MATHEMATICAL NOTE.

870. [X. 4, b. α.] *The Graphical Solution of Quadratic Equations.*

In his historical note in the March *Gazette* (p. 318 of this volume) Mr. Milne alludes to my "discovery" of the general graphic method of solving quadratics which I advocate. It is an old method, which seems to have been forgotten or overlooked, and I am merely trying to bring it into the forefront. The application to coaxial ranges *is* due to me. The method is useful also in connection with geometrical optics. A. LODGE.

CORRESPONDENCE.

To the Editor of the *Mathematical Gazette.*

Sir,

Can any readers of the *Gazette* throw any light on the history or origin of the following rule for reckoning products between 6×6 and 10×10, inclusive, on the fingers? Canon J. M. Wilson says he has long known it, but does not know how it came to his knowledge or where it originated.

He says the rule is known as *Regula Stultorum.* It seems to have been devised for, and used by, mediaeval monks who could not learn the multiplication table above 5 times.

They numbered the fingers of each hand from 6 to 10, starting with the thumb. Then, supposing they wanted to multiply 8 by 9, they touched the 8th finger of one hand to the 9th finger of the other, then counted and *added* all the fingers above and including the touching ones, for the first or ten digit; and *multiplied* together those beyond, to give the second or unit digit. Thus in this case, there are 7 fingers to be added and 2×1 to be multiplied: result 72.

[*N.B.*—6×6 and 6×7 require 'carrying,' the first being $20+4\times4$, and the second $30+4\times3$; but these are the only two cases.]

It must have been a fascinating discovery, and though it is called the dunce's rule, it was certainly no dunce who invented it, unless it were Duns Scotus himself.

How few people know the multiplication table up to 20×20! While we are on 'aids to multiplication,' the following rule, when both factors are in the 'teens,' make all such products easy to obtain mentally:

(one factor + the unit of the other) × 10 + product of the units
= the product required.

Thus: 19×17 $[=260+63]=323$, 19×19 $[=280+81]=361$, etc., the middle work being mental.

We might hear at our next annual meeting how it 'catches on' with school boys and girls. A. LODGE.

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440. Jenner writes of a Sir Isaac Newton, Regius Professor of Physic at Cambridge:—"he has out block-headed all his predecessors."

441. (Anne) had already gladded Oxford with her presence, and in 1705 she conceded to Cambridge the costly honour of a royal visitation. A royal visit to a University is, or might be called, a *dunces' holiday*, for then degrees are conferred on all whom royalty appoints, without the statutable qualifications and exercises. Upon this occasion Newton knelt down, plain mister, and arose Sir Isaac. It is the glory of knighthood that such a man deigned to accept it, but it must have been a whimsical spectacle to see a woman holding a sword in an assembly of parsons, to bestow upon a man of peace, an order essentially military.—Hartley Coleridge, *Northerners.*