Term: Theorematic Reasoning

Quote: This appears to be in harmony with Kant's view of deduction, namely, that it merely explicates what is implicitly asserted in the premises. This is what is called a half-truth. Deductions are of two kinds, which I call *corollarial* and *theorematic*. The corollarial are those reasonings by which all corollaries and the majority of what are called theorems are deduced; the theorematic are those by which the major theorems are deduced. If you take the thesis of a corollary, – i.e. the proposition to be proved, and carefully analyze its meaning, by substituting for each term its definition, you will find that its truth follows, in a straightforward manner, from previous propositions similarly analyzed. But when it comes to proving a major theorem, you will very often find you have need of a *lemma*, which is a demonstrable proposition about something outside the subject of inquiry; and even if a lemma does not have to be demonstrated, it is necessary to introduce the definition of something which the *thesis* of the theorem does not contemplate. In the most remarkable cases, this is some abstraction; that is to say, a subject whose existence *consists* in some fact about other things. Such, for example, are operations considered as in themselves subject to operation; *lines*, which are nothing but descriptions of the motion of a particle, considered as being themselves movable; *collections*; *numbers*; and the like. When the reform of mathematical reasoning now going on is complete, it will be seen that every such supposition ought to be supported by a proper postulate. At any rate Kant himself ought to admit, and would admit if he were alive today, that the conclusion of reasoning of this kind, although it is strictly deductive, does not flow from definitions alone, but that postulates are requisite for it.

Source: Peirce, C. S. (1901). *On the Logic of Drawing History from Ancient Documents Especially from Testimonies (Logic of History)*. MS [R] 690.

References: EP 2:96

Date of Quote: 1901

URL: http://www.commens.org/dictionary/entry/quote-logic-drawing-history-ancient-documents-especially-testimonies-logic-histor-6