THE METHOD OF POSSIBILITY–DIAGRAMS FOR TESTING THE VALIDITY OF CERTAIN TYPES OF INFERENCES, BASED ON JEVONS' LOGICAL ALPHABET

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In *The Principles of Science*,[1] and other works, W. S. Jevons expounded a method for testing elementary deductions, similar to that using Venn Diagrams or similar devices. Jevons' method was based on what he called the "Logical Alphabet." This paper will be devoted to outlining Jevons' method, revising it with regard to certain types of deduction, and applying it to areas beyond those with which Jevons dealt.[2] The name "possibility diagrams" will be applied to what is, essentially, the device which Jevons called the "Logical Alphabet".

Part I will be the outline of Jevons' scheme. Part II will consist of a revised version of the scheme, the revision applying within the area with which Jevons was concerned, *viz.*, inferences involving truth-functionally simple quantifications with monadic predicates. The revisions will consist mainly of the replacement of Jevons' way of notation by the better (or at least currently more popular) terminology of variables, predicate-letters, and quantifiers, and the improvement of Jevons' treatment of particular propositions. When applied in the original area, the method—both as originally invented by Jevons and as revised—is similar to that involving Venn Diagrams; however, the former is suitable for a wider range of inferences.

In Part III and subsequent parts, the application of possibility–diagrams will be extended beyond the basic area dealt with in Part II. The following uses will be described: III. Truth-functional inferences. IV. The use (in favorable cases) of more than one diagram for one inference, so as to reduce the number of predicate-letters which need be treated in any one diagram. V. Inferences involving truth-functional compounds of quantifications with monadic predicates.