A logical function may be considered as a function of all the terms of discourse, or only of some of them which may be regarded as unknown or variable and which in this case are denoted by the letters x, y, z. We shall represent a function of the variables or unknown quantities, x, y, z, by the symbol $f(x, y, z)$ or by other analogous symbols, as in ordinary algebra. Once for all, a logical function may be considered as a function of any term of the universe of discourse, whether or not the term appears in the explicit expression of the function.

24. **The Law of Development.**—This being established, we shall proceed to develop a function $f(x)$ with respect to x. Suppose the problem solved, and let

$$ax + bx'$$

be the development sought. By hypothesis we have the equality

$$f(x) = ax + bx'$$

for all possible values of x. Make $x = 1$ and consequently $x' = 0$. We have

$$f(1) = a.$$

Then put $x = 0$ and $x' = 1$; we have

$$f(0) = b.$$

These two equalities determine the coefficients a and b of the development which may then be written as follows:

$$f(x) = f(1)x + f(0)x',$$

in which $f(1)$, $f(0)$ represent the value of the function $f(x)$ when we let $x = 1$ and $x = 0$ respectively.

Corollary.—Multiplying both members of the preceding equalities by x and x' in turn, we have the following pairs of equalities (MacColl):

$$xf(x) = ax \qquad x'f(x) = bx'$$
$$xf(x) = xf(1), \quad x'f(x) = x'f(0).$$

Now let a function of two (or more) variables be developed