quantities can receive no values distinct from unity and zero, the analogy between the two sciences will still be preserved.

It is necessary to observe that unity and zero (1 and 0) are virtually included by Professor Boole among his literal symbols. Of course we can give 1 and 0 any meaning we please, provided the meaning once imposed on them be rigidly adhered to. By 0, then, Professor Boole understands Nothing—a class (if the expression may be permitted) in which no object whatever is found. On the other hand, by 1 he understands the universe of conceivable objects. Thus 1 and 0 are at two opposite poles ; the former including every thing in its extension ; the latter, nothing. The meaning which has been affixed to 1 and 0 preserves, in the Logical system as in Algebra, the equations,

$$1 \times x = x, \ \left. \atop \right\} \ \text{...... ....} (5)$$
$$\text{and,} \, 0 \times x = 0 ;$$

for, the meaning of the former is, that objects which are common to the universe and to the class x are identical with those which constitute the class x ; and the latter means, that there are no objects which are common to a class in which nothing is found and to a class x : both of which propositions are self-evident. From the meaning affixed to 1, we see what the meaning of $1 - x$ must be. In fact, x and $1 - x$ are logical contradictories, the latter denoting all conceivable objects except those which belong to the former ; so that

$$1 - x = \text{not } x \text{.........................} (6)$$

This value of the symbol 1 being admitted, we can, by the principles of transposition and distribution [see (3)] reduce equation (4) to the form,

$$x \, (1 - x) = 0 \text{.........................} (7)$$

The law here expressed, which is termed the Law of Duality, plays a most important part in the development of logical functions, and in the elimination of symbols. In fact, it may be described as the germ out of which Professor Boole's whole system is made to unfold itself.

Having shown how concepts, whether taken universally or particularly, are represented, and also how the contradictory of a concept is represented, we have next to notice the manner of expressing judgments. All judgments are regarded by our author as affirmative ; the negation, in those which are commonly called negative,