Logic Epistemology And The Unity Of Science Mopubs

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Epistemology, Knowledge and the Impact of Interaction - Juan Redmond 2016-04-10 With this volume of the series Logic, Epistemology, and the Unity of Science edited by S. Rahman et al. a challenging dialogue is being continued. The series' first volume argued that one way to recover the connections between logic, philosophy of sciences, and sciences is to acknowledge the host of alternative logics which are currently being developed. The present volume focuses on four key themes. First of all, several chapters unpack the connection between knowledge and epistemology with particular focus on the notion of knowledge as resulting from interaction. Secondly, new epistemological perspectives on linguistics, the foundations of mathematics and logic, physics, biology and law are a subject of analysis. Thirdly, several chapters are dedicated to a discussion of Constructive Type Theory and more generally of the proof-theoretical notion of meaning.Finally, the book brings together studies on the epistemic role of abduction and argumentation theory, both linked to non-monotonic approaches to the dynamics of knowledge.

The Unity of Science - Rudolf Carnap 2013-05-13 As a leading member of the Vienna Circle, Rudolph Carnap's aim was to bring about a "unified science" by applying a method of logical analysis to the empirical data of all the sciences. This work, first published in English in 1934, endeavors to work out a way in which the observation statements required for verification are not private to the observer. The work shows the strong influence of Wittgenstein, Russell, and Frege.

Unity of Science - Tuomas E. Tahko 2021-01-31 Unity of science was once a very popular idea among both philosophers and scientists. But it has fallen out of fashion, largely because of its association with reductionism and the challenge from multiple realisation. Pluralism and the disunity of science are the new norm, and higher-level natural kinds and special science laws are considered to have an important role in scientific practice. What kind of reductionism does multiple realisability challenge? What does it take to reduce one phenomenon to another? How do we determine which kinds are natural? What is the ontological basis of unity? In this Element, Tuomas Tahko examines these questions from a contemporary perspective, after a historical overview. The upshot is that there is still value in the idea of a unity of science. We can combine a modest sense of unity with pluralism and give an ontological analysis of unity in terms of natural kind monism.

Ernest Nagel: Philosophy of Science and the Fight for Clarity - Matthias Neuber 2021-09-21 This volume is dedicated to the life and work of Ernest Nagel (1901-1985) counted among the influential twentieth-century philosophers of science. Forgotten by the history of philosophy of science community in recent years, this volume introduces Nagel's philosophy to a new generation of readers and highlights the merits and originality of his works. Best known in the history of philosophy as a major American

representative of logical empiricism with some pragmatist and naturalist leanings, Nagel's interests and activities went beyond these limits. His career was marked with a strong and determined intention of harmonizing the European scientific worldview of logical empiricism and American naturalism/pragmatism. His most famous and systematic treatise on, The Structure of Science, appeared just one year before Thomas Kuhn's even more renowned, The Structure of Scientific Revolutions. As a reflection of Nagel's interdisciplinary work, the contributing authors' articles are connected both historically and systematically. The volume will appeal to students mainly at the graduate level and academic scholars. Since the volume treats historical, philosophical, physical, social and general scientific questions, it will be of interest to historians and philosophers of science, epistemologists, social scientists, and anyone interested in the history of analytic philosophy and twentieth-century intellectual history.

Games: Unifying Logic, Language, and Philosophy - Ondrej Majer 2009-01-16 OndrejMajer,Ahti-VeikkoPietarinen,andTeroTulenheimo 1 Games and logic in philosophy Recent years have witnessed a growing interest in the unifying methodo- gies over what have been perceived as pretty disparate logical 'systems', or else merely an assortment of formal and mathematical 'approaches' to phi- sophical inquiry. This development has largely been fueled by an increasing dissatisfaction to what has earlier been taken to be a straightforward outcome of 'logical pluralism' or 'methodological diversity'. These phrases appear to re ect the everyday chaos of our academic pursuits rather than any genuine attempt to clarify the general principles underlying the miscellaneous ways in which logic appears to us. But the situation is changing. Unity among plurality is emerging in c- temporary studies in logical philosophy and neighbouring disciplines. This is a necessary follow-up to the intensive research into the intricacies of logical systems and methodologies performed over the recent years. The present book suggests one such peculiar but very unrestrained meth- ological perspective over the eld of logic and its applications in mathematics,

language or computation: games. An allegory for opposition, cooperation and coordination, games are also concrete objects of formal study.

Vagueness: A Guide - Giuseppina Ronzitti 2011-03-03
This volume explores how vagueness matters as a specific problem in the context of theories that are primarily about something else. After an introductory chapter on the Sorites paradox, which exposes the various forms the paradox can take and some of the responses that have been pursued, the book proceeds with a chapter on vagueness and metaphysics, which covers important questions concerning vagueness that arise in connection with the deployment of certain key metaphysical notions. Subsequent chapters address the following: vagueness and logic, which discusses the sort of model theory that is suggested by the main, rival accounts of vagueness; vagueness and meaning, which focuses on contextualist, epistemicist, and indeterminist theories; vagueness and observationality; vagueness within linguistics, which focuses on approaches that take comparison classes into account; and the idea that vagueness in law is typically extravagant and that extravagant vagueness is a necessary feature of legal systems.

From a Geometrical Point of View - Jean-Pierre Marquis 2008-11-20
From a Geometrical Point of View explores historical and philosophical aspects of category theory, trying therewith to expose its significance in the mathematical landscape. The main thesis is that Klein's Erlangen program in geometry is in fact a particular instance of a general and broad phenomenon revealed by category theory. The volume starts with Eilenberg and Mac Lane's work in the early 1940's and follows the major developments of the theory from this perspective. Particular attention is paid to the philosophical elements involved in this development. The book ends with a presentation of categorical logic, some of its results and its significance in the foundations of mathematics. From a Geometrical Point of View aims to provide its readers with a conceptual perspective on category theory and categorical logic, in order to gain insight into their role and nature in contemporary mathematics. It should be of interest to

mathematicians, logicians, philosophers of mathematics and science in general, historians of contemporary mathematics, physicists and computer scientists.

Alfred Tarski and the "Concept of Truth in Formalized Languages" - Monika Gruber 2018-06-12
This book provides a detailed commentary on the classic monograph by Alfred Tarski, and offers a reinterpretation and retranslation of the work using the original Polish text and the English and German translations. In the original work, Tarski presents a method for constructing definitions of truth for classical, quantificational formal languages. Furthermore, using the defined notion of truth, he demonstrates that it is possible to provide intuitively adequate definitions of the semantic notions of definability and denotation and that the notion in a structure can be defined in a way that is analogous to that used to define truth. Tarski's piece is considered to be one of the major contributions to logic, semantics, and epistemology in the 20th century. However, the author points out that some mistakes were introduced into the text when it was translated into German in 1935. As the 1956 English version of the work was translated from the German text, those discrepancies were carried over in addition to new mistakes. The author has painstakingly compared the three texts, sentence-by-sentence, highlighting the inaccurate translations, offering explanations as to how they came about, and commenting on how they have influenced the content and suggesting a correct interpretation of certain passages. Furthermore, the author thoroughly examines Tarski's article, offering interpretations and comments on the work.

Logic, Epistemology, and the Unity of Science - Shahid Rahman 2004-10-25
This is the first volume in a series aimed at considering the scientific enterprise in light of recent developments in logic and philosophy. This work explores new ways of achieving the integration of science in all its diversity.

Paraconsistency: Logic and Applications - Koji Tanaka 2012-07-26
A logic is called 'paraconsistent' if it rejects the rule called 'ex contradictione quodlibet', according to which any conclusion follows from inconsistent premises. While logicians have proposed many technically developed paraconsistent logical systems and contemporary philosophers like Graham Priest have advanced the view that some contradictions can be true, and advocated a paraconsistent logic to deal with them, until recent times these systems have been little understood by philosophers. This book presents a comprehensive overview on paraconsistent logical systems to change this situation. The book includes almost every major author currently working in the field. The papers are on the cutting edge of the literature some of which discuss current debates and others present important new ideas. The editors have avoided papers about technical details of paraconsistent logic, but instead concentrated upon works that discuss more "big picture" ideas. Different treatments of paradoxes takes centre stage in many of the papers, but also there are several papers on how to interpret paraconistent logic and some on how it can be applied to philosophy of mathematics, the philosophy of language, and metaphysics.

Induction, Algorithmic Learning Theory, and Philosophy - Michèle Friend 2007-08-21
This is the first book to collect essays from philosophers, mathematicians and computer scientists working at the exciting interface of algorithmic learning theory and the epistemology of science and inductive inference. Readable, introductory essays provide engaging surveys of different, complementary, and mutually inspiring approaches to the topic, both from a philosophical and a mathematical viewpoint.

Modalities and Multimodalities - Walter Carnielli 2008-09-15
In the last two decades modal logic has undergone an explosive growth, to thepointthatacompletebibliographyofthisbranchoflogic,supposingthat someone were capable to compile it, would ?ll itself a ponderous volume. What is impressive in the growth of modal logic has not been so much the quick accumulation of results but the richness of its thematic dev- opments. In the 1960s, when Kripke semantics gave new credibility to the logic of modalities? which was already known and appreciated in the Ancient and Medieval times? no one could have foreseen that in a short time modal logic would

become a lively source of ideas and methods for analytical philosophers, historians of philosophy, linguists, epistemologists and computer scientists. The aim which oriented the composition of this book was not to write a new manual of modal logic (there are a lot of excellent textbooks on the market, and the expert reader will realize how much we bene?ted from manyofthem)buttoo?ertoeveryreader,evenwithno speci?cbackground in logic, a conceptually linear path in the labyrinth of the current panorama of modal logic. The notion which in our opinion looked suitable to work as a compass in this enterprise was the notion of multimodality, or, more speci?cally, the basic idea of grounding systems on languages admitting more than one primitive modal operator.

Paraconsistent Logic: Consistency, Contradiction and Negation - Walter Carnielli 2016-06-14

This book is the first in the field of paraconsistency to offer a comprehensive overview of the subject, including connections to other logics and applications in information processing, linguistics, reasoning and argumentation, and philosophy of science. It is recommended reading for anyone interested in the question of reasoning and argumentation in the presence of contradictions, in semantics, in the paradoxes of set theory and in the puzzling properties of negation in logic programming. Paraconsistent logic comprises a major logical theory and offers the broadest possible perspective on the debate of negation in logic and philosophy. It is a powerful tool for reasoning under contradictoriness as it investigates logic systems in which contradictory information does not lead to arbitrary conclusions. Reasoning under contradictions constitutes one of most important and creative achievements in contemporary logic, with deep roots in philosophical questions involving negation and consistency This book offers an invaluable introduction to a topic of central importance in logic and philosophy. It discusses (i) the history of paraconsistent logic; (ii) language, negation, contradiction, consistency and inconsistency; (iii) logics of formal inconsistency (LFIs) and the main paraconsistent propositional systems; (iv) many-valued companions, possible-translations semantics and non-deterministic semantics; (v) paraconsistent modal logics; (vi) first-order paraconsistent logics; (vii) applications to information processing, databases and quantum computation; and (viii) applications to deontic paradoxes, connections to Eastern thought and to dialogical reasoning.

Treatise on Intuitionistic Type Theory - Johan Georg Granström 2011-06-02
Intuitionistic type theory can be described, somewhat boldly, as a partial fulfillment of the dream of a universal language for science. This book expounds several aspects of intuitionistic type theory, such as the notion of set, reference vs. computation, assumption, and substitution. Moreover, the book includes philosophically relevant sections on the principle of compositionality, lingua characteristica, epistemology, propositional logic, intuitionism, and the law of excluded middle. Ample historical references are given throughout the book.

Belief Revision meets Philosophy of Science - Erik J Olsson 2010-10-27

Belief revision theory and philosophy of science both aspire to shed light on the dynamics of knowledge – on how our view of the world changes (typically) in the light of new evidence. Yet these two areas of research have long seemed strangely detached from each other, as witnessed by the small number of cross-references and researchers working in both domains. One may speculate as to what has brought about this surprising, and perhaps unfortunate, state of affairs. One factor may be that while belief revision theory has traditionally been pursued in a bottom- up manner, focusing on the endeavors of single inquirers, philosophers of science, inspired by logical empiricism, have tended to be more interested in science as a multi-agent or agent-independent phenomenon.

Semantics and Truth - Jan Woleński 2020-01-01
The book provides a historical (with an outline of the history of the concept of truth from antiquity to our time) and systematic exposition of the semantic theory of truth formulated by Alfred Tarski in the 1930s. This theory became famous very soon and inspired logicians and philosophers. It has two different, but

interconnected aspects: formal-logical and philosophical. The book deals with both, but it is intended mostly as a philosophical monograph. It explains Tarski's motivation and presents discussions about his ideas (pro and contra) as well as points out various applications of the semantic theory of truth to philosophical problems (truth-criteria, realism and anti-realism, future contingents or the concept of correspondence between language and reality).

Logic, Thought and Action - Daniel Vanderveken 2006-03-30

This second volume in the series Logic, Epistemology, and the Unity of Science brings a pragmatic perspective to the discussion of the unity of science. Contemporary philosophy and cognitive science increasingly acknowledge the systematic interrelation of language, thought and action. The principal function of language is to enable speakers to communicate their intentions to others, to respond flexibly in a social context and to act cooperatively in the world. This book will contribute to our understanding of this dynamic process by clearly presenting and discussing the most important hypotheses, issues and theories in philosophical and logical study of language, thought and action. Among the fundamental issues discussed are the rationality and freedom of agents, theoretical and practical reasoning, individual and collective attitudes and actions, the nature of cooperation and communication, the construction and conditions of adequacy of scientific theories, propositional contents and their truth conditions, illocutionary force, time, aspect and presupposition in meaning, speech acts within dialogue, the dialogical approach to logic and the structure of dialogues and other language games, as well as formal methods needed in logic or artificial intelligence to account for choice, paradoxes, uncertainty and imprecision. This volume contains major contributions by leading logicians, analytic philosophers, linguists and computer scientists. It will be of interest to graduate students and researchers from philosophy, logic, linguistics, cognitive science and artificial intelligence. There is no comparable survey in the existing literature.

Logic, Epistemology, and the Unity of Science - Shahid Rahman 2009-03-16

The first volume in this new series explores, through extensive co-operation, new ways of achieving the integration of science in all its diversity. The book offers essays from important and influential philosophers in contemporary philosophy, discussing a range of topics from philosophy of science to epistemology, philosophy of logic and game theoretical approaches. It will be of interest to philosophers, computer scientists and all others interested in the scientific rationality.

The Argument of Mathematics - Andrew Aberdein 2013-07-01

Written by experts in the field, this volume presents a comprehensive investigation into the relationship between argumentation theory and the philosophy of mathematical practice. Argumentation theory studies reasoning and argument, and especially those aspects not addressed, or not addressed well, by formal deduction. The philosophy of mathematical practice diverges from mainstream philosophy of mathematics in the emphasis it places on what the majority of working mathematicians actually do, rather than on mathematical foundations. The book begins by first challenging the assumption that there is no role for informal logic in mathematics. Next, it details the usefulness of argumentation theory in the understanding of mathematical practice, offering an impressively diverse set of examples, covering the history of mathematics, mathematics education and, perhaps surprisingly, formal proof verification. From there, the book demonstrates that mathematics also offers a valuable testbed for argumentation theory. Coverage concludes by defending attention to mathematical argumentation as the basis for new perspectives on the philosophy of mathematics.

Judgement and the Epistemic Foundation of Logic - Maria van der Schaar 2014-12-14

This compelling reevaluation of the relationship between logic and knowledge affirms the key role that the notion of judgement must play in such a review. The commentary repatriates the concept of judgement in the discussion, banished in recent times by the logical positivism of Wittgenstein, Hilbert and Schlick, and the Platonism of Bolzano. The volume commences with the insights of Swedish

philosopher Per Martin-Löf, the father of constructive type theory, for whom logic is a demonstrative science in which judgement is a settled feature of the landscape. His paper opens the first of four sections that examine, in turn, historical philosophical assessments of judgement and reason; their place in early modern philosophy; the notion of judgement and logical theory in Wolff, Kant and Neo-Kantians like Windelband; their development in the Husserlian phenomenological paradigm; and the work of Bolzano, Russell and Frege. The papers, whose authors include Per Martin-Löf, Göran Sundholm, Michael Della Rocca and Robin Rollinger, represent a finely judged editorial selection highlighting work on philosophers exercised by the question of whether or not an epistemic notion of judgement has a role to play in logic. The volume will be of profound interest to students and academicians for its application of historical developments in philosophy to the solution of vexatious contemporary issues in the foundation of logic.

Between Logic and Reality - Majda Trobok 2011-11-23

Is reality logical and is logic real? What is the origin of logical intuitions? What is the role of logical structures in the operations of an intelligent mind and in communication? Is the function of logical structure regulative or constitutive or both in concept formation? This volume provides analyses of the logic-reality relationship from different approaches and perspectives. The point of convergence lies in the exploration of the connections between reality – social, natural or ideal – and logical structures employed in describing or discovering it. Moreover, the book connects logical theory with more concrete issues of rationality, normativity and understanding, thus pointing to a wide range of potential applications. The papers collected in this volume address cutting-edge topics in contemporary discussions amongst specialists. Some essays focus on the role of indispensability considerations in the justification of logical competence, and the wide range of challenges within the philosophy of mathematics. Others present advances in dynamic logical analysis such as extension of game semantics to non-logical part of vocabulary and development of models of contractive

speech act.

Procedural Semantics for Hyperintensional Logic - Marie Duží 2010-07-01
The book is about logical analysis of natural language. Since we humans communicate by means of natural language, we need a tool that helps us to understand in a precise manner how the logical and formal mechanisms of natural language work. Moreover, in the age of computers, we need to communicate both with and through computers as well. Transparent Intensional Logic is a tool that is helpful in making our communication and reasoning smooth and precise. It deals with all kinds of linguistic context in a fully compositional and anti-contextual way.

Awareness in Logic and Epistemology - Claudia Fernández-Fernández 2021-06-19

This book creates a conceptual schema that acts as a correlation between Epistemology and Epistemic Logic. It connects both fields and offers a proper theoretical foundation for the contemporary developments of Epistemic Logic regarding the dynamics of information. It builds a bridge between the view of Awareness Justification Internalism, and a dynamic approach to Awareness Logic. The book starts with an introduction to the main topics in Epistemic Logic and Epistemology and reviews the disconnection between the two fields. It analyses three core notions representing the basic structure of the conceptual schema: "Epistemic Awareness", "Knowledge" and "Justification". Next, it presents the Explicit Aware Knowledge (EAK) Schema, using a diagram of three ellipses to illustrate the schema, and a formal model based on a neighbourhood-model structure, that shows one concrete application of the EAK-Schema into a logical structure. The book ends by presenting conclusions and final remarks about the uses and applications of the EAK-Schema. It shows that the most important feature of the schema is that it serves both as a theoretical correlate to the dynamic extensions of Awareness Logic, providing it with a philosophical background, and as an abstract conceptual structure for a re-interpretation of Epistemology.

Philosophy in Reality - Joseph E. Brenner 2020-11-30
Philosophy in Reality offers a new vision of the

relation between science and philosophy in the framework of a non-propositional logic of real processes, grounded in the physics of the real world. This logical system is based on the work of the Franco-Romanian thinker Stéphane Lupasco (1900-1988), previously presented by Joseph Brenner in the book Logic in Reality (Springer, 2008). The present book was inspired in part by the ancient Chinese Book of Changes (I Ching) and its scientific-philosophical discussion of change. The emphasis in Philosophy in Reality is on the recovery of dialectics and semantics from reductionist applications and their incorporation into a new synthetic paradigm for knowledge. Through an original re-interpretation of both classical and modern Western thought, this book addresses philosophical issues in scientific fields as well as long-standing conceptual problems such as the origin, nature and role of meaning, the unity of knowledge and the origin of morality. In a rigorous transdisciplinary manner, it discusses foundational and current issues in the physical sciences - mathematics, information, communication and systems theory and their implications for philosophy. The same framework is applied to problems of the origins of society, the transformation of reality by human subjects, and the emergence of a global, sustainable information society. In summary, Philosophy in Reality provides a wealth of new perspectives and references, supporting research by both philosophers and physical and social scientists concerned with the many facets of reality.

Special Sciences and the Unity of Science - Olga Pombo 2012-02-01
Science is a dynamic process in which the assimilation of new phenomena, perspectives, and hypotheses into the scientific corpus takes place slowly. The apparent disunity of the sciences is the unavoidable consequence of this gradual integration process. Some thinkers label this dynamical circumstance a 'crisis'. However, a retrospective view of the practical results of the scientific enterprise and of science itself, grants us a clear view of the unity of the human knowledge seeking enterprise. This book provides many arguments, case studies and examples in favor of the unity of science. These contributions touch upon various scientific perspectives and disciplines such as: Physics, Computer Science, Biology, Neuroscience, Cognitive Psychology, and Economics.

Pluralism in Mathematics: A New Position in Philosophy of Mathematics - Michèle Friend 2013-11-20
This book is about philosophy, mathematics and logic, giving a philosophical account of Pluralism which is a family of positions in the philosophy of mathematics. There are four parts to this book, beginning with a look at motivations for Pluralism by way of Realism, Maddy's Naturalism, Shapiro's Structuralism and Formalism. In the second part of this book the author covers: the philosophical presentation of Pluralism; using a formal theory of logic metaphorically; rigour and proof for the Pluralist; and mathematical fixtures. In the third part the author goes on to focus on the transcendental presentation of Pluralism, and in part four looks at applications of Pluralism, such as a Pluralist approach to proof in mathematics and how Pluralism works in regard to together-inconsistent philosophies of mathematics. The book finishes with suggestions for further Pluralist enquiry. In this work the author takes a deeply radical approach in developing a new position that will either convert readers, or act as a strong warning to treat the word 'pluralism' with care.

Mathematics, Logic, and their Philosophies - Mojtaba Mojtahedi 2021-02-09
This volume is a collection of essays in honour of Professor Mohammad Ardeshir. It examines topics which, in one way or another, are connected to the various aspects of his multidisciplinary research interests. Based on this criterion, the book is divided into three general categories. The first category includes papers on non-classical logics, including intuitionistic logic, constructive logic, basic logic, and substructural logic. The second category is made up of papers discussing issues in the contemporary philosophy of mathematics and logic. The third category contains papers on Avicenna's logic and philosophy. Mohammad Ardeshir is a full professor of mathematical logic at the Department of Mathematical Sciences, Sharif University of Technology, Tehran, Iran, where he has taught generations of students for around a quarter century. Mohammad Ardeshir

is known in the first place for his prominent works in basic logic and constructive mathematics. His areas of interest are however much broader and include topics in intuitionistic philosophy of mathematics and Arabic philosophy of logic and mathematics. In addition to numerous research articles in leading international journals, Ardeshir is the author of a highly praised Persian textbook in mathematical logic. Partly through his writings and translations, the school of mathematical intuitionism was introduced to the Iranian academic community.

Peirce and Husserl: Mutual Insights on Logic, Mathematics and Cognition - Mohammad Shafiei 2019-10-05
This volume aims to provide the elements for a systematic exploration of certain fundamental notions of Peirce and Husserl in respect with foundations of science by means of drawing a parallelism between their works. Tackling a largely understudied comparison between these two contemporary philosophers, the authors highlight the significant similarities in some of their fundamental ideas. This volume consists of eleven chapters under four parts. The first part concerns methodologies and main principles of the two philosophers. An introductory chapter outlines central historical and systematical themes arising out of the recent scholarship on Peirce and Husserl. The second part is on logic, its Chapters dedicated to the topics from Peirce's Existential Graphs and the philosophy of notation to Husserl's notions of pure logic and transcendental logic. The third part includes contributions on philosophy of mathematics. Chapters in the final part deal with the theory of cognition, consciousness and intentionality. The closing chapter provides an extended glossary of central terms of Peirce's theory of phaneroscopy, explaining them from the viewpoint of the theory of cognition.

Otto Neurath and the Unity of Science - John Symons 2010-12-03
This volume critically reexamines Otto Neurath's conception of the unity of science. Some of the leading scholars of Neurath's work, along with many prominent philosophers of science critically examine his place in the history of philosophy of science and evaluate the relevance of his work for contemporary debates concerning the unity of science.

Paul Lorenzen -- Mathematician and Logician - Gerhard Heinzmann 2021-08-17
This open access book examines the many contributions of Paul Lorenzen, an outstanding philosopher from the latter half of the 20th century. It features papers focused on integrating Lorenzen's original approach into the history of logic and mathematics. The papers also explore how practitioners can implement Lorenzen's systematical ideas in today's debates on proof-theoretic semantics, databank management, and stochastics. Coverage details key contributions of Lorenzen to constructive mathematics, Lorenzen's work on lattice-groups and divisibility theory, and modern set theory and Lorenzen's critique of actual infinity. The contributors also look at the main problem of Grundlagenforschung and Lorenzen's consistency proof and Hilbert's larger program. In addition, the papers offer a constructive examination of a Russell-style Ramified Type Theory and a way out of the circularity puzzle within the operative justification of logic and mathematics. Paul Lorenzen's name is associated with the Erlangen School of Methodical Constructivism, of which the approach in linguistic philosophy and philosophy of science determined philosophical discussions especially in Germany in the 1960s and 1970s. This volume features 10 papers from a meeting that took place at the University of Konstanz.

Formalizing Medieval Logical Theories - Catarina Dutilh Novaes 2007-04-05
This book presents formalizations of three important medieval logical theories: supposition, consequence and obligations. These are based on innovative vantage points: supposition theories as algorithmic hermeneutics, theories of consequence analyzed with tools borrowed from model-theory and two-dimensional semantics, and obligations as logical games. The analysis of medieval logic is relevant for the modern philosopher and logician. This is the first book to render medieval logical theories accessible to the modern philosopher.

Logic, Epistemology, and the Unity of Science - Shahid Rahman 2009-03-15
The first volume in this new series explores, through extensive co-operation, new ways of achieving the integration of science in all its

diversity. The book offers essays from important and influential philosophers in contemporary philosophy, discussing a range of topics from philosophy of science to epistemology, philosophy of logic and game theoretical approaches. It will be of interest to philosophers, computer scientists and all others interested in the scientific rationality.

Unity, Truth and the Liar - Shahid Rahman 2008-09-27
Andinmy haste, I said: "Allmenare Liars" 1 —Psalms 116:11 The Original Lie Philosophical analysis often reveals and seldom solves paradoxes. To quote Stephen Read: A paradox arises when an unacceptable conclusion is supported by a plausible argument from apparently acceptable premises. [...] So three di?erent reactions to the paradoxes are possible: to show that the r- soning is fallacious; or that the premises are not true after all; or that 2 the conclusion can in fact be accepted. There are sometimes elaborate ways to endorse a paradoxical conc- sion. One might be prepared to concede that indeed there are a number of grains that make a heap, but no possibility to know this number. However, some paradoxes are more threatening than others; showing the conclusiontobeacceptableisnotaseriousoption,ift heacceptanceleads to triviality. Among semantic paradoxes, the Liar (in any of its versions) 3 o?ers as its conclusion a bullet no one would be willing to bite. One of the most famous versions of the Liar Paradox was proposed by Epimenides, though its attribution to the Cretan poet and philosopher has only a relatively recent history. It seems indeed that Epimenides was mentioned neither in ancient nor in medieval treatments of the Liar 1 Jewish Publication Society translation. 2 Read [1].

Knowledge at the Boundaries - Nicholas Rescher 2020-09-25
The book offers a reflection on the nature, scope, and limits of knowledge that have been at the focus of the author's work over decades. The essays collected in this volume expound and extend these efforts in exploring the outer fringes of understanding: the outer boundaries of conceivability, the limits of cognition, and the ramifications of ineffability and paradox. They join in exploring the lay of the land at the boundaries of knowledge. The first chapters

address basic facts regarding the conceptualization of knowledge. This is followed by a study on how to deal with problems relating to the affirmation and considerations of truth. The final chapters scrutinize the limits of demonstration and the inherent impossibility of realizing an ideal systematization of our knowledge of totalities. The book affords novel perspectives regarding the thought of a widely appreciated philosopher. It is an original work aimed for readers interested in the theory of knowledge and philosophy of cognition.

The Unity of Science in the Arabic Tradition - Shahid Rahman 2008-07-15
the demise of the logical positivism programme. The answers given to these qu- tions have deepened the already existing gap between philosophy and the history and practice of science. While the positivists argued for a spontaneous, steady and continuous growth of scientific knowledge the post-positivists make a strong case for a fundamental discontinuity in the development of science which can only be explained by extrascientific factors. The political, social and cultural environment, the argument goes on, determine both the questions and the terms in which they should be answered. Accordingly, the sociological and historical interpretation - volves in fact two kinds of discontinuity which are closely related: the discontinuity of science as such and the discontinuity of the more inclusive political and social context of its development. More precisely it explains the discontinuity of the former by the discontinuity of the latter subordinating in effect the history of science to the wider political and social history. The underlying idea is that each historical and - cial context generates scientific and philosophical questions of its own. From this point of view the question surrounding the nature of knowledge and its development are entirely new topics typical of the twentieth-century social context reflecting both the level and the scale of the development of science.

Unifying the Philosophy of Truth - Theodora Achourioti 2015-06-16
This anthology of the very latest research on truth features the work of recognized luminaries in the field, put together following a rigorous refereeing process. Along with an introduction outlining the central issues in the field, it

provides a unique and unrivaled view of contemporary work on the nature of truth, with papers selected from key conferences in 2011 such as Truth Be Told (Amsterdam), Truth at Work (Paris), Paradoxes of Truth and Denotation (Barcelona) and Axiomatic Theories of Truth (Oxford). Studying the nature of the concept of 'truth' has always been a core role of philosophy, but recent years have been a boom time in the topic. With a wealth of recent conferences examining the subject from various angles, this collection of essays recognizes the pressing need for a volume that brings scholars up to date on the arguments. Offering academics and graduate students alike a much-needed repository of today's cutting-edge work in this vital topic of philosophy, the volume is required reading for anyone needing to keep abreast of developments, and is certain to act as a catalyst for further innovation and research.

Epistemology versus Ontology - P. Dybjer 2014-08-09
This book brings together philosophers, mathematicians and logicians to penetrate important problems in the philosophy and foundations of mathematics. In philosophy, one has been concerned with the opposition between constructivism and classical mathematics and the different ontological and epistemological views that are reflected in this opposition. The dominant foundational framework for current mathematics is classical logic and set theory with the axiom of choice (ZFC). This framework is, however, laden with philosophical difficulties. One important alternative foundational programme that is actively pursued today is predicativistic constructivism based on Martin-Löf type theory. Associated philosophical foundations are meaning theories in the tradition of Wittgenstein, Dummett, Prawitz and Martin-Löf. What is the relation between proof-theoretical semantics in the tradition of Gentzen, Prawitz, and Martin-Löf and Wittgensteinian or other accounts of meaning-as-use? What can proof-theoretical analyses tell us about the scope and limits of constructive and predicative mathematics?
Models and Idealizations in Science - Alejandro Cassini 2021-05-27
This book provides both an introduction to the philosophy of scientific modeling and a contribution to the discussion and clarification of two recent philosophical conceptions of models: artifactualism and fictionalism. These can be viewed as different stances concerning the standard representationalist account of scientific models. By better understanding these two alternative views, readers will gain a deeper insight into what a model is as well as how models function in different sciences. Fictionalism has been a traditional epistemological stance related to antirealist construals of laws and theories, such as instrumentalism and inferentialism. By contrast, the more recent fictional view of models holds that scientific models must be conceived of as the same kind of entities as literary characters and places. This approach is essentially an answer to the ontological question concerning the nature of models, which in principle is not incompatible with a representationalist account of the function of models. The artifactual view of models is an approach according to which scientific models are epistemic artifacts, whose main function is not to represent the phenomena but rather to provide epistemic access to them. It can be conceived of as a non-representationalist and pragmatic account of modeling, which does not intend to focus on the ontology of models but rather on the ways they are built and used for different purposes. The different essays address questions such as the artifactual view of idealization, the use of information theory to elucidate the concepts of abstraction and idealization, the deidealization of models, the nature of scientific fictions, the structural account of representation and the ontological status of structures, the role of surrogate reasoning with models, and the use of models for explaining and predicting physical phenomena.
Otto Neurath and the Unity of Science - John Symons 2010-11-25
This volume critically reexamines Otto Neurath's conception of the unity of science. Some of the leading scholars of Neurath's work, along with many prominent philosophers of science critically examine his place in the history of philosophy of science and evaluate the relevance of his work for contemporary debates concerning the unity of science.
Nature's Principles - Jan Faye 2006-03-30

One of the most basic problems in the philosophy of science involves determining the extent to which nature is governed by laws. This volume presents a wide-ranging overview of the contemporary debate and includes some of its foremost participants. It begins with an extensive introduction describing the historical, logical and philosophical background of the problems dealt with in the essays. Among the topics treated in the essays is the relationship between laws of nature and causal laws as well as the role of ceteris paribus clauses in scientific explanations. Traditionally, the problem of the unity of science was intimately connected to the problem of understanding the unity of nature. This fourth volume of Logic, Epistemology, and the Unity of Science tackles these problems as part of our consideration of the most fundamental aspects of scientific understanding.