Record Nr. UNINA9910864180103321 Autore Trillas E (Enric) Titolo The Genesis of Logic: Reflections on the Origins, Principles and Paths of Common-sense Reasoning / / by Enric Trillas Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 9783031550409 3031550404 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (119 pages) Collana Fuzzy Management Methods, , 2196-4149 PortmannEdy Altri autori (Persone) Disciplina 658,4038 Soggetti Business information services Logic Reasoning **Business Information Systems** Formal Reasoning Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 1. Introduction -- Part I: The Skeleton of Reason -- 2. A formal Nota di contenuto skeleton of reason -- 3. Reason in light of the skeleton -- Part II: The Model of Precise Reasoning -- 4. Boolean algebras come with lots of laws -- 5. With fewer laws: ortho-lattices and De Morgan algebras -- 6. Conjectures on ortho-lattices and De Morgan algebras -- Part III: Models of Imprecise Reasoning -- 7. Meanings and calculations using imprecise concepts -- 8. Fuzzy basic algebras, with fewer and more laws -- 9. On truth and its relationship with inference -- Part iv: Reasoning and Meaning -- 10. The effective possibility of reasoning --11. Last comments and conclusion. Sommario/riassunto The Genesis of Logic addresses the principles of common-sense reasoning, which are employed in everyday decision-making processes and extend beyond deductive reasoning alone. Linked to language, logic inherits its flexibility. These are a few laws, the 'formal skeleton of reasoning,' based on the relationship of linguistic inference that, while needing to be represented in each context, allow for the consideration

of non-comparable, orthogonal statements. By facilitating deduction and abduction, speculation emerges as a fundamental intellectual

operation. As a whole, this work offers a new genetic-evolutionary perspective to reconsider Logic, a panoramic outlook that examines laws outside the skeleton as local laws, necessary for the validity of specialized reasoning. It moves away from the rigid reticular structure of sets of statements and views induction as the search for speculations, non-monotonic reasoning as speculative, and conjecture, only proven in finite Boolean algebras, that reasoning involves following paths of inference in a zigzag pattern, alternating between deduction and abduction.