THE PRINCIPLES OF PARLIAMENTARY REPRESENTATION

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PREFACE.

THROUGH all the dust and din of the present controversy, four things, at least, are surely clear to all thinking men:—

First, that it would be an unmitigated evil to have a General Election with the new Franchise, but without a new Distribution of Seats;

Secondly, that there would be no difficulty in avoiding all risk of such a catastrophe, *PROVIDED THAT* a clause were added to the Franchise-Bill, enacting that it "shall not be put into operation until a Redistribution-Bill has also been passed";

Thirdly, that there would be no difficulty in both parties agreeing to such a clause, *PROVIDED THAT* each felt secure against the other party obtaining an unfair advantage in the Redistribution;

Fourthly, that there would be no difficulty in making this secure, *PROVIDED THAT* some general principles, making it impossible for either side to obtain any such advantage, could be discovered and accepted by both parties.

It is in the profound conviction that such principles exist, and that they can be as clearly formulated, and as fully proved, as the principles of any other Science, that I venture to address these pages to all interested in the matter.

C. L. D.

Ch. Ch., Oxford,
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Chapter I.

Desiderata.

THE chief *desiderata* seem to be as follows:—

(1) That each Elector should have the same chance of being represented in the House. (Under *any* system, *some* Electors must be left unrepresented.)

(2) That each Elector, who is represented at all, should be represented by the same fraction of a Member. Or (which is the same thing) that each Member should represent the same number of Electors. Or (which is the same thing) that the number of Electors, needed to secure the return of a Member, should be uniform throughout the Kingdom.

(3) That the number of unrepresented Electors should be as small as possible.

(4) That the proportions of political parties in the House should be, as nearly as possible, the same as in the whole body of Electors.

(5) That the process of voting should be as simple as possible.

(6) That the process of counting the votes, and announcing the result, should be as simple as possible.

(7) That the waste of votes, caused by more votes being given for a Candidate than are needed for his return, should be as far as possible prevented.

(8) That the result of a local Election should depend as much as possible on the wishes of the Electors in that District, and as little as possible on chance.

(9) That the Electors in a District should be, as far as possible, uninfluenced by the results of Elections in other Districts.

Chapter II.

Principles to be observed in forming electoral Districts, and in determining, for each District, how many Members it shall return.

§ 1. *Number of Members in House.*

There seems to be no sufficient reason, *a priori*, for any change in this particular. It would probably be best to take 660 as the number to be generally aimed at, though holding ourselves free to modify this as circumstances might require.

§ 2. *Number of electoral Districts; whether to be equal or unequal; &c.*

The two extreme cases are (1) to have as many Districts as Members, each to return one Member, in which case the Districts should of course be equal; (2) to form the whole Kingdom into one District.

In the first case (a method that has been much advocated) it is only a bare majority in each District who are represented. For it must not be supposed that all who vote for a Member are duly represented by him. If a District contains 20,001 Electors, so that 10,001 are enough to return a Member, all additional votes are absolutely wasted: hence only 10,001 Electors in that District are represented in Parliament; the other 10,000, whether they vote for the successful Candidate, or for a rival, or even if there be no contest at all, are unrepresented. This method, then, leaves nearly half the whole body of Electors unrepresented.

The injustice of this method may be illustrated from two points of view. Suppose a bare majority of the Electors to be of one party, and the rest of the opposite party; e.g. let 6-11ths be 'red' and 5-11ths 'blue.' Then, as a matter of abstract justice, about 6-11ths of the House ought to be 'red,' and 5-11ths 'blue.' But practically this would have no chance of occurring: if the 'reds' and 'blues' were evenly distributed through the Kingdom, a 'red' would be returned in every District, and the whole House would

be of one party! Yet this distribution is, by the Laws of Probability, more likely than any other one distribution, and, the nearer the distribution to the most probable one, the nearer we come to this monstrous injustice.

The other way of looking at it is almost as telling. Suppose the House to have been elected, and that 6-11ths of the Members are 'red,' and 5-11ths 'blue': all we could learn from this, as to the views of the Electors, would be that 6-22ths (about 28 p. c.) are 'red,' and 5-22ths (about 23 p. c.) 'blue': as to the other 49 p. c., we should know absolutely nothing — if they were all 'red' (i. e. if 3-4ths of the Electors were 'red'), or all 'blue' (i. e. 7-10ths of the Electors 'blue'), it would make no difference in the House.

Taking this first extreme, then, as yielding the *maximum* of injustice which can be effected by arrangement of Districts, and observing that, if each District returned 2 Members, only 1-3rd of the Electors (on the assumption that each Elector has only one vote— an arrangement whose justice we shall hereafter prove) would be unrepresented, if 3 Mem-

bers, only 1-4th, and so on, we see that the fewer and larger the Districts, i. e. the greater the number of Members which, on an average, each District returns, the fairer the result: till we come to the other extreme, where the whole Kingdom is formed into one District returning 660 Members, in which case only 1-661th of the whole body of Electors would be left unrepresented. A general Election, with so gigantic a District, would of course be impracticable: and probably Districts, returning 6 Members each, would be about as large as could be conveniently dealt with: but very small Districts should be, as far as possible, avoided.

I find, in the *Standard* for October 10, 1884, a very good instance of the injustice done by sub-dividing large electoral Districts. "The Birmingham Conservatives are, a Correspondent telegraphs, keenly discussing the Government Redistribution Scheme. The clause which apportions 6 Members to Birmingham gives much dissatisfaction in Conservative circles. It is contended that, if the borough is to be divided into three electoral Districts, each District to have 2 Members, the Liberals could so manipulate the voters as to be

certain of returning the whole of the 6 Members." Now, assuming that each Elector is to have one vote only, the Liberals could only do this by mustering more than two-thirds of the votes in each District; i. e. they must be 67 p. c., or more, of the whole body of Electors in Birmingham. But, if the three Districts were made one, it would need about one-seventh of the whole (i. e. 14 and 2-7ths p. c.) to return one Member. Hence 67 p. c. could only return 4 of the 6 Members: it would require 71 p. c. to return as many as 5; and they could not return all 6, unless they were 86 p. c. of the whole body.

Taking it as proved, then, that single-Member Districts should be in all cases avoided, and that all such should be grouped together, so as to form Districts returning at least 2 Members each, and, wherever it is possible, 4 or 5 or even more, we need only add, as a general remark, that, the more we equalise the Districts, the more we equalise the chance that each Elector has of being one of those represented in the House. Thus, in a District, returning 2 Members, the chance is 2-3ds; with 3 Members, it is 3-4ths; and so on.

§ 3. *Formula for determining, for each District, how many Members it shall return.*

A preliminary question must here be asked, viz. are we to count population, or Electors only? I do not think it matters much which, as they probably vary nearly together, i. e. a District having twice the population of another would probably have twice as many Electors. The Formula can best be determined for the number of *Electors:* but if, in using it, the number of population be substituted, it will make no important difference in the result.

The formula will of course have to be modified for each case, if it be agreed to give political weight to differences in rateable property, or to the distinction between town and country voters: and for this purpose rules would have to be laid down.

Now, taking '*e*' to represent, for any one District, the number of Electors, and '*m*' the number of Members to be assigned to that District, and assuming that each Elector has only one vote, we require a formula giving *m* in terms of *e*. This formula must evidently be such as will secure that every Member

in the House shall, as far as possible, represent the same number of Electors.

Now, whatever be the quota of recorded votes, which is necessary and sufficient, *before the poll is closed*, to make it certain that '*A*' will be returned, that is the number of Electors whom *A* will represent in the House. He cannot represent *less*, for this number is *necessary;* and he cannot represent *more*, for it is *sufficient*, so that all additional votes are superfluous. Let us call this necessary and sufficient quota '*Q*.'

Now, in order that *Q* may be *sufficient*, it must not be possible for *m* other Candidates to obtain *Q* votes each; i.e. $(m + 1) . Q$ must be greater than *e;* i.e. *Q* must be greater than $\frac{e}{m + 1}$. Also, in order that *Q* may be *necessary*, it must be the whole number *next* greater than this fraction. Hence, approximately, $Q = \frac{e}{m + 1}$; i.e. $m = \frac{e}{Q} - 1$.

This, then, is the formula required. An example will make it clear. Suppose the universal quota to be 6,000: then a District containing 50,000 Electors would have 7 Members assigned to it.

We have yet to find a formula for determining Q. Let 'e_1' be the number of Electors in District No. 1, 'e_2' the number in No. 2, and so on; let 'm_1' be the number of Members assigned to District No. 1, 'm_2' the number assigned to No. 2, and so on; also let 'E' be the total number of Electors in the Kingdom, 'M' the number of Members in the House, and 'D' the number of Districts. Then we have

$$(m_1 + 1) \,.\, Q = e_1,$$
$$(m_2 + 1) \,.\, Q = e_2,$$
$$\&c.$$
$$\therefore (M + D) \,.\, Q = E; \quad \text{i.e. } Q = \frac{E}{M + D};$$
$$\therefore m = e.\frac{M + D}{E} - 1.$$

§ 4. *Tables calculated by the preceding Formulæ.*

Let us suppose the 2,000,000 new Electors to be already enfranchised, thus making the total Electorate about 5,000,000. Let us further assume the number of electoral Districts to be 180, so that each will return, on an average, 3 and 2-3ds of a Member.

Let M = No. of Members in House = 660.
D = No. of Districts = 180.
e = No. of Electors in a District.
E = total No. of Electors = 5,000,000.
p = population in a District.
P = total population = 36,000,000.
Q = universal quota, to be aimed at.
m = No. of Members assigned to a District.

Then $\frac{E}{M+D} = \frac{5{,}000{,}000}{840}$ = about 6,000;

$$\therefore m = \frac{e}{6{,}000} - 1 \quad \ldots\ldots(a)$$

It will be worth while to contrast with this the 'rough and ready' method of assigning Members in proportion to the number of Electors, so that $m : e :: M : E$. This gives us

$$m = e.\frac{M}{E} = e.\frac{660}{5{,}000{,}000} = \frac{e}{7{,}600} \quad \ldots\ldots(b)$$

In the following Table, the second column gives the number of Members to be returned by a District, the first the number of Electors by Formula (a), and the third the same by Formula (b).

TABLE I.

e, by (a)	m	e, by (b)
9,000		4,000
	1	
15,000		11,000
	2	
21,000		19,000
	3	
27,000		27,000
	4	
33,000		34,000
	5	
39,000		42,000
	6	
45,000		49,000
	7	
51,000		57,000
	8	
57,000		65,000
	9	
63,000		72,000
	10	
69,000		80,000

The numbers, in the first and third columns, have been calculated by giving to m, in the preceding Formulæ, the successive values one-half, 3-halves, 5-halves, &c. Hence we see that, by Formula (a), a District containing between 9,000 and 15,000 Electors must have between one-half and 3-halves of a Member (i. e. must

have *one* Member) assigned to it; and so on. If a District contained almost exactly 15,000, it could not fairly be determined, by this Table, whether it ought to return one Member, or two. In such a case, it would be best to change the boundaries of the District, so as to increase or diminish the number of Electors by 2,000 or so.

Comparing the results of the two Formulæ, we see that, for Districts whose population is about 27,000, it matters very little which Formula we use: but, for small Districts, Formula (*b*) assigns too many Members, and, for large Districts, too few; e.g. 13,000 Electors ought to return only one Member—Formula (*b*) gives them two; 60,000 ought to return 9—Formula (*b*) gives them 8.

We will now examine the effect of counting the population of a District, and not the Electors only.

Here, for $\frac{E}{M+D}$, we must substitute $\frac{P}{M+D}$;

i.e. $\frac{36{,}000{,}000}{840}$, i.e. about 43,000.

Hence Formula (*a*) becomes

$$m = \frac{e}{43{,}000} - 1 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (c)$$

Also Formula (*b*) becomes

$$m = e.\frac{660}{36,000,000} = \frac{e}{54,500} \ldots\ldots\ldots (d)$$

TABLE II.

e, by (*c*)	*m*	*e*, by (*d*)
64,000	1	27,500
107,000	2	82,000
150,000	3	136,500
193,000	4	191,000
236,000	5	245,500
279,000	6	300,000
322,000	7	354,500
365,000	8	409,000
408,000	9	463,500
451,000	10	518,000
494,000		572,500

Comparing this with Table I, we see that, provided only it be true that the number of Electors in a District is always about 5-36ths

of the population, the substitution of number of population for number of Electors will suffice for all practical purposes; and, seeing that there is evidently a tendency to go by population, and that it is much more easy to take the population of a District than to estimate what will be the number of its Electors when the Franchise-Bill is passed, the first column of Table II. is probably the best to employ.

Chapter III.

Principles to be observed in conducting Elections.

§ 1. *Number of Votes each Elector may give.*

The two extreme cases are (1) to let each Elector give as many votes as there are Members to be returned by the District; (2) to let him give one vote only.

The effect of each of these methods, and of the intermediate methods which lie between them, will be best understood by considering the following Tables of percentages.

We will first find general formulæ for determining what number of Electors, in a given District, is necessary and sufficient to secure the return of one Candidate, of 2, of 3, &c.

Let e = No. of Electors in the District,
m = ... Members assigned to it,
v = ... votes each Elector can give,
s = ... seats it is desired to fill,
x = ... Electors required.

Also let it be assumed that an Elector may not give 2 votes to the same Candidate. (N. B. 'cumulative' voting is discussed at p. 27.)

Now, in order that x may be *sufficient* to fill s seats, it must be large enough to make it impossible for the other $(e - x)$ Electors to fill $(m + 1 - s)$ seats; since the two events are incompatible, so that, if the latter were possible, the former would be impossible. To effect this, each of the s Candidates must have more votes than it is possible to give to each of $(m + 1 - s)$ rival Candidates.

In order that x may be *necessary*, it must be only *just* large enough for the purpose.

It will be necessary to consider the following 4 cases separately. Observe that $>$ means 'greater than,' $\not>$ means 'not greater than,' and $\therefore$ means 'therefore'.

Case (a) v is $\not> s$, and also $\not> (m + 1 - s)$;
Case (b) ..... $> s$, but $\not> (m + 1 - s)$;
Case (c) ..... $\not> s$, but $> (m + 1 - s)$;
Case (d) ..... $> s$, and also $> (m + 1 - s)$.

In case (a), the x Electors can give vx votes, which, divided among s Candidates, supply them with $\frac{vx}{s}$ votes apiece. Similarly,

the $(e - x)$ Electors can give $v.(e - x)$ votes, which, divided among $(m + 1 - s)$ Candidates, supply them with $\frac{v.(e - x)}{m + 1 - s}$ votes apiece. Hence we must have

$$\frac{vx}{s} > \frac{v.(e - x)}{m + 1 - s},$$

where v divides out;

$$\therefore\ x.(m + 1 - s) > se - sx;$$

$$\therefore\ x.(m + 1) > se;$$

$$\therefore\ x > \frac{se}{m + 1}.$$

In case (b), each of the x Electors can only use s of his v votes, since he can only give *one* to each Candidate: hence the x Electors can only give sx votes, thus supplying s Candidates with x votes apiece. But the $(e - x)$ Electors can, as in case (a), supply $(m + 1 - s)$ Candidates with $\frac{v.(e - x)}{m + 1 - s}$ votes apiece. Hence we must have

$$x > \frac{v.(e - x)}{m + 1 - s};$$

$$\therefore\ x.(m + 1 - s) > ve - vx;$$

$$\therefore\ x.(m + 1 - s + v) > ve;$$

$$\therefore\ x > \frac{ve}{m + 1 - s + v}.$$

In case (c), the x Electors can, as in case (a), supply s Candidates with $\frac{vx}{s}$ votes apiece. But each of the $(e - x)$ Electors can only use $(m + 1 - s)$ of his votes: hence the $(e - x)$ Electors can only give $(m + 1 - s).(e - x)$ votes, thus supplying $(m + 1 - s)$ Candidates with $(e - x)$ votes apiece. Hence we must have

$$\frac{vx}{s} > e - x;$$

$$\therefore vx > se - sx;$$

$$\therefore x.(s + v) > se;$$

$$\therefore x > \frac{se}{s + v}.$$

In case (d), the x Electors can, as in case (b), supply s Candidates with x votes apiece. And the $(e - x)$ Electors can, as in case (c), supply $(m + 1 - s)$ Candidates with $(e - x)$ votes apiece. Hence we must have

$$x > e - x;$$

$$\therefore 2x > e;$$

$$\therefore x > \frac{e}{2}.$$

Tabulating these results, we have the following formulæ.

	Data.	*Formulæ.*
(*a*)	$v \not> s$ $\not> m+1-s$	$x > \frac{se}{m+1}$
(*b*)	$v > s$ $\not> m+1-s$	$x > \frac{ve}{m+1-s+v}$
(*c*)	$v \not> s$ $> m+1-s$	$x > \frac{se}{s+v}$
(*d*)	$v > s$ $> m+1-s$	$x > \frac{e}{2}$

By these formulæ the following Table is calculated. It shows, for a given District, what percentage of the Electors is necessary and sufficient to secure the return of *one* Candidate, of 2, of 3, &c.

The 2nd line in the 3d section represents the well-known "three-cornered constituency." Observe (by comparing it with the next line) that it makes it too hard for a minority to fill *one* seat, and too easy for a majority to fill *all*.

TABLE III.

No. of Members ret. by District.	No. of votes each Elector can give.	No. of Seats it is desired to fill.					
		1	2	3	4	5	6
1	1	51					
2	2	51	51				
	1	34	67				
3	3	51	51	51			
	2	41	51	61			
	1	26	51	76			
4	4	51	51	51	51		
	3	43	51	51	58		
	2	34	41	61	67		
	1	21	41	61	81		
5	5	51	51	51	51	51	
	4	45	51	51	51	56	
	3	38	43	51	58	63	
	2	29	34	51	67	72	
	1	17	34	51	67	84	
6	6	51	51	51	51	51	51
	5	46	51	51	51	51	55
	4	41	45	51	51	56	61
	3	34	38	43	58	63	67
	2	26	29	43	58	72	76
	1	15	29	43	58	72	86

In examining this Table, we notice, first, the uniformity of the *upper* line in each section (i. e. the percentages required when each Elector can give as many votes as there are seats to fill). Here, in every case, more than half the Electors must agree, in order to fill one single seat: but, when once this number have mustered, they have it in their power to fill *all* the seats! *'C'est le premier pas qui coûte.'*

This absurdity diminishes gradually, from line to line, as we look down each section; the lowest line (i. e. the percentages required when each Elector can give one vote only) being always the most reasonable. One of the most startling anomalies is the 4th line of the 6th section. Here we see that, out of 100 Electors, we must muster 34 in order to fill *one* seat: with four more Electors, we can fill the second seat: with five more, the third: but 'then comes the tug of war'; to win the fourth seat, we actually need *fifteen* more Electors!

Lastly, comparing together the lowest lines of the several sections, we notice that they gradually improve as we move down from section to section, requiring a smaller per-

centage to fill *one* seat, thus giving a minority a better chance of being represented, and a larger percentage to fill *all*, thus leaving a smaller number unrepresented. This last figure (the right-hand end of each lowest row) represents the percentage of the Electors in the Kingdom who would be represented in the House, supposing all the Districts similar to the one under consideration: and this percentage we find to rise, from 51 in the case of single-Member Districts, to 86 in the case of six-Member Districts.

The obvious conclusion is—let the Districts be as *large* as possible, and let each Elector give *one* vote only.

The effect, on the composition of the House, will be yet more clearly seen by considering the following three Tables, which are calculated on the assumption that, in any District, all proportions, between 'red' and 'blue,' are equally probable, and that 6-11ths of the House are 'red' and 5-11ths 'blue.' Table IV. gives the percentage of the whole body of Electors represented by the 'red' Members, Table V. the percentage represented by the 'blue,' and Table VI. the percentage unrepresented:—

TABLE IV.

Number of Members assigned to each District.	Number of votes each Elector can give.					
	6.	*5.*	*4.*	*3.*	*2.*	*1.*
1.	....	....	....	....	....	28
2.	....	....	....	....	28	37
3.	....	....	....	28	36	42
4.	....	....	28	35	40	44
5.	....	28	33	39	43	46
6.	28	32	36	40	44	48

TABLE V.

Number of Members assigned to each District.	Number of votes each Elector can give.					
	6.	*5.*	*4.*	*3.*	*2.*	*1.*
1.	....	....	....	....	....	23
2.	....	....	....	....	23	31
3.	....	....	....	23	30	34
4.	....	....	23	29	34	37
5.	....	23	28	32	36	38
6.	23	27	30	34	37	38

TABLE VI.

Number of Members assigned to each District.	Number of votes each Elector can give.					
	6.	*5.*	*4.*	*3.*	*2.*	*1.*
1.	....	....	....	....	....	49
2.	....	....	....	....	49	32
3.	....	....	....	49	34	24
4.	....	....	49	36	26	19
5.	....	49	39	29	21	16
6.	49	41	34	26	19	14

By inspecting these Tables, we see two things :—

First, that the fewer and larger the Districts, i. e. the greater the number of Members returned (on an average) by each District, the more equitable the result. This conclusion we have already arrived at, from general considerations. (See p. 6, line 1.) We observe, further, that the advantage, in fairness of result, increases rapidly at first and more slowly afterwards. For instance, in Table VI, if each Elector be allowed one vote only, the change from single-Member to two-Member Districts changes the percentage of unrepre-

sented Electors from 49 to 32 (i. e. deducts about 1-3rd); whereas the change, from 5-Member to 6-Member Districts, only changes the percentage from 16 to 14 (i. e. deducts only 1-8th). The conclusion is that *the* important point is to have as few single-Member, and even as few 2-Member, Districts as possible; but that, when we have got as far as to Districts returning 4 or 5 Members each, it is hardly worth while to go further.

Secondly, we see that the fewer the number of votes (down to the least possible, viz. '*one*') that each Elector is allowed to give, the more equitable the result. We observe, further, that the advantage, in fairness of result, increases slowly at first and more rapidly afterwards. For instance, in Table VI, if 6 Members be assigned to a District, the change from 6 votes to 5 only changes the percentage of unrepresented Electors from 49 to 41 (i. e. deducts less than 1-6th); whereas the change from 2 votes to one changes it from 19 to 14 (i. e. deducts more than 1-4th). We observe, further, that the system of allowing each Elector as many votes as there are seats to fill produces, in *every* case, the same result, (the most inequitable that it is possible to

produce by any variation in these data,) viz. that it leaves about 49 p. c. of the Electors unrepresented. The system (already discussed at p. 4) of "equal electoral Districts, each returning one Member" is only a particular instance of this general law.

The method of 'cumulative voting' (where an Elector can give two or more votes to the same Candidate) will usually have no other effect than to increase the 'specific gravity'—so to speak—of a vote. Let each Elector have 4 votes, with permission to 'lump' them if he chooses, and in the end you will find most of the votes given in lumps of 4, and the result much the same as if each Elector had had *one* vote only.

The conclusion is that *the* important point is to let each Elector give *one* vote only.

§ 2. *Formula for determining, after the poll is closed, the quota of Votes needed to return a Member.*

By a process, exactly similar to that employed at p. 9, we may prove that, if 'r' be the number of recorded votes, and 'm' the number of Members to be returned, the quota

must be just greater than $\frac{r}{m+1}$. For example, if 55,000 votes had been given, and the District had to return 6 Members, the quota needed to return one Member would be just greater than 7,857 and 1-7th: i. e., a Member, having 7,858 votes, would be returned. Similarly, anything just greater than 15,714 and 2-7ths would be enough (if the votes could be reckoned *en masse*) to return 2 Members: i. e., if 2 Members of the same party had 15,715 votes between them, both could be returned. We shall prove, further on, that such reckoning of votes is equitable and ought to be provided for.

This quota must be carefully distinguished from the one discussed at p. 9. If a District, returning one Member, contains 10,001 Electors, the quota needed, *before the poll is closed*, to make it certain that '*A*' will be returned, is 5,001; but, if only 8,001 vote, the quota needed, *after the poll is closed*, to return him, is only 4,001. For the purpose of *assigning Members to a District*, it is fair to proceed as if *all* the Electors were sure to vote; but, for the purpose of *returning Members*, we can count only the votes that are actually recorded.

§ 3. *Method for preventing waste of Votes.*

Assuming it to be agreed that each District is to return 2 or more Members, and that each Elector is to give one vote only, we have now to consider what is to be done when 2 or more Candidates of the same party have got, among them, enough votes to be returned, but when some have got more than the quota, and others less. It is obviously not fair that the party should fail in bringing in their rightful number of Members, merely by an accidental disarrangement of votes; but how to make an equitable transfer of the superfluous votes is by no means so obvious.

Various methods have been proposed for this: of which I will consider two:—

(1) "The Proportional Representation Society" proposes to let each Elector hand in a list of Candidates, marked in the order of his preference; and that his vote, if not required for his No. 1, should be transferred to his No. 2, and, if not required for him, then to No. 3, and so on. One great objection to this method is the confusion it would cause in the mind of an ignorant Elector, who, though quite able to name his favourite

Candidate, would be utterly puzzled if told to arrange 5 or 6 names in order of merit. But a much stronger objection is the difficulty of deciding to *which* of the remaining Candidates the surplus votes shall go: e.g. if 8,000 be the quota needed to return a Member, and if 6,000 lists be headed '*A B*,' and 4,000 '*A C*,' *which* 2,000 are to be transferred? Mr. J. Parker Smith, in a Pamphlet entitled "Preferential Voting," says (at p. 2), "The course which is exactly fair to *B* and *C* is that the votes which are transferred should be divided between them in the same proportion as that in which the opinions of the whole number of *A*'s supporters is divided." (This would require, in the above instance, that 3-5ths of the 2,000, i. e. 1,200, should be taken from the '*A B*' lists, and 2-5ths, i. e. 800, from the '*A C*' lists.) He adds, "This principle avoids all uncertainty, and is indisputably fair." He then proceeds to show that if, instead of counting and arranging the surplus votes, they be taken "in a random order," the chances are very great that they will come out nearly in this proportion. And he further adds (at p. 4), that "the element of chance will not be of importance as between the

different parties, but only as between different individual Candidates of the same party." Now all this rests on the assertion that this mode of dividing the surplus votes, whether effected by counting or left to chance, is "indisputably fair:" and this assertion I entirely deny. The following instance will serve the two purposes, of showing that this method may easily lead to gross injustice, and of showing that the difficulty may easily arise between candidates of opposite parties.

Take a town of 39,999 Electors, returning 3 Members, so that 10,000 votes will suffice to return a Member; let there be 4 'red' Candidates, *A*, *B*, *C*, *D*, and one 'blue,' *Z*; and let there be 21,840 lists "*A B D*," 10,160 "*A C B*," and 7,999 "*Z*." There can be no shadow of doubt that, as a matter of justice, *A*, *B*, *C* ought to be returned, since there are more than two full quotas who put '*A B*' first, and, over and above these, more than one quota who put '*A C*' first. Let us see what, under the Society's present rules, would be the most probable result.

The 32,000 lists headed "*A*" are of two kinds, bearing to each other the ratios of the numbers 273, 127. Hence the certain event,

if the lists are divided by rule, and the most probable event, if they are divided at random, is that the 10,000 lists, used in returning *A*, will contain 6,825 "*A B D*" and 3,175 "*A C B*." Erasing "*A*" from the remaining lists, we have now in hand 15,015 "*B D*," 6,985 "*C B*," and 7,999 "*Z*"; so that *B* is returned. Erasing "*B*" from the remaining lists, we now have 5,015 "*D*," 6,985 "*C*," and 7,999 "*Z*"; so that *Z* is returned with a majority of more than 1,000 over *C*. And the 'reds' must derive what consolation they can from the reflection that their rejected Candidate really had 2,161 more supporters than the successful 'blue'!

While fully agreeing, then, with the Proportional Representation Society as to the propriety of allowing only one vote to each Elector, I think I have sufficiently proved the fallacy of its method for disposing of surplus votes.

(2) A mechanical method of recording votes was suggested, in a letter signed "F. R. C.," in the *St. James' Gazette* for Aug. 1. Each Elector is to pass (unseen) through one of a set of turnstiles, (each Candidate having a separate turnstile), which will mechanically

record his vote. The records are to be periodically examined, and the results placarded outside, in order that Electors, on seeing that a Candidate has already got votes enough to secure his return, may cease to vote for him. Several objections, each by itself fatal, may be made to this method. One is that, if the periods were short enough to prevent waste of votes, the inspection would destroy the secrecy of the ballot, as it would be known who had just voted, and the result of his voting would be at once placarded; whereas, if the periods were long enough to avoid this, time would be allowed for large waste of votes. Another is that, as the quota, necessary to return a Candidate, could not be fixed till the poll had closed, it would be impossible to know, during the Election, whether a Candidate had or had not received votes enough to secure his return. Another is that, if part of the machinery went wrong, so as (for instance) to record a total of votes greater than the number of Electors, the mistake could not (as it can with voting-papers) be rectified, but the Election would have to be held over again.

Having proved, then, that the method of arranged lists will not serve fairly to dispose of surplus votes, and yet that we cannot prevent such votes being given, we have now to find, if possible, a fair method for disposing of them. Clearly *somebody* must have authority to dispose of them: it cannot be the Elector (as we have proved); it will never do to refer it to a Committee. There remains *the Candidate himself, for whom the votes have been given.* This seems to solve the whole difficulty. The Elector must understand that, in giving his vote to *A*, he gives it him as his absolute property, to use for himself, or to transfer to other Candidates, or to leave unused. If he cannot trust the man, for whom he votes, so far as to believe that he will use the vote for the best, how comes it that he can trust him so far as to wish to return him as Member?

§ 4. *Method for preventing the Electors in one District from being influenced by the results of Elections in other Districts.*

That Electors are liable to such influences may be proved both *a priori* and *a posteriori*. On the one hand, it is a tendency of human nature, too well-known to need proving, to surrender one's own judgment in order to be on the winning side. In the words of the immortal Mr. Pickwick, "it's always best on these occasions to do what the mob do." "But suppose there are two mobs?" suggested Mr. Snodgrass. "Shout with the largest," replied Mr. Pickwick. On the other hand, no one, who has ever watched the progress of a General Election, can need to be reminded how obviously the local Elections of the later days have 'followed suit,' under the irresistible influence of those of the earlier days. "The secret of success," it has been well said, "is to succeed:" and there can be little doubt that the party, which fails in carrying a majority of the local Elections at first, is heavily handicapped during the rest of the contest.

Supposing it admitted that such an influence does exist in General Elections as now managed,

and that it is an influence to be avoided, the remedy is not far to seek: let the local Elections be so arranged that all, or nearly all, the results may be announced at the same time.

This arrangement would no doubt be unwelcome to certain 'pluralists,' who are now able to vote in several different Districts. Possibly, in such exceptional cases, voting-papers might be allowed. But, even if no remedy could be found, the justice of allowing one Elector to vote as if he were, "like Cerberus, three gentlemen at once," seems so doubtful that the objection hardly deserves serious consideration.

§ 5. *Conduct of Elections.*

The practical working of the principles, which have now been demonstrated, would be as follows: — When the poll is closed, let the total number of votes recorded be divided by the number of Members to be returned increased by one, and let the returning-officer announce the whole number next greater than the quotient as the quota needed to return

one Member. Similarly, the whole number next greater than twice the quotient will be the quota needed to return *two*, and so on.

Let him further announce the number of votes given for each Candidate, and also announce as "returned" any Candidate who has received the quota needed to return *one*. If there are still Members to return, let him appoint a time and place for all the Candidates to appear before him; and any two or more Candidates may then formally signify that they wish their votes to be clubbed together, and may nominate so many of themselves as can be returned by the votes so clubbed. They must of course include in their nomination any of themselves who have been already declared to be returned. Let the returning-officer add together the votes of these Candidates, and, if the amount be not less than the necessary quota, let him declare to be duly returned the Candidates so nominated.

As an example, suppose that a District is to return 5 Members, and that there are 4 'red' Candidates, *A*, *B*, *C*, *D*, and 3 'blue,' *X*, *Y*, *Z*. Then the returning-officer might announce as follows:—

Votes given for

C	.	15,000
X	.	9,000
D	.	8,001
Z	.	8,000
B	..	7,500
A	.	6,500
Y	.	6,000

6 | 60,001

10,000 and 1-6th.

Quota needed to return

1 Member	.	10,001
2 Members	.	20,001
3 Members	.	30,001
4 Members	.	40,001
5 Members	.	50,001

I hereby declare *C* to be duly returned.

Four vacancies remain to be filled.

(Signed)

_____

The Candidates might then appear before the returning-officer, and *B*, *C*, *D* might formally declare that they wished to club

their votes; and, as the sum total of their votes is 30,501, they would be declared to be "returned": similarly, *X*, *Y*, *Z* might club their votes, naming *X* and *Z* as the Candidates to be returned; and, as the sum total of their votes is 23,000, *X* and *Z* would be declared to be "returned."

Such Candidates would have to sign some such paper as the following:—

We, the undersigned, for whom the recorded votes, as stated below, amount to _____, which is not less than _____, the quota announced as needed to return ____ Candidates, hereby declare that we desire the said votes to be clubbed together. And we nominate, as Candidates whom we desire to be returned by the said votes, in addition to _____ _____, who have been already declared to be duly returned, _____ _____.

Signed,

Names.	*Votes.*
Sum total of votes	

This method would enable each of the parties in a District to return as many Members as it could muster the proper quota for, no matter how the votes were distributed. There would be no risk of a seat being left vacant through rivalry between two Candidates of the same party: an unwritten law would soon come to be recognised—that the one with fewest votes should give way. With Candidates of two opposite parties, such a difficulty could not arise at all: one or other of them could always be returned by the surplus votes of his own party. The only exception to this would be the occurrence (a very rare one) of an exact balance of votes. This might happen, even in the case of a single-Member constituency, if each of 2 Candidates got exactly half the votes. Of course, in such a case, somebody must give a casting-vote.

Chapter IV.

Final Summary.

The main points, which I claim to have made good in this little treatise, are as follows:—

(1) That electoral Districts should be so large as to return, on an average, 3 or more Members each: and that single-Member Districts should be, as far as possible, done away with.

(2) That Members should be assigned to the several Districts in such numbers that the quota, needed to return a Member, should be tolerably uniform throughout the Kingdom.

(3) That each Elector should give one vote only.

(4) That all votes given should be at the absolute disposal of the Candidate for whom they are given, whether to use for himself,

or to transfer to other Candidates, or to leave unused.

(5) That the Elections in the several Districts should terminate, as nearly as possible, at the same time.

As a practical conclusion to this treatise, I venture to suggest the following ideal Schedule of General Resolutions, such as might fairly be agreed on by all parties, and thus tend to the peaceful termination of this deplorable controversy.

[N.B. The *numbers* here suggested are merely tentative, and capable of being modified *ad libitum*.]

General Resolutions.

1. The House shall consist of 660 Members.

2. There shall be 180 electoral Districts.

3. No District shall contain less than a population of 60,000, or more than 500,000.

4. A District, whose population is between 60,000 and 105,000, shall have one Member assigned to it; between 105,000 and 150,000, two Members; and so on, in accordance with the following Table:—

Population.	Members.
60,000	1
105,000	2
150,000	3
195,000	4
240,000	5
280,000	6
320,000	7
365,000	8
410,000	9
455,000	10
500,000	

5. If the population of a District be very near to one of the above-named numbers, its boundaries shall be altered so as to increase, or diminish, the population, by not less than 10,000.

6. If it be agreed to give political weight to differences in rateable property, or to the difference between town and country voters,

this shall be done by modifying the number of Members assigned by the above Table.

7. The procedure at a local Election shall be as follows:—Each Elector shall give one vote only. When the poll is closed, the number of recorded votes shall be divided by the number of Members to be returned increased by one, and the returning-officer shall announce the whole number, next greater than the quotient, as the quota needed to return one Member; the whole number, next greater than twice the quotient, as the quota needed to return two Members; and so on. He shall also announce the number of votes recorded for each Candidate, and shall declare to be duly returned any Candidate who has obtained the quota. If any vacancies remain to be filled, he shall appoint a time when the Candidates shall appear before him, and any two or more of them may then formally signify their desire to club their votes, and may nominate, as Candidates to be returned by those votes, so many of themselves as the votes suffice for: provided always that they include, in such nomination, any of themselves who have been already declared to be returned. And, if the

sum total of the votes so clubbed be not less than the quota needed to return the Candidates so nominated, the returning-officer shall declare to be duly returned all of them who have not been already so declared.

8. The local Elections shall be so arranged that their results may be announced, as nearly as possible, at the same time.

INDEX.

Formulæ:—

Data.	*Quæsita.*	
No. of Electors in Kingdom " of Members in House " of Districts	No. of Electors whom each Member ought to represent	10
No. of Electors in a District " of Electors whom each Member in House ought to represent	No. of Members to be assigned to the District	9
No. of Electors in a District " of Members assigned to it That each Elector has only one vote	No. of Electors necessary and sufficient, *before the poll is closed*, to secure one seat	9
No. of Electors in a District " of Members assigned to it " of votes each Elector can give " of seats it is desired to fill	No. of Electors necessary and sufficient, *before the poll is closed*, to secure the desired seats	20
No. of Members assigned to a District " of recorded votes, *after the poll is closed*	No. of recorded votes necessary and sufficient, *after the poll is closed*, to secure one seat	27
Ditto	Ditto, to secure 2 seats, 3 seats, &c.	37