Record Nr. UNINA9910438356803321 Autore Geldsetzer Lutz Titolo Logical thinking in the pyramidal schema of concepts: the logical and mathematical elements / / Lutz Geldsetzer, Richard L. Schwartz Dordrecht: New York, : Springer, c2013 Pubbl/distr/stampa **ISBN** 1-283-91083-7 94-007-5301-2 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (175 p.) SchwartzRichard L Altri autori (Persone) Disciplina 164 Soggetti Logic, Symbolic and mathematical Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and indexes.

Nota di contenuto Logical Thinking in the Pyramidal Schema of Concepts: The Logical and

Mathematical Elements; Contents; Translator's Introduction; 1 Logic, Empiricism, and Sense Experience; 2 Language, Meaning, Sensory Content, and Logical Form; 3 Intensions, Extensions, and Concepts; 4 The Pyramidal Formalism: Intensions and Extensions; 5 Logical Identity, Sense, and Reference: 6 Logical Connectors: 7 Equivalence and Singular and Particular Propositions; 8 Definitions and Equations; 9 Reflexive Self-Identity: 10 Contradictions and Geldsetzer's Empiricist Program 11 The Dominant Logical Conception of Contradictions 12 Geldsetzer's Theory of Contradictions; 13 Examples of Contradictory Concepts; 14 Probability as a Contradictory Concept; 15 Contradictions, Propositions, and Theories, Especially Mathematical; 16 Set-theoretical and other Paradoxes; 17 The Foundations of Logic; Chapter 0: Preliminaries; Chapter 1: On Concepts: Chapter 2: On Logical Connectors (Junctors): Chapter 3: On De fi nitions; Chapter 4: On Propositions; Chapter 5: On Inferences; Chapter 6: On Theories; Chapter 7: On Axioms and Especially on the Real Axioms of Logic

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Sommario/riassunto

This new volume on logic follows a recognizable format that deals in turn with the topics of mathematical logic, moving from concepts, via definitions and inferences, to theories and axioms. However, this fresh work offers a key innovation in its 'pyramidal' graph system for the

logical formalization of all these items. The author has developed this new methodology on the basis of original research, traditional logical instruments such as Porphyrian trees, and modern concepts of classification, in which pyramids are the central organizing concept. The pyramidal schema enables both the content of concepts and the relations between the concept positions in the pyramid to be read off from the graph. Logical connectors are analyzed in terms of the direction in which they connect within the pyramid. Additionally, the author shows that logical connectors are of fundamentally different types: only one sort generates propositions with truth values, while the other yields conceptual expressions or complex concepts. On this basis, strong arguments are developed against adopting the nondiscriminating connector definitions implicit in Wittgensteinian truthvalue tables. Special consideration is given to mathematical connectors so as to illuminate the formation of concepts in the natural sciences. To show what the pyramidal method can contribute to science, a pyramid of the number concepts prevalent in mathematics is constructed. The book also counters the logical dogma of 'false' contradictory propositions and sheds new light on the logical characteristics of probable propositions, as well as on syllogistic and other inferences.

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