tion thereof, as an explicit function of the others. To the problem as put even thus in its widest generality, Professor Boole's processes extend. It would make our article too lengthened were we to go into minute details; but we must endeavour to give some idea of the course here followed, as it both is extremely interesting as a matter of pure speculation, and forms an important part of the system under consideration.

Take the equation in (16), $x - yz = 0$; and, as a simple instance will serve the purpose of illustration as well as a complicated one, let the inquiry be: how can z be expressed in terms of x and y? In ordinary Algebra we should have

$$z = \frac{x}{y} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(19)$$

But though both sides of an equation may, in Logic as in Algebra, be multiplied (so to speak) by the same quantity, they cannot, in Logic, be legitimately divided by the same quantity. For instance, let the objects common to the class X and to the class U be identical with those common to the class Y and to the class U; in other words, let

$$UX = UY;$$

it does not follow that X is identical with Y, or symbolically, that

$$X = Y.$$

Hence equation (19) could not, in Logic, be legitimately deduced from (16), even if y were an explicit factor of x. But still further, when x has not y as one of its factors, the expression $\frac{x}{y}$ is not, in the logical system, interpretable. Nevertheless, Professor Boole shows that conclusions both interpretable and correct will *ultimately* be arrived at, if the value of z be deduced Algebraically, as in (19), and the expression $\frac{x}{y}$ be then, as a logical function, subjected to development. Now, if $\frac{x}{y}$ be developed by (11), and the expansion equated to z, we get

$$z = xy + \tfrac{1}{0}x(1-y) + 0(1-x)y + \tfrac{0}{0}(1-x)(1-y) \ldots\ldots(20)$$

Here we have two symbols, $\frac{0}{0}$ and $\frac{1}{0}$, the meaning of which has not yet been determined. Our author shows that the former, which in Algebra denotes an indefinite numerical quantity, denotes in the logical system an indefinite class. In Algebra $\frac{1}{0}$ denotes infinity; and, as is well known, when it occurs as the co-efficient in a term in