OBSERVATIONS ON THE WORKING RESULTS OF THE HARE SYSTEM OF ELECTION IN TASMANIA.

BY

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The chief Merit of the Hare System.

THE deep interest taken in all matters relating to the Hare system of voting and counting at the recent elections in Hobart and Launceston is indicated by the large number of queries put to the writer during the last three months. It is curious, however, that the large body of enquirers and critics restrict their attention mainly to questions relating either to the mode of voting, or to the mode or modes adopted for determining the quota-excesses; but, most of all, the general attention is restricted to obscure details of no importance concerning the infinitesimal influence of the *element of chance* still uneliminated by the Tasmanian Clark-Hare method provided for the transfer and distribution of the *quota-excess* of the *second* order.*

This unfortunate restriction is equivalent to a representation of the play of Hamlet with the part of the Prince of Denmark cut out.

The Hamlet of the Hare system, as a whole, is not the mere mode of preference and transfer vote to which general attention is too often restricted. The latter aids are important no doubt, but of themselves they can only be regarded as valuable accessories of the Hare system. The keystone of the Hare system, upon which commonly too little or no attention is directed, is the Hare-constitution of large electoral divisions. Without the latter all the nice arrangements of first, second, third, &c., preferences, and transfer of quota-excesses and lowest excluded candidate votes, would be a cumbrous farce. With the former secured, together with even the ordinary *one man one vote* principle, the results attained would be such an improvement upon methods hitherto prevailing that they would

* That is, on all *quota-excesses obtained after the first count by the aid of transfer ballot-papers.* Those quota-excesses which are produced *by the distribution of the first count alone* are treated differently by our law, and for the sake of reference and distinction are here designated quota-excesses of the First Order.

not fall far short of the more complete Hare scheme with its method of preference and transfer voting.

Those who ignore this keystone or foundation of the Hare system, and restrict their attention entirely to peddling or unimportant details—such as the element of chance involved in quota-excess transfer votes—fail altogether to comprehend the grandeur and perfection of the cardinal features of the system, which secures just and equitable representation of all forces whether of majorities or minorities. The main feature of the Hare-Electorate or Electoral Division is, that it shall be sufficiently large and untrammelled so as to permit the units of any representative party or body of opinion to unite together, if numerous enough to command a *quota* ; that is, such a proportion of electors, as on the basis of numbers, would entitle the latter to return their just share, viz. one parliamentary representative. This provision also involves the breaking down of all arbitrary and unreasonable sub-divisions which, as in the unequal ward system of cities, have hitherto prevented the otherwise wasted surplusage of aggregate majorities or minorities, in one division of common locality interests, from joining forces with the weaker members of their respective parties similarly restricted in a neighbouring arbitrary sub-division; and so unjustly preventing the true ideal of *real equality of representation*, *i.e.*, representation of minorities and majorities in proportion to numbers. That this should be regarded as the most important feature of the Hare system is certain, and is so regarded by all great thinkers who have devoted any attention to the subject. This opinion is sufficiently supported by a quotation from one of England's greatest thinkers—John Stuart Mill (p. 56, 57, "On Representative Government"): "But real equality of representation is not obtained unless any set of electors amounting to the average number of a constituency, wherever . . . they happen to reside, have the power of combining with one another to return a representative. This degree of perfection in representation appeared impracticable until a man of great capacity, fitted alike for large general views and for the contrivance of practical details—Mr. Thomas Hare—had proved its possibility by drawing up a scheme for its accomplishment, embodied in a draft of an Act of Parliament ; a scheme which has the almost unparalleled merit of carrying out a great principle of government in a manner approaching to ideal perfection as regards the special object in view, while it attains incidentally several other ends of scarcely inferior importance. . . . . The more these works are studied the stronger I venture to predict will be the impression of the perfect feasi-

bility of the scheme and its transcendent advantages. *Such and so numerous are these that, in my conviction, they place Mr. Hare's plan among the very greatest improvements yet made in the theory and practice of government.*" The italics are mine.

It cannot be too strongly emphasised, therefore, that the chief causes which tend to produce and perpetuate unfair and unequal representation are (1) inequalities in the magnitude of the population of the various electoral divisions, and (2) the unnecessary multiplication of artificial boundaries, restricting unjustly the voting force to too narrow an area, and thereby preventing the necessary and fair combination of persons who desire to act together, without which their forces are wasted or misdirected.

The following illustration will help to convey more clearly how any great inequalities in the size of electoral divisions, conjoined with unnecessary artificial barrier sub-divisions, may prevent the reasonable combination of the elemental forces, and may even prevent a strong majority within a city from securing representation justly proportionate to their total numbers.

Let us conceive the City of Hobart as having 6000 voters, returning six Members to Parliament. On the basis of numbers it is clear, if there were no artificial barriers to reasonable combinations, that any body of persons properly organised could return that proportion of representatives which would fairly correspond with their numbers.

But suppose the major party X, constituting two-thirds of the City electorate, to be distributed unequally, and their voting force restricted within the limit of six separate unequal electoral divisions of the City, as in the following illustration, and that for simplicity they are opposed by one other party Y in each division, thus—

City.	*Distribution.*		*Total.*
	X	Y	
Division A	800*	550	1350
,, B	1050*	300	1350
,, C	1200*	150	1350
,, D	345	355*	700
,, E	320	330*	650
,, F	285	315*	600
TOTAL.....	4000	2000	6000

* Local majority returning one representative.

By this curious illustration it is shown how, notwithstanding its superior numbers in the aggregate, the major party X has been robbed of a fourth of its representative power by the combined adverse circumstances of *artificial inequalities in the size or composition of its electoral divisions*, and the unnecessary artificial *restriction of voting power within each unnecessary artificial subdivision*. By such unfair artificial barriers the major party X—even aided by the wisest organisation—can only return *half the number of representatives*, whereas, in equity, *it should return two-thirds*; and, conversely, the minor party Y by such means returns *half the number of representatives*, when in all fairness and equity they should, under ideally proper conditions, only return *two, or one-third*.

It is the chief merit of the Hare system that it entirely removes all such artificial barriers to just and real representation of the various parties; for, by its abolition of unwise artificial restrictions it gives full fair play to all the individual forces, and it enables the surplusage of any one division to come to the aid of its own party in any other division, so that no vote would form the element of a lost or wasted surplusage. By the Hare system the inequalities of electoral subdivisions are practically rendered equal and harmless.

The major party X would in all fairness return *four* members, and the minor party Y would, in returning two members, be also justly dealt with, as this is the number which in all fairness it has a right to claim or expect.

The *constitution of electoral divisions* is thus shown to be the most important feature of the Hare system, and this importance must not be disregarded when acknowledging the full merit of its splendid accessory, the Hare method of preference and transfer vote.

The Merits of the Preference and Transferable Vote.

The most valuable *accessory*, not the primary principle, of Hare's system is the scheme of the *Quota-excess and lowest excluded Candidate Transfer Vote*. In the ordinary system of voting it often happens that the fair power of majorities and minorities is wasted by the manner in which the votes are given. The voter has no certain knowledge, and is often obliged to guess his own party's strength. If the voter's one particular choice gets, unnecessarily, too many votes from his own party, and, therefore, useless to him, it may so happen that the second, third, &c. in the order of the voter's preference

are, from this lack of knowledge, deprived of votes to such an extent that an opposite party's representatives are returned in larger number than their aggregate strength, if fairly measured, would entitle them. Hare's method of preference vote in a very large measure obviates this defect. By indicating his other favourite candidates in order of decreasing preference or increasing order of detestation by 1, 2, 3, &c. no previous knowledge of strength is necessary. The Hare method is *per se* a sort of special providence, preventing the waste of valuable votes by automatically distributing surplus strength fairly and exactly to the next and next of preference* until at last the full fair strength of the particular party is properly determined. If combinedly in this way any party fails to return *one* representative, it is because all the members of the party are too feeble in numbers to have the right to be represented; if the party on the whole returns one, two, three, or more representatives it is, for the best of all reasons, because this is the exact representation to which, by force of numbers, it is justly and reasonably entitled.

Thus the method of the Hare preference index, and the transfer in order of preference, effects the part of a never-failing providence, preventing the waste of valuable forces; or, in other words, determining exactly the fair and reasonable representation of all, in spite of difficulties concerning lack of organisation, or perfect foreknowledge of the strength and the proper allotment or distribution of voting forces. The only persons who may oppose the Hare system are the selfish aggressor or the selfish indifferent; the former craves to maintain or gain more than justice; the latter too indifferent or lazy to demand it.

Popular exaggerated estimates of the influence upon Results of the Distribution of the Quota-excess of the First and Second Order.

In the Hobart election the distribution of quota-excesses of the first and second order, although differing to a great extent relatively, was, as is the general experience, of little or no absolute importance in altering the effect of the values of first counts and lowest excluded candidates' preference votes in determining the final order of the results of the election. In Launceston, it so happened, there was no *quota-excess* of the *first order*, *i.e.*, on the first count, and, consequently, there

* If not preference it equally serves to indicate usefully order of detestation or dislike, No. 1 being least detested, No. 2 next in order of dislike, No. 3, 4, 5 in a similar way next in order of candidates disliked. Even in the order of dislike it must be of service to the elector to see that his most disliked candidates are handicapped by his influence.

could be no inclusion of this first to form a subsequent redistributed detail element of chance in the determination of its only one quota-excess (Hartnoll 16) of the *second order*. The total influence of all orders of quota-excess transfer votes in Launceston was, therefore, for each candidate not excluded actually 1 (minimum) to 9 (maximum) votes = 16 in all. That is, the influence proportionate to the total effective votes of all kinds was min. 0·04 per cent. ; max. 0·38 per cent. ; total, 0·68 per cent.

The feebleness of this influence in altering the final determination of the all-powerful influences, viz., the first count and the votes (two or higher preference) of the previously excluded candidates, is seen by the results. For, although the lowest candidate (Sutton, 283) before distribution was only nine votes behind the next lowest in order (Fowler, 292), yet the inclusion of quota-excess distribution of the second order, although differing in force only by six votes, *to the advantage of the lowest*, the same order of importance was undisturbed, Fowler still keeping the lead by three votes! This inevitable result is beyond any shade of dispute, as, in the distribution of the quota-surplus 16, there entered no element of chance selection. Such an element could only enter where there was a possibility of a portion of this 16 being afterwards *redistributed*. In Launceston such a possibility could not occur. It is proved, therefore, that in the Launceston election the possible influence of the element of chance was positively *nil*.

In Hobart the final results, although affected by four quota-excesses (one of the first order and three of the second), were, even in the aggregate, too feeble to exercise any disturbing influence upon the true relative positions which, as in Launceston, were altogether dominated and determined by votes of first counts and by next in order preferences of lowest excluded candidates.

The total force of the transfer votes of quota-excesses of the first and second order in Hobart only amounted to 3·54 per cent. of all effective votes, as shown by the following analysis :—

Analysis.			*No. Transfer.*	*Per cent. to total effective votes.*
Quota-excess Votes	First Order	(1) Fysh	44	1·25
Ditto	Second ,,	(3) Bradley, Clark, Mulcahy	81	2·29
	Both	(4) ...	125	3·54
All other effective votes.....			3411	96·46
Total effective votes			3536	100·00

		Per cent. to total.
Difference between lowest candidate elected and the highest of the candidates excluded	129	3·39
Highest number of votes originally transferred to any one candidate of the quota-excess of the first order (Fysh 44) which in case of re-transfer still *involves an infinitesimal element of chance*	27	0·76
Actual number of votes re-transferred by quota-surpluses of second order and by transferred votes of lowest excluded candidates *in which any element of chance selection was involved*...	39	1·10
Average number of such votes for each candidate	3·25	0·09

The above analysis is interesting and instructive. It shows that among the 3536 total effective direct and next in order of preference votes, only 125, or 3·54 per cent., were derived from all quota-excesses; that of these only 39 were redistributed in which any element of chance entered under the method provided by Mr. Clark, Clause 115, Sect. VI., for the determination of the proportion by which the 39 papers were actually distributed; and that this, in the aggregate, only represents 1·10 per cent. of all effective votes, or a mean of 3·25 votes per candidate. As the total redistributed quota-excess votes of the first order (39) only represent 3·25 per cent. of the final difference between the lowest candidate elected and the next in order—the highest candidate who was last excluded from the poll—it is clearly demonstrated that the remaining element of chance selection in practice is infinitesimal in its influence, and did not in the slightest degree affect the relative order of candidates as mainly determined by the combined influence of (No. 1 preference) votes of the first count, and Nos. 2 and 3 preferences of transfer votes of the lowest excluded candidates. These latter together (3411) represent, as already shown, 96·46 of the total effective voting force; and this fact alone should show that too much importance, by far, has been commonly attached to all rival modes for dealing with the distribution of quota-surpluses and their possible but small element of chance. The reduction of the original small element of chance from 1·25 per cent. of all effective to 0·09 for each candidate should surely satisfy anyone that the ideal elimination of elements of chance, so far as the true order of final results are concerned, have been practically and successfully achieved by the Clark-Hare method introduced at the last general election in Hobart and Launceston.

If still, however, it is desired to entirely eliminate the remaining infinitesimal element of chance in the redistribution of any portion of quota-surpluses, the law may, with a very

slight modification of Clause VI., Sect. 115, secure this end by two simple practicable methods. The first method introduced, but afterwards altered by Parliament, eliminated all element of chance in the distribution of quota-surpluses of the first and second orders, by first determining the full or aggregate force of all ballot-paper preferences 1, 2, 3, respectively, and proportionally distributing First-order quota-excesses on the basis of the independent aggregate distribution of all No. 2 preferences; and all quota-excesses of the Second order similarly on the basis of the ascertained aggregate distribution of all No. 3 preferences.

The second method suggested for arriving at the same end almost as perfectly as in the first method described is, while determining, as in the existing law, the force of the No. 2 preferences for the purpose of allotting a corresponding distribution of first order of any candidate's quota-excess, also determine the full force of the No. 3 preferences in the same individual candidate's original parcel (*i.e.*, his first count). Should a second order of quota-excess be secured subsequently to any other candidate by the aid of the first quota-excess division, let the latter portion of any quota-excess be allotted according to proportion, ascertained under the original No. 3 preference votes of the elected candidate from whom such surplus was obtained; but, at the same time, limiting the number of ballot-papers to be transferred to the proportion which such original quota-surplus division bears to the aggregate of all votes which go to form the quota-surplus of the second order. The distribution of the due proportion of votes which may have been derived from first votes and lowest excluded candidate transfers to be distributed as nearly as practicable in the proportion which the next available order of preference is indicated upon such ballot-papers. The only objection to this second method is that it is more complicated and would involve more trouble and time in the final determining of the ballot. The balance of advantage, therefore, remains in favour of the first method suggested.

General Questions regarding the Working Results of the Hare System.

The question most frequently put to the writer during the last four months regarding the working results of the Clark-Hare System of voting at the recent election at Hobart and Launceston shows how wide and deep is the interest taken in the matter, and the ordinary forms of misconception of several of the more essential features of the Hare system enable him to understand more clearly what are the points which it would

be well to discuss more particularly, and, if possible, to elucidate. For this purpose I have thought it best to select the more important of such questions in a systematically arranged series in the form of Question and Answer. This method will enable the ordinary enquirer to concentrate his or her attention upon each point separately as it arises.

An endeavour has been made also to arrange the order of the several queries or subjects so that the answers given to the first in order may facilitate the comprehension of explanations or observation of those which follow. The following are the series of Questions dealt with in this way:—

First Query.—What is the special nature of the modification of the Hare system introduced by Mr. Clark at the last General Election apart from the provision which restricted its operation to the two cities, Hobart and Launceston?

Answer.—The special modification introduced by Mr. A. I. Clark, Attorney-General for Tasmania, is the provision devised by him for eliminating the element of chance in the selection and distribution of quota-excesses or surplus transfer votes.

In the original scheme of Mr. Thomas Hare there was an element of chance connected with the appropriation of the voting papers of any candidate polling in excess of the ascertained quota, inasmuch as it would depend upon the chance position of the papers forming the excess. If the excess papers were taken, however indiscriminately, from either top, bottom, or middle of the whole parcel of first counts, it is almost certain that the second and higher preferences would vary with each chance selection, and the voters whose papers were selected for transfer to next in order of preference would thus by mere chance have an undue advantage in the determination of the candidates next in order of choice. Mr. Clark's scheme disposes of this element of chance in quota-excesses of the first order or first count, by giving each voter of the successful candidate *equal power* in determining what papers shall be selected for transfer. This is accomplished by redistributing the whole of the successful candidates' voting papers among the candidates not yet excluded from the poll on the basis of the next in order of preference—*i.e.*, No. 2—and afterwards allotting to each candidate such a proportion of papers, so distributed, to each candidate as is equivalent to the proportion which the quota-excess bears to the total parcel of first counts of the successful candidate.

Thus, if we assume that A secured 560 papers in the first count, and the quota was determined to be 460; and also

assume that the redistribution of A's 560 on the basis of No. 2 preference among, say, B, C, and D, gave the following results:—

B, 230; C, 115; D, 115:

Then, as quota-excess 100 : 560 :: { B 50 : 230 / C 25 : 115 / D 25 : 115

In this manner each voter has equal power (viz. $\frac{1}{560}$) in determining the quota-surplus transfer distribution. B appropriates 50 of the 230 papers having No. 2 against his name; C and D, respectively, appropriate 25 from among the papers similarly having the No. 2 preference against their names. This is a just distribution, and entirely removes the element of chance, so far as the second preference is concerned. A similar provision is made for removing, or rather minimising, the very trifling element of chance in quota-excesses of the second order—*i.e.*, where a former transfer paper may again be transferred to the third or next in order of preference—the determinants in the latter case being the whole of the *transferred papers*, only, which may have helped to complete a candidate's quota. The process is extremely simple and effective. The only objection to the method is that it may add about 20 per cent. to the work of handling the papers, as in the Hobart election. Where there are no excesses of the first order, as in the Launceston election, it may add only about 4 per cent. to the work of handling and counting.

Second Query.—What is the probable total effective value of all surplus votes transferred to candidates in next order of preference in comparison with the totality of all other forms of effective votes?

Answer.—It varies considerably, according to the number of quota-excesses of the first and second orders. In Hobart the quota-excess votes of the first order represented 1·25 per cent. of all effective votes. Those of the second order represented 2·29 per cent. All quota-excesses represented 3·54 per cent. In Launceston election the whole of the quota-excess transfer votes only represented 0·66 per cent. of all effective votes.

Third Query.—Does the Clark-Hare method entirely eliminate the element of chance in the transfer of quota-excesses?

Answer.—Yes, entirely, as regards quota-excesses of the first order. As regards transfers of the second order, I estimate that the element of chance for each candidate only represents 0·09 per cent. of all effective votes. This is so trifling an influence that it may be safely ignored in practice.

Fourth Query.—What, approximately, are the relative effective values of preference votes 1, 2, 3, and over, in determining the return of any candidate?

Answer.—For Hobart, the effective values were as follows:—

First preference	77·66 per cent.
Second ditto	20·47 ,,
Third and higher	1·87 ,,

The relative values for Launceston closely agreed with those for Hobart.

Fifth Query.—Whether is the first count, all effective votes, or the aggregate of all counts (effective and ineffective) the best index of the real measure of favour in which the several candidates stand towards the electorate?

Answer.—The aggregate of all counts, whether effective or not, would seem to be the truer index of the general favour in which each candidate stands, because the numbers polled at the first count may be greatly disturbed by the action of those who are interested in the success of two or more favourites who may be pretty well assured of success, but whose order of preference might by some be altered if sudden rumour suggested fears for any one of the favoured group. This accidental action would tend to conceal the true or exact measure of favour in the first count. In the aggregate of effective votes polled the true measure of favour is not quite correctly revealed by the actual numbers recorded as regards successful candidates, inasmuch as those who obtain the quota first are by exclusion from poll deprived of the full force of the second, third, and next in order of preference, all of which are received, and swell the volume of the last successful candidate. Thus, the first candidate who polled a quota in Hobart, Sir Philip O. Fysh, was deprived of the latent force of preference, 2, 3, &c. in his favour contained in 10 succeeding counts; Mr. Bradley was deprived similarly of the latent force of seven succeeding counts; Mr. Clark of five. Of the successful candidates, Messrs. Mulcahy, Crisp, and Page alone received the full force of all effective preference votes. The fairer index of the measure of general favour therefore seems to be the aggregate of all preferences, whether effective or non-effective, as shown in one of the appended tables.

Sixth Query.—What is the effect of the voter's restricting his choice of order of preference to three candidates (the minimum number compulsory by the Tasmanian law)?

Answer.—It renders the voter's influence useless in the determination of the fate of other candidates should his own three preferences, without his aid, obtain a quota, or, otherwise, be excluded, or eliminated, from the poll. Such useless papers are said to be "exhausted." No less than 206 votes, representing 7 per cent. nearly of all votes polled, were rendered useless in this way by the voters' self-imposed sacrifice of his own right or privilege. This is a matter which demands more serious consideration, as nearly twice the voting force of all the invalid papers (104) were practically lost in the determination of the elections. It is natural to suppose that the ordinary voter's interest diminishes after his first three favourites are chosen in their order of preference. But it should be borne in mind that a further extension of indication of preference might be serviceable to the voter in excluding those whom he thought least desirable as representatives; for the order 1, 2, 3, need not be regarded as the index of favour. It is just as serviceable in determining order of dislike, No. 1 being regarded as the candidate who is least in disfavour; the others, in sequence, being regarded as next in order of greater disfavour.

Seventh Query.—How far was the voting force as a whole reduced by invalid or defective ballot-papers?—and what was the nature of the defects which rendered the papers invalid?

Answer.—The voting force lost to the elections at Hobart by reason of invalid papers is represented by 104 ballot-papers, equivalent to 3·65 per cent. of all ballot-papers. The following is a summary of the defects:—

	No.	*No.*	*Per cent. to total ballot-paper.*
Defective preference numbering	45		
Defective or unrecognisable figures	4		
		49	1·72
Illegal marking and scoring ...	52		
Adding signature	2		
Disfiguring or blank papers	1		
		55	1·93
Total invalid papers		104	3·65

Only 61 of these invalid papers can be traced to their first preference, and of these 46 were lost to successful candidates, and 15 were lost to the unsuccessful candidates,

From this analysis of defective ballot-papers it will be seen that only 49, representing 1·72 per cent. of all ballot-papers, can be attributed to the Hare system ; and upon the first introduction of any new system such a result might naturally be expected. The defects of 55 papers, representing 1·93 per cent. of all ballot-papers, are of such a nature as might occur under any system of voting. Some of the defects might have been avoided if the ballot-papers gave clearer indication where the preference numbers were to be written against each candidate's name.

If the preference number position were indicated by a printed enclosing circle or square, and each name separated by a clearly printed line, the defective papers would be greatly reduced, thus :—

BURNS.	
DRYDEN.	
MILTON.	
POPE.	
SHAKESPEARE.	
WORDSWORTH.	

Eighth Query.—Can you suggest any improvement in the method employed for determining the results of the poll ?

Answer.—The work of counting and determining the results of the poll within, say, an hour of its close, might be accomplished with ease and accuracy if the following plan were adopted :—

First.—Set a room apart for the counting staff—properly safeguarded as regards privacy and scrutiny—adjacent to the chief polling-room ; and let the work of sorting,

counting, and distributing ballot-papers be carried on simultaneously with the work of polling.

Second.—Depute the duty of transmitting in due order from time to time the various ballot-boxes (one at a time) to counting-room to a particular officer, who shall see that the contents are discharged upon the first sorting-table by the Superintendent of the counting-room, who alone possesses the power to unlock the boxes. A spare box should be always available in the polling-room to take the place of the box during its transmission and return from counting-room.

Third.—Let the chief returning officer periodically examine and finally determine all doubtful and invalid papers set apart for his decision.

Fourth.—Prior to the day of election, the Superintendent of the counting-room should make the necessary calculations which would determine the number of separate sorting and counting tables and the necessary staff. The staff, prior to the day of election, should receive an object lesson from the Superintendent in the work that they are to be engaged, and the latter should by actual trial satisfy himself that each one thoroughly understands the particular process entrusted to him.

Fifth.—In the work of sorting and recording each subdivision, marked A, B, C, D, E, F, no conversation or discussion should be allowed. If a paper is challenged as doubtfully invalid, it should, without discussion or comment, be placed in the place set apart for *doubtful* papers, to be finally determined by the decision of the chief returning officer.

Sixth.—Apart from the candidates' onlooking scrutineers, there should be three officers set apart for each recording table, which latter should be equipped with as many named cells as there are candidates, and with two extra cells for the reception of doubtful and invalid papers respectively. The chief officer at each table should take the central position, and his duty is to examine each paper, and see at a glance whether valid, doubtful, or invalid. If valid, he should quickly call out name and preference number; thus :—Fysh, 1 ; Bradley, 1 ; Clark, 1 ; Fysh, 1 ; Clark, 1 ; and simultaneously place each paper in its proper receptacle. The recorders, one on each side, both enter a 1 in the proper column for each name called out.

As each pair of sheets is completed, the chief clerk should compare the totals of the one with the other, and if they agree the pair of recording sheets should forthwith

be initialled and transmitted to the superintendent's compiling table. If they do not agree the error must at once be traced out and corrected. A septum of coloured paper, placed in each cell above the last ballot-paper entered in a former pair of recording sheets, will greatly aid in facilitating the detection of such errors.

During the last general election at Hobart each recording sheet had 50 lines, numbered from 1 to 50 at each side, with a separate column for each candidate. As each recording tick 1 was marked under each name on the line immediately succeeding the last recorded tick for the same person, it followed that as soon as any one candidate's recording tick reached the fiftieth line the sheet was complete, and the numbers of all the other candidates could be ascertained by inspection without counting ; for the line number of the last entry in each column would indicate exactly the number of votes to be carried to total at foot of recording sheet.

In this way the work of the superintendent in compiling the recording sheet totals was greatly facilitated, and enabled him to show at any moment the aggregate number polled for each candidate.

If the plan here indicated is adopted at any election, there is every reason to believe that it would work satisfactorily, and the final results of the election might be ascertained and published within an hour of the close of the poll.

The only work of the Hare system of ballot which would have to be postponed until the close of the poll would be the distribution of transfer votes from quota-surpluses and lowest eliminated candidates.

HOW TO SIMPLIFY THE BALLOT BY THE HARE SYSTEM TO THOSE WHO CANNOT READ OR WRITE.

Many who otherwise regard the Hare system of voting with favour, have objected to its introduction in Tasmania, on the ground that the difficulties of instructing voters who can neither read nor write would be practically insurmountable ; and they believe that attempts to record the preference 1, 2, 3, or even I., II., III., against the persons chosen in this order of preference by those who cannot read or write would involve many mistakes, and largely increase the number of invalid ballot-papers. Another, and perhaps a more serious objection

to the use of *written* figures, is that to a great extent it invades or endangers the wisely guarded secrecy of the ballot ; for the figures written by many persons are as characteristic as their writing, and might be recognised, and the name of the voter, and how he recorded his vote, might thus be improperly disclosed by persons subsequently handling the ballot-papers.

There are, therefore, three difficulties to be met, and for which some means should be devised to dispose of them, or, at any rate, to lessen their evil effects, viz :—

1. To devise means whereby voters, who are unable to read or write, may readily determine the position and names of the candidates preferred by them upon the ballot-paper when the latter is placed in their hands.

2. To record the figures 1, 2, 3, &c., against each name indicating voter's preference accurately and easily, without the necessity of writing by hand.

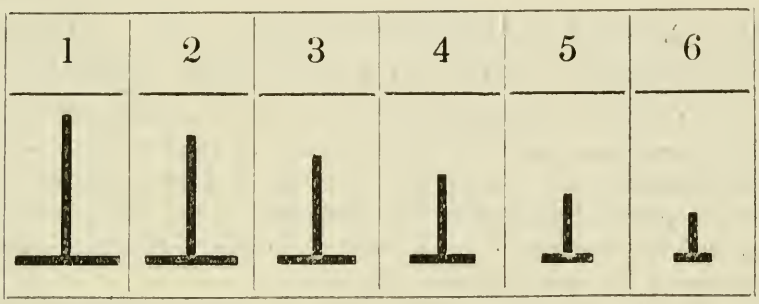
3. To record these figures, showing order of preference in such a manner as will fail to disclose to anyone the identity of the voter who has privately recorded them. Having devoted some attention to this very important matter, I think I can disclose a simple plan which would remove all such difficulties.

HOW TO DETERMINE THE NAMES OF PREFERRED CANDIDATES UPON BALLOT-PAPER.

First, to help those who cannot read and of themselves are, therefore, unable to determine the position of the names of the candidates they prefer upon the ballot-paper, I would suggest that immediately the names of candidates for election are declared let there be prepared a large printed poster bill recording in large print the names of the various candidates exactly in the same style of type (except size), and in the same order of sequence as the names will be printed on the ballot-paper proper. Against each name, in front, print boldly the litho-photo of the head and features of the candidate. If these large posters were affixed to the principal hoardings throughout the city, where the names continuously associated with the candidate's photograph would frequently meet the eye of the citizens, it is certain that every voter, even though unable to read or write, would within seven days be well acquainted with each candidate's printed name and could locate the exact position where such name would be found upon the ballot-paper when placed in his hand, on the day of election, without the aid of anyone. The secret of the manner in which such person voted would thus be as secure as it is now to persons who are able to read and write.

HOW ILLITERATE PERSONS—WITHOUT PERSONAL AID—MAY RECORD THE FIGURES 1, 2, 3, ETC., IN THE DESIRED ORDER OF PREFERENCE WITH THE GREATEST EASE AND WITH PERFECT ACCURACY.

In addition to marking-pencils let there be provided in the veiled recording chamber a shelf holding as many figure stamps as there are seats. For Hobart six, for Launceston four. Let the *size* and *sequence of position* of these stamps correspond exactly with the figures which the several stamps are devised to impress when stamped against, and in front of, the name selected; thus:—



1. Thus, for the first *choice*, let the voter select the *first* and *tallest*, stamp and stamp it exactly in front and level with the name of his first choice.
2. For the *second* preference, take the *second* stamp *in order* and the *second in height*, and impress it similarly against the name of the second candidate of his preference.
3. For the *third* preference, take the *third* stamp *in order* and the *third in height*, and impress it similarly against the name of the third candidate of his preference.
4. Continue to impress the remaining three stamps in the order of *place* and *height* (if desired) against the names of candidates whose degree of favour in the voter's eye is marked, in every case, by the order of position relative to the first; and the gradually diminishing height of the stamp corresponding with this order, and with the diminishing interest of the voter.

When an illiterate person grasps the fact that the *first* and *biggest* stamp is to be used only for the first preference, and the *smallest* and *last* stamp for that of one of the *six* candidates who stands lowest in his esteem, all his difficulties of recording his choice, secretly and accurately, vanish.

A separate ink-pad for the stamps may be avoided by the use of the self-inking and self-adjusting stamps now commonly used in public offices. To ensure greater success, a lesson in

the simple method of impressing the stamp against any name might be given in some convenient ante-room, and the care that due order of the stamps in proper position is preserved in the veiled recording chamber might be seen to by some officer, after each candidate has recorded his vote.

I hope the suggestions made will commend themselves to those who have the responsibility of securing the success of the election by the Hare system of ballot, and also to all who are jealous of preserving intact the secrecy of the ballot.

THE ACTUAL DISTRIBUTION OF QUOTA EXCESSES BY THE CLARK-HARE METHOD.

Some persons are fearful that the able returning officers at Hobart and Launceston—Messrs Davies and Sadler—supported as they were by the best legal opinion, and assisted as they were by persons skilled in the particular work, have failed to carry out the law in all its entirety in the distribution of quota-surpluses at the last general election.

But, from the expressed statements of some of the critics it is very obvious that their fears arise either from an imperfect or hazy notion of the exact processes expeditiously and correctly carried out by the responsible officers referred to, or from a very faulty notion of what our law required to be carried out. From my official position at Hobart—under Mr. Davies (acting-superviser of the counting processes)— I had the best opportunity of knowing how the various operations of the counting and distribution of ballot-papers were performed, and I can trust that I will be credited when I assure all persons that every process was faithfully carried out, expeditiously and smoothly, in strict compliance with every provision of the law as embodied in *Section* 115, I—X.

It would be altogether inexcusable on my part, having such responsibilities, if I had not made myself thoroughly acquainted with every provision of the law affecting each of the stages of counting and distribution, for I had the advantage of ample time and opportunity for making myself fully acquainted with all the nice points where some difficulties of interpretation might arise. Moreover, I had the advantage of familiar discussion and helpful advice from the law officers of the Crown, and from other trained legal authorities on every occasion that a possible shade of doubt presented itself to my mind as regards some of the more obscure provisions. The result was that I had the comfort of knowing before I engaged actively on my duties that in the methods for every stage

arranged and ultimately carried out by me as supervising assistant under Mr. Davies, I had the sanction and hearty approval of the law advisers of the Crown. With my own judgment independently concurring with the special advice of the law officers, who originally drew up every one of the provisions of Section 115, I have no fear that any person, however astute, who has not had the grave responsibilities of execution, and who has not devoted the same time and trouble to the study of our Electoral Act, 1896, Section 115, will be successful in the discovery of any flaw either in the interpretations put upon its various provisions, or in the processes adopted for carrying it into effect.

Those who profess to have discovered a flaw in the mode of determining the quota-excess in Hobart have misled themselves by taking hold of only a part of the truth—a source of danger in most cases to inexperienced persons.

So far as the ordinary misconceptions are concerned regarding the provisions made for determining the division of transferable quota-surpluses, it is apparent for the most part that they arise from unskilled or hasty reading of clauses v. and iv., Section 115. Both of these clearly provide for the manner in which quota-surpluses are to be distributed, and both have for their object the distribution of the excess, freed altogether from arbitrary selection by returning officer, and freed, as fairly as practicable, from the element of chance selection. But the stumbling block of the average inexperienced or incautious critic is his failure to discern that the law recognises and distinguishes two distinct orders of quota-excess, while the incautious critic either only recognises one, or confounds or mixes up part of the provision of the one when dealing with the other. For the sake of greater clearness we may call the quota-excess provided for in Clause V. as quota-excesses of the *first order*, and the quota-excesses contemplated in Clause VI. as those of the *second order*. Now the manner in which the quota-excess of the first order is to be determined in distribution is altogether different from the manner provided in Clause VI. for the determination and distribution of quota-excess of the second.

For the former (*i.e.*, first order) the quota-excess—as in case of the only one of this *order*, the Fysh surplus, 44—Clause V., "Shall include as nearly as practicable in respect of each candidate the same proportion of ballot-papers having the figure 2 set opposite to his name as the number of such ballot-papers included in the whole parcel bears to the total number of ballot-papers *in the whole parcel*." The quota-excess of the first order has been derived wholly from the successful candidate's 1's without the aid of a single transfer ballot-paper

from any other candidate, and hence the law provides that for such first order quota-excess the determinants of mode distribution are, as in the Fysh surplus—*the whole of his own original ballot-papers of the first count.*

For determining the manner in which quota-excesses of the second order shall be distributed the law is entirely different; for it excludes altogether the successful candidates' first count ballot-papers as determinants, and restricts the determinant of distribution *solely to the total ballot-papers previously transferred.*

The successful candidates of the second order quota-excesses cannot by this provision—whether desirable or otherwise—have their own first count papers included among the determinants of distribution; the law clearly confining this function to the various subsequently transferred ballot-papers obtained preferentially from other candidates, and by whose aid the quota and its excess were actually obtained.

I hope this explantion will satisfy all reasonable persons that the various processes of the ballot in Hobart and Launceston were correctly carried out, and were not marred in any way by flaws in the manner in which the whole work was carried out.

It is interesting to note that Hobart alone had a quota-excess of the first order to distribute, while of quota-excesses of the *second order* Hobart had three and Launceston only one.

In conclusion, let me record gratefully, not merely my own personal indebtedness, but that of Tasmania, to the pioneer advocate of True Representation of the People in Australia (Miss C. H. Spence, of Adelaide), whose life's devotion to the cause of True Representation has not only greatly influenced, but has won the admiration and respect of England's greatest statesmen. To Miss Spence's unwearied advocacy, by word and pen, the success of the introduction of the Hare System in Tasmania by Mr. Clark is largely due. I only hope she will live to see throughout the civilized world the general adoption of the Hare System of voting, which alone secures any practical approximation to a Fair and True Representation of the People.

THE HARE SYSTEM AT HOBART:

Ballot Recording Sheet,

Giving the Actual Results of the various Counts at the recent Parliamentary Election.

THE HARE SYSTEM AT HOBART.—THE COMPLETE RETURNS.—T
at the recent Parliamentary Election, worked out

COUNT.	TOTAL VOTES DISTRIBUTED.	BRADLEY.	CLARK.	COX.	CRISP.	DILLON.	FULTON.	FYSH.
First	2746	448	393	34	202	143	118	501 Elected-4
Second...	44	4	27	...	3	1	...	*
Third ...	34	3	5	(—34) Out	13	2	4	*
Fourth...	122	28	18	...	12	10	(—122) Out	*
		483 Elected-26						
Fifth	26	*	4	...	4	2	...	*
Sixth	145	*	29	...	16	13	...	*
			476 Elected-19					
Seventh..	19	*	*	...	5	...	...	*
Eighth...	171	*	*	...	53	6	...	*
Ninth....	177	*	*	...	36	(—177) Out	...	*
Tenth	221	*	*	...	23	...	...	*
Eleventh	36	*	*	...	5	...	...	*
TOTAL..	3742	483 Elected. *	476 Elected. *	34 Out.	372 Elected.	177 Out.	122 Out.	501 Elected. *

* Obtained

lowing Ballot Recording Sheet gives the actual results of the various counts ality. The quota, it will be remembered, was 457 :—

IDDLE-TONE.	MULCAHY.	PAGE.	PATON.	ST. HILL.	EXHAUST PAPERS.	PARTICULARS OF DISTRIBUTION.
137	264	235	140	131	...	First count.
2	4	2	...	1	...	Fysh's surplus.
1	1	3	...	2	...	Lowest out (Cox).
11	13	10	12	8	...	Next lowest out (Fulton).
3	2	2	7	3	...	Bradley's surplus.
15	21	14	21	(—145) Out	16	Lowest out (St. Hill).
2	2	2	1	...	7	Clark's surplus.
-171) Out	82	18	8	...	4	Lowest out (Hiddlestone).
...	51	28	32	...	30	Next lowest out (Dillon).
...	53	24	(—221) Out	...	121	Next lowest out (Paton).
	493 Elected–36 *					
...		3	...	...	28	Mulcahy's surplus.
171	493	341	221	145	206	
)ut.	Elected. *	Elected.	Out.	Out.		

quota.

GENERAL ELECTION, HOBART.

20th January, 1897.

ANALYSIS showing the separate and cumulative value and distribution of the effective portion only of the various Preference and Transfer Votes:—

Candidates.	Preference 1.		Preference 2.		Preference 3 and over.		All Effectives.	
	No.	per cent	No.	per cent	No.	per cent	No.	per cent
Fysh †	501	18·24	—	—	—	—	501*[a]	14·17
Mulcahy †	264	9·61	205	28·36	24	26·36	493*[d]	13·95
Bradley †	448	16·31	34	4·70	1	1·52	483*[b]	13·66
Clarke †	393	14·32	78	10·79	5	7·58	476*[c]	13·46
Crisp †	202	7·36	161	22·27	9	13·63	372[e]	10·52
Page †	235	8·56	99	13·69	7	10·61	341[f]	9·64
†	2043	74·40	577	79·81	46	69·70	2666	75·40
Paton ‡	140	5·10	72	9·96	9	13·63	221[g]	6·25
Dillon ‡	143	5·21	32	4·43	2	3·04	177[h]	5·01
Hiddlestone ‡ ..	137	4·99	28	3·73	6	9·09	171[i]	4 84
St. Hill ‡	131	4·77	11	1·52	3	4·54	145[j]	4·10
Fulton ‡	118	4·30	4	·55	—	—	122[k]	3·44
Cox ‡	34	1·23	—	—	—	—	34[l]	·96
‡	703	25·60	147	20·19	20	30·30	870	24·60
TOTALS ..	2746	—	724	—	66	—	3536	—
Percentages—								
Vertical	—	100	—	100	—	100	—	100
Horizontal ..	77·66	—	20·47	—	1·87	—	100	—

* Obtained a quota. † Elected. ‡ Excluded.

RESULTS OF EXCLUSION FROM POLL. ¶

NOTES.—[a] Latent force of preferences 2, 3, &c. contained in 10 lower counts not recorded, having been transferred to next in order of voters' own preference among remaining candidates.

[b] Ditto ditto, contained in 7 lower counts, ditto ditto ditto.

[c] Ditto ditto, „ 5 „ „ „ „ „

[h] Ditto ditto, „ 1 „ „ „ „ „

[i] Ditto ditto, „ 2 „ „ „ „ „

[j] Ditto ditto, „ 5 „ „ „ „ „

[k] Ditto ditto, „ 7 „ „ „ „ „

[l] Ditto ditto, „ 9 „ „ „ „ „

[d e f g] alone received the full benefit of the whole of their own effective transfer preferences from all counts.

¶ Those who at the several counts are either elected or lowest are thenceforward by present law excluded from the Poll.

FURTHER ANALYSIS of the Results of the Ballot for Election of Representatives at Hobart, 20th January, 1897, showing the Separate and Cumulative Value of all Preference Votes (1), (2), and (3), whether effective or ineffective :—

CANDIDATES.	Preference 1	Preference 2	Preference 3	CUMULATIVE RESULTS OF PREFERENCES.	
				One & Two.	One, Two, & Three.
	No.	No.	No.		
Clark*†	393	592‡	401‡	985‡	1386‡
Fysh*†	501‡	427	314	928	1242
Bradley*†	448	344	321	792	1113
Mulcahy*†	264	231	396	495	891
Crisp*	202	218	270	420	690
Hiddlestone	137	251	269	388	657
Page*	235	167	169	402	571
Dillon	143	158	156	301	457
St. Hill	131	101	149	232	381
Fulton	118	121	130	239	369
Paton	140	90	129	230	359
Cox	34	46	42	80	122
All.. Gross Total	2746	2746	2746	5492	8238
All.. Legally effective	2746	724	66	3470	3536

Quota—457.

* Elected. † Obtained quota. ‡ Highest in order of general favour.

ILLUSTRATIONS OF THE CLARK-HARE SYSTEM OF ELECTION ADOPTED IN TASMANIA.

Examples of marking Ballot-papers.

(i.) Where there are NINE Candidates for SIX Seats.

Austin		Austin	5
Dickens		Dickens	6
Fielding		Fielding	4
Gissing	4	Gissing	
Lytton	3	Lytton	
Meredith	5	Meredith	
Richardson	6	Richardson	2
Scott	1	Scott	3
Thackeray	2	Thackeray	1

(ii.) Where there are SIX Candidates for FOUR Seats.

Burns	4	Burns	4
Dryden		Dryden	3
Milton	2	Milton	2
Pope		Pope	
Shakespeare	1	Shakespeare	
Wordsworth	3	Wordsworth	1

Examples of an Election of more than One Member for the same District.

Suppose there are Four Members to be elected, and there are Six Candidates, and the total number of valid votes polled is 3000.

In accordance with the directions contained in Section 115, the number of valid votes (3000) will be divided by the number of Members to be elected (4), and the result (750) will be the quota of votes required to elect a Member.

First Count.

A has 800 first votes.

B has 420 first votes.

C has 180 first votes.

D has 780 first votes

A and D are declared elected, and the surplus of A's first votes is transferred to the other candidates who are marked 2 on the same ballot-papers (in pursuance of Sect. 115, Sub-sect V.) in such a manner that each of the other candidates receives the same proportion of such surplus votes as all the papers on which his name is marked with the figure 2 in the parcel bear to the whole 800 ballot-papers in the said parcel.

E has 720 first votes.

F has 100 first votes.

A has 50 surplus votes, and as E is marked 2 on 640 out of the 800 papers, and F is marked 2 on 160, it follows that E is entitled to four-fifths and F to one-fifth of the surplus. The Returning Officer will therefore transfer 40 of A's surplus votes to E, and the remaining 10 of A's surplus votes to F.

D has a surplus of only 30 votes, and, following the same course, 20 of his surplus ballot-papers are found to be transferable to B, and the remaining 10 to C.

The numbers on the Second Count will then be as follows :—

A, 800 — 50 votes transferred to other candidates = 750 (elected).

B, 420 + 20 votes transferred from the surplus votes of D = 440

C, 180 + 10 votes transferred from the surplus votes of D = 190

D, 780 — 30 votes transferred to other candidates = 750 (elected).

E, 720 + 40 votes transferred from the surplus votes of A = 760 (elected).

F, 100 + 10 votes transferred from the surplus votes of A = 110.

A, D, and E are now declared elected, but another Member is required, and there must therefore be another transfer of any surplus votes and a Third Count. The only candidate who had a surplus on the Second Count was E, who had a surplus of 10 votes in consequence of having had 40 of A's surplus votes transferred to him. He will retain permanently 30 of those surplus votes because they are necessary to give him the requisite quota of 750 votes, but the other 10 of A's surplus ballot-papers will now be transferred to the candidates whose names are marked on them with the figure 3, and on them the name of B is marked 3.

The numbers on the Third Count will therefore stand as follows :—

A	750 (elected)
B, 440 + 10 votes transferred from E's surplus on the Second Count =	450
C	190
D	750 (elected)

There still remains a Member to be elected, and there are not any more surplus votes to be transferred. It therefore becomes necessary to reduce the number of candidates by excluding the one who is lowest on the poll as it now stands, and to transfer his votes to the candidates who are marked 2 on the ballot-papers which have

E	750 (elected)	hitherto been counted for him. The lowest candidate on the poll is F, with 110 votes, and he is now excluded. Upon 80 of the ballot-papers hitherto counted for F the name of B is marked 2, and on the other 30 of them the name of C is marked 2.
F	110	

The numbers on the Fourth Count will therefore be as follows:—

A	750 (elected)	Only three candidates have succeeded up to the present time in obtaining the requisite quota of votes, and it therefore becomes necessary to reduce again the number of candidates by excluding the one who is lowest on the poll as it now stands. The lowest candidate is C, and he is excluded, leaving only the same number of candidates as there are Members to be elected, viz., A, B, D, and E, who are therefore declared elected, and the election is closed.
B, 450 + 80 votes transferred from F	= 530 (elected)	
C, 190 + 30 votes transferred from F	= 220	
D	750 (elected)	
E	750 (elected)	

GENERAL ELECTION HOBART

EFFECTIVE VALUE OF PREFERENCE VOTES 1.2.3 & OVER.

GENERAL ELECTION HOBART

CUMULATIVE VALUE OF EFFECTIVE & INEFFECTIVE PREFERENCE VOTES. 1 2 3