In deduction, or necessary reasoning, we set out from a hypothetical state of things which we define in certain abstracted respects. Among the characters to which we pay no attention in this mode of argument is whether or not the hypothesis of our premisses conforms more or less to the state of things in the outward world. We consider this hypothetical state of things and are led to conclude that, however it may be with the universe in other respects, wherever and whenever the hypothesis may be realized, something else not explicitly supposed in that hypothesis will be true invariably. Our inference is valid if and only if there really is such a relation between the state of things supposed in the premisses and the state of things stated in the conclusion. Whether this really be so or not is a question of reality, and has nothing at all to do with how we may be inclined to think. If a given person is unable to see the connection, the argument is none the less valid, provided that relation of real facts really subsists. If the entire human race were unable to see the connection, the argument would be none the less sound, although it would not be humanly clear. Let us see precisely how we assure ourselves of the reality of the connection. Here, as everywhere throughout logic, the study of relatives has been of the greatest service. The simple syllogisms, which are alone considered by the old inexact logicians, are such very rudimentary forms that it is practically impossible to discern in them the essential features of deductive inference until our attention has been called to these features in higher forms of deduction.

All necessary reasoning without exception is diagrammatic.