The former of these questions may, with perfect confidence, be answered in the affirmative. It admits of absolute demonstration, that there is no chain of valid inference which the ordinary logic is incompetent to express, or, in other words, which is not reducible to conversion or syllogism. Some logicians have been of opinion that conversion is nothing else than syllogism at bottom; but, for what we have at present in view, it is unnecessary to discuss this question. Suffice it to say, that, whether conversion and syllogism be substantially identical or not, all immediate inference is of the nature of conversion, and all mediate inference (or reasoning proper) of the nature of syllogism. Does Professor Boole deny this? Formally, and in plain terms. "Possibly," he writes, "it may here be said that the logic of Aristotle, in its rules of syllogism and conversion, sets forth the elementary processes of which all reasoning consists, and that beyond these there is neither scope nor occasion for a general method. I have no desire to point out the defects of the common logic, nor do I wish to refer to it any further than is necessary, in order to place in its true light the nature of the present treatise. With this end alone in view, I would remark: 1st. That syllogism, conversi ¬ &c., are not the ultimate processes of logic. It will be shown in this treatise that they are founded upon, and are resolvable into, ulterior and more simple processes which constitute the real elements of method in logic. Nor is it true that all inference is reducible to the particular forms of syllogism and conversion. 2nd. If all inference were reducible to these processes alone (and it has been maintained that it is reducible to syllogism alone), there would still exist, &c." In illustration of the statement, that some inference is not reducible to the forms of syllogism and conversion, Professor Boole examines the case of conversion, and arrives at the result that "conversion is a particular application of a much more general process in logic, of which," he adds, "many examples have been given in this work." In like manner he examines the case of syllogism; and his conclusion is as follows: "Here, then, we have the means of definitely resolving the question, whether syllogism is indeed the fundamental type of reasoning,—whether the study of its laws is co-extensive with the study of deductive logic. For if it be so, some indication of the fact must be given in the system of equations upon the analysis of which we have been engaged. No sign, however, appears that the discussion of all systems of equations expressing propositions is involved in