HOW S.T.V. WORKS

You vote by ranking the candidates in order of preference 1, 2, 3 .... etc, not just by putting Xs. If there are 50 candidates you can vote 1 to 50 even if there are only 30 places.

Your vote goes first to the candidate you have ranked no.1. If it does not help that candidate get elected (because s/he already has enough votes, or has very few votes), then your vote is transferred to your second preference. And so on.

First the votes are counted according to the first preferences.

A quota is calculated by dividing the total number of votes by the number of places to be filled, plus 1*. So if there are 186 votes and 30 places to be filled, the quota is 186 divided by 31, i.e. 6.

Anyone with a quota or more is elected at the first count. Then votes are transferred.

Where elected candidates have a surplus over the quota, the surplus is transferred to the next preferences. Candidates at the bottom of the poll are also eliminated, and all their votes transferred to their next preferences.

Thus the total votes cast are redistributed by transfers so that eventually – in the example given – 30 successful candidates all have 6 votes each (or maybe more for the last candidate to be elected), and the remaining 6 votes (or fewer) are shared among the unsuccessful candidates. Almost every voter has directly helped to elect a candidate, either by his/her first preference or by a lower preference.

The details of how the transfers are done are fairly complicated. Slightly different methods are possible – the one explained below, recommended by the Electoral Reform Society, is a bit more complicated than the one outlined by comrade Hughes (IB 45), but quicker.

But the basic principle is very simple. To understand it you don't need to understand the details. The basic advantage of STV is also simple – that it ensures proportional representation. For example, a group of 60 like-minded comrades who vote for candidates representing their views as top preferences are bound to get 10 of them elected, because they have 10 quotas of votes. It doesn't matter how many candidates come from that group, or whether the group all vote the same person no.1 or 20 different people no.1. When the 10 quotas of votes are redistributed by transfers, we must end up with 10 candidates from the group having a quota each. If the group stands more than 10 candidates, then which of those ten gets elected will be determined by the voters' preferences.

ADVANTAGES OVER THE X-VOTE (FIRST PAST THE POST)

The system of comrades putting X against the candidates they wish to support, and then having those candidates with most votes elected, is simple to count. It has no other advantages. It has the following disadvantages which STV avoids.

a) Minorities get crushed,
b) Majorities can get crushed,
c) Factional voting is forced on voters,
d) The system is unstable and prone to freak results.

These faults are bad enough at the best of times. They are especially bad for us now. An X-vote system would force our organisation into a sharp factional division at the NC elections. Factional divisions should be dictated by political necessities, not by the technicalities of voting systems. The X-vote system could lead to major trends of opinion being squeezed off the NC. It could also produce a freak result.

a) Minorities get crushed

Suppose there is a conference of 100 with two factions, A and B. A has 60 votes, B has 40. Then if each faction votes factionally, A sweeps the board on the committee. All its candidates get 60 votes, all B's get 40.

** Sometimes the quota is defined as the number of votes divided by the number of places. This produces much the same results, but more slowly.*

This will not happen under STV. Suppose the committee is 5 members; the A faction all vote A1 A2 A3 A4 A5; the B faction all vote B1 B2 B3 B4 B5.

The quota is 100 divided by 6, i.e. 16.67.

Candidate	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
First count	60	0	0	0	0	40	0	0	0	0
	Transfer surplus from A1 and B1									
	16.67	43.33	0	0	0	16.67	23.33	0	0	0
	Transfer surplus from A2 and B2									
	16.67	16.67	26.66	0	0	16.67	16.67	6.66	0	0
	Transfer surplus from A3									
	16.67	16.67	16.67	9.99	0	0	16.67	16.67	6.66	0
	elected	elected	elected				elected	elected		

So A gets 3 places, B gets 2.

In practice no voting pattern will be as neat as the patterns shown above. But the general truth remains: under X-vote, even big minorities get squeezed out, while under STV they get proportional representation.

b) Majorities can get crushed

1. Take the example of a conference of 100 again: group A has 60 votes, B has 40. The committee is 5 members. Suppose group B is well-organised and has 5 candidates, but group A has 10, and group A's votes are evenly spread among their 10 candidates. Then each group A candidate gets about 30 votes – and the minority sweeps the board!

2. A similar thing happens if group B puts forward 5 candidates, and votes solidly for them, but group A, seeking a balanced committee, puts forward only 3 candidates and shares its other votes evenly among the five B candidates.

Each A candidate gets 60 votes. Each B candidate gets 40 votes from group B voters, plus two-fifths of the 60 A votes, i.e. 24 – a total of 64. So group B sweeps the board.

3. The two effects can be combined. Suppose you have a conference of 72 divided 50/50 between group A and group B. The committee has four members. Everyone is non-factional and votes for a committee which is evenly balanced between A and B. But A has 8 candidates and B has 4. So A's candidates get 9 votes each, and B's get 18 votes each. B sweeps the board.

These results would be avoided under STV.

1. In the first case: so long as all A voters give their first ten preferences to A candidates, the 60 A votes after transfers cannot fail to give 3 A candidates at least a quota of 16.67 each.

2. In the second case: so long as all A voters give their first three preferences to the three A candidates, in whatever order, those three will get at least a quota each.

3. In the third sort of case – where group A's top preferences are widely spread among a lot of candidates, and its middle preferences are given to candidates from different groups – it is just about possible for A to be swept off the committee even under STV. If group A ballot papers get transferred through to group B candidates without sufficient of them accumulating on any one A candidate to stop him/her getting eliminated before the two least successful B candidates, then A gets no-one elected. But this is very, very unlikely.

c) Factional voting is forced on voters.

The examples above show how under X-vote a minority with good factional 'whipping' can sweep the board against a majority which is looser or more generous. Now of course the majority can work this out too. So probably they won't be loose or generous! They will organise their voting on a tight factional basis, too.

The X-vote system can thus drive a group to tight factional voting even if it doesn't want it. Unless each group is absolutely confident that the other group will not organise to vote in a tight factional way, it has to organise that way itself.

Each group has no option but to run the risk of being crushed – or to try to crush their opponents. So both groups can end up voting for 'winner takes all' – though neither wishes it.

But under STV, so long as each group votes for its own candidates as top preferences, it can use lower preferences for the other group – and thus express a desire for a balanced committee – without risk of being crushed. It does not risk having its desire for a balanced committee result in an unbalanced committee.

Of course STV also gives voters the option of voting in a tight factional way if they wish – they can vote only for their own group, and not use any other preferences.

d) The X-vote system is unstable and prone to freak results.

Suppose you have a conference of 50 group A, 50 group B, and one eccentric. Then under the X-vote, the one eccentric voter will decide the whole election.

That is an extreme example. But generally under X-vote the effect of odd individuals, and also of currents of opinion which may cut across other divisions (e.g. a current of opinion which wants more women on the committee, without necessarily being united on which women it wants), is erratic – it may be huge or it may be nil.

STV is much more stable.

STV is also, in fact, simpler from the point of view of the voter than X-vote.

Under the X-vote system, it is not true that you just vote for the people you want to see on the committee; or at least, if you do, then you're not likely to get the result you want.

Some of the illustrations above show how under X-vote voting for a balanced committee, for example, can produce just the opposite effect. Here is another example. Suppose you very much want to see A on the committee. You think B should be on, on balance, but that's not so important. And suppose you calculate that both are likely to be borderline cases.

Then you are best advised not to vote for B (although you want him/her on the committee) – because a vote for B is also effectively a vote against A. Your vote for B could result in B pipping A for the last place.

Conversely, supposed you want C kept off at all costs. You don't think D should be on the committee, but it wouldn't be a disaster. Then you are best advised to vote for D (although you don't want him/her on the committee), because by doing so you may help D to beat C for the last place.

All these complications don't arise with STV. You just vote A as a high preference, B and C as middle preferences, and D as a bottom preference.

DETAILS OF THE COUNT

1. Count the first preferences.
2. Calculate the quota.
3. Candidates over the quota are elected. Transfer their surpluses, starting with the candidate with the biggest surplus, to the second preferences on the ballot papers.*
4. Suppose a candidate has 30 votes and the quota is 20. Then the surplus is 10. So we want to transfer 10 votes. But which 10? It would be arbitrary just to pick 10 papers at random out of the 30 ballot papers. What we do is transfer all of the 30 papers – but count each one at a 'transfer value' of only one-third, so the total surplus of 10 is spread evenly between those 30 papers. Similarly, if a candidate has 8 votes and the quota is 6, then the surplus is 2 and each paper has a transfer value of 2 divided by 8, i.e. ¼.

5. As a result of these transfers, a candidate who wasn't over the quota to start with may go over it. S/he is elected – and her/his surplus is transferred in turn.

6. The surplus from a candidate who goes over the quota as a result of transfers is transferred in a different way from surpluses arising at the first count. Only the papers for the last lot of transfers to that candidate are transferred further.

The main justification for doing it this way, rather than transferring all the papers, is that it is quicker and gives much the same result. Besides that it could be said that in this case the surplus comes only from that last lot of transfers, not the previous votes.

Suppose the quota is 20. A candidate has 15 votes, then 20 papers with a transfer value of ½ – i.e. 10 votes – are transferred to her/him. S/he now has 25 votes – a surplus of 5.

That surplus of 5 is divided among the 20 transferred papers – giving each a transfer value of ¼ for the next transfer.

7. If the next preference on a ballot paper is a candidate already elected (or eliminated: see below), then the paper is transferred to the preference after next.

If a paper to be transferred has no next preference written in, then it is taken out of the count. For this reason it is worth using all your preferences.

If in the example above 5 of the transferred papers have no next preference, so that only 15 can be transferred further, then the surplus of 5 is divided among those 15 and they have a value of one-third each.

8. If we get to a point where no remaining candidate (i.e. no candidate not yet elected or eliminated) is over the quota, then we eliminate the candidate with the lowest vote**. Alternatively, if the lowest vote is so far behind the lowest-but-one vote that even if all surpluses waiting to be transferred went to it, it could not catch up, then we eliminate it and leave those surpluses untransferred for the moment.

9. When candidates are eliminated, their papers are transferred at their full value.

10. We carry on transferring, electing, and eliminating until all the places on the committee are filled.

** If two candidates have the same surplus, decide which to transfer first by tossing a coin.*

*** If two candidates have the same number of votes, then look back over the previous rounds of the count. If they have had the same number of votes throughout the count, decide which to eliminate first by tossing a coin. If not, eliminate the one that had the lower vote at the most recent round at which they had different votes.*