

1. Record Nr.	UNINA9910416085403321
Titolo	Diagrammatic Representation and Inference : 11th International Conference, Diagrams 2020, Tallinn, Estonia, August 24–28, 2020, Proceedings / / edited by Ahti-Veikko Pietarinen, Peter Chapman, Leonie Bosveld-de Smet, Valeria Giardino, James Corter, Sven Linker
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-54249-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (xiii, 554 pages) : illustrations
Collana	Lecture Notes in Artificial Intelligence, , 2945-9141 ; ; 12169
Disciplina	006.6
Soggetti	User interfaces (Computer systems) Human-computer interaction Artificial intelligence Image processing - Digital techniques Computer vision Software engineering Machine theory User Interfaces and Human Computer Interaction Artificial Intelligence Computer Imaging, Vision, Pattern Recognition and Graphics Software Engineering Formal Languages and Automata Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Diagrams in Mathematics -- On "overspecification" in medieval mathematical diagrams -- Transductive Reconstruction of Hippocrates' Dynamical Geometrical Diagrams -- Counting mathematical diagrams with machine learning -- Modes of continuity in diagram\\ Intermediate Value Theorem -- Modes of diagrammatic reasoning in Euclid's Elements -- A Mentalist Look at Gaussian Clock Arithmetic -- A Diagram of Choice: The Curious Case of Wallis's Attempted Proof of the Parallel Postulate and the Axiom of Choice -- Diagram Design,

Principles, and Classification -- A sketch of a theory and modelling notation for elucidating the structure of representations -- Modality and Uncertainty in Data Visualizations: A Corpus Approach to the Use of Connecting Lines -- Channel-Theoretic Account of the Semantic Potentials of False Diagrams -- Dissecting representations -- Towards Data-Driven Multilinear Metro Maps -- Visualizing Sound, Hearing Diagrams: On the Creative Process of Syrmos by Iannis Xenakis -- String Diagrams for Assembly Planning -- Reasoning with Diagrams -- An Alternative Reformulation of the Transformation Rules in the Beta Part of Peirce's Existential Graphs -- Observational Advantages and Occurrence Referentiality -- The Diagram Puzzle -- The Blot -- Two Implications and Dual-Process Theories of Reasoning -- Euler and Venn Diagrams -- Well-matchedness in Euler and Linear Diagrams -- Intuitionistic Euler-Venn Diagrams -- Schopenhauer Diagrams for Conceptual Analysis -- Euler diagrams for defeasible reasoning -- Empirical Studies and Cognition -- Event unit analysis: A methodology for anticipating processing demands of complex animated diagrams -- Evaluating Visualizations of Sets and Networks that Use Euler Diagrams and Graphs -- Visual causality: investigating the performance of graph layouts for understanding causal processes -- Influence of Shape, Density, and Edge Crossings on the Perception of Graph Differences -- Map or Gantt? Which diagram helps viewers best in spatio-temporal data exploration tasks? -- On effects of changing multi-attribute table design to decision making: An eye tracking study -- Logic and Diagrams -- Using Multigraphs to Study the Interaction between Opposition, Implication and Duality Relations in Logical Squares -- Opposition relations between prophecies -- Compositional Diagrammatic First-Order Logic -- Free Rides in Logical Space diagrams versus Aristotelian diagrams -- Fregean Logical Graphs -- Calculus CL as a Formal System -- Truth Graph: A Novel Method for Minimizing Boolean Algebra Expressions by Using Graphs -- Posters -- Syllogisms with intermediate quantifiers solved in Marlo logic diagrams -- The Indemonstrables of Chrysippus of Soli in Marlo logical diagrams. Could propositional calculus be nothing but syllogisms? -- 'Tokenized' dynamic diagrams: An approach for improving mental model construction? -- Depicting negative information in photographs, videos, and comics: a preliminary analysis -- The Marlo diagram in the classroom -- Strength of Existential Graphs as a logical system -- The Sung Diagram: Revitalizing the Eisenhower Matrix -- Marlo's networks of expectations in the classroom: A tool for heterogeneous reasoning -- Experimenting with diagrams in mathematics -- Historio-graphy -- A Semiotic-Conceptual Analysis of Euler Diagrams and Concept Lattices -- On the shoulders of giants: Colourful argument trees for academic writing -- Beta Assertive Graphs -- Peirce's inclusion diagrams, with application to syllogisms -- The DNA Framework of Visualization -- Imagine a round square -- Visualizing Curricula -- Elucidating the Effects of Diagram Use Training for Math Word Problem Solving.

## Sommario/riassunto

This book constitutes the refereed proceedings of the 11th International Conference on the Theory and Application of Diagrams, Diagrams 2020, held in Tallinn, Estonia, in August 2020.\* The 20 full papers and 16 short papers presented together with 18 posters were carefully reviewed and selected from 82 submissions. The papers are organized in the following topical sections: diagrams in mathematics; diagram design, principles, and classification; reasoning with diagrams; Euler and Venn diagrams; empirical studies and cognition; logic and diagrams; and posters. \*The conference was held virtually due to the COVID-19 pandemic. The chapters 'Modality and Uncertainty in Data Visualization: A Corpus Approach to the Use of Connecting Lines,' 'On

Effects of Changing Multi-Attribute Table Design on Decision Making: An Eye Tracking Study,' 'Truth Graph: A Novel Method for Minimizing Boolean Algebra Expressions by Using Graphs,' 'The DNA Framework of Visualization' and 'Visualizing Curricula' are available open access under a Creative Commons Attribution 4.0 International License via [link.springer.com](https://link.springer.com).

---