If we look through this more significant and general fact for the still deeper fact it grows out of, there arises before us the question—who examines the examiner? How happens it that men competent in their special knowledge, but so incompetent in their general judgment, should occupy the place they do? This prevailing faultiness of the examiners shows conclusively that the administration is faulty at its centre. Somewhere or other, the power of ultimate decision is exercised by those who are unfit to exercise it. If the examiners of the examiners were set to fill up an examination paper which had for its subject the right conduct of examinations and the proper qualifications for the examiners, there would come out very unsatisfactory answers—" HERBERT SPENCER.

After all this may I not make bold to declare that the murders with which the examinee is charged are really cases of broad daylight murders and not of suicide, and that the real enemy of the student is not the student himself, but the examiner or the paper-setter as well as the system of education now obtaining in this country. In conclusion I can not refrain from sincerely thanking my examiner for the very genial and at the same time caustic humour of his able article; the sole comfort left to myself and my fellow "failures" is the thought that our answer papers could furnish materials for such interesting literature and such an abundant supply of humour—so delightfull indeed that one would rather like to be the object of, rather than feel hurt at it.

B. K. S.

SOLUTION.

To find the number of combinations of n things (not all different), taken r at a time.

LET there be pa's, qb's, rc's and the rest different letter.

First the numbers of combinations of $(n-p-q-r)$ different letters taken zero, one, two &c....up to all at a time separately and also find the combinations of p a's taken zero, one, two......

upto p at a time and combine each of the former with each of the latter separately, and collect and add the groups of the same number at a time and proceed with qb's, and then with rc's in the same manner.

Take a particular example,

$$a\ a\ a,\ b\ b,\ c\ c,\ d,\ e,\ f,\ g.$$

Here we have got 4 different letters which are not repeated.

$${}^4b_0+{}^4b_1+{}^4b_2+{}^4b_3+{}^4b_4.=$$

$$1_1+4_1+6_2+4_3+1_4.$$

The suffixes denote the numbers taken at time.

Then take the combinations of 3 a's taken zero, one, two and three at a time, each time we will get one combination, such as a_0 a, $a\ a$, $a\ a\ a$, *i.e.*

$$1_0+1_1+1_2+1_3.$$

Combine each of these with each of the former :—

$$\begin{array}{l}
1_0+4_1+6_2+4_3+1_4 \\
\quad 1_0+1_1+1_2+1_3 \\
\hline
1_0+4_1+6_2+4_3+1_4 \\
\quad 1_1+4_2+6_3+4_4+1_5 \\
\qquad 1_2+4_3+6_4+4_5+1_6 \\
\qquad\quad 1_3+4_4+6_5+4_6+1_7 \\
\hline
1_0+5_1+11_2+15_3+15_4+11_5+5_6+1_7.
\end{array}$$

Now take the combinations of 2 b's taken zero, one, and two at a time, 1_0, 1_1+1_2 and combine each of these with each of the last.

$$\begin{array}{l}
1_0+5_1+11_2+15_3+15_4+11_5+5_6+1_7 \\
\qquad\qquad\qquad 1_0+1_1+1_2 \\
\hline
1_0+5_1+11_2+15_3+15_4+11_5+5_6+1_7 \\
\quad 1_1+5_2+11_3+15_4+15_5+11_6+5_7+1_8 \\
\qquad 1_2+5_3+11_4+15_5+15_6+11_7+5_8+1_9 \\
\hline
1_0+6_1+17_2+31_3+41_4+41_5+31_6+17_7+6_8+1_9
\end{array}$$

So on with 2 c's.

$$\begin{array}{l} 1_0+6_1+17_2+31_3+41_4+41_5+31_6+17_7+6_8+1_9 \\ \qquad\qquad\qquad\qquad\qquad\qquad\qquad 1^0+1_1+1_2 \\ \hline 1_0+6_1+17_2+31_3+41_4+41_5+31_6+17_7+6_8+1_9 \\ \quad 1_1+6_2+17_3+31_4+41_5+41_6+31_7+17_8+6_9+1_{10} \\ \qquad 1_2+6_3+17_4+31_5+41_6+47_7+31_8+17_9+6_{10}+1_{11} \\ \hline 1_0+7_1+24_2+54_3+89_4+113_5+113_6+89_7+54_8+24_9+7_{10}+1_{11} \end{array}$$

The whole process may be condensed thus :—

$\underline{1+4+6+4+1}$

$1+(1+4)+(1+4+6)+(1+4+6+4)+(4+6+4+1)+(6+4+1)$
$+(4+1)+1$ with 3 *a's*; adding the first series of combinations in 4 lines successively shifted by one place to the right hand side.

$\underline{1+5+11+15+15+11+5+1}$

$1+(1+5)+(1+5+11)+(5+11+15)+(11+15+15)+(15+15+11)$
$+(15+11+5)+(11+5+1)+(5+1)+1$ with 2 b's :—

Adding the previous series of combinations in 3 lines successively shifted by one place to the right-hand side.

$\underline{1+6+17+31+41+41+31+17+6+1}$

$1+(1+6)+(1+6+17)+(6+17+31)(+17+31+41)+(31+41+41)$
$+(41+41+31)+(41+31+17)+(31+17+6)+(17+6+1)+$
$(6+1)+1$ wth 2 c's :—

Adding the last series of combinations in 3 lines sucessively shifted by one place to the right-hand as before, and putting 0, 1, 2,......11 successively as the suffixes, we get the required combinations.

$$1_0+7_1+24_2+54_3+89_4+113_5+113_6+89_7+54_8+24_9+7_{10}+1_{11}.$$

Students may simplify the process still further in the following manner :—

aaa, bb, cc, d, e, f, g :—

$\underline{1+4+6+4+1}$ combinations of 4 non-repeated letters

$\underline{1+5+11+15+15+11+5+1}$ with 3 *a's* in 4 lines

$1+6+17+31+41+41+31+17+6+1$ with 2 b's in 3 lines

$\underline{1_0+7_1+24_2+54_3+89_4+113_5+113_6+89_7+54_8+24_9+7_{10}+1_{11}}$
with 2c's in 3 lines.

K. D. M.