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AD EA, QUAE VIR CLARISSIMUS J. B. *MENSE MAIO NUPERO IN HIS ACTIS PUBLICAVIT, RESPONSIO.*

G.G.L.

...He has proposed to me in addition another problem to be solved, concerning which I shall say next, where previously rendering a change, I shall have set published the foundation of the solution given by himself concerning the particular problem proposed in the said Journal.

Thus therefore the former: two gamesters play with one die with this condition, that whoever will have cast first the assigned number of points with it, must win. A in the first place makes one toss, & B one; next A two casts, consequently & B two; henceforth A three & B three &c. *Or*: A makes one cast, next B two, henceforth A three, afterwards B four, &c. until when one or the other of them must win. The ratio of the lots is sought. I exhibit the thing thus.

Let $5 : 6 = n$ there will be $1 : 6 = 1 - n$.

In the first case,

1	n	n^2	n^3	n^4	n^5	n^6	n^7	n^8	n^9	n^{10}	n^{11}	&c
A	B	A	A	B	B	A	A	A	B	B	B	&c.

The lot of A himself,

$$1 + n^2 + n^3 + n^6 + n^8 + n^{12} + n^{13} + n^{14} + n^{15} \text{ \&c.; mult. by } \overline{1 - n}.$$

whence with the act itself completed by multiplication, it will produce

$$1 - n^1 + n^2 - n^4 + n^6 + n^{12} - n^{16} \text{ \&c.}$$

But the lot of B himself,

$$n + n^4 + n^5 + n^9 + n^{10} + n^{11} + n^{16} + n^{17} + n^{18} + n^{19} \text{ \&c; mult. by } \overline{1 - n}$$

whence with the act itself completed by multiplication, it will produce

$$n^1 - n^2 + n^4 - n^6 + n^9 - n^{12} + n^{16} \text{ \&c.}$$

In the latter case:

1	n	n^2	n^3	n^4	n^5	n^6	n^7	n^8	n^9	n^{10}	&c
A	B	B	A	A	A	B	B	B	B	A	&c.

The lot of A himself,

$$1 + n^3 + n^4 + n^5 + n^{10} + n^{11} + n^{12} + n^{13} + n^{14} \text{ \&c.; mult. by } \overline{1 - n}.$$

or with the multiplication done,

$$1 - n^1 + n^3 - n^6 + n^{10} - n^{15} \text{ \&c.}$$

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[1]A Response to them, which the most famous man J. B. *published in the recent month of May in this Acta*. *Date*: *Acta Eruditorum*, Vol. 9 (1690), pp. 358–360.

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But the lot of B himself
$$n + n^2 + n^6 + n^7 + n^8 + n^9 + n^{15} + n^{17} + n^{18} + n^{19} + n^{20} \text{ \&c; mult. by } \overline{1 - n}$$

or with the multiplication done,
$$n^1 - n^3 + n^6 - n^{10} + n^{15} - n^{21} \text{ \&c.}$$

And in each case A+B$=1$, with the position unity to be the total law in the price of play. And the same Method succeeds in other similar cases, even if there are many gamesters & dice, and this easy solution in exact numbers is had as much as one will. But the problem is pleasing, because when a single one appears completely, it leads to series not yet sufficiently examined thus far.