

terms. This notion, which is too restricted, was suggested by the example of the syllogism, in which the conclusion results from the elimination of the middle term, and which for a long time was wrongly considered as the only type of mediate deduction.¹

However this may be, BOOLE and SCHRÖDER have exaggerated the analogy between the algebra of logic and ordinary algebra. In logic, the distinction of known and unknown terms is artificial and almost useless. All the terms are—in principle at least—known, and it is simply a question, certain relations between them being given, of deducing new relations (unknown or not explicitly known) from these known relations. This is the purpose of PORETSKY's method which we shall now expound. It may be summed up in three laws, the *law of forms*, the *law of consequences* and the *law of causes*.

43. The Law of Forms.—This law answers the following problem: An equality being given, to find for any term (simple or complex) a determination equivalent to this equality. In other words, the question is to find all the *forms* equivalent to this equality, any term at all being given as its first member.

We know that any equality can be reduced to a form in which the second member is 0 or 1; *i. e.*, to one of the two equivalent forms

$$N = 0, \quad N' = 1.$$

The function N is what PORETSKY calls the *logical zero* of the given equality; N' is its *logical whole*.²

¹ In fact, the fundamental formula of elimination

$$(ax + bx' = 0) < (ab = 0)$$

is, as we have seen, only another form and a consequence of the principle of the syllogism

$$(b < x < a') < (b < a').$$

² They are called "logical" to distinguish them from the identical *zero* and *whole*, *i. e.*, to indicate that these two terms are not equal to 0 and 1 respectively except by virtue of the data of the problem.