É. Barbier, Généralisation du problème résolu par M. J. Bertrand, Comptes Rendus de l'Académie des Sciences, Paris 105 (1887) p. 407.

THEORY OF PROBABILITY. - Generalization of the problem solved by Mr. J. Bertrand. Note by Mr. Émile Barbier.

Mr. Bertrand found that, if two candidates $A$ and $B$ obtained $m$ and $n$ votes in an election, $\frac{m-n}{m+n}$ is the probability that, during the counting of the votes, the number of votes for $A$ will always exceed those for his competitor.

If the number of the voters is 60 divided into $45+15$, then $\frac{45-15}{60}=\frac{1}{2}$ is the probability that the favored candidate with 45 votes will preserve the majority throughout the poll.
$\frac{45-15 p}{60}$ expresses the probability that the candidate who has 45 votes will always have more than $p$ times the votes of his competitor throughout the poll.

More generally, if $a$ and $b$ are the votes for $A$ and $B$ respectively, the proportion of $\alpha$ to $\beta$ for the numbers of votes, known one after the other, will meet fairly; or, at least, the proportion will pass from $>\frac{\alpha}{\beta}$ to $<\frac{\alpha}{\beta}$ fairly in $(\beta a-\alpha b)$ ballots on $\beta(a+b)$ tests.

