

Condorcet's Theorem

V = percent of cases in which each voter is right
E = percent of cases in which each voter is wrong

h = voters giving answer *a*
k = voters giving answer *b*

$$\frac{V^{h-k}}{V^{h-k} + E^{h-k}}$$

Example:

Group of 1,000 voters; assume each voter is correct at least 51% of time; probability that 51% of 1,000 is correct on a given question *Q* is 69%.

Group of 10,000 voters; assume each voter is correct at least 51% of time; probability that 51% of 10,000 is correct on a given question *Q* is 99.97%.

Group of 1,000 voters; assume each voter is correct at least 60% of time; probability that 60% of 1,000 is correct on a given question *Q* is 99.97%.

As probability of correctness goes up or group size increases, chances of reaching the correct answer increases.

System requires either large groups (such as the USA but not groups such as Iceland) or better than 50% percent of being correct.

Rousseau assumed a correct answer to Question *Q*.
Rousseau also assumed that each member of the group desired to achieve the common good/general welfare.

Rousseau's definition of the "general welfare": "There is often a great deal of difference between the will of all and the general will. The latter looks only to the common interest; the former considers private interest and is only a sum of private wills."

General welfare = public interest (not private interest), equality in opportunity (rather than equality in acquisition).

Will of all = simple majoritarian rule

Problem: Slavery, women's rights, segregation