many times would the lowest vote getter have to be eliminated to arrive at a winner?
- (b) If there are n candidates in a sequential pairwise run-off, how many times would they have to be paired off to arrive at a winner?

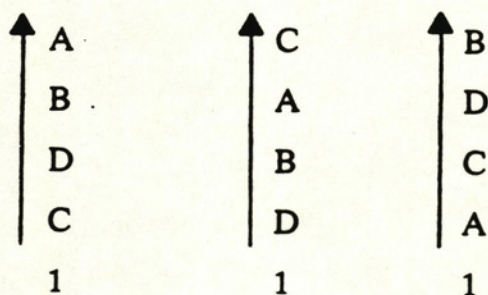


Figure 6

- (c) Consider Figure 6. Suppose it represents the preference schedules of the president, vice-president and secretary-treasurer of the student council of a high school, regarding the selection of the "Member of the Year", namely, the non-executive member of the student council who

contributed most to the student council during the past year.

- (i) Is there a plurality winner?
- (ii) Is there a winner for the standard or sequential run-off procedure?
- (d) Consider again Figure 6 with a sequential pairwise run-off procedure.
 - (i) Who would be the winner if A is first paired off with B, then the winner is paired off with C, and the winner of that pairing is paired off with D?
 - (ii) Who would be the winner if D is first paired off with C, then the winner is paired off with B, and the winner of that pairing is paired off with A?
 - (iii) The *order* of pairing off and voting between candidates is called an *agenda*. Can you find an agenda that leads to the selection of C?
 - (iv) Can you find an agenda that leads to the selection of B?

The exercise in (c) above highlights a problem of any voting procedure, namely: that in some cases one may not be able to determine a unique winner or a winner at all. The exercise in (d) shows that in some cases with a sequential pairwise run-off procedure, the agenda rather than voter opinions, could determine the final decision. (The influence of the agenda in such cases is called the *agenda effect*).

Are there other election decision procedures available which will select B as the winner in the fictional election in Figure 3, but does not run the possible danger of the agenda effect?

Condorcet's decision procedure

The Marquis de Condorcet, an 18th century mathematician, philosopher and political analyst, proposed the following means of deciding elections:

"Each pair of candidates should be considered in its own separate election and the winner determined. If one candidate emerges as the winner over all the others in these separate two-way contests, then that candidate is the voters' preferred choice."

Consider again the election in Figure 3 and the results of the six two-way contests, namely: A vs B; A vs C; A vs D; B vs C; B vs D and C vs D. The outcome of these two-way contests are:

A vs B:	A = 8
	B = 5 + 6 + 7 = 18 (winner)
A vs C:	A = 8
	C = 5 + 6 + 7 = 18 (winner)
A vs D:	A = 8
	D = 5 + 6 + 7 = 18 (winner)
B vs C:	B = 8 + 5 + 7 = 20 (winner)
	C = 6

$$\begin{aligned} \text{B vs D: } & B = 8 + 5 + 6 = 19 \text{ (winner)} \\ & D = 7 \\ \text{C vs D: } & D = 7 \\ & C = 8 + 5 + 6 = 19 \text{ (winner)} \end{aligned}$$

Since B can beat any of the other three candidates in a two-way race, B would therefore be declared the winner. This procedure appears to have some strong attractive features. If some candidate can beat every other candidate in a two-way race, this candidate certainly seems to be the "*fairest*" choice of a winner. A useful way of visually representing the six two-way contests above, is by means of a *tournament graph* as shown in Figure 7a. (Such graphs are often used to model round robin tournaments).

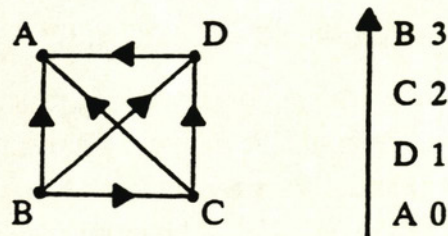


Figure 7

Diagrams such as these are also called *digraphs*, which is short for directed graphs. This means that each of the vertices are joined with all the others by means of directed line segments. We can also use this diagram to rank the four candidates by counting the number of wins of each candidate. This ranking is shown in Figure 7b with the number of wins next to each candidate. It is interesting to note that the plurality winner A, is ranked last.

Exercise 5

- Is there a Condorcet winner for the election shown in Figure 6?
- Duncan Black, a 20th century political scientist, proposed an alternative procedure for ranking, namely, to add all the votes each candidate got in the two-way contests with all the other candidates. For example, for the election in Figure 3, we would have $B = 57$, $C = 43$, $D = 32$ and $A = 24$. Note therefore that the ranking of these candidates would be unaltered from the one shown in Figure 7. Is there a winner according to Black's procedure for the election shown in Figure 6?
- Can you devise an election where there is more than one "*winner*" (candidate with the highest score) according to Black's procedure?
- How many two-way contests are there for five candidates? Six candidates? n candidates?
- If we use Black's procedure, what is the sum of the scores of all the candidates in a two-way

contest election with n candidates and m voters? Investigate.

- (f) What is the maximum number of wins a candidate can have in a two-way contest election with n candidates? Investigate.
- (g) If instead we use Black's procedure, what is the maximum score a candidate can have in a two-way contest election with n candidates and m voters? Investigate.
- (h) What is the minimum number of wins a candidate can have in a two-way contest election with n candidates? Investigate.
- (i) If instead we use Black's procedure, what is the minimum score a candidate can have in a two-way contest election with n candidates and m voters? Investigate.
- (j) What is the minimum number of wins a winner (a candidate with highest number of wins) can have in a two-way contest election with n candidates? Investigate.
- (k) If instead we use Black's procedure, what is the minimum score a winner (a candidate with highest score) can have in a two-way contest election with n candidates and m voters? Investigate.
- (l) What is the maximum number of winners (candidates with highest number of wins) in a two-way contest election with n candidates? Investigate.
- (m) If instead we use Black's procedure, what is the maximum number of winners (candidates with highest scores) in a two-way contest election with n candidates and m voters? Investigate.

Borda's decision procedure

During the 18th century Jean-Charles Borda developed the idea of giving a candidate "points" for how high on a preference schedule a candidate is placed. If there are n candidates, a candidate gets n points for being in the first place, $(n - 1)$ for being in the second place and so on.

Applying Borda's method to the election in Figure 3, we obtain:

$$A = 8(4) + 5(1) + 6(1) + 7(1) = 50$$

$$B = 8(3) + 5(4) + 6(3) + 7(3) = 83$$

$$C = 8(2) + 5(3) + 6(4) + 7(2) = 69$$

$$D = 8(1) + 5(2) + 6(2) + 7(4) = 58$$

In other words, B is the winner. Note also that Borda's procedure can be used to rank all the candidates, for example, from high to low: B, C, D and A. (Note that this is the same ranking as in the previous section with Condorcet's and Black's procedures).

Exercise 6

- (a) Is there a winner, as well as a ranking, for the candidates in the election shown in Figure 6

using the Borda procedure?

- (b) Can you devise an election where there is more than one Borda "winner" (candidate with the highest score)? Investigate.
- (c) What is the maximum points a Borda winner can have with n candidates and m voters? Investigate.
- (d) What is the total sum of all the Borda points for n candidates and m voters? Investigate.
- (e) What is the minimum points a Borda winner can have with n candidates and m voters? Investigate.
- (f) What is the minimum Borda points a candidate can have with n candidates and m voters? Can there be more than one candidate that has this minimum score? Investigate.
- (g) What is the maximum number of Borda winners in an election with n candidates and m voters? Investigate.
- (h) Suppose instead of using n points for a first place in a n candidate election, $n - 1$ for a second place, etc., one uses p points for a first place, q points for a second place, etc., where $p > q > r \dots$ will the relative rankings of the candidates change or always remain the same? Investigate.

Arrow's theorem

As we have seen in the preceding sections there are several different election procedures. Although each contains some democratic features, they can yield different winning candidates (and rankings of candidates). How are we then to decide the "fairest" election procedure for the winner of an election?

This is precisely the problem that Kenneth Arrow, an economist, tackled before coming up with a mathematical argument in 1951, which in lay-man's terms, demonstrate that any conceivable democratic voting system can yield undemocratic results. Paul Samuelson, later the winner of the Nobel Memorial Prize in Economic Sciences summarised it as follows (as quoted from Hoffmann, 1991:231):

"The search of the great minds of recorded history for the perfect democracy, it turns out, is the search for a chimera, for a logical self-contradiction. Now scholars all over the world - in mathematics, politics, philosophy and economics - are trying to salvage what can be salvaged from Arrow's devastating discovery that is to mathematical politics what Kurt Gödel's 1931 impossibility-of-proving-consistency theorem is to mathematical logic."

Arrow's "devastating discovery" eventually resulted in his winning the Nobel Prize in Economics in 1972. Strictly speaking, Arrow was interested in mathematically analysing election procedures which rank all the candidates, rather than just selecting a single winner from them. For this purpose he listed five important features that determine the "fairness" of an election procedure.

1. All possible preference schedules are admissible; there are no institutions (e.g. political parties) that can restrict the orderings so that certain preference schedules cannot be expressed.
2. There should be no dictator. In other words, for any two candidates A_i and A_j , there is no individual voter such that whenever s/he prefers A_i to A_j , A_i is always preferred to A_j in society.
3. If every voter prefers candidate A_i to candidate A_j , then society should prefer A_i to A_j ;
4. Given that society prefers candidate A_i to candidate A_j and voters either raise or do not change the ranking of A_i , while the ranking of A_j remains unchanged, then the social ordering of A_i in relation to A_j should remain unchanged.
5. If S is a subset of the available candidates, and voters change their actual preference schedules with respect to candidates not in S , then the social ordering of the candidates in S should not change. Essentially this implies that the method used should not encourage voters to lie about their true preferences.

(Criterion (5) may seem rather unusual, but is necessary since in some situations voters could by deliberately lying, manipulate election results to their own (undemocratic) ends. Some nice elementary examples of such situations are given in Hoffman (1991:232 - 235). Interestingly, this state of affairs was already known in the time of Borda who made the following declaration when he was informed about the possibility and influence of deceitful voting: "*My scheme is only intended for honest men.*").

Using the aforementioned criteria and two others, Arrow then formulated and proved the following theorem:

"There does not exist an election procedure which ranks for society three or more candidates, based on individual preferences, and which obeys five fairness conditions."

Essentially the meaning of Arrow's theorem is that any election procedure for more than two candidates will violate one or more of these fairness conditions. Instead of being the last word on voting, a positive spin-off of his result has been that it has encouraged an explosion of new mathematical investigations into current election decision procedures in order to improve them as much as possible.

Is society irrational?

Already in the 18th century the Marquis de Condorcet identified a fundamental voting paradox while working on his election decision procedure. He discovered that society as a whole may have preferences that, if held by an individual, would be dismissed as totally irrational. Consider for simplicity's sake a "society" consisting of only three individuals α , β and γ with their respective

preference schedules for three candidates A, B and C as shown in Figure 8a.

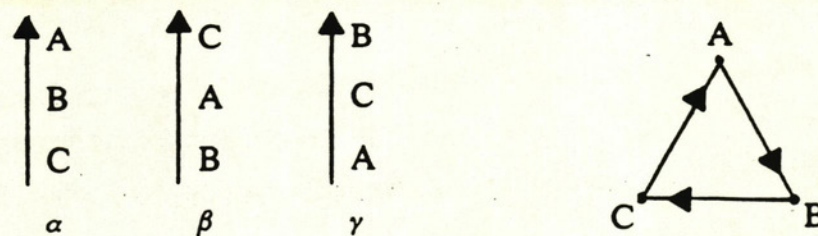


Figure 8

Individual α prefers candidate A to candidate B and candidate B to candidate C. Given these preferences, (s)he would clearly be irrational if (s)he preferred candidate C to A. Yet these are precisely the preferences of their little "society" as a whole! For example, in two-way contests as shown in Figure 8b, A would beat B, B would beat C and C would beat A. In technical terms, although the preferences of the above mentioned individuals are *transitive*, we obtain a *cyclic triangle* for their society as a whole which represents an *intransitive* relation! (A binary relation \sim on a set S is transitive, if for all a, b and c in S, whenever $a \sim b$ and $b \sim c$ then $a \sim c$).

What is the probability of a societal intransitivity occurring for three voters and three candidates?

As shown in Exercise 2(a), there are 6 different individual preference schedules possible for three candidates, namely ABC, ACB, BAC, BCA, CAB and CBA (arranged from high to low). We now need to consider the total number of possible ways in which three voters can select different combinations of these 6 preference schedules. Since the first, second and third voter can each choose from 6 possibilities, we have according to the counting principle, the total number of possible ways as $6 \times 6 \times 6 = 216$.

With regard to the intransitivity shown in Figure 8, the first voter can choose in 3 different ways from the preference schedules ABC, CAB and BCA, the second voter in 2 different ways and the third only in 1 way. Therefore, according to the counting principle, there are $3 \times 2 \times 1 = 6$ possible ways the intransitivity shown in Figure 8b can arise.

However, we may also obtain a different intransitivity as shown in Figure 9 from any combination of the three preference schedules ACB, BAC and CBA. As before, we also have 6 possible ways in which this situation can arise. The total number of possible ways in which an intransitivity can therefore arise for three voters is 12, and the probability of it occurring is given by $12/216$ or 5.6%.

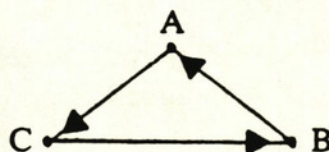


Figure 9

Although this probability may seem negligibly small, one should realize that is only for the simplest case of three voters and three candidates. For four candidates there are for instance several possible intransitivities that can occur. Some examples are shown in Figure 10. As a matter of interest, note the intransitivities between all four candidates in the last two cases ($A \rightarrow B \rightarrow D \rightarrow C \rightarrow A$ and $B \rightarrow A \rightarrow C \rightarrow D \rightarrow B$).

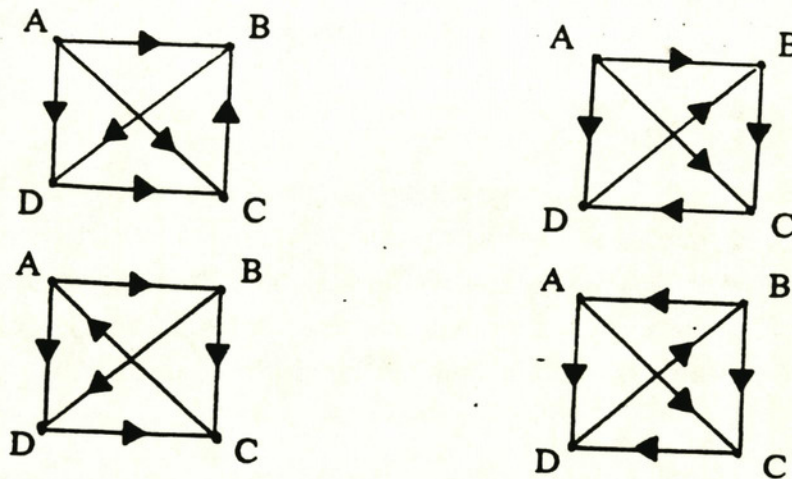


Figure 10

		Number of voters				
		3	5	7	9	∞
Number of candidates	3	5,6	6,9	7,5	7,8	8,8
	4	11,1	13,9	15,0	15,6	17,6
	5	16,0	20,0	21,5	23,0	25,1
	6	20,2	25,5	25,8	28,4	31,5
	7	23,9	29,9	30,5	34,2	36,9
	∞	100,0	100,0	100,0	100,0	100,0

Table 3

Probability of societal intransitivity in percentage (from Brams, 1976:42)

Steven Brams (1976:42) a game theorist, shows that the probability of societal intransitivity increases as the number of candidates and voters increase, but that it is more sensitive to the number of candidates. As shown in Table 3, if the number of candidates remain fixed at three, the possibility of the paradox increases only slightly, from 5,6% for three voters to 8,8% as the

number of voters approaches infinity. If, however, the number of voters is held fixed at three, the probability of the paradox skyrockets, from 5,6% for three candidates to 100% as the number of candidates approaches infinity. With regard to the South African situation, where there are presently so many diverse political parties, it is a bit disconcerting to notice that for only 7 parties, the probability of the paradox occurring, is already above $33\frac{1}{3}\%$.

Proportional representation

One of the major problems of a plurality system is that governments may be elected on a minority of the vote. For example, in 1948 D F Malan came to power in South Africa with only 42% of the popular vote as opposed to 52% of Jan Smuts' United Labour Party Coalition. This anomaly was caused by the United/Labour Party coalition winning fewer seats, but with larger majorities, whilst the nationalists won more seats, but with smaller majorities. Similar situations have regularly occurred in Britain.

Another problem of a plurality system is the frequent under-representation of minorities. For example, in 1983 in Britain the Alliance got 25,4% of the vote, but only 3,5% of the seats. Similar situations have occurred in other countries. The Social Credit Party has been constantly under-represented in New Zealand, the Herstigte Nasionale Party in South Africa, as well as numerous parties in Canada and India.

Exercise 7

- (a) Consider a "country" of 300 voters and three constituencies of 100 voters each. Construct an example of a plurality election with three parties A, B and C where the winning party does not obtain a majority of the total vote, and one of the parties also does not win a single seat in the three seat parliament, although they command a sizeable percentage of the total vote.
- (b) What is the highest percentage of the total votes a party can get in a plurality election with m voters, n parties and p equal constituencies, without winning a single seat in parliament? Investigate.
- (c) What is the lowest percentage of the total vote a winning party can get in a plurality election with m voters, n parties and p equal constituencies? Investigate.

Proportional representation (PR) systems attempt to address the above-mentioned problems by allocating seats in proportion to the votes gained in an entire country. There are many types of PR systems, but in general they can be classified into *list* systems and the *single transferable vote* system (STV). Usually proportional representation systems consist of both regional, as well as national allocations of seats. At the regional level, instead of only a single winning candidate for each constituency (as in standard plurality systems), proportional representation systems normally allocate more than one seat.

List proportional representation

Almost all continental countries, with the exception of France, use list proportional representation systems for the election of parliament. It appears that current thinking amongst the negotiating parties at Kempton Park also tends towards a list proportional representation for the new South Africa.

To illustrate list PR let's consider a fictitious society or constituency consisting of 23 voters and 2 available seats to represent them. Let's further assume that there are only two parties, X and Y, and that the former is conservative and the latter is liberal. There are two candidates, A and B from party X, with A the more radical of the two. Similarly, there are also two candidates, C and D, from party Y, with D the more radical of the two. Thirteen of the 23 voters are conservative, and the remaining ten are liberal. The preferences of the voters are given in Figure 11.

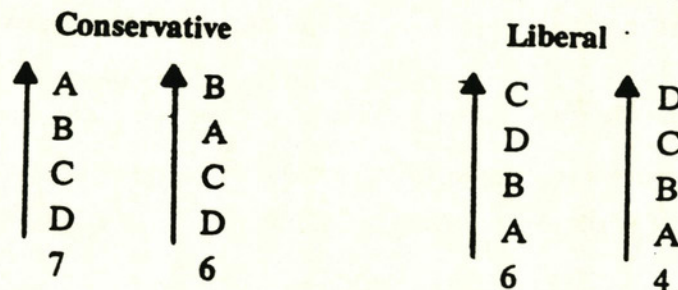


Figure 11

In an expanded plurality election in which each voter is allowed to vote for two candidates, A and B would win, with 13 first and second place votes apiece. In other words, the 10 liberal voters would not be represented, even though they constitute 43% of the electorate. The 13 conservative voters, who make up 57% of the electorate, will have 100% of the representation.

In contrast, in a list PR system, voters usually do not vote for individual candidates, but for the two parties, X and Y respectively. Party X would therefore draw 56,5% of the vote and be entitled to that percentage of the available seats, namely 1,13 seat. Similarly, party Y would draw 43,5% of the vote and be entitled to 0,87 seat. However, since the allocation of fractional numbers of seats for parties are physically impossible, it seems reasonable to round off the above numbers of seats so that each party is allocated one seat. From a ranking list of their two candidates, each party would then appoint their most preferred candidate in the allocated seat.

List PR therefore clearly provides better representation of the electorate than an expanded plurality system. However, one problem with list PR is that the voter preferences as shown in Figure 11 are completely ignored. Therefore voters ultimately have no say regarding which candidates should fill the allocated posts, as this is left entirely in the hands of the respective political parties. In our example, for instance, nothing stops parties X and Y to respectively

appoint their most radical candidates namely, A and D. This could increase polarisation and lead to conflict. In any case, this might not be a good representation of the wishes of the society or constituency as a whole, since all the conservative voters ranked D last, whilst all the liberal voters ranked A last!

Under list PR, appointed candidates would therefore not be directly accountable to the electorate, but only to their respective parties. This could encourage blind allegiance and conformity to the party ideology in order to secure an electable place on the party list. Reynolds (1993:47) appropriately sums list PR up as a voting system "*for parties not for the people*".

An interesting mathematical problem with list PR is determining the "*apportionment*" of available seats to the different parties, according to the proportion of votes gained by each party. The problem is that dividing the number of available seats according to the proportion of votes gained, may not necessarily yield an integral number of seats to each party, as we saw in our example above. How does one decide on a fair apportionment of seats in such cases?

This problem is not quite as straightforward as it looks. In fact, there are several different methods, four of which we will discuss below pointing out some of their strengths and weaknesses.

Hamilton's method

This method is also known in the literature as the Vinton method of 1850 or the method of "*greatest remainders*". It has however become more well-known as Hamilton's method, who as Treasury Secretary of the American Congress, first proposed this method in 1792 for congressional apportionment of seats to the different American states. It was however vetoed by George Washington at the time, and was not used for congressional apportionment until the period 1850 – 1901. Today it is used in PR systems in Costa Rica, the Swiss national Council and for the federal parts of Sweden's one house.

This method works as follows. Firstly each political party is initially allocated a number of seats equal to the integral part of its ideal representation, the fractional part being discarded. In other words, if Party A is ideally entitled to 3.67 seats, it is first allocated 3 seats. The number of seats allocated to all the parties on this basis is then totalled, and if the total falls short of the designated house (at regional or national level), then the house is filled by allocating additional seats in descending order to the parties from the largest to the smallest discarded fraction.

As an illustration of Hamilton's method, consider Table 4 which shows the results of a fictitious election with five political parties and the number of seats each should receive in a house of 26 seats (adapted from Balinski & Young, 1975). Initially Parties A, B, C, D and E are respectively allocated the following numbers of seats: 9, 7, 5, 3 and 1. But since this accounts for only 25 of the 26 seats, Party D, having the highest fraction (0.319), is thus allocated an additional seat for a total of 4.

Party	Number of votes	Ideal quota of seats	1 st round	2 nd round
A	9061	9,061	9	9
B	7179	7,179	7	7
C	5259	5,259	5	5
D	3319	3,319	3	4
E	1182	1,182	1	1
TOTAL	26 000	26	25	26

Table 4

Exercise 8

- (a) If a party draws x_i votes out of a total of x votes, write a formula for the ideal quota (q_i) it should be allocated from a total of s available seats. What would its first round allotment of seats be?

One important criterion for evaluating the fairness of a proportional representation is that of *quota*. To satisfy quota means that if the ideal quota of a party is q_i , then no party should be allocated less seats than $\text{INT}(q_i)$ and certainly no more than $\text{INT}(q_i) + 1$. (See Exercise 1(b) for a definition of the function $\text{INT}(x)$). For example, if a party has an ideal quota of 6.71 seats it should receive no less than 6 and no more than 7 seats in the final allotment. Balinski & Young (1975:703) show that Hamilton's method will always satisfy quota.

Exercise 9

- (a) Imagine that only the size of the house in our five-party example is increased from 26 to 27. Using Hamilton's method, calculate how many seats must now be allocated to each party.
- (b) Compare your calculations with the allotment of seats shown in Table 4. What do you notice about the new allotment of seats, in particular that of party D? Do you think it is fair?
- (c) Imagine that, apart from the increase of the house to 27 seats, the number of voters is now also increased to 27 000. If the proportion of votes for each party remains constant, does the Hamilton allotment change from that in (a)?
- (d) If the house size remains fixed at a certain value (say 26), would the Hamilton allotment always remain constant or change as the number of voters increase? (Assume that the proportion of votes for each party remains constant).

As shown in (a) and (b) above, Hamilton's method, violates a subtle criterion of fairness. In the 27-seat house, Parties A, B, C, D and E are now respectively allocated the following numbers of seats: 9, 8, 6, 3 and 1. Paradoxically, although neither the total number of voters nor the proportion of votes for Party D has changed Party D now has fewer seats in a larger house! (Note that this

can also occur if the number of voters are increased with the size of the house as shown in 8(c) above). This troubling paradox is called the Alabama paradox (because it was first detected in some calculations involving that American state).

It is interesting (and amusing) to note the highly emotional reaction of some American representatives to the frequent occurrence of this paradox, for example:

"I thought mathematics was a divine science. I thought that mathematics was the only science that spoke to inspiration and was infallible in its utterances. I have been told that while in astronomy and philosophy and geometry and all other sciences, there was something left for speculation, that mathematics, like the voice of Revelation, said when it spoke, 'Thus saith the Lord.' But here is a new system of mathematics that demonstrates the truth to be false."

— Roger Mills (Texas) in 1882 (from Hoffman, 1991:259)

"... it does seem as though mathematics and science has combined to make a shuttlecock and battle door of the State of Maine in connection with the scientific basis upon which this bill is presented ... God help the State of Maine when mathematics reach for her ..."

— Charles Littlefield (Maine) in 1891 (from Balinski & Young, 1975:704)

"This atrocity which mathematicians have elected to call a 'paradox' ... this freak which presents a mathematical impossibility."

— John Bell (Colorado) in 1901 (from Balinski & Young, 1975:704)

"(The Alabama paradox) ... is so eminently unfair that in several instances congress has modified it to prevent palpable injustice."

— E. Crumpacker in 1911 (from Balinski & Young, 1975:705)

If, as proposed, Hamilton's method is accepted for the allotment of parliamentary seats in the new South Africa, we might see similar emotional pronouncements when parliament is expanded to for example, keep track with the growing population.

Jefferson's method

Jefferson's method was followed by the United States Congress from 1792 until 1841. It was reinvented by D'Hondt, a Belgian lawyer in 1878, and is still used today in Belgium, the Netherlands, Israel, Liechtenstein, Finland, Germany, Brazil and Austria. It goes under a variety of different names such as D'Hondt's method, Hagenbach-Bischoff method and the methods of "highest averages" or "greatest divisors".

Jefferson's method calls for using the largest divisor when divided into the numbers of votes of each party, would respectively yield numbers for each party that when left alone or rounded down, sum to the size of the house. In our example in Table 4, we must therefore find the largest divisor λ so that

$$\text{INT} \left(\frac{9061}{\lambda} \right) + \text{INT} \left(\frac{7179}{\lambda} \right) + \text{INT} \left(\frac{5259}{\lambda} \right) + \text{INT} \left(\frac{3319}{\lambda} \right) + \text{INT} \left(\frac{1182}{\lambda} \right) = 26$$

Note that Hamilton's method as illustrated in Table 4 had in this case the effect of dividing each party's vote by 1000 to obtain their respective ideal quotas. Since the integral parts of these ideal quotas only sum to 25, it follows that our search for the largest divisor in the above equation should focus on divisors smaller than 1000. It turns out that 906 is the greatest (integer) divisor that gives such a result as shown in Table 5.

Party	Votes	Divisor 1000	Hamilton	Divisor 906	Jefferson Allotment
A	9061	9,061	9	10,001	10
B	7179	7,719	7	7,724	7
C	5259	5,259	5	5,805	5
D	3319	3,319	4	3,663	3
E	1182	1,182	1	1,305	1
TOTAL			26		26

Table 5

As shown in Table 5, Jefferson's and Hamilton's methods yield different results. Under Jefferson's, Party A, the party with the most votes, gains a seat while Party D loses one. In fact, it can be shown mathematically that in general Jefferson's method tends to favour parties with a larger proportion of the total vote. Interestingly, Hoffman (1991:264) speculates that Jefferson, who was from the largest American State at that time, namely, Virginia, was fully aware of this property when he proposed it to Congress.

Exercise 10

- Imagine again that only the size of the house in our five-party example is increased from 26 to 27. Using Jefferson's method, calculate how many seats must now be allocated to each party.
- Compare the new Jefferson allotment with the previous one in Table 5. What do you notice?
- Imagine that the number of voters simultaneously increase to 27 000 as the house size increases to 27. If we assume that the proportion of votes for each party remains the same, does the Jefferson allotment change from that in (a)?
- If the house size remains fixed at a certain value (say 26) would the Jefferson allotment always remain constant or change as the number of voters increase? (Assume that the proportion of votes for each party remain constant).
- Does Jefferson's method always satisfy quota? Investigate.

- (f) If only the house size increases, at what house size will Party E first receive an additional seat? How many seats will the other parties then have respectively?
- (g) Can you construct an example with Jefferson's method in which the Alabama paradox arises? Investigate.

Webster's method

In 1832 Daniel Webster proposed a method to Congress which is also based on the selection of a greatest divisor. Unlike Jefferson's method, however, the resulting numbers are not rounded down, but rounded according to the standard convention; down for fractions of less than 0,5 and up for fractions of 0,5 and above. In relation to our example in Table 4, we must therefore find the largest divisor λ so that:

$$\text{INT} \left(\frac{9061}{\lambda} + 0,5 \right) + \text{INT} \left(\frac{7179}{\lambda} + 0,5 \right) + \text{INT} \left(\frac{5259}{\lambda} + 0,5 \right) + \text{INT} \left(\frac{3319}{\lambda} + 0,5 \right) + \text{INT} \left(\frac{1182}{\lambda} + 0,5 \right) = 26.$$

(Note that Webster's method has been reinvented in other guises and is also alternatively known as the "method of odd numbers" or the "Sainte-Laguë". It is today used for proportional representation in Denmark, Sweden and Norway).

It turns out that 957 is the greatest (integer divisor) that satisfies the above equation and produces the third allotment (W) shown in Table 6. Note that it differs from the previous two allotments (H & J) and that Party B does better than it did in either of the other two allotments.

Party	H	J	W
A	9	10	9
B	7	7	8
C	5	5	5
D	4	3	3
E	1	1	1
	26	26	26

Table 6

Exercise 11

- (a) Imagine again that only the size of the house in our five party example increases from 26 to 27. Using Webster's method, calculate how many seats must now be allocated to each party.
- (b) Compare the new Webster allotment with the previous one in Table 6. What do you notice?

- (c) Imagine that the number of voters simultaneously increase to 27 000 as the house size increases to 27. If we assume that the proportion of votes remains the same for each party, does the Webster allotment change from that in (a)?
- (d) If the house size remains fixed at a certain value (say 26), would the Webster allotment always remain constant as the number of voters increase? (Assume that the proportion of votes for each party remain constant).
- (e) Does Webster's method always satisfy quota? Investigate.
- (f) If only the house size increases, at what house size will Party E first receive an additional seat? How many seats will the other parties then have respectively?
- (g) Can you construct an example with Webster's method in which the Alabama paradox arises? Investigate.

There are many other apportionment methods, the majority of which are also divisor methods, for example, the method of "*smallest divisors*" (SD) and "*equal proportions*" (EP) method. Allotments for our five-party example according to these two methods are given in Table 7. (Compare with Table 6). Interested readers may consult Balinski & Young (1975 & 1982) and Hoffman (1991) for further details about these and other methods.

Party	SD	EP
A	9	9
B	7	7
C	5	6
D	3	3
E	2	1
	26	26

Table 7

Interestingly, the Equal Proportions method was proposed in 1921 by a Harvard mathematician called Huntington and is presently still being used in the American Congress. However, although his method avoids the Alabama paradox, it violates the more fundamental criterion of always satisfying quota. For example, Balinski & Young (1975:711-712) show cases where the ideal quotas, and the allocated seats according to this method, differ by 6. (Despite this glaring mathematical indictment, the American Congress is apparently still using it — it makes one think, doesn't it?).

So far we have seen that although the Hamilton method always satisfies the criterion of quota, it is vulnerable to the Alabama paradox. On the other hand, although all divisor methods, like Jefferson's and Webster's always avoid the Alabama paradox, they may violate the criterion of quota. Is it possible to construct an apportionment method which always satisfies the criterion of quota and avoids the Alabama paradox?

Quota method

Perhaps surprisingly Balinski & Young (1975:714-721) managed to devise an ingenious method which they have called the Quota Method, and then proved the following theorem in relation to it:

"The Quota Method is the unique apportionment method which always satisfied quota and avoids the Alabama paradox".

This method works by starting from a house with no seats and then increasing the size of the house by one seat at a time, until the desired size (s) is reached. At each level the number of votes (x_i) of each eligible party is divided by its present number of seats plus one ($s_i + 1$). The additional seat is then assigned to the eligible party with the highest value of $x_i/(s_i + 1)$. Note that an eligible party at each level is defined as any party for which the present number of seats is less than the ideal quota (q_i) at that level; in other words, if $s_i < q_i$.

		House size					
Party	Votes	1	2	3	4	...	26
A	9061	1	1	1	2	...	10
B	7179	0	1	1	1	...	7
C	5259	0	0	1	1	...	5
D	3319	0	0	0	0	...	3
E	1182	0	0	0	0	...	1
TOTAL	26000	1	2	3	4		26

Table 8

Let's consider our five-party example for 26 seats (see Table 8). For a house size of 1, all parties are clearly eligible since the present number of seats for each party is zero ($0 < q_i$). Division of each party's votes by 1, clearly results in the highest value for Party A, and therefore it is allotted the seat. For a house size of 2, Party A is not eligible for a seat since it already has 1 seat and its ideal quota at that level is 0.70. The additional seat is therefore allocated to Party B which has the highest value for $x_i/(s_i + 1)$, namely 7179. For a house size of 3, Party A is again eligible since

it only has 1 seat and its ideal quota is 1,05. Party B however is not eligible since it has 1 seat with its ideal quota 0,83. The additional seat is therefore allocated to Party C which has the highest value of $x_i/(s_i + 1)$, namely 5259 (as opposed to 4530,5 for party A). Continuing in this manner it is easy to determine the allocation for a house size of 26.

Exercise 12

- (a) Can you write a computer program for the allotment of seats according to the Quota method?
- (b) How many seats must be allocated to each party according to the Quota method if only the house size is increased from 26 to 27?
- (c) If only the house size increases, at what house size will Party E receive an additional seat for the first time? Do you think it is fair?
- (d) Can you devise a variation of the Quota method which addresses the problem in (c)?
- (e) Determine the Quota allotment for a house size of 13 for the following election result: A = 501, B = 394, C = 156 and D = 149.
- (f) Determine the Quota allotment for the preceding example if Party B received 400 votes instead. Carefully compare with the previous allotment. What do you notice? Do you think it is fair?
- (g) Repeat (e) and (f) above with the Hamilton and Webster methods. Do they succumb to the same paradox mentioned there? If not, do you think they will always avoid this paradox? Investigate.

Of the various parameters affecting apportionment – relative proportions of the vote, house size and number of parties — the former is constantly changing, whereas the last two typically change less frequently. Although preferably an apportionment method should be consistent with changes in all three of these parameters, it is probably most important to be consistent with changes in the relative proportions of the vote. Intuitively, one might require for instance the condition that if a party's ideal quota (q_i) increases then its apportionment of seats (s_i) should preferably increase, but at worst, not decrease.

However, Balinski & Young (1982:107-108) have proved that no apportionment method can always satisfy this strong criterion. Why this is the case is easily illustrated with the following example. Suppose we have a house size of 5 and parties A, B and C received 43 500, 69 000 and 37 500 votes respectively. Since the ideal quotas are 1,45; 2,3 and 1,25, they would be allocated 2, 2 and 1 seats respectively by the Hamilton allotment. Suppose in the next election, Parties A, B and C receive 45 000, 59 000 and 46 000 votes respectively. Then although Party A's ideal quota has increased to 1,5; it loses a seat to party C which had a larger increase in its ideal quota (from 1,25 to 1,53).

A weaker criterion for consistency with changes in the relative proportions of the vote is to require that if Party A_i 's ideal quota (q_i) increases and Party A_j 's ideal quota (q_j) decreases, then Party A_i should not get fewer seats and Party A_j more. Using this criterion, Balinski & Young (1982:129 - 130) proved that no apportionment method can always satisfy this criterion and the criterion of quota. Thus we are faced with a dilemma: *there is no perfect apportionment method*. Some compromise will have to be made. Either we must sacrifice the principle of staying within quota, or the possibility of consistency paradoxes (as shown in Exercise 12(e) & (f)), have to be accepted. Balinski & Young (1982) argue that it seems more important to avoid consistency paradoxes (i.e. in order to accurately reflect relative changes in the proportions of the vote) than always staying within quota. They proceed further by proving that only the divisor methods will always avoid consistency paradoxes. By comparing the various divisor methods with Monte Carlo simulation (a probability technique) and other means, they conclude that Webster's method is not only least likely to violate quota, but also stays near to it. Furthermore, they show that Webster's method is the only divisor method that is unbiased to the relative sizes of the parties.

The only reasonable (but less satisfactory) alternative would be to consider Quota methods which at least stay within quota and avoid the Alabama paradox, although they do not always avoid Consistency paradoxes. In this respect, it seems that the Quota-Hamilton method and other variations mentioned in Exercise 12(d) might be worth investigating further in terms of bias, as well as their likelihood for violating consistency.

The single transferable vote (STV)

It is not quite clear who first designed or proposed this method. According to Fishburn & Brams (1983) this method (also called *preferential voting*) was first proposed by Thomas Hare, an English barrister, in a publication of his in 1861. However, Reynolds (1993:52) gives simultaneous credit to Thomas Hill (1763 - 1851) and Carl Andrae (1812 - 1893), A Danish mathematician, but without providing corroborative referencing for this claim. The single transferable vote is today used in Australia, Malta and the Republic of Ireland. It is also often used in elections for school or university boards, city councils, club committees, as well as for electing officials in professional and other organizations. Interestingly, it is also used by the American Mathematical Society.

This method allows proportional representation in multi-seat constituencies and requires each voter to use an ordinal ballot (i.e. to list candidates in order of preference by numbering). The first choice votes are then tabulated, and candidates who achieve a certain quota of votes are then declared elected. If a candidate receives more first choice votes than the necessary quota, then the surplus of votes over the quota are transferred to the next favourite choice of those voters. If this transfer causes another candidate to meet quota, (s)he is elected; and if some seats still remain unfilled, surplus votes are again proportionally transferred; and the process continues until all the seats are filled. If at any stage no candidate meets quota and there are still unfilled seats, then

the lowest vote getter is eliminated and the votes of his/her supporters are transferred to their next favourite choice.

The quota is usually defined as follows. If there are s seats to be filled by n available candidates ($n > s$), and the number of voters are m , then the quota is given by $Q = \text{INT}(1 + m/(s + 1))$.

Let's now illustrate this method in relation to our imaginary constituency shown in Figure 11. Since the quota is $\text{INT}(1 + 23/3) = 8$, each of the four candidates falls short. Consequently, the lowest vote-getter D is eliminated, and the votes of D's four supporters are transferred to C, their second choice. The new preference schedules are now as shown in Figure 12.

Now C has exceeded the required quota by two votes, and is therefore elected. These two surplus votes of C are then transferred to B so that the remaining preference schedules are as shown in Figure 13. Therefore B has reached quota and is elected for the remaining seat.

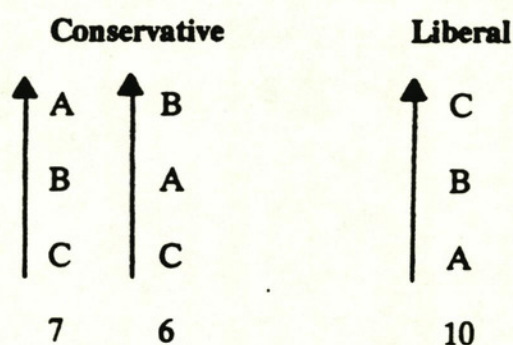


Figure 12

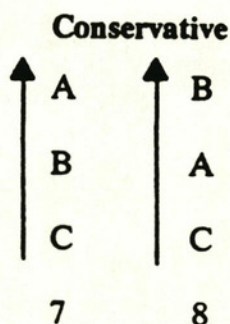


Figure 13

It is interesting to compare this result with the expanded plurality and list proportional elections discussed earlier. In the first case A and B would win with no representation for the liberal voters. In the second case, a seat is assigned to each camp, but the voters have no say in who is appointed to the allotted seats. It is therefore possible in the second case that the radical candidates A and D from both camps are appointed by their respective parties.

With preferential voting, however, the radical candidates in each camp is eliminated, and the more moderate candidates from each camp is elected. The difference lies in that the low rankings of candidates A and D, respectively by the liberals and conservatives, are taken into account. Impressed by results like these, the well-known author on politics and liberalism, John Stuart Mill (1806 - 1873) praised STV *"as among the greatest improvements yet made in the theory and practice of government"* (as quoted from Hoffman, 1991:244).

Exercise 13

- Suppose the number of seats in our example in Figure 11 is raised to 3. Which candidates would be elected with the single transferable vote method?
- Suppose the number of seats in our example in Figure 11 is dropped to 1. Which candidate would be elected with the single transferable vote method?
- Consider the preference schedules shown in Figure 14 for a constituency of 26 voters. Which 2 candidates would be elected with the single transferable vote method?

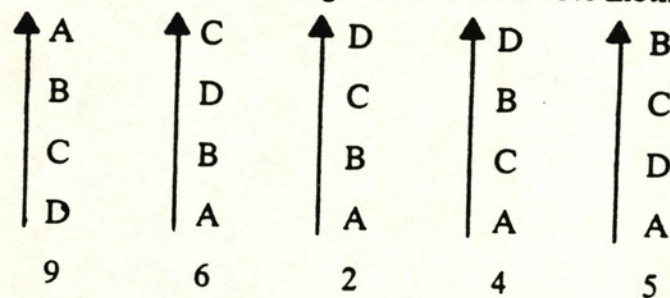


Figure 14

- Consider the preference schedules shown in Figure 15. Note that it is identical to those shown in Figure 14, with the exception that the two voters who preferred candidate D to C now prefer candidate C to D. Which 2 candidates would now be elected with the single transferable vote method? Carefully compare with the previous result. What do you notice? Do you think it is fair?

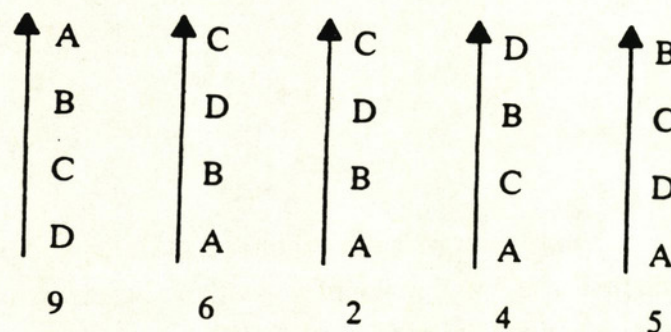


Figure 15

- (e) Consider the preference schedules shown in Figure 16 for the election of a mayor in a small town of 1608 voters. Which candidate would be elected with the single transferable vote method?

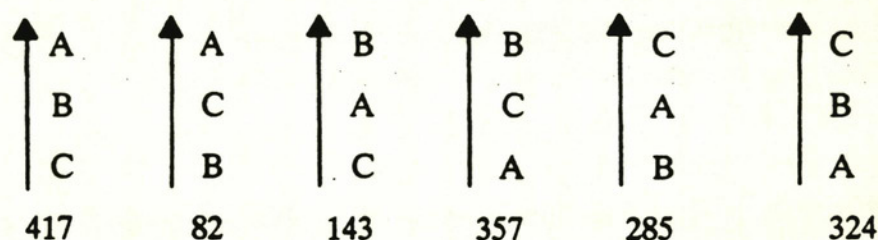


Figure 16

- (f) Consider the preference schedules shown in Figure 17. Note that it is identical to those shown in Figure 16, with the exception that 2 more voters voted for the first preference schedule, ABC. Which candidate would now be elected with the single transferable vote method? Carefully compare with the previous result. What do you notice? Do you think it is fair?

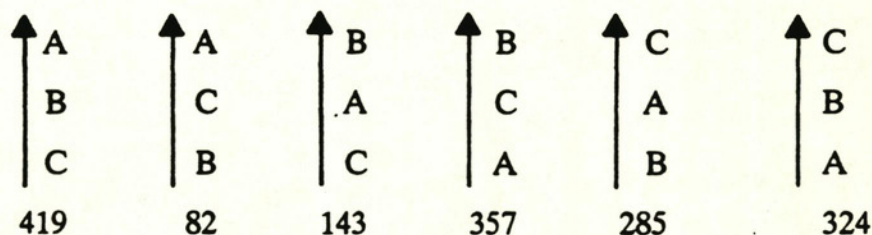


Figure 17

A disturbing feature of the STV method is illustrated in the hypothetical examples in (c) and (d) above, namely, that in some cases if a winner were ranked higher by some voters, all else unchanged, then another candidate might have won. Similarly, the examples in (e) and (f) show that the addition of ballots on which a losing candidate is ranked last may cause that candidate to be elected. Fishburn & Brams (1983) call the first example the "*more-is-less*" paradox and the second one the "*no-show*" paradox. They also illustrate another possible paradox that could plague STV elections, namely, the "*multiple-districts*" paradox. In the multiple-districts paradox a candidate could win in two separate districts, yet lose the general election in the combined districts (Also see Doron & Kronick (1977) for other examples).

Concluding remarks

The ideal of representative democracy, one-person, one-vote is a simple idea, but to achieve it, is not. As we have seen in the preceding exercises and discussions, no election system is perfect

and completely free of the possibility of unfairness and the arising of a paradoxical situation. Nevertheless some methods exhibit more positive features than others, and should be carefully weighed up against their negative features. It is now left to the individual to draw up a table listing all the election methods with their respective advantages and disadvantages. Which method would you prefer? Why?

With a little effort the mathematics teacher could make the discussion of the preceding election methods even more interesting by letting pupils actually vote, for example for their favourite song from the current top twenty list. Or alternatively, they could vote for class representatives according to the various systems, and critically compare them. Apart from essential voter education, the study of election systems provides a meaningful context for elementary modelling and for illustrating the power and usefulness of mathematics. Further reading and examples are provided in the bibliography.

Lastly, it is also hoped that this publication might contribute to the deliberations at Kempton Park, or if decisions have already been taken, to their careful reconsideration. Although this is certainly not an exhaustive study, it may be helpful to alert legislators to some of the options available and issues involved.

Bibliography

- Balinski, M L & Young, H P (1975). The quota method of apportionment. *American Mathematical Monthly*, 82, 701 - 730.
- Balinski, M L & Young, H P (1982). **Fair representation: meeting the ideal of one man, one vote.**
- Brams, S J (1976). **Paradoxes in politics.** New York: The Free Press.
- De Villiers, M D (1986). Die beantwoording van enkele elementêre vrae oor toernooie. *Spectrum*, 24(4), 34 - 37.
- De Villiers, M D (1987). Toernooie. *Spectrum*, 25(2), 31 - 32.
- Doron, G & Kronick, R (1977). Single transferable vote: An example of a perverse social choice function. *American Journal of Political Science*, 21, 303 - 311.
- Fishburn, P C & Brams, S J (1983). Paradoxes of preferential voting. *Mathematics Magazine*, 56(4), 207 - 214.
- Growney, J S (1986). Voting: the importance of method. *Consortium* (Pull-out section), Spring, 1 - 7.
- Hoffman, P (1991). **Archimedes' revenge: The joys and perils of mathematics.** Gt. Britain: Penguin Books.
- Malkevitch, J (1985). **The mathematical theory of elections.** Lexington: COMAP.

Moon, J W (1968). **Topics on tournaments**. New York: Holt, Rinehart & Winston.

Reynolds, A (1993). **Voting for a new South Africa**. Cape Town: Maskew Miller Longman.

Still, J W (1979). A class of new methods for congressional apportionment. **SIAM Journal on Applied Mathematics**, 37(2), 401 -418.

Solutions

Exercise 1

(a) (i) 33,4%

(ii) 25,1%

(iii) 20,1%

(iv) 10,1%

A plurality winner may be selected by a small percentage of the voters.

(b) $100[\text{INT}(m/n) + 1]/m$

Proof: If n is a factor of m , then the total vote of m could be split equally between all n parties, so that each party receives m/n votes. To be a plurality winner, a candidate would then need to obtain at least $m/n + 1$ votes. If n is not a factor of m , then m/n is not an integer. To be a plurality winner in this case, a candidate would need to obtain at least the smallest integer greater than m/n of the vote, in other words, at least $\text{INT}(m/n) + 1$ of the votes. In general therefore, a candidate needs to obtain at least $\text{INT}(m/n) + 1$ of the votes to be a plurality winner, which can be expressed as a percentage as follows: $100[\text{INT}(m/n) + 1]/m$.

Exercise 2

(a) (i) 6

(ii) 24

(iii) 120

(iv) $n! \dots (= n \times (n-1) \times (n-2) \times \dots \times 2 \times 1)$.

(b) (i) 13

(ii) 81

If a voter is indifferent between candidates, the number of different preference schedules increases very sharply with an increase in the number of candidates.

(c) Illiterate/innumerate voters may have difficulty filling in such ballots correctly, thus possibly leading to many spoilt votes. The use of such ballots in more sophisticated election procedures like STV (see later on), may also not be well understood by the electorate in general, leading to voter dissatisfaction.

Exercise 3

(a) Yes, B would still be the winner.

Exercise 4

(a) $n - 1$ items.

Proof: Each time one candidate is eliminated. Since only one winner must remain at the end, it should be clear that $n - 1$ candidates must be eliminated, and therefore the process must be repeated $n - 1$ times.

(b) $n - 1$ times. **Proof:** Same as above.

(c) (i) No, since A, B and C all have one first place vote each.

(ii) No. For the standard run-off procedure, there are no two unique, highest first place vote getters. For the sequential run-off procedure, the problem is that after the elimination of D, there is no unique lowest vote-getter.

(d) (i) D

(ii) A

(iii) The agenda D - A - B - C will result in C as the winner.

(iv) The agenda A - C - D - B will result in B as the winner.

It is perhaps interesting to point out that in general in a sequential run-off procedure (as shown above), the later the candidate appears in the agenda, the greater the likelihood of that candidate being the winner.

Exercise 5

(a) No, there is no candidate who beats all the others in the six two-way contests. (See Figure 18).

(Note that A and B appear to be the two strongest candidates with two wins apiece. However, since A beats B in a two-way contest, it might seem reasonable to choose A as the winner).

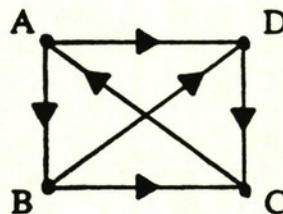


Figure 18

(b) Yes, B would be the winner with a total score of 6 votes in all the two-way contests. (For the other candidates, we have $A = 5$, $C = 4$ and $D = 3$).

(c) In Figure 19, both A and B get total scores of 5 votes apiece in all the two-way contests, and therefore there is no unique winner according to Black's procedure.

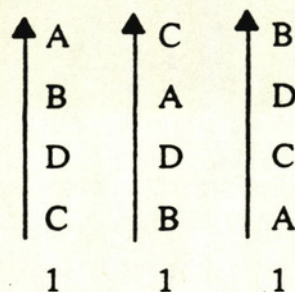


Figure 19

(d) $n(n-1)/2$.

Proof: Each candidate must contest $n-1$ two-way contests. If we consider the product of n and $n-1$, namely, $n(n-1)$, then each two-way contest is counted twice. The total number of two-way contests are therefore given by $n(n-1)/2$.

(e) $mn(n-1)/2$.

Proof: In each two-way contest the total sum of the votes of the two candidates is m . Since there are $n(n-1)/2$ two-way contests in total (see (d) above), the total sum of all the scores are given by $mn(n-1)/2$.

(f) $n-1$.

Proof: A candidate would have a maximum number of wins when s/he wins all his/her two-way contests, namely, $n-1$. (Also note that only one candidate could have this maximum number of wins, since the other candidates must have lost to him/her and their number of wins therefore cannot be $n-1$).

(g) $m(n-1)$.

Proof: In each two-way contest the maximum votes a candidate can get is m , and since the maximum number of wins is $n-1$ (see (f) above), the maximum score of a candidate with Black's procedure is $m(n-1)$. (Also note, as above in (f), that only one person could have this score).

(h) 0.

Proof: A candidate would have a minimum score if s/he loses all his/her two-way contests. (Also note that only one candidate could have this minimum, since the other candidates must at least have won against him/her and their scores can therefore not also be zero).

(i) 0.

Proof: In each two-way contest the minimum votes a candidate can get is 0, and if s/he gets that score in all $n-1$ two-way contests, the minimum score would be zero. (Also note, as above in (h), that only one person could have this score).

(j) $(n-1)/2$.

Proof: Assume that the "winner's" score is a . From (d) above, we have that the sum of the other $(n - 1)$ candidates is $n(n - 1)/2 - a$. The score of each of these $(n - 1)$ candidates is at most a , therefore $(n - 1)a \geq n(n - 1)/2 - a$ which simplifies to $a \geq (n - 1)/2$.

(k) $m(n - 1)/2$.

Proof: Assume that the "winner's" score is a . From (e) above, we have that the sum of the other $(n - 1)$ candidates is $mn(n - 1)/2 - a$. The score of each of these $(n - 1)$ candidates is at most a , therefore

$$(n - 1)a \geq mn(n - 1)/2 - a$$

which simplifies to

$$a \geq m(n - 1)/2.$$

(l) If n is odd, there can be n winners. If n is even, there can be at most $n - 1$ winners.

Proof: From (d) above, the total number of wins is $n(n - 1)/2$ and the average score per candidate is therefore $t = (n - 1)/2$. If n is odd, t is an integer and it is therefore possible that all n candidates have the same score. If n is even, then t is not an integer, and not all n candidates can have the same score. If one candidate's score is however 0, then it is possible that the other $(n - 1)$ candidates have the same score of $n/2$. (Note that $n/2$ is an integer in this case, since n is even).

(m) If either m is even or n is odd, then there can be n winners. If m is odd and n is even, then there can be at most $n - 1$ winners.

Proof: From (e) above, the total sum of all the scores is $mn(n - 1)/2$ and the average score per candidate is therefore $t = m(n - 1)/2$. If either m is even or n is odd, t is an integer and it is therefore possible that all n candidates have the same score t . If however, m is odd and n is even, then t is not an integer, and not all n candidates can have the same score. If one candidate's score is however 0, then it is possible that the other $(n - 1)$ candidates have the same score of $mn/2$. (Note that $mn/2$ is an integer in this case, since n is even).

Exercise 6

(a) Yes, B is the winner with 9 points, followed by A = 8, C = 7 and D = 6.

(b) In Figure 19, both A and B get a Borda score of 8 points.

(c) nm .

Proof: A candidate would have the maximum Borda score if s/he is ranked highest in each of the preference schedules with respective votes x_1, x_2, x_3, \dots etc. Therefore, the maximum Borda score is given by:

$$nx_1 + nx_2 + nx_3 + \dots$$

which simplifies to

$$n(x_1 + x_2 + x_3 + \dots).$$

But $x_1 + x_2 + x_3 + \dots = m$, and therefore the maximum Borda score is nm . (Note also that only one person can have this score since the other candidates must have been ranked lower and therefore their score cannot also be nm).

(d) $mn(n+1)/2$.

Proof: The sum of all the Borda scores is given by $mn + m(n-1) + m(n-2) + \dots + m(2) + m(1)$ which simplifies to $m[n + (n-1) + (n-2) + \dots + 2 + 1] = mn(n+1)/2$. (Note: The sum of $1 + 2 + 3 \dots$ to n terms is given by $n(n+1)/2$).

(e) $m(n+1)/2$.

Proof: Assume that the "winner's" score is a . From (d) above, we have that the sum of the other $(n-1)$ candidates is $mn(n+1)/2 - a$. The score of each of these $(n-1)$ candidates is at most a , therefore

$$(n-1)a \geq mn(n+1)/2 - a$$

$$\rightarrow a \geq m(n+1)/2.$$

(f) m .

Proof: A candidate would have the minimum score if s/he is ranked lowest by all m voters. Since the lowest ranking is worth one Borda point, the minimum score is given by $1 \cdot m = m$. (Note also that only one person can have this score since the other candidates must have been ranked higher and therefore their score cannot also be m).

(g) If either m is even or n is odd, then there can be n winners. If m is odd and n is even, then there can be at most $n-1$ winners.

Proof: From (d) above, the sum of all the Borda scores is $mn(n+1)/2$ and the average score per candidate is therefore $t = m(n+1)/2$. If either m is even or n is odd, t is an integer and is it therefore possible that all n candidates have the same score t . If, however, m is odd and n is even, then t is not an integer and not all n candidates can have the same score. If one candidate has the lowest score of m , the sum of the scores of the remaining candidates is given by $mn(n+1)/2 - m$ which simplifies to $m(n+2)(n-1)/2$.

In this case, it is therefore possible that the other $(n-1)$ candidates can have the same score of $m(n+2)/2$. (Note that $m(n+2)/2$ is an integer, since n is even in this case).

(h) No, the rankings will not necessarily always stay the same. Suppose for example in Figure 3 that a first place position is given 100 points, a second place 3 points, a third place 2 points and a fourth place 1 point. Then

$$A = 8(100) + 5(1) + 6(1) + 7(1) = 818$$

$$B = 8(3) + 5(100) + 6(3) + 7(3) = 563$$

$$C = 8(2) + 5(3) + 6(100) + 7(2) = 645$$

$$D = 8(1) + 5(2) + 6(2) + 7(100) = 730$$

where we obtain a completely different winner, and the ranking is in reverse order to the original.

Exercise 7

- (a) In Table 9, party A wins 2 out of the 3 available seats, but does not have a majority of the total vote (only 31,7%). Party B only wins 1 seat, but has a higher percentage of 39,3% of the total vote. Party C has 29% of the total vote, but wins no seat.

Party	Constituency		
	1	2	3
A	25	34	36
B	55	33	30
C	20	33	34

Table 9

- (b) $100p[\text{INT}(m/pn)]/m$

Proof: The number of voters in each constituency is m/p . (Note that in order to have equal numbers of voters in each constituency we are assuming p to be a factor of m). Therefore, a party will not win a seat if it gets $\text{INT}(m/pn)$ or less of the votes in a constituency (see Exercise 1(b)).

If it gets this number of votes in all p constituencies, then its percentage of the total vote is given by $100p [\text{INT}(m/pn)]/m$.

- (c) $100p[\text{INT}(m/pn) + 1]/m$

Proof: Similar to the above, and is left to the reader.

Exercise 8

- (a) $qi = (xi/x)s$

Exercise 9

- (a) The new Hamilton allotment for a house size of 27 is shown in Table 10.
- (b) Surprisingly, Party D has lost a seat while Parties B and C have gained one seat each. Do you think it is fair that Party D loses a seat when the size of the house increases, but the total vote and the relative proportions of the vote for each party remain constant?

Party	Votes	Old	New Ideal	New
		Allotment	quota	Allotment
A	9061	9	9,410	9
B	7179	7	7,455	8
C	5259	5	5,461	6
D	3319	4	3,447	3
E	1182	1	1,227	1
Total	26 000	26		27

Table 10

(c) No. If the number of voters increase to 27 000, and the relative proportion of the votes remain constant, then each party will receive respectively 9410, 7455, 5461, 3447 and 1227 votes each (rounded off to the nearest integer). The ideal quotas therefore remain constant at respectively 9,410; 7,455; 5,461; 3,447 and 1,227.

(d) The Hamilton allotment remains constant. This is a generalization of the observation in (c) above.

Proof: Suppose the ideal quota for each party is $(x_i/x)s$ where x_i is the number of votes for each party, x is the total vote and s is the number of seats. If the number of voters increase or decrease by a factor k , then the new total vote is kx . If the relative proportion of the total vote for each party remains constant, then the new number of votes for each party is given by $(x_i/x) \times kc = kx_i$. Therefore, the new ideal quota is $(kx_i/kx)s = (x_i/x)s$, which is the same as the original.

Exercise 10

(a) For a house of 27, the largest (integer) divisor = 897 which gives us the following allotment: $A = 10$, $B = 8$, $C = 5$, $D = 3$ and $E = 1$.

(b) Party B, the party with the second largest support, received an additional seat, but no party lose a seat.

(c) No, it remains the same.

(d) The Jefferson allotment remains constant. This is a generalization of the observation in (c).

Proof: Consider equation (1): $\sum \text{INT}(x_i/\lambda_1) = s$ where x_i is the number of votes for each party and λ is the largest divisor which gives us the required house size of s seats. Suppose the total vote changes to kx , then the proportion of votes for each party changes to kx_i (as shown in

Exercise 8(d)). Therefore we need to find the largest divisor λ_2 so that $\sum \text{INT}(kx_i/\lambda_2) = s$, but a comparison of this equation with equation (1) above, shows that λ_2 must be equal to $k\lambda_1$. Therefore the allotment for each party remains constant, namely, $\text{INT}(x_i/\lambda_1)$.

- (e) No, Jefferson's method does not always satisfy quota. For example for a house size of 40, the largest (integer) divisor is 604, which gives 15 seats to Party A. However, its ideal quota is only 13.94. (Note: to avoid tedious calculation, the author used a computer program called *Mathcad* in finding the above example, as well as in the next question). Also see Exercise 11(e).
- (f) At house size 42 with largest (integer) divisor 591. The other parties then have: A = 15, B = 12, C = 8 and D = 5. This illustrates quite clearly the point made earlier, namely, that the Jefferson allotment tends to favour parties with a larger proportion of the vote. Incidentally, when using the Hamilton allotment, at what house size will Party E first receive an additional seat? (Also see Exercise 11(f), 12(c) & (d)).
- (g) No, the Alabama paradox cannot occur with the Jefferson's method. Also see Exercise 11(g).

Exercise 11

- (a) For a house of 27, the largest (integer) divisor $\lambda = 956$ which gives us the following Webster allotment: A = 9, B = 8, C = 6, D = 3, E = 1.
- (b) Party C, gained a seat (as in the Hamilton allotment), but no party lost a seat.
- (c) No, it remains the same.
- (d) The Webster allotment remains constant. This is a generalization of the observation in (c).
Proof: Similar to that of the Jefferson allotment, and is left as an exercise to the reader.
- (e) No, Webster's method does not always satisfy the criterion of quota. Balinski & Young (1982:80) provide the hypothetical example shown in Table 11, where Party D violates quota.

Party	Votes	Ideal Quota	Allotment
A	70 653	1,55	2
B	117 404	2,58	3
C	210 923	4,63	5
D	1 194 456	26,24	25
TOTAL	1 593 436	35	35

Table 11

- (f) At house size 33 with largest (integer) divisor $\lambda = 788$. The other parties then have: A = 11, B = 9, C = 7 and D = 4. Note that Webster's method, unlike Jefferson's, does not seem to favour larger parties.

(g) No, the Alabama paradox cannot occur with Webster's method. In fact, it can be shown in general that all divisor methods avoid the Alabama paradox.

Proof: If the house size is to increase, then the common divisor must be made smaller. As the divisor λ decreases, the quotient x_i/λ of every party increases, and each time a quotient passes an integer value (as in Jefferson's) or a specific decimal value (0.5 in Webster's) its party is allotted one more seat. Since no party's quotient can possibly decrease, no party can lose a seat. Therefore the Alabama paradox cannot occur.

Exercise 12

(a) A computer program for the Quota method written in Basic is given in Figure 20.

```

10 DIM X(20): DIM Q(500):X=0
15 PRINT "How many seats in the house?"
20 INPUT S
25 PRINT "How many parties?"
30 INPUT N
40 FOR I=1 TO N
50 PRINT "No. of votes for party";I;"?"
60 INPUT X(I):X=X+X(I)
65 S(I)=0
70 NEXT I
80 FOR J=1 TO S
85 FOR I=1 TO N
88 Q(J)=X(I)*J/X
90 IF S(I)<Q(J) THEN 110
100 P(I)=0: GOTO 120
110 P(I) = X(I)/(S(I)+1)
120 NEXT I
125 FOR K=1 TO N-1
130 FOR I=1 TO N-1
140 IF P(K) > P(K+I) THEN 160
150 GOTO 170
160 IF I=N-1 THEN 270
165 NEXT I
170 IF K=N-1 THEN 280
180 NEXT K
190 NEXT J
200 FOR I=1 TO N
210 PRINT "s";I;"=";S(I)
220 NEXT I
230 END
270 S(K)=S(K)+1:GOTO 190
280 S(K+1)=S(K+1)+1: GOTO 190

```

Figure 20

(b) For a house size of 27, the quota allotment is: A = 10, B = 8, C = 5, D = 3 and E = 1.

(c) Party E first receives an additional seat at a house size of 42; the same as the Jefferson method. The other parties then have the following seats: A = 15, B = 12, C = 8 and D = 5. It seems that the Quota method, like Jefferson's method, tends to favour parties with larger proportions of the total vote.

- (d) A simple variation of the Quota method which still meets the criterion of quota, and also avoids the Alabama paradox is the following. Instead of assigning the additional seat at each level to the eligible party with the highest value of $x_i/(s_i + 1)$, we can assign it to the party with the greatest difference between the ideal quota q_i at that level and the present number of seats s_i ; in other words, to the eligible party with the highest value of $q_i - s_i$. The program in Figure 20 can easily be adapted for this variation by replacing line 110 by $P(I) = Q(J) - S(I)$.

	Q	Q'	Q	Q'	Q	Q'	Q	Q'
A	10	9	10	9	12	12	15	14
B	7	7	8	7	10	9	12	12
C	5	5	5	6	7	7	8	8
D	3	4	3	4	4	4	5	5
E	1	1	1	1	1	2	1	2
House size	26	26	27	27	34	34	41	41

Table 12

A comparison between some allotments with the quota method Q and its variation Q' is given in Table 12. This clearly shows that whereas Q' tends to favour parties with larger proportions of the vote, Q tends to more equitably distribute the available seats. For example, whereas Q' already assigns an additional seat to Party E at a house size of 34, Q only does that at a house size of 42. Note that this variation is very similar to the Hamilton method (with the exception that it avoids the Alabama paradox), and is known as the Quota-Hamilton method.

Another variation is the following. Instead of assigning the additional seat at each level to the eligible party with the highest value of $q_i - s_i$, we can determine the largest divisor λ so that for all eligible parties: $\sum \text{INT}(x_i/\lambda + 0,5) = 1$. In other words, the additional seat at each level would be allocated to that eligible party whose number of votes x_i divided by λ , results in a decimal of 0,5 or larger. This variation is known as the Quota-Webster method. Other variations of the Quota method can be found in Still (1979).

- (e) The result is given in Table 13.

Party	Votes	Ideal Quota	Q
A	501	5,43	6
B	394	4,27	5
C	156	1,69	1
D	149	1,61	1
Total	1200	13,00	13

Table 13

(f) The result is given in Table 14.

Party	Votes	Ideal Quota	Q
A	501	5,40	6
B	400	4,31	4
C	156	1,68	2
D	149	1,61	1
Total	1206	13,00	13

Table 14

In this example from Balinski & Young (1982:40), we clearly have another paradoxical situation. While Party B gained in votes relative to all other parties (vote percentage *increased* from 32,8% to 33,2%), it actually lost a seat to Party C (whose vote percentage *decreased* from 13% to 12,9%)! In the text this paradox is called a Consistency paradox by the author. (Balinski & Young (1982) call this the "Population" paradox).

Interestingly, the variation Q' (Quota-Hamilton) gives in both cases the following allotment: A = 5, B = 4, C = 2, D = 2. In this case Q' does not succumb to a Consistency paradox. In fact, it seems fairly resistant to the same type of Consistency paradox as the author tried unsuccessfully for a couple of hours to construct a similar example for it.

However, the author easily found the following Consistency paradox with Q' as illustrated in Table 15, where for a house size of 11, the votes of the other parties are kept constant (A = 501, C = 156 and D = 149) and Party B's support is increased from 394 to 440, and then to 480.

In the first two columns, Party C loses a seat to Party A, even though the percentage decrease of Party A's support is greater than the percentage decrease of Party C's support. Furthermore, if Party B continues to gain votes, we surprisingly find that Party C suddenly regains this seat from Party A, which clearly shows the inconsistency of Q'.

Party	B = 394		B = 440		B = 480	
	Vote %	Q'	Vote %	Q'	Vote %	Q'
A	41,8	4	40,2	5	39,0	4
B	32,8	4	35,3	4	37,3	4
C	13,0	2	12,5	1	12,1	2
D	12,4	1	12,0	1	11,6	1
		11		11		11

Table 15

- (g) In the given examples in Tables 13 — 15, the Hamilton method does not exhibit a consistency paradox. However, it is not difficult to construct an example which demonstrates that it is not always immune to a consistency paradox, but that is left as an exercise to the reader.

Webster's method does not exhibit a consistency paradox with the given examples. In fact, it can be proved in general that all divisor methods always avoid consistency paradoxes.

Proof: Suppose that one party increases relative to another, and that the slower-growing party gains at least one seat. Then the quotient x_i/λ of the slower-growing party must have moved past an integer value (as in Jefferson's) or a specific decimal value (0,5 in Webster's). But since the first party has grown relative to the other, its quotient x_j/λ must also have increased and so in no case could possibly have lost a seat. So the consistency paradox cannot occur.

Exercise 13

- (a) Since the new quota $Q = \text{INT}(1 + 23/4) = 6$, candidates A, B and C meet quota and are therefore elected for the available three seats.
- (b) Since the new quota is 12, all four candidates fall short. Consequently we again obtain the preference schedules in Figure 12, but still all three candidates fall short. The elimination of B, results in the transfer of B's 6 votes to A, so that A meets quota and is elected.
- (c) The quota $Q = \text{INT}(1 + 26/3) = 9$. Since A has reached quota, s/he is elected. A has no surplus votes, so the lowest first place vote getter B is eliminated and his/her 5 votes are transferred to C, the second best choice to obtain the preference schedules shown in Figure 21. Therefore C, with 11 votes, is elected.

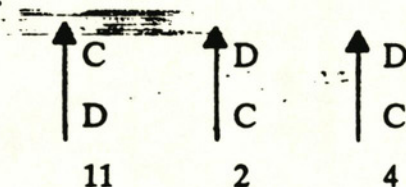


Figure 21

- (d) Again A is immediately elected and has no surplus votes to transfer. This time, however, D is the lowest vote-getter and not B, and D's four votes are therefore transferred to B as shown in Figure 22. Therefore B, with 9 votes meets quota and is elected.

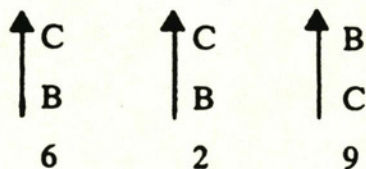


Figure 22

This result is clearly paradoxical. The only difference between the preference schedules in Figures 14 and 15 is that in the last case two voters elevated C from second choice to first. This had the perverse effect of denying him/her election. It simply does not seem fair that a candidate could lose an election because he or she received too many first place votes, but would have won if some voters had voted for him or her in the second place instead of the first.

- (e) Candidate B would be elected.
- (f) Candidate C would be elected. The two additional votes in which C is ranked last, caused that candidate to be elected. In other words, the two additional voters who ranked C last would have been better off staying home than filling out a ballot on which they rank him/her last! (In fact even if 321 more people had voted ABC, candidate C would still win).

ATTENTION:

0910

CONSTITUTIONAL ASSEMBLY SUBMISSIONS

0910

522

25 JAN 1995

72 Chapman Avenue
GORDON'S BAY
7150

14 January 1995

The Secretariat
Constitutional Assembly
P.O. Box 15
CAPE TOWN
8000

Dear Sir

NEW CONSTITUTION

In response to your invitation for submissions to the Constitutional Assembly the following:

I believe that the only way to real democracy in our country is to entrench the control of the electorate over politicians, in the constitution.

The best way to do this is to allow the electorate the right to call for referenda to:

- Recall public representatives from office
- Initiate new laws or by-laws
- Recall laws or by-laws
- Have the final say on delimitation of local boundaries

To call for a referendum the proponents must prove support through a petition, of at least 10% of the eligible voters.

This right to referenda must apply at all levels of government.

Any changes to the constitution must be put to the public vote and may only be affected with an enlarged majority support.

The government at the level at which the referendum is held, must be obliged to abide by the result of such a referendum.

This right should be combined with a constituency based electoral system. This will provide for real accountability to the electorate.

I believe that if we include the above in our constitution we will have real democracy and a constitution of which we can all be proud.

Yours faithfully



D.M. DU TOIT

43 Mulder Street
Floridapark
1711

31 January 1995

The Executive Director
Constitutional Assembly
PO Box 15
Cape Town
8000

Dear Sir

DRAFTING OF A NEW CONSTITUTION FOR THE REPUBLIC OF SOUTH AFRICA

I would like to suggest that the following principles be contained in the constitution:

- (i) The Constitution must make provision that different ballots are used for the election of National, Provincial and Local Governments.

Voters do not necessarily vote for the same parties at the different levels of government.

- (ii) The Constitution must make provision for the protection of individuals and population groups. It must provide sufficient freedom so that, especially, the culture and religion of the different population groups are maintained, developed and extended. It is furthermore very important that language rights are not neglected.

South Africans can enjoy peace and sound human relations only if we show respect for one another's lives, possessions, culture and religion.

- (iii) Our laws and legal system must command respect and must prevent and discourage crime.

Kind regards

Matt Kloppe

13 FEB 1995

0264
Mulderstraat 43
Floridapark
1711

001268

31 Januarie 1995

Die Uitvoerende Direkteur
Grondwetlike Vergadering
Posbus 15
Kaapstad
8000

Geagte Meneer

**OPSTEL VAN 'N NUWE GRONDWET VIR DIE REPUBLIEK VAN SUID-
AFRIKA**

Graag wil ek voorstel dat die volgende beginsels in die nuwe Grondwet vervat word:

- (i) Die Grondwet moet voorsiening maak dat verskillende stembriewe vir die verkiesing van die Nasionale-, Provinsiale- en Plaaslike Regerings gebruik word.

Kiesers stem nie noodwendig vir dieselfde partye op die verskillende regeringsvlakke nie.

- (ii) Die Grondwet moet voorsiening maak dat die regte van individue en bevolkingsgroepe beskerm word. Dit moet voldoende vryheid laat dat, veral, die kultuurgoedere en godsdiens van die verskillende bevolkingsgroepe behoue bly, ontwikkel en uitgebou kan word. Dit is verder uiters belangrik dat die taalregte nie afgeskeep word nie.

Suid-Afrikaners kan net vrede en goeie menseverhoudings geniet indien ons respek vir mekaar se lewens, besittings, kultuur en godsdiens betoon.

- (iii) Ons wette en regstelsel moet agting afdwing en moet misdaad voorkom en ontmoedig.

Vriendelike groete


MATT KLOPPER

HK/17

21st Feb' 1995

The Chief Executive
Constitutional Assembly
P O Box 15
CAPE TOWN

Dear Sir

RE: VOTER REGISTRATION VERSUS RIGHTS OF TRADITIONAL LEADERS

I did not have the correct heading for the problems that we experience as civics here in the Eastern Transvaal and the highveld, but nevertheless, after I had highlighted my grievances of our villages, during your debate on the country's Constitution, high attention will be paid to ordinary villagers and their traditional leaders.

Firstly let me bring it to your attention that I write this message as a resident of Moutse 3. What is naturally being experienced here at Moutse 3 is virtually experienced in Moutse 2 and 1 and also at other villages under headman, Chiefs or Captain, whatever term you use.

(End of page 1)

Secondly the other issue of my concern is that 30 - 40% of our villages have no ID's to register as voters. We are receiving a negative attitude from our traditional leaders because they feel that their positions are threatened.

1. They do not encourage their so-called subjects to find it easy to obtain ID books. The same problem is experienced by the home affairs departmental heads (confirmed).
2. Villages are refused to hold free gatherings either at local schools or home affairs offices.
3. When home affairs call on them to arrange a day or two to visit their respective areas as to issue ID's they do not inform (confirmed).
4. Because traditional leaders fear for their safety and security of their positions, a clear message should be sent and Constitutionalised as to differentiate their duties (traditional leaders) and those of civics.
5. Most traditional leaders are spreading the gospel of not registering for local elections to their subjects (confirmed).

Constitutional Assembly Submission Cover Page

Please tick the appropriate box

Submission Number	2179					
Date	21.02.95					
Name						
Title of submission	Voter Registration vs Rights of Traditional Leader					
Authors	Moathlo P.					
Co-authors						
Source	Person <input checked="" type="checkbox"/>		Organisation			Party
Form of submission	Typed	Fax	Written <input checked="" type="checkbox"/>	Verbal	E-Mail	Other
No of Pages original	2					
No of pages Typed/translation	2					
Language	Eng					
Index Number						

CATEGORIES					
TC1	TC2 <input checked="" type="checkbox"/>	TC3	TC4 <input checked="" type="checkbox"/>	TC5	TRADITIONAL
TC6.1	TC6.2	TC6.3	TC6.4	GENERAL	2 + 2 = 4
1 Democracy....	17 Trad Leaders <input checked="" type="checkbox"/>	33 F/Expression	49 F/Demonstration..	65 Trad Cust Law..	81
2 Equality	18 Volkstaat....	34 F/Assoc <input checked="" type="checkbox"/>	50 Children Rights	66 Appointments...	82
3 One Sovereign State	19 N/P Elec System	35 Lang/Cult	51 Education Rights	67 General	83
4 Supr of Const	20 Const Amendments	36 Adm Just	52 Other Rights....	68 L Education	84
5 Account Gov	21 Prov/Local gov..	37 Acc/Info	53 Cust Law....	69 Transitional..	85
6 The Economy	22 Leg Exec...	38 Acc/Courts	54 Minorities..	70 Public Service	86
7 Repr Gov	23 Loc Gov	39 F/Person...	55 Lmt/Rights	71 Elect Commission	87
8 Citizenship	24 Fin&Fisc Rel	40 Detain/P...	56 Effect B/R...	72 Auditor, Res Bank..	88
9 Suffrage	25 Misc	41 Forced/Lab..	57 St./Emergency	73 Fin&Fisc Commission...	89
10 Language	26 Princ II	42 Econ Activ	58 Interp B/R	74 Public Protector	90
11 For Rel/Int Law	27 Nature B/R...	43 Property	59 H/V B/R...	75 Human Rights Comm	91
12 Name, Symbols...	28 Equality	44 Lab Rel	60 Class/Action	76 Comm Gender Equality	92
13 Seats of Gov	29 Human Dignity	45 Environment	61 Struc/Court Sys..	77 Comm Rest Land....	93
14 Pre/Post Amble	30 Right to Life	46 Citiz Rights	62 Rel Levels/Courts..	78 Acc/Control S Force..	94
15 Sep of Powers	31 Privacy	47 Pol Rights <input checked="" type="checkbox"/>	63 Judicial Offices..	79	95
16 Struc of Gov...	32 Religion...	48 F/Movement	64 Acc/Courts...	80	96

6. The civics though they are being elected by the respective residence, the traditional leaders refuse to work and recognise the civic members and in some other instances are being threatened as to be evicted in their homelands.
7. The last, not the least, big issue is the problem of old age pension pay points. A lot has been said and televised about the pay points of pensioners in the urban areas but very little attention is paid to the homeland pensioners.
8. Solution to the pensioners pay packet is that it should be compulsory that each have a Savings Account with either a Post office or a banking institution so that they can collect them at their own time with their ID's handy to be produced when needed.
9. Village residents would like to earn the pieces of ground they live in, either in the form of title deeds or otherwise so that they can be in control of their own grounds. Ground should not be that expensive, preferably similar to that of the old Bophuthatswana suburbs e.g. Malopane etc.

Hoping that what has been raised in here would end up at the right Constitutional group for submission.

Yours faithfully

(SGD) PETER MAATHLO
TEL (011) 976-5845

28 FEB 1995

7 Trumpington St
Birch Acres
1619

21st Feb '1995.

The Chief Executive
Constitutional Assembly
P.O. Box 15
CAPE TOWN.

Re-Voter Registration versus Rights of
Traditional Leaders.

Dear Sir

I did not have the correct heading for the problems that we experience as civics here in the Eastern Transvaal and the highveld, but nevertheless, after I had highlighted my grievances of our villages, during your debate on the country's constitution, high attention will be paid to ordinary villagers and their traditional leaders.

Firstly let me bring it to your attention that I write this message as a resident of Moutse 3. What is actually being experienced here at Moutse 3 is virtually experienced in Moutse 2 and 1 and also at other villages under headman, chiefs or Captain, whatever term you use.

Secondly the other issue of my concern is that 30-40% of our villages have no ID's to register as voters. We are receiving a negative attitude from our traditional leaders because they feel that their positions are threatened.

- 1) they do not encourage their so called subjects to find it easy to obtain ID books. The same problem is experienced by the home affairs departmental heads (Confirmed)
- 2) Villages are refused to hold free gatherings either at local schools or home affairs offices
- 3) When home affairs call on them to arrange a day or two to visit their respective areas as to issue ID's they do not inform (Confirmed)
- 4) Because traditional leaders fear for their safety and security of their positions a clear message should be sent and constitutionalized as to differentiate their duties (traditional leaders) and those of civics.
- 5) Most traditional leaders are spreading

the gospel of not registering for local elections to their subjects (Confirmed).

6) The civics, though they are being elected by the respective residence, the traditional leaders refuse to work and recognise the civic members and in some other instances are being treated as to be evicted in their homelands.

7) The last, not the least, big issue is the problem of old age pension pay points. #BOT has been said and believed about the pay points of pensioners in the urban areas but very little attention is paid to the home-land pensioners.

8) Solution to the pensioners pay pay packet is that it should be compulsory that each have a Savings Account with either a Post Office or a banking institution so that they can collect them at their own time with their ID's handy to be produced when needed.

9) Village residents would like to own the pieces of ground they live in, either in the form of title deeds or other wise, so that they can be in control of their own grounds. Ground should not be that expensive, preferably similar to that of the old Bophutha-
Tswana lands. eg. Malopane etc.

Hoping that what has been raised in here would end up at the right constitutional group for discussion.

Yours faithfully
Peter Maathlo.

Tel (011) 976-5845.

FAX 0027 21 241160

1373

CONSTITUTIONAL
ASSEMBLYDr. G. Ngirane
P.O. Box 50423
Gaborone
Botswana

20 FEB 1995

Tel/Fax (267) 324 633

20th February 1995

001625

*original*The Secretariat
Constitutional Assembly
P.O. Box 15
Cape Town 8000

RE: SUBMISSIONS TO THE CONSTITUTIONAL ASSEMBLY

I wish to request that if I have arranged my ideas under wrong themes, please correct me and proceed to submit them.

Theme 1 (i)

*CONSTITUTIONAL
PROCESS*

Multiparty democracy should be retained. But we should not see a situation again where we have 28 parties most of which were formed within a week. A party which wants to take part in elections must show that it has been in existence for at least 6 months before elections, be able to submit 3'000 signatures for provincial/state or 10'000 signatures for national candidature. The campaign money to be given to parties should be properly accounted for. It should be held in a fund, whereby parties which get less than a certain percentage should not get any money from the fund.

(ii) This Country should have Federal System with strong central government which has the ability to override the States in the interest of the nation. The present provinces should become States.

(iii) Proportional representation should be retained but modified as follows:

— All State and National candidates should be attached to some constituency and the winner should go to National or State Parliament representing that particular constituency.

— At the same time, percentages obtained by each party at national or state level should be used proportionally to acquire 33% more candidates chosen by the party but not assigned to any particular constituency, like the current system. Hence the national and state parliaments will have as many parliamentarians as the number of constituencies plus 33%.

This will make the people know their MPs while at the same time give a chance to small parties to be represented at national and

.../1 of 4

1373

Dr G Ndirane's Submission to the CA

state level.

- (iii) National and Provincial/State Parliaments should last 6 years but half of the parliamentarians should be voted in every 3 years.
- (iv) The President with his 1st Deputy should be elected independently every 6 years. The 2nd Deputy President who would also be like a Prime Minister should be a Member of Parliament, and should come from the President's Party.
- (v) The President should serve a maximum of three 6-year terms, i.e. the President with his/her 1st Deputy President should be elected for a 6-year term at a time, to a maximum of 3 consecutive or non-consecutive terms.
- (vi) The State Premiers should serve a maximum of six 3-year terms. The shorter 3-year term is necessary as 1/2 of the State Parliamentarians would be re-elected every 3 years and the State Premier is selected from the majority party. However, the Premiers may remain members of the State Parliament even after their term of service has expired, if their party still voted them in.
- (vii) The Senate should be retained. Former Premiers should automatically be members of the Senate, if they wish and if their party has not selected them for National Parliament, or if they no longer wish to remain in the State Parliament, as elected members.
- (viii) There should not be a Government of National Unity by constitution but only by agreement between parties
- (ix) The voting age should be lowered to 16 years but with a proviso that candidates for various elected offices should be above a certain age namely:
- above 21 yrs for local councils;
 - above 25 yrs for provincial/state & national assemblies;
 - above 30 yrs for provincial/state premiers, cabinet ministers, etc;
 - above 40 yrs for the National President or Deputy Presidents.

This is to ensure that even if someone is eligible to vote, it may be years before he/she gains sufficient experience to manage a public office. This should also dispel the idea that because one can vote then he/she can also run for a public office. It must be implied in the

Dr G Nkomo's Submission to the CA

constitution that there is no better teacher than experience in life.

Theme III (i) Provincial/State Ministers should be known as such instead of using the meaningless MEC. The Provincial/State Government should have Provincial/State Premier (with abbreviated designation as PP/SP), Provincial/State Government Ministers (with abbreviated designation as PGM/SGM), Members of Provincial/State Parliament (with abbreviated designation as PMP/SMP). Calling them MEC undermines and diminishes their position in the Province/State.

(ii) Provinces should be called States since they are really mini-states. Nigeria has a good federal system, in which the states cannot undermine the central government. Cases of Provinces/States undermining or disobeying the Central Government are very possible given the recent examples. Being States instead of Provinces give a feeling of pride to the inhabitants, and encourages decentralisation of industry and commerce. A Province does not inspire a desire to belong to it.

General: (i) Capital punishment should be retained. The fact that it was misused by the apartheid regime does not make it unnecessary. I believe as many people do that it is still a deterrent, and its abolition is a licence for petty criminals to risk higher crimes because they know that the worst that can happen is just imprisonment. The fact that there are so many groups in the world which say that capital punishment is against basic human rights should consider the fact that the person who is murdered also has rights. It is nonsense to just stick to the so called promise that capital punishment will be abolished when several other things are not working out as it had been hoped. When there is not much crime in the country then this issue can be revisited. It seems that the criminal has more rights than the victim.

In murder and other serious crimes cases there should be a jury and at least three judges. The argument that one judge may be inclined to hanging while another is not should not be an argument for the retention. One of the best examples of democratic countries still retain capital punishment. When ideas are being copied, then societies should be compared as well, instead of just wanting to do as others are doing.

1373

Dr G Ngrane's Submission to the CA

It is now clear that the apartheid criminals and the liberated criminals put together make the idea of a just, free, and capital-punishment-free society a laughing stock of criminals !

- (ii) The Truth Commission should address crimes of the oppressors but not the oppressor and the oppressed. It makes no sense to use the same standard when dealing with the criminal and the victim. For example, it is absolutely unacceptable that the crimes committed in suppressing the freedom movement should be comparable to the crimes committed in fighting the oppressor. There must be a distinction otherwise soon it will be difficult to say who was the worse criminal ! In all war situations, there has never been a situation where the vanquished oppressor had the same rights as the just conqueror. The NP should not try to bamboozle the situation whereby cases as the recent indemnity row become an acceptable common feature.

**Sub-Theme
Public Admini.**

The Public Service department should not continue to be a source for frustrating other departments by incredible delays. It should facilitate recruitment rather than hinder it. It should do research to find out employer/departamental requirements but not to wait until the department requests to advertise.

Africa and the world are watching South Africa to see whether its sense of wrong, right, fair, self-correcting, etc. will persevere.

Thank you for reading this.

Dr G Ngrane (PhD, Chatered Engineer, PrEng)

Box 661
H. Iken
305

Date: 27/2/95

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

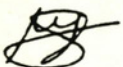
Weapons

Any attempt to disarm civilians is to disempower them and centralise power in the hands of government. It also presupposes the naive belief that weapons are the problem instead the criminal and that, by disarming the public, the criminals will also be disarmed. It is the nature of criminals to scoff at the law and it is the dream of the criminal to hold a disarmed public to ransom. To promise that the professional police and militia will guarantee the safety of every member of society, having removed from them the right and the power to defend themselves, is not only a lie, but tyranny.

Criminals interviewed have confessed that, in most cases, they would not have assaulted their victims had they suspected that they were armed. Proof of their effectiveness in responsible hands is the testimony of a Hillbrow social worker who has been delivered no less than 5 times from hoodlums, by armed members of the public passing by.

By all means, restrict the type of weapons available to the public and encourage the development of non-deadly weapons, but do not remove from the public the right and power to exercise self defense

Yours faithfully in the service of South Africa.



Anchi Stemmet

Box 641
H. 1. 1
3245

Date: 27/2/95

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town, 8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Free Market, Press, Religion and Schools.

These are areas which must be under the direct control of the individual, the family and the church/religious institution with no government interference. The only role that the government should play is legislation, which protects equal opportunity, liberty and property of the individuals operating within those spheres.

A free market economy is the natural product of the ideals of liberty. Components of a free market economy include private property rights, individual enterprise and a free market. Government must protect the free market by punishing theft and fraud and by enforcing contracts that were entered into freely.

A free press is essential to a free society. Should the liberty of the press be removed, then all that remains to be expected is padlocks on our lips, chains on our legs and hands free only to do the will of our task masters. However, public liberty will not survive the loss of public virtue. To permit material which undermines the virtue of a society is the beginning of suicide.

Freedom of religion and the expression thereof is important. Toleration of differing ideas is central to a democratic society provided that those ideas and actions are not of a criminal, subversive or immoral nature.

Freedom of education is rooted in the freedom of parents to raise their children according to their beliefs. The home for any child is the first church, the first school, the first business, and the first government. The school must be an extension of the home with the liberty to operate as the parents dictate.

Yours faithfully in the service of South Africa



Archie Stemmet

Box 661
12.1km
3245

Date: 27/2/95

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Division into Three Functions of Government.

Government must have the power to control the governed but also be itself controlled. Due to the tendency that power has to corrupt, legitimate parameters must control the exercise of that power.

- Separation of governmental powers into different branches with no persons serving in more than one branch at the same time; ie: a division of functions and personnel between the legislative, executive, and judicial departments. No one branch should have total control over another but the branches should work together through a system of checks and balances.
- A court system independent of the executive or legislative branch with trials by jury.

Yours faithfully in the service of South Africa



Anchi Stannet

Box 661
4. Item
3245

27/2/95

The Executive Director
The Constitutional Assembly
PO Box 15
8000

Dear Sir/Madam


Education & the Constitution

I am a christian and as we live in a country where the predominant religion is christianity I believe that our constitution should be based on the Bible and the way it prescribes education.

- 1) The State should only set minimum standards for simple mathematics and reading and writing a language.
- 2) Other subjects should be determined by the parents of the children and tertiary educational institutions.
- 3) Children have a right to education and this means learning a trade that will make them financially independant. Schools should not be purely academic. They should be practical and should produce children who can contribute to society.
- 4) Headmasters and teachers should be appointed in consultation with the parents of the children attending the school. Schools controled by the community will produce children who respect the community.

Thank you for taking the time to read this letter.

Yours faithfully



André Stemmet

Book 661
H. Hen
3245

Date: 27/2/95

The Executive Director
The Constitutional Assembly
P O Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by the rewarding of those who do good.

Government Funding

Moses, arguably the greatest law-giver of all history, declared that God required a tenth of every man's increase for the fulfillment of proper government in the nation. This tax would support the civil service, the welfare and the educators under the oversight of the spiritual leadership, who were in turn answerable to the constitution (God's word) and the congregation/people. Samuel, one of the greatest prophets of history, warned the nation that, if they departed from God's requirement and chose a form of government outside of God's order, it would become an oppressive burden, both financially and in many other ways (Samuel 8:5-22).

Current estimates are that some 78% of all generated income eventually lands up in the government coffers through its many forms of taxation. This is indeed oppressive, and a sure indication that the government is involved in far more activities than it should be. It undermines the moral of the earner, discourages investment and by degree, cuts the hand that feeds it. It also causes the "have-nots" to encourage the government to play "Robin Hood" and to be their provider from the cradle to the grave - a role that the government was never intended to play, and an attitude that will plunge South Africa into typical African despair.

The taxing power of the government should be restricted for uses specifically enumerated in the constitution. Deficit spending should only be allowed in emergencies as it is inflationary; the subtle way the government "steals" money from the citizens. The only one to benefit from inflation is the first one to spend the money ie: the government. It is a hidden form of tyrannical taxation because as the government spends more and more money it doesn't have, created out of thin air, the purchasing of the citizens' bank account declines.



Income Tax (Personal or Corporate) to 10%

Abolish property tax as no government, unless it considers itself to be God, owns any land except that for which it has acquired by fair compensation for its purposes. To have a property tax implies that all land belongs to the government and that it rents it out to its citizens. To not pay rent (tax) is to be evicted - a form of tyrannical theft.

Abolish inheritance tax because since when must the fruit of a man's labour be removed from him at death before going to his children, his legitimate heirs? On what basis can a government, who taxed the individual all his life, now rob his children of their inheritance upon his death?

The implication of this is that the government gets less revenue, but according to the biblical description of the role of government, the government is much smaller and devotes itself to its legitimate functions under God, namely defence, justice and keeping the peace. The market place, religion, welfare (health and other) and education should all be outside of the government's direct responsibility.

Yours faithfully in the service of South Africa



27/2/95

Andre Stemmet

Box 661
H. 1 km
3245
Date : 27/2/95

The Secretariate
Constitutional Assembly
P O Box 15
Cape Town,
8000

To Whom It May Concern,

The Right To Life

I would like to request that my views be made known to the committee debating the issue of abortion on demand. I am totally against abortion for the following reasons:

1. Life begins at conception. From this point the baby is a unique individual, separate from the mother, and needs only nourishment and an appropriate environment for survival - the same needs as a toddler, teenager or adult.
2. The rights of the mother cannot be imposed over the rights of the child, especially when one talks about the right to live versus the right to maintain a certain lifestyle.
3. The common argument for abortion as a solution to overpopulation is erroneous. Overpopulation is often blamed for other problems, such as mismanagement, greed, wars, lack of technology, superstition, wastage and corruption. A child is not merely another mouth to feed, but also has a head to think and hands to work.
4. Many women do suffer trauma in back street abortions, but they can also suffer in legal abortions. Abortion is always fatal for the baby, so legalizing the killing process in order to make it less hazardous is no logical argument at all.
5. Aside from physical complications, there is the psychological trauma which affects the baby's mother, father, grandparents and siblings. "Postabortion Syndrome" is a diagnosable psychological affliction.
6. In the event of a mother carrying a handicapped baby, the child still has the right to live, just as a handicapped adult has the right to live. Handicapped children are not always social liabilities, just as "normal" children are not always social assets.
7. In the rare circumstances that a child is conceived through rape or incest, the child is not at fault and therefore cannot be punished. Killing the child does not lessen the trauma to the mother.

God commands us to "defend the cause of the weak and fatherless, maintain the rights of the poor and oppressed. Rescue the weak and the needy, deliver them from the hands of the wicked. (Psalm 82:3-4) "The shedding of innocent blood defiles and pollutes the land and its people (Numbers 35:33) Have we not had enough bloodshed in South Africa? With the advent of a new country, a new constitution and a new hope for peace, it is time for the killing to stop.

The role of the State should be in supporting endeavours that practically care for those who are in a crisis situation due to an unplanned pregnancy. Abortion is no answer.

Yours faithfully in the service of South Africa



Anelise Stemmet

Date: 27/2/95

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

To protect life, liberty and property by the punishment of evildoers and rewarding those who do good.

- Elections should be frequent to ensure strict accountability.
- They should be free so that representatives can win the battle in the free market place of ideas.
- There must be a commitment to the peaceful transition and relinquishing of power by the previous office holders.
- To prevent majority tyranny and ensure more healthy gradual change, portions of the legislative and executive branches, both regionally and nationally, should be up for elections on different years. This would enable the potential consequences of change to be fully appreciated by the electorate.

~~Stemmet~~
André Stemmet

Box 661
H. H. H. H.
3245
Date: 27/2/95

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

The Death Penalty

Since the moratorium on capital punishment was enacted, murderers have inflicted the death penalty on over 75000 victims in South Africa. South Africa has a murder rate 1000% higher than that of the United States. Namely 95 victims to 100000 compared to 9 victims per 100000. Many countries in the world today still practice capital punishment.

The bible speaks God's mind on the issue:

Gen 9:6 "Whoever sheds the blood of a man by man his blood shall be shed for in the image of God has God made man"

"Anyone who strikes a man and kills him shall surely be put to death...."

"If any man schemes and kills another man deliberately take him away from my alter and put him to death."

Exodus 21:12-14, Leviticus 24:17 Numbers 35:33

Capital punishment is not a matter of personal choice, opinion pole or court decree. It is God's requirement. Furthermore, God has delegated the responsibility to execute murderers to Civil Government. It is God's requirement for justice. Romans 13:4 says "For he (the civil authority) is God's servant to you for good. But if you do wrong, be afraid for he does not bear the sword for nothing. He is God's servant, an agent of wrath to bring punishment on the wrongdoer".

To summarise :

- 1) A person who willfully takes the life of another must pay for that act by forfeiting his own life.
- 2) The death penalty is to be exercised by civil government after the due process of trial and not by arbitrary groups or individuals.
- 3) It must be done to uphold the sanctity of human life.

If we want to see healing in our land we must have biblical principles in operation in the constitution and in society at large. Bloodshed pollutes the land and the only way to cleanse the land is by applying capital punishment as a deterrent and the correct punishment for murder. If we obey God in this regard, we will see the land cleansed justice for the victim and his/her family restored and righteousness prevailing in the land.

I have limited my discussion to capital punishment for murder specifically .

Yours Faithfully in the service of South Africa



Anché Stemmet

Box 661

21.11.95

3245

Date: 27/2/95

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town, 8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Police and Militia.

Military and police power is necessary in society to protect the innocent from criminals and enemies, both foreign and domestic. However to prevent abuses, the civil government must have authority over this power.

Police and militia must be under civilian government control. The police force should be locally and regionally controlled and completely separate from military power. The head of the police forces should be elected and governed by local government.

The majority of the nation's army should be ordinary working people who can be called together quickly. Army leadership must be separate from the executive branch of government. A small peace time professional army should be maintained which, in the case of war or large scale civil disobedience, would lead the militia in overall military strategy. However, the militia divisions should have their own locally elected officers. The members of the militia would supply their own weapons or will be issued them by civil authority when under threat. This presupposes the right of every person to possess his own weapon in the exercise of his right to protect his life, liberty and property and that of his neighbour, when called upon to do so.

Yours faithfully in the service of South Africa



Anché Stemmet

Box 661
Hillbrow
3245

Date: 95.02.27

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Weapons

Any attempt to disarm civilians is to disempower them and centralise power in the hands of government. It also presupposes the naive belief that weapons are the problem instead the criminal and that, by disarming the public, the criminals will also be disarmed. It is the nature of criminals to scoff at the law and it is the dream of the criminal to hold a disarmed public to ransom. To promise that the professional police and militia will guarantee the safety of every member of society, having removed from them the right and the power to defend themselves, is not only a lie, but tyranny.

Criminals interviewed have confessed that, in most cases, they would not have assaulted their victims had they suspected that they were armed. Proof of their effectiveness in responsible hands is the testimony of a Hillbrow social worker who has been delivered no less than 5 times from hoodlums, by armed members of the public passing by.

By all means, restrict the type of weapons available to the public and encourage the development of non-deadly weapons, but do not remove from the public the right and power to exercise self defense

Yours faithfully in the service of South Africa.

Stennet

Box 661

Hulton

SEAS

Date: 95.02.27

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town, 8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Police and Militia.

Military and police power is necessary in society to protect the innocent from criminals and enemies, both foreign and domestic. However to prevent abuses, the civil government must have authority over this power.

Police and militia must be under civilian government control. The police force should be locally and regionally controlled and completely separate from military power. The head of the police forces should be elected and governed by local government.

The majority of the nation's army should be ordinary working people who can be called together quickly. Army leadership must be separate from the executive branch of government. A small peace time professional army should be maintained which, in the case of war or large scale civil disobedience, would lead the militia in overall military strategy. However, the militia divisions should have their own locally elected officers. The members of the militia would supply their own weapons or will be issued them by civil authority when under threat. This presupposes the right of every person to possess his own weapon in the exercise of his right to protect his life, liberty and property and that of his neighbour, when called upon to do so.

Yours faithfully in the service of South Africa

Stemmet

Box 661
Hilton
3245
Date: 95.02.27

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

The Death Penalty

Since the moratorium on capital punishment was enacted, murderers have inflicted the death penalty on over 75000 victims in South Africa. South Africa has a murder rate 1000% higher than that of the United States. Namely 95 victims to 100000 compared to 9 victims per 100000. Many countries in the world today still practice capital punishment.

The bible speaks God's mind on the issue:

Gen 9:6 "Whoever sheds the blood of a man by man his blood shall be shed for in the image of God has God made man"

"Anyone who strikes a man and kills him shall surely be put to death...."

"If any man schemes and kills another man deliberately take him away from my altar and put him to death."

Exodus 21:12-14, Leviticus 24:17 Numbers 35:33

Capital punishment is not a matter of personal choice, opinion pole or court decree. It is God's requirement. Furthermore, God has delegated the responsibility to execute murderers to Civil Government. It is God's requirement for justice. Romans 13:4 says "For he (the civil authority) is God's servant to you for good. But if you do wrong, be afraid for he does not bear the sword for nothing. He is God's servant, an agent of wrath to bring punishment on the wrongdoer".

To summarise :

- 1) A person who willfully takes the life of another must pay for that act by forfeiting his own life.
- 2) The death penalty is to be exercised by civil government after the due process of trial and not by arbitrary groups or individuals.
- 3) It must be done to uphold the sanctity of human life.

If we want to see healing in our land we must have biblical principles in operation in the constitution and in society at large. Bloodshed pollutes the land and the only way to cleanse the land is by applying capital punishment as a deterrent and the correct punishment for murder. If we obey God in this regard, we will see the land cleansed justice for the victim and his/her family restored and righteousness prevailing in the land.

I have limited my discussion to capital punishment for murder specifically .

Yours Faithfully in the service of South Africa



Box 661
Hilton
3245

Date: 95.02.27.

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and rewarding those who do good.

Election of Representatives

- Elections should be frequent to ensure strict accountability.
- They should be free so that representatives can win the battle in the free market place of ideas.
- There must be a commitment to the peaceful transition and relinquishing of power by the previous office holders.
- To prevent majority tyranny and ensure more healthy gradual change, portions of the legislative and executive branches, both regionally and nationally, should be up for elections on different years. This would enable the potential consequences of change to be fully appreciated by the electorate.

Yours faithfully in the service of South Africa

Stammert

Box 661
Hutton
5245
Date : 96.02.27

The Secretariate
Constitutional Assembly
P O Box 15
Cape Town,
8000

To Whom It May Concern,

The Right To Life

I would like to request that my views be made known to the committee debating the issue of abortion on demand. I am totally against abortion for the following reasons:

1. Life begins at conception. From this point the baby is a unique individual, separate from the mother, and needs only nourishment and an appropriate environment for survival - the same needs as a toddler, teenager or adult.
2. The rights of the mother cannot be imposed over the rights of the child, especially when one talks about the right to live versus the right to maintain a certain lifestyle.
3. The common argument for abortion as a solution to overpopulation is erroneous. Overpopulation is often blamed for other problems, such as mismanagement, greed, wars, lack of technology, superstition, wastage and corruption. A child is not merely another mouth to feed, but also has a head to think and hands to work.
4. Many women do suffer trauma in back street abortions, but they can also suffer in legal abortions. Abortion is always fatal for the baby, so legalizing the killing process in order to make it less hazardous is no logical argument at all.
5. Aside from physical complications, there is the psychological trauma which affects the baby's mother, father, grandparents and siblings. "Postabortion Syndrome" is a diagnosable psychological affliction.
6. In the event of a mother carrying a handicapped baby, the child still has the right to live, just as a handicapped adult has the right to live. Handicapped children are not always social liabilities, just as "normal" children are not always social assets.
7. In the rare circumstances that a child is conceived through rape or incest, the child is not at fault and therefore cannot be punished. Killing the child does not lessen the trauma to the mother.

God commands us to "defend the cause of the weak and fatherless, maintain the rights of the poor and oppressed. Rescue the weak and the needy, deliver them from the hands of the wicked. (Psalm 82:3-4) "The shedding of innocent blood defiles and pollutes the land and its people (Numbers 35:33) Have we not had enough bloodshed in South Africa? With the advent of a new country, a new constitution and a new hope for peace, it is time for the killing to stop.

The role of the State should be in supporting endeavours that practically care for those who are in a crisis situation due to an unplanned pregnancy. Abortion is no answer.

Yours faithfully in the service of South Africa

Stannet

Box 661
Hilton
3245

Date : 95.02.27

The Executive Director
The Constitutional Assembly
P O Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by the rewarding of those who do good.

Government Funding

Moses, arguably the greatest law-giver of all history, declared that God required a tenth of every man's increase for the fulfillment of proper government in the nation. This tax would support the civil service, the welfare and the educators under the oversight of the spiritual leadership, who were in turn answerable to the constitution (God's word) and the congregation/people. Samuel, one of the greatest prophets of history, warned the nation that, if they departed from God's requirement and chose a form of government outside of God's order, it would become an oppressive burden, both financially and in many other ways (Samuel 8:5-22).

Current estimates are that some 78% of all generated income eventually lands up in the government coffers through its many forms of taxation. This is indeed oppressive, and a sure indication that the government is involved in far more activities than it should be. It undermines the moral of the earner, discourages investment and by degree, cuts the hand that feeds it. It also causes the "have-nots" to encourage the government to play "Robin Hood" and to be their provider from the cradle to the grave - a role that the government was never intended to play, and an attitude that will plunge South Africa into typical African despair.

The taxing power of the government should be restricted for uses specifically enumerated in the constitution. Deficit spending should only be allowed in emergencies as it is inflationary; the subtle way the government "steals" money from the citizens. The only one to benefit from inflation is the first one to spend the money ie: the government. It is a hidden form of tyrannical taxation because as the government spends more and more money it doesn't have, created out of thin air, the purchasing of the citizens' bank account declines.

Income Tax (Personal or Corporate) to 10%

Abolish property tax as no government, unless it considers itself to be God, owns any land except that for which it has acquired by fair compensation for its purposes. To have a property tax implies that all land belongs to the government and that it rents it out to its citizens. To not pay rent (tax) is to be evicted - a form of tyrannical theft.

Abolish inheritance tax because since when must the fruit of a man's labour be removed from him at death before going to his children, his legitimate heirs? On what basis can a government, who taxed the individual all his life, now rob his children of their inheritance upon his death?

The implication of this is that the government gets less revenue, but according to the biblical description of the role of government, the government is much smaller and devotes itself to its legitimate functions under God, namely defence, justice and keeping the peace. The market place, religion, welfare (health and other) and education should all be outside of the government's direct responsibility.

Yours faithfully in the service of South Africa

Stennet

3245

95.02.27

Box 661
Hilborn
3245

Date: 95.02.27

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town
8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Division into Three Functions of Government.

Government must have the power to control the governed but also be itself controlled. Due to the tendency that power has to corrupt, legitimate parameters must control the exercise of that power.

- Separation of governmental powers into different branches with no persons serving in more than one branch at the same time; ie: a division of functions and personnel between the legislative, executive, and judicial departments. No one branch should have total control over another but the branches should work together through a system of checks and balances.
- A court system independent of the executive or legislative branch with trials by jury.

Yours faithfully in the service of South Africa

Stannett

Box 661
Hilton
3245

Date: 95.02.27

The Executive Director
The Constitutional Assembly
PO Box 15
Cape Town, 8000

I request that the following views be made known to the Executive Director of the Constitutional Assembly.

Responsibilities of Government

To protect life, liberty and property by the punishment of evildoers and by rewarding those who do good.

Free Market, Press, Religion and Schools.

These are areas which must be under the direct control of the individual, the family and the church/religious institution with no government interference. The only role that the government should play is legislation, which protects equal opportunity, liberty and property of the individuals operating within those spheres.

A free market economy is the natural product of the ideals of liberty. Components of a free market economy include private property rights, individual enterprise and a free market. Government must protect the free market by punishing theft and fraud and by enforcing contracts that were entered into freely.

A free press is essential to a free society. Should the liberty of the press be removed, then all that remains to be expected is padlocks on our lips, chains on our legs and hands free only to do the will of our task masters. However, public liberty will not survive the loss of public virtue. To permit material which undermines the virtue of a society is the beginning of suicide.

Freedom of religion and the expression thereof is important. Toleration of differing ideas is central to a democratic society provided that those ideas and actions are not of a criminal, subversive or immoral nature.

Freedom of education is rooted in the freedom of parents to raise their children according to their beliefs. The home for any child is the first church, the first school, the first business, and the first government. The school must be an extension of the home with the liberty to operate as the parents dictate.

Yours faithfully in the service of South Africa

James

PO Box 994
Lydenburg
1120
3 Feb. 1995

To the Constitutional Assembly

On TV and in the press you invited the ordinary citizen to make a contribution. As an ordinary citizen of the new RSA I would like to mention a few things I have thought about.

1. Firstly we must all climb in and work. We must look ahead. Forget what lies behind and build towards the future.
2. Strikes must be combatted. It ruins the economy and wastes a lot of money and time.
3. Economising, even at government-level. We need a lot of money for schools, hospitals and houses. If the economy recovers overseas investors will come by themselves. It is not necessary to travel around so much to beg.
4. Affirmative action must take place more gradually. Theoretical knowledge alone is not enough. People must get experience before they can stand in management and responsible posts.
5. Promotions and appointments must occur on merit.
6. We would like to see that Afrikaans retains its rightful place, especially in the media.
7. The death penalty must be reinstated e.g. for planned murder and child rape.
8. Proper voters' lists must be drafted.

(These are but a few ideas)

Thank you very much

(Mrs) T Steenkamp

0268

001167

CONSTITUTIONAL
ASSEMBLY

Parbu: 994

Lydenburg

09 FEB 1995

1120

3 Feb. 1995.

001168

Aan die grondwetstryende Vergadering.

Op T.V. en in die pers het u die gewone burger gevra om in deel by te dra. As gewone burger van die nuwe R.S.A. wil ek graag in paar dinge meerk waarvan ek gedink het.

1. Bestuur moet ons almal inklui en werk. Ons moet woorde byk. Verget wat agter te en kom aan die toekoms.
2. Stakinge moet kortgest word. Dit stort die ekonomie neer en mors baie geld en tyd.
3. Bepaling, selfs op regeeringsvlak. Ons het baie geld nodig vir skole, hospitale en huise. As die ekonomie regkom sal buitelandse beleggers vanself kom. Dis nie nodig om so baie rond te reis om te soek na nie.
4. Regstellende Aksie moet meer geleidelik

pleasend. Jordies kennis alleen is nie genoeg
nie. Mens moet iets ondervinding opdoen
voor hulle in bestuurs- en verantwoordelike
posse kan staan.

5. Bevorderings en aanstellings moet op meriete
geskied.

6. Ons sal graag wil sien dat Afrikaans sy
regmatige plek behou, veral in die media.

7. Die doodstraf moet weer ingestel word bys. in
beplande moord en kinderverkragting.

8. Behoorlike kieserslyste moet opgestel word.
(Dis maar net 'n paar idees)

baie Dankie.

(Mev) J. Steenkamp.

2538
002258

CONSTITUTIONAL
ASSEMBLY

ATTENTION : CONSTITUTION ASSEMBLY
EXECUTIVE DIRECTOR
P.O. Box 15
CAPE TOWN 8000

01 MAR 1995

FROM : Mrs. Alicia Steiner
P.O. Box 927
Pinegowrie 2123

TEL : (011) 782-0444
FAX : (011) 782-5169

DATE : 14 February 1995

SUBJECT : I MADE MY MARK NOW HERE'S MY SAY

1. The right of the public to initiate a referendum.

Should 5% of the voting public wish to initiate a referendum whether it be a ward matter on a local issue or country-wide on a national issue.

2. The right of the people to recall an elected servant/representative.

All elected representatives of the people to sign a contract to agree to step down from office should 15% of the 'polled voting public' in that area so request. An election to take place within 3 months and the representative in question may stand again.

3. The right of the people to have access to their councillors and MP's with regular monthly surgeries with local communities; government cannot remain so aloof and far from the public.

4. The right of women to have access to female assistance in all aspects of life.

i.e. A minimum 50% intake in all educational establishments for training in any sphere of life from politicians to doctors, from teachers to corporate directors. All gynecologists to be female. More female police, more female operated crisis centres, female doctors, female financial advisers, female attorneys etc.

5. The right of a woman to choose her fertility options. No woman willingly wants an abortion; it is always a last resort, whatever her status in life. Please remove this attitude that women are queuing up for abortions as if it is a trip to the hairdresser. Do not dare to play God and deny a woman's right to this last resort of abortion, especially since you are a male-dominated body and already unconstitutional by not reflecting 50% of the population, the female half which is crucial to the survival of the species.

6. No secret 'in camera' meetings at any level; The right to access information is crucial.

THE ABOVE CONSTITUTES MY SAY

0812



R. K. STOCKS

FEIM, MSAIM, MSAIPM, MSAIW, MSAIB.

Please reply to:
Clark Street.

442 Clark St, Waterkloof, Pretoria, 0181 (Tel. 46-7319)
Gem Valley Farm, Franspoort, Pretoria (Tel. 82-4749) Sec 3/33
19 Stocks Avenue, Port Alfred, 6170 (Tel. 4-1677)

**South
Africa**

In reply please quote Ref. C4/RKS.

001402

1995 02 06

The Executive Director,
Constitutional Assembly,
P.O. Box 15,
8000, CAPE TOWN.

REGISTERED

**CONSTITUTIONAL
ASSEMBLY**

14 FEB 1995

Dear sir,

re: CONSTITUTION MATTERS.

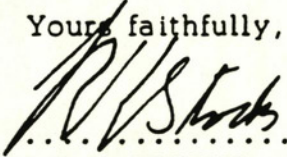
I enclose a copy of my proposals originally submitted to Mr. P.W. Botha and Mr. Chris Heunis in the mid-eighties. President F.W. de Klerk also received a copy, as did some other past and present Cabinet Ministers and Mr. Mandela, before the "election"

The highly condensed document is little more than an illustration of principles, and experience has shown that few people, especially if they have been indoctrinated with popular political views, are able at first to comprehend the principles. However, careful study by persons of sufficient intellect, experience and imagination, will show that, at the least, they cover most of the ground.

Unlike most other systems, such as equal vote democracy for example, my proposals conform to FUNDAMENTAL principles of justice, law, Principle, economics and evolution.

I am reasonably sure that, given the restrictions touched on in my second paragraph, as well as others, my proposals will not be accepted, or even, at first, understood by your Assembly. However, in accordance with the principles in Acts chapter 13, verse 46, as stated in my letter to Mr. Mandela ref. C4/RKS dated 1994 04 07, I feel it necessary to put them to you. Our present course leads to ultimate disaster.

I shall be happy to elaborate at a convenient time and place. For those to whom it means anything, I am "R.K."

Yours faithfully,

R.K. STOCKS.



R. K. STOCKS

FBIM, MSAIM, LIFEIPM, MSAIW, MSAIR.

Please reply to:

442 Clark St, Waterkloof, Pretoria, 0181 (Tel. 46-7319)
 Gem Valley Farm, Franspoort, Pretoria (Tel. 808-3133)
 19 Stocks Avenue, Port Alfred, 6170 (Tel. 4-1677)

**South
Africa**

August 1986

In reply please quote Ref. E3/RKS

SOUTH AFRICAN CONSTITUTION ARRANGEMENT. PRELIMINARY OUTLINE OF PROPOSED NEW PARLIAMENTARY REPRESENTATION SYSTEM.

(An expansion of the ideas expressed in correspondence with the State President and the Minister of Constitutional Development and Planning - August 1985 to June 1986.)

Any new scheme such as this should be of an experimental and progressive nature, in accordance with my much earlier statement, as follows:

"No human mind, or body of human minds, can even comprehend the intricacies of the South African social, economic and political situation, let alone furnish immediate solutions to our problems, or accurately foresee the precise direction we should take.

From this it follows that the only course we can logically take is to proceed with reforms, new ideas etc., a step at a time, headed in the direction which appears to be the right one, based on our apprehension of the current circumstances and conditions as appears from available information, and to be prepared to alter course, slightly or radically, or even to retrace our steps, should such action appear necessary or advisable."

It should also take account of the fact that there are too few blacks at this stage with a proper mandate as well as the necessary knowledge, understanding, experience and maturity, to allow satisfactory negotiation.

In addition, the negotiation process is slow and long drawn out, and we do not have that sort of time available.

Three important principles involved in these proposals are:

0872

1. The need to recognise and accommodate differences among people of different races, backgrounds, training, etc., but not to allow these differences to become obstacles or barriers to mutual co-operation.
2. A basic principle of taxation - that taxes should be spent for the benefit of those who pay them.
3. That human affairs are not static and provision should be made for EVOLUTIONARY or PROGRESSIVE development.

Initially, and as soon as possible, a somewhat arbitrary appointment of non-whites, including blacks, should be made to the central legislative body, and even of one or two to the Cabinet if people of suitable ability and compatibility can be found. This must be done in anticipation of, and with a view to the progressive development towards, the following outline, which itself should be regarded as a stage in further progressive development.

There should be a main, or central, legislative body, and of course a corresponding executive body (cabinet), to administer the whole of South Africa. This could possibly be a modified President's Council. This body should include representatives appointed by the White, Coloured and Indian parliaments, the governing bodies of the self governing Black States, and by black or other groups not elsewhere accommodated. As an option the independent Black States could also be accommodated conditionally.

Allocation of seats to the different groups should be determined according to their ratings, calculated using a formula which gives major importance to the group's NET contribution (positive or negative) to the State coffers, i.e. its total contribution to the central government's revenue minus expenditure by the central government for the group's direct benefit. Although total numbers in the group should have some bearing, the proportion of group members with a "second vote" (see below) should have much greater influence. I also suggest a penalty factor based on population growth within the group and, if possible, a factor based on the group's political and economic stability.

No group should be unrepresented in the central legislative body, no matter what its formula rating may be.

The possibility should not be ruled out of people such as, for example the HNP or the Conservative Party, electing to form a group to be accommodated under "..... groups not elsewhere accommodated".

In addition, further members of the legislative body should be elected by individual voters, of whatever group, who qualify for a vote on a COMMON ROLL. Minimum qualification for this "second vote" should include, in a combined formula, net contribution to State revenue (e.g. income tax paid), education standard and type, value of property owned, etc. I also suggest a penalty factor based on the individual's contribution to the population growth and, if practical, a character factor should be included.

0872

The system is illustrated diagrammatically in Annexure "A".

Weighting of all representatives should be such as to retain control in the hands of responsible and productive people of whatever group or race, while yet maintaining a fair distribution of rights and benefits, and providing an open "ladder" to allow ANYONE to reach the required level of qualification for the "second vote", or for groups to qualify for improved representation.

All representatives should be required to qualify for the "second" vote and, if considered practical or wise, representatives elected by those with a second vote could constitute an upper house.

With regard to the "ladder" in the previous paragraph but one, I propose that special courses be provided, at Correspondence Schools, Technikons etc., and special examination be set from time to time, to enable individuals who do not qualify for the vote under the formula to do so if they wish by passing an examination. Such courses and examinations should place great emphasis on basic economics, state economies, the nature of money, trade, production and distribution of wealth, etc., so that people who obtain the vote in this way will have a better knowledge of the problems of government.

It should be borne in mind that people who obtain the vote by passing one of these examinations DO NOT OTHERWISE QUALIFY, and so the standard of the examinations could justifiably be relatively high.

Because much of the structure already exists this system could be implemented in a relatively short time, and at relatively low cost, by grafting it onto the existing structure, as opposed to the long drawn out process of negotiating a complete new system (with whom? - see the second paragraph of this proposal).

In addition, negotiations for further progressive development could begin within the system, among the properly elected representatives of the various groups, almost immediately after the system comes into operation. Such negotiations would gain in value and significance as the representatives gained understanding of, and experience in the problems of government, and the intricacies and principles of negotiation (refer again to the second paragraph of this proposal).

It may be that, after a period of operation, this system is accepted as permanent and that further progressive development takes place within its framework. On the other hand, a complete new approach may evolve through negotiation. In either case the evolutionary process should be relatively smooth, causing minimum disruption to the all-important economic life of the country and, most important, ALL would in the meantime be represented in central government.

The concept of merit is rightly inherent in this proposal, but no system can be really successful unless it is tempered by Christian principles (by whatever name these may be called). The system should be developed, introduced and administered in a spirit of honour, integrity, justice, equity and good value. Justice is implied in the concept of reward on pure merit.

087

Equity is implied in the tempering of justice through leniency toward, and assistance of, those who do not make the grade in the merit rating, i.e. the so-called underprivileged - a principle already inherent in our South African system and way of life.

Put in another way, "The labourer is worthy of his reward". (1 Timothy 5:18) implies justice. "As you would that men should do to you, do ye also to them likewise" (Luke 6:31) implies equity.

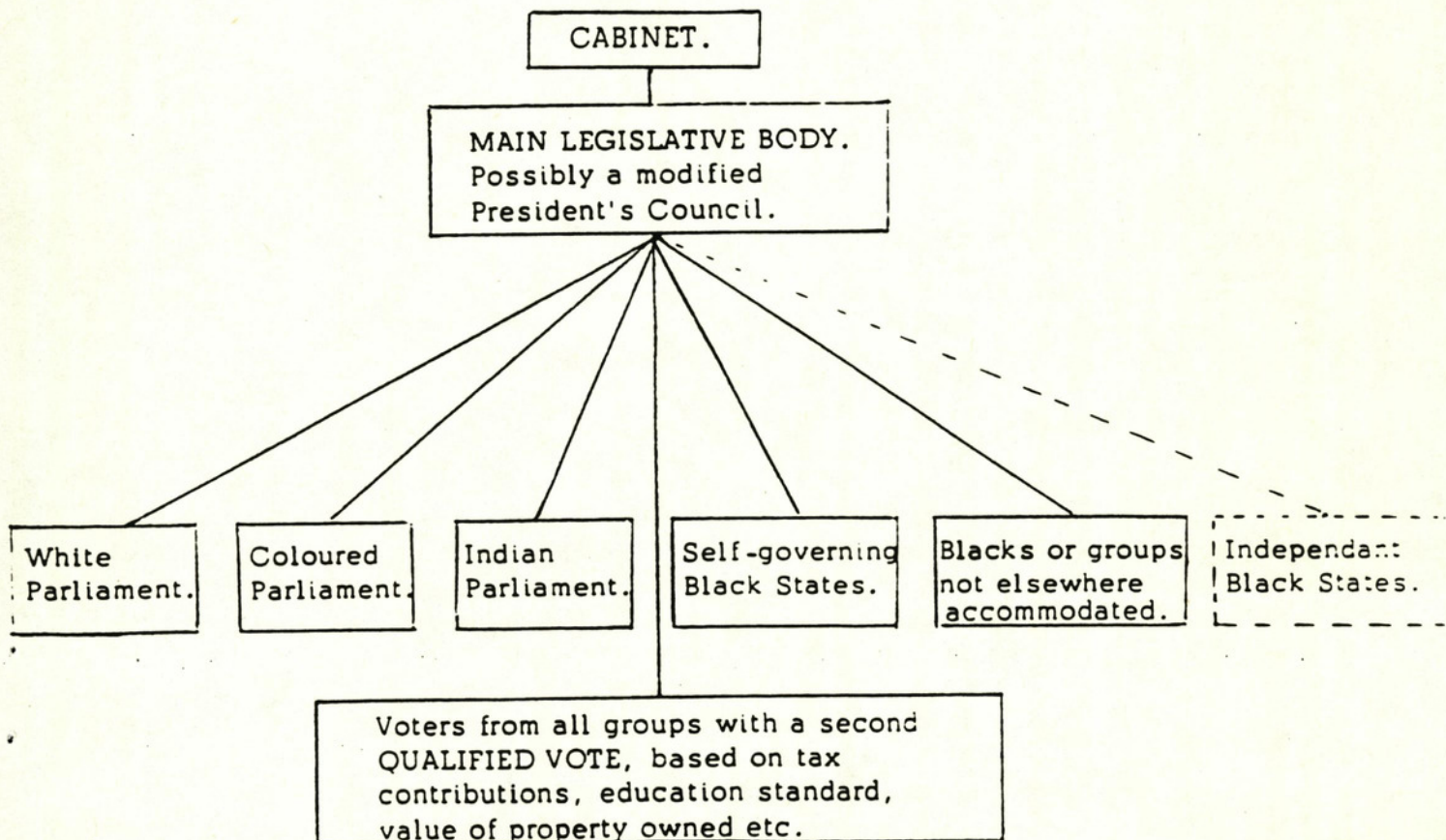
All this refers only to parliamentary representation, but similar principles should be applied in other areas.

For example, there should be the right for ALL, within normal parameters, to sell their labour, abilities or products, on merit, where they choose, but this right must carry concomitant responsibility.

Similarly, ALL should have the right, again, within normal parameters, to live where, and among whom, they choose, and can afford. This right must also carry concomitant responsibility, AND MUST NOT INTRUDE ON THE RIGHTS OF OTHERS.

There is much scope for negotiation within this broad outline, and I suggest specially selected non-whites be brought in to assist in drawing up the details. Such people should be chosen for their appropriate knowledge, abilities and character, and the selection should be made in the spirit of the five points quoted above - honour, integrity, justice, equity and good value.

ANNEXURE "A"



6 Elvira Place
Pascal Grave
Austerville
DURBAN
4052

16 January 1995

The Executive Officer
Constitutional Assembly
P O Box 15
CAPE TOWN
8000

Sir/Madam

PROPOSAL TO BE INCLUDED IN DRAWING UP OF THE CONSTITUTION

My name is Shaun Stuart and I would like to make the following submission which I hope will be entrenched in the Constitution of our country. Recently I've heard particular political parties say that they would favour some kind of "power-sharing" after the 5yrs of the GNU have expired. Well, I would vehemently like to oppose the afore-mentioned idea. Infact, I would strongly like to see SIMPLE MAJORITY RULE after the 1999 General Elections. My reasons for demanding this are because at present the GNU Cabinet has Cabinet Ministers who are from parties who lost the '94 Elections and yet hold powerful and instrumental positions in GOVERNMENT. I also believe that these same Cabinet ministers and their departments are hindering the government from moving forward in ALL government departments.

Generally, I feel that if we (SA) are to be a TRUE DEMOCRACY then, when we the electorate make our voices heard then we expect a GOVERNMENT made up of the party that won the ELECTIONS ie. the party that obtained the most voter be it by 1% or a 40% majority over the other parties.

I do realise that the GNU was a compromise which had to be done but after these 5yrs have passed, I can see absolutely NO REASON why we South Africans should be denied having true MAJORITY RULE. It we be quite unacceptable to the majority of all South Africans if key positions such as WELFARE and HOME AFFAIRS should be placed under the control of parties which failed to gain a mandate from the people of SA in so far as the number of votes they obtained being inconsequential!

In conclusion, I would just like to reiterate my submission, that "SIMPLE

MAJORITY RULE" be entrenched in the CONSTITUTION. Also, there must be 1
DEPUTY President from the party that won the GENERAL ELECTION.

I hope that the above-mentioned proposals will be included in the constitution.

Yours sincerely

Mr S G Stuart

**CONSTITUTIONAL TOWARDS A NEW CONSTITUTION
ASSEMBLY**

09 FEB 1995 Some Suggestions * **6th February 1995**

The Constitution shall embody the rights of future generations to inherit a healthy environment. To this end a Council for Posterity shall be set up, charged with speaking publicly and in the legislature on behalf of future generations of South Africans.

Every child has the right to care, protection and education.

Women shall be have rights equal to those of men in all areas of life.

All shall have the freedom to speak, associate and worship as they wish, provided that they do not do so in order to cause offence or injury to others.

Women shall have the right to choose abortion up to a certain fetal age, that age to be decided after debate between doctors, women's representatives, religious leaders and other relevant parties.

Citizens shall not have the right to carry guns or any other lethal weapons unless under specific (short-term) licence to do so from the relevant authority.

The nation shall be committed to a path of non-aggression with regard to other nations and its defence policy shall be solely oriented to defence.

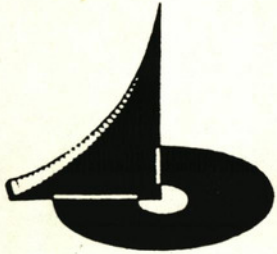
The nation shall not commit its troops or other human resources to active combat in any other country without first securing a mandate from the people by means of a referendum. This does not apply if South Africa is invaded first.

Decision-making powers shall always be devolved to the lowest tier of government consistent with maintaining adequate levels of competence.

Citizens shall have the right to call a referendum on the basis of "x" number of signatures appended to a proposal. This shall be true at national and local tiers of government.

Elected representatives at national or local government level may be recalled by their electorate by means of a motion to which "x" number of signatures are appended.

Peter Willis and Diane Salters
15 Disa Road, Murdock Valley North, Simon's Town 7995.
Tel: (021) 786 1910 Fax: (021) 786 1887



KORSMAN & VAN WYK

STADS- EN STREEKSBEPLANNERS
BESTUURSKONSULTANTE

✉ 2380 WITBANK 1035

TOWN AND REGIONAL PLANNERS
MANAGEMENT CONSULTANTS

☎ (0135) 656-6244 FAX: (0135) 656-6250

9 Januarie 1995

Ons verwysing: EVW-4

Die Sekretariaat
Wetgewende Vergadering
Posbus 15
KAAPSTAD
8000

(copy)

CONSTITUTIONAL
ASSEMBLY

17 FEB 1995

001524

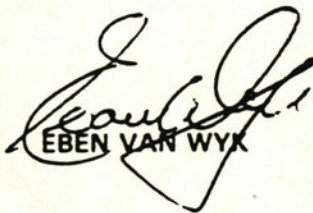
Meneer

Voorlegging aan Temakomitee I : Demokrasie

*** Hiermee ingeslote in voorlegging aan die Grondwetgewende Vergadering ten opsigte van Temakomitee I : Demokrasie.

Die voorlegging is kernagtig maar uitgebreide inligting is by navrae beskikbaar.

Die uwe


EBEN VAN WYK

A:\EVW-4-1.VLG(wpl)20F1

98

PRINSIPAAL/PRINCIPAL:

EBEN VAN WYK
J ANDRIES DU PREEZ

SS(SA), BSc(S&S), MBA(Pret), LSAISS, AIS
SS(SA), BA(Hons)(PU), M S&S(US), LSAISS

BYGESTAAN/ASSISTED:

ALAë DELPORT (Me/Ms)

BA(UOVS), M S&S(Pret)

Theme Committee 1

Democracy

Eben van Wyk TRP(SA)
BSc(TRP) MBA MITC

1. Introduction

Elementary to democracy is the universal adult suffrage.

It seems that there are only two basic alternatives available for South Africa, namely:

- Electoral divisional representation
- Proportional representation

Both alternatives have their strong and weak points. The future democracy of South Africa should capitalise on the strong points and it must avoid the weak points of both alternatives.

2. Electoral Division

The strong points of this system are:

- (i) Elected representatives represent a certain people.
- (ii) The electorate can elect capable independent persons.
- (iii) Representatives can challenge their political party and change parties.
- (iv) A "*personalized*" relationship between the representative and his/her constituency.
- (v) Bottom-up system of Government.

The weak points are:

- (i) Winner takes all.
- (ii) Minority interests not represented.
- (iii) Administration of voter's rolls and thus elections are expensive.

3. Proportional representation

The strong points are:

- (i) Represent an balanced view of society.
- (ii) Minority groups/view points represented.
- (iii) Relatively inexpensive due to the fact. No voters roll is required.

The weak points of this system are:

- (i) Representatives are responsible for everybody, nobody?
- (ii) Representatives are centrally nominated, ignoring local needs and aspirations.
- (iii) How democratic is the names of the candidates on the proportional list constituted?
- (iv) Top-down system of government.

4. Proposal: Proportional per division

This proposal entails that representatives are elected per electoral division on a proportional basis. This means that a number of persons will represent a division namely either:

- (i) Those candidates that secured a certain % of the votes cast e.g. 17% or 20% of the total, or
- (ii) The three or four candidates with the biggest number of votes.

The first alternative is more democratic but the number of members of Parliament will not be known in advance, while the last proposal is administratively more sound.

The benefits of this proposal are:

- 4.1 The electorate has the opportunity to elect amongst candidates from the same party.
- 4.2 Representatives will be responsible for a specific geographical area.
- 4.3 It is a bottom-up democracy, the people will elect their leaders.
- 4.4 Voters rolls is not necessary which will make elections cheaper.

5. Closing Remarks

Proportional representation per electoral division is possible the closest to what true democracy is. It will ensure majority rule, minority interest will be met, while the interest of the total population in regards to current and political affairs will deepen.

ORGANISATIONS

100
Institute for advancement of human rights, democracy and individual
right to mother tongue and own culture and land in S.A. ✓ 28

Public Proposal on the Proposed Constitution

000792

Index

CONSTITUTIONAL
ASSEMBLY

02 FEB 1995

1. Elections on Constituency Basis.
2. Strong Regional Government.
3. The Advancement of Cultures of Groupings in South Africa
and the need for their Strong guaranteed survival.
4. Punishment for racialism against whites by Government.
5. Punishment of violence against whites and measures by govt.
for its complete elimination.
6. Scrapping of Affirmative action as a pillar of the Constitution.
7. Exclusion of Nationalization, Socialism and Communism.
8. Elimination of Bribery and kickbacks.
Elimination of discrimination against white local expertise.
9. Scrapping of the idea of a truth commission.
10. Creation of Volkstaat, White, Indian, coloured, Zulu and tribal
precincts, regions and provinces.
11. The S.A.B.C. and the Media. OWN CULTURES, NO POLITICAL BRAINWASHING
12. CONSTANT VIGILANCE AGAINST CORRUPTION, BY AUDIT
COMMITTEE.
13. DELINKING OF POLITICS FROM JUDICIARY. AN UNGRADED
JUDICIAL SYSTEM NOT SWAYED BY MONEY OR POLITICAL
PARTIES.
14. STRICT CONTROL OF ILLEGAL IMMIGRANTS. FROM AFRICA.

Public Proposals on the proposed Constitution.

1. Elections to be on a constituency basis. Candidates elected on merit and not necessarily on party affiliation. Elected persons are answerable to constituents, with report back meetings and monitoring committees of ratepayers, to prevent fraud, inefficiency, corruption and special privileges through inside information.
2. Regional Government to be fully implemented. The regions and local structures are better able to look over local interests than officials at distant Central Government offices in Pretoria.
3. There are several distinct populations in South Africa who have to be catered for with regard to own culture, language, religion, etc. Seeing as the skills of the more advanced groups are vital to advance the Black African groupings, who are undoubtedly, as a whole, undeveloped, it is vital to allow for the cultural integrity of the former. They must not be submerged by the sheer weight of Black African Numbers and hence their representation as a majority in all elected structures.
Racialistic, unrealistic, illogical, greedy, jealous, corrupt, vindictive decisions are definitely going to be made by Black African politicians because of the easy way they can come into positions of power, lack of proper control by inexperienced chauvinistic Black African parties and politicians.
Even violence by Black African individuals and criminals from all levels of society is not being dealt with properly, by the A.N.C. in particular, because of their great chauvinistic sympathy with their fellow blacks, who they see as justified in expressing their feelings against whites in particular, for the fact that Blacks are at the bottom of the heap in this country, and in the world in general. Ignorant, primitive, bigoted, violent, the criminal, the unscrupulous and the mad are having a field day in the A.N.C. new S.
4. In the light of 3., Racialistic statements by A.N.C. politicians against whites must be subject to extreme punishment in law. The same goes for media racialism.
5. The killing of White policemen, the white elderly, white farmers in isolated areas, and in fact indiscriminate killing of whites by black criminals must be subject to the most severe punishment possible. The Death Penalty must be reinstituted as part of the most intense drive by the A.N.C. Government to eradicate this kind of behaviour by Black Africans. NO MATTER THE PAST, AND IN VIEW OF THE FACT THAT IT HAS NOT BEEN PROVEN THAT THE LOT OF THE BLACK AFRICAN IS NOT LARGELY OF HIS OWN MAKING, IT IS HIGHLY UNJUST AND SELF-DEFEATING FOR NELSON MANDELA AND THE A.N.C. TO HAVE TAKEN A LUKE WARM APPROACH TO THIS MATTER, AND FOR POLITICAL REASONS NOT TACKLING IT STRONGLY AND EFFECTIVELY.
The true fact is that most whites are the salt of the earth. It is also true that Black Africans failed to advance themselves as did the Indians for example. It is easy to blame all their failings on the whites, but this is not going to achieve advancement for Black South Africans. Instead what they will achieve is descent of S.A. to anarchy and chaos and poverty.
The white Afrikaans farmer is a rare hardy breed who is the backbone of this country. For the A.N.C. Government to allow Black criminals to carry on their vendetta against them, is indeed looking for troubled times in this country.
THE CONSTITUTION MUST SEE THAT THIS STATE OF AFFAIRS IS ELIMINATED AND G.N.U. MUST ACT NOW!!!!
Similarly the degradation of policemen MUST BE STOPPED BY THE G.N.U. TO prevent the descent of S.A. into chaos, where a new Constitution will become an unworkable white elephant.

6. Affirmative action must be scrapped as a pillar of the Constitution or Government policy. It is not necessary, in view of the preponderance of Blacks in all elected structures. This will inevitably shift all scales in favour of Blacks. To also add affirmative action is shifting the scales against the more advanced Whites, Coloureds and Indians, in what amounts to racialism.

WHAT MUST BE CLEAR IF S.A. IS NOT TO DESCEND TO THE POVERTY LEVELS OF AFRICA IS:-

- (a) The whites have built Systems and structures, which if maintained, will carry Black South Africa into prosperity.
- (b) There is no hope of doing this, if white systems are submerged by foolish, extreme, and racialistic application of affirmative action.
- (c) Blacks must accept what they are and where they stand and that only they can lift themselves up by their bootstraps. They cannot ride on the back of the whites, coloureds and Indians. The encouragement of the advancement of the more advanced groups, will in fact ensure that Black South Africa will have a chance of entering the modern world.
- (d) There are no shortcuts. The illusion has been created by the A.N.C. and S.A.C.P., COSATU, that whites have stolen their privilege from Blacks. This is blatantly untrue. They carried in their genes and European Culture. For Black politicians to think that they can steal advancement by corruption, fraud, by awarding themselves privileges, high salaries and status is an illusion which will be short-lived. Opportunities denied under Apartheid will partially uplift. The fact is that they do so in a manner which is harmful to Blacks at grass roots. They do so in violation of their stated aim of uplifting poor, backward Blacks. Black politicians must accept their limitations and limit their salaries on a merit rating system.
- (e) To allow chaos in Universities, hospitals, schools, army and police is to assign that the G.N.U. is not yet aware of its responsibility with regard to affirmative action. It is simply not advisable or acceptable that the President or Constitution can be soft on these issues because they sympathise entirely with affirmative action and the probably false and flawed reasoning behind it.

7. Nationalisation, Communism, Socialism.

The Soviets and the N.P. demonstrated the corruption and damage they can do. The A.N.C. is already demonstrating the same. They lead to jobs for incompetent pals, affirmative action, begging for handout from liberal and socialistic governments overseas, unrealistic and pie in the sky schemes and vagueness. The unscrupulous benefit, not the masses, and S.A. suffers. Excessive rhetoric will not save the A.N.C. Government, it only distorts the truth about the realities of S.A. and the eventual letdown when realities have to be faced damages confidence in this country.

8. Local expertise to be used where possible. It must be illegal for Black politicians to hire from overseas because they are intent on discriminating against local whites.

Similarly the African practice of Bribery and kickbacks must be banned by law, for the damage it can do to this country.

The A.N.C. has maligned the whites in its propaganda. It will rue the day it did so. S.A. whites are generally the salt of the earth. It is their birthright and they have the best interests of the country at heart. For the A.N.C. to pretend that this is not so is a myth and grave mistake. Foreigners will not promote Black S.A.

(3.)

9. The idea of a truth commission must be scrapped. If crimes committed by both sides cannot be handled by the law because they were committed for political reasons then there is no point in proceeding with the idea.
- The A.N.C. claim that their reasons for revolution are unquestionable and that whites are to blame.
- This is certainly not true.
- The A.N.C. must look inwards with courage and admit that part of the reason for the Black subversive position is historical, genetic and cultural, without any ingredient of racialism. It simply happened as a natural development.
- In nature strength often decides outcomes. The primitive Blacks were simply no match for the European culture. They easily fell into place as underlings, and often were grateful for this as it ensured their survival. They were mostly better off than if they had to subsist in Black economic systems.
- History is often harsh, but through eternity human beings have had to accept its reality.
- The A.N.C. will have to look realistically at the realities of the white side of the argument. That the survival of the superior European culture was highly desirable as the best option in the face of submersion in Black culture.
- That all means necessary to maintain European Culture where necessary as a political goal. They were a serious matter of survival and wellbeing of the country.
- That these political means were in fact successful and advanced the development of the country.
- That the Blacks did not of their own accord advance themselves as did the Indians for instance.

The above being the case, there is a very strong case for considering the past actions of white governments as strictly political in the same sense as those of the A.N.C. *CHRIS HANI'S MURDER WAS STRICTLY POLITICAL.* Violence on both sides had the same motivation and if that of the A.N.C. is condoned, then so must that of the white governments.

EMOTIONAL FEELINGS HAVE BEEN WHIPPED UP BY THE A.N.C. AMONGST BLACKS. Their rhetoric has been to the effect that the Blacks are the goodies and the whites the baddies, and that recrimination and revenge is justified. This is a total simplification of the position as above.

THE TRUTH ABOUT THE TRUTH COMMISSION.

It should never get off the ground.

The majority of Blacks and Whites in this country were simply victims of historical and political circumstances. The Boers and British for instance probably saved the Black tribes of S.A. from extinction by the Zulus.

The Blacks have been lucky and have gained immeasurably from the coming of the whites. A.N.C. rhetoric merely pretends that the opposite is true. The graciousness of De Klerk and the present dispensation granted by the white government has saved black S.A. from centuries of further turmoil.

Sinister forces are urging the Truth Commission. Mostly this is urged by ~~Non-Black, African, Negroid~~ A.N.C. members and racialistic Black extremists. Their views are radical and also often prompted by the hope that they can take the short cut to riches by suppressing the whites so that they can advance themselves materially.

This is the ugly face of the new S.A. The innocent (and Good whites, and those who were the victims of circumstances) as well as the whole of South Africa will be brought down in bitterness, recrimination and witchhunts on the basis of non-recognition by the A.N.C. of any human rights in the white camp, while claiming to be angels and moral

10. The Volkstaat and White, Indian, Coloured, Zulu and tribal precincts.

It is a wild gamble and risk to hope that a Black A.N.C. Government will after the G.N.U. be prepared to treat whites and the others in an evenhanded manner. Their grassroots will also not allow this, seeing as they will be pushing for affirmative action and the flaws in the constitution, listed above, will not be rectified because of inefficient politicians and government, and unwillingness to deny Black claims, because the alibi of the A.N.C. is that Blacks have been discriminated against by whites and that is why they have not advanced. Also Blacks who have been able to advance themselves under a jobs for pals or affirmative action will not be prepared to give it up.

For this reason and by Murphies Law things will get worse for whites and minorities with time. (examples already, Alan Boesak, Peter Mokaba, Winny Mandela ---corruption: The rise of radicals in the A.N.C.)

Seeing as the survival of European Culture and in fact its advancement is absolutely essential to all citizens of S.A., the gamble cannot be taken on the threats listed above.

The establishment of Volkstaats, European enclaves, Indian enclaves and Coloured enclaves must be instituted in the Constitution. The strengthening of the Zulu province must be maintained in the Constitution, and the coloured and white enclaves in the Western Cape encouraged by the Constitution. Other Black tribes must be allowed to develop their regions on a cultural basis if they desire and not be regimented into a Xhosa dominated A.N.C. culture.

The Constitution must, if it is farsighted in its goals for S.A. definitely encourage these developments and not wait for these groupings to beg.

The diversity of interests will also break a monopoly of one Black culture and strengthen Democracy in S.A. Prosperity in provinces, regions and enclaves will contribute to S.A. prosperity.

Groupings who feel threatened by uncontrollable violence against themselves, their property and their rights, will have the security of their own enclaves, until the day that S.A. comes out of Anarchy and a modus vivendi can establish itself.

If things never come right between the Blacks and other groupings then these groupings will have invested in their own enclaves and be assured to their own states in which they will be secure.

11. The S.A.B.C. and the Media.

The encouragement of the growth of European Culture in S.A. is a good thing; see above. Cultural diversity is probably also a good thing in the light of the realities of South Africa.

PROMOTING QUALITY AND MERIT RATHER THAN PUSHING POLITICS, PROPAGANDA & BRAINWASHING

However the A.N.C. Government has embarked on a policy of Affirmative action in the S.A.B.C. and Media, however surreptitiously it goes about this. The result has been a more African Negroid culture creeping in or an attempt to integrate, nonracialize, Africanize the various cultures. This is not the way to ensure the cultural survival of all groupings. IT IS BLATANTLY CLEAR THAT EACH CULTURE WILL HAVE TO HAVE ITS OWN RADIO AND TV STATIONS AND NEWSPAPERS TO SURVIVE. Many of the Black tribal Cultures will probably coalesce in time quite comfortably. ABOVE ALL POLITICAL PARTIES PREVENTED FROM INFLUENCING S.A.B.C. & MEDIA. The concepts in 10 will fit in well with this. The regions for the minority groupings will have TV Radio and newspapers which will ensure cultural survival and will not be forced by the S.A.B.C./Govt. to dissolve their cultures into African culture or American Negro culture both of which they find inferior.

12. AN ULTRA-STRICT AUDIT ORGANIZATION. BEST BY OUTSIDE AGENCY TO

