The Geometry Of Meaning Semantics Based On Conceptual Spaces

This volume brings together a diverse range of scholars to address important philosophical and interdisciplinary questions in the study of language. Linguistics throughout history has been a conduit to the study of the mind, brain, societal structure, literature and history itself. The epistemic and methodological transfer between the sciences and humanities in regards to linguistics has often been documented, but the

underlying philosophical issues have not always been adequately addressed. With 15 original and interdisciplinary chapters, this volume therefore tackles vital questions relating to the philosophy, history, and theoretical interplay between the study of language and fields as varied as logic, physics, biology, classical philology and neuroscience. With a four part structure, questions of the mathematical foundations of linguistics, links to the natural sciences, cognitive implications and historical connections, take centre stage throughout the volume. The final chapters present research related to the linguistic connections between history, philosophy and the humanities more broadly. Advancing new

avenues of research, this volume is exemplary in its treatment of diachronic and cross-disciplinary interaction, and will be of interest to all scholars interested in the study of language.

This book offers a unique perspective on meaning in language, broadening the scope of existing understanding of meaning by introducing a comprehensive and cohesive account of meaning which draws on a wide range of linguistic approaches. The volume seeks to build up a complete picture of what meaning is, different types of meaning, and different ways of structuring the same meaning across myriad forms and varieties of language across such domains, such as everyday speech, advertising, humor, and academic

writing. Supported by data from psycholinguistic and neurolinguistic research, the book combines different approaches from scholarship in semantics, including formalist, structuralist, cognitive, functionalist, and semiotics to demonstrate the ways in which meaning is expressed in words but also in word order and intonation. The book argues for a revised conceptualization of meaning toward presenting a new perspective on semantics and its wider study in language and linguistic research. This book will appeal to scholars interested in meaning in language in such fields as linguistics, semantics, and semiotics.

A novel cognitive theory of semantics that proposes that the

meanings of words can be described in terms of geometric structures. In The Geometry of Meaning, Peter Gärdenfors proposes a theory of semantics that bridges cognitive science and linguistics and shows how theories of cognitive processes, in particular concept formation, can be exploited in a general semantic model. He argues that our minds organize the information involved in communicative acts in a format that can be modeled in geometric or topological terms—in what he terms conceptual spaces, extending the theory he presented in an earlier book by that name. Many semantic theories consider the meanings of words as relatively stable and independent of the communicative context. Gärdenfors focuses

instead on how various forms of communication establish a system of meanings that becomes shared between interlocutors. He argues that these "meetings of mind" depend on the underlying geometric structures, and that these structures facilitate language learning. Turning to lexical semantics, Gärdenfors argues that a unified theory of word meaning can be developed by using conceptual spaces. He shows that the meaning of different word classes can be given a cognitive grounding, and offers semantic analyses of nouns, adjectives, verbs, and prepositions. He also presents models of how the meanings of words are composed to form new meanings and of the basic semantic role of sentences.

Finally, he considers the future implications of his theory for robot semantics and the Semantic Web.

`...an impressively wide - and relatively theory neutral - introduction to the field, whilst maintaining interest and clarity throughout. It is particularly strong in its use of cross-linguistic data from a wide variety of languages, which should appeal to those studying linguistics. Undergraduates will find it accessible and engaging, but there is also sufficient content to challenge more advanced students.' Bethan Davies, University of Leeds

Linking

Applications of Conceptual Spaces

Language, Semantics and Ideology

Language, Space and Mind

Meaning and Cognition

Cognitive Linguistics - Key Topics
The Semantics of Derivational Morphology

Word storage and processing define a multi-factorial domain of scientific inquiry whose thorough investigation goes well beyond the boundaries of traditional disciplinary taxonomies, to require synergic integration of a wide range of methods, techniques and empirical and experimental findings. The present book intends to approach a few central issues concerning the organization, structure and

functioning of the Mental Lexicon, by asking domain experts to look at common, central topics from complementary standpoints, and discuss the advantages of developing converging perspectives. The book will explore the connections between computational and algorithmic models of the mental lexicon, word frequency distributions and information theoretical measures of word families, statistical correlations across psycho-linguistic and cognitive evidence, principles of machine

learning and integrative brain models of word storage and processing. Main goal of the book will be to map out the landscape of future research in this area, to foster the development of interdisciplinary curricula and help single-domain specialists understand and address issues and questions as they are raised in other disciplines.

As a prominent figure in analytic philosophy of the 20th and 21st centuries, Nenad Miščević has enriched, enhanced, and expanded many areas of the

field. This volume, dedicated to him for his 65th birthday, follows the virtues he so much respects – conceptual analysis, rigorous use of logics, and clear definitions – and applies them to a very hot topic in philosophy, thought experiments. Present throughout the history of philosophy, thought experiments have become indispensable for the discipline and for analytic philosophy in particular. But questions can be asked, as to what exactly is a thought experiment, what it consists

of, and, most importantly, if it is even useful for philosophy. Next to these conceptual questions, this collection tackles thought experiments that have tradition, some of them very long, like The Ring of Gyges, The Social Contract, and Descartes' Evil Demon. Others, like Twin Earth, Gettier cases and Brain-in-a-Vat thought experiments, have prompted at least half-a-century-long trails. One cannot understand contemporary analytic philosophy without understanding these trails

and traditions. Nenad's closest friends and colleagues, from all over Europe, share their thoughts on this topic in this book, followed diligently by Nenad's comments on their work.

This open access book provides an overview of the recent advances in representation learning theory, algorithms and applications for natural language processing (NLP). It is divided into three parts. Part I presents the representation learning techniques for multiple

language entries, including words, phrases, sentences and documents. Part II then introduces the representation techniques for those objects that are closely related to NLP, including entity-based world knowledge, sememe-based linguistic knowledge, networks, and cross-modal entries. Lastly, Part III provides open resource tools for representation learning techniques, and discusses the remaining challenges and future research directions. The theories and algorithms of representation

learning presented can also benefit other related domains such as machine learning, social network analysis, semantic Web, information retrieval, data mining and computational biology. This book is intended for advanced undergraduate and graduate students, post-doctoral fellows, researchers, lecturers, and industrial engineers, as well as anyone interested in representation learning and natural language processing.
Using a cognitive linguistics perspective, this book

provides a comprehensive, theoretical analysis of the semantics of English prepositions. All English prepositions originally coded spatial relations between two physical entities; while retaining their original meaning, prepositions have also developed a rich set of non-spatial meanings. In this study, Tyler and Evans argue that all these meanings are systematically grounded in the nature of human spatio-physical experience. The original 'spatial scenes' provide the foundation for the extension

of meaning from the spatial to the more abstract. This analysis articulates an alternative methodology that distinguishes between a conventional meaning and an interpretation produced for understanding the preposition in context, as well as establishing which of several competing senses should be taken as the primary sense. Together, the methodology and framework are sufficiently articulated to generate testable predictions and allow the analysis to be applied to additional prepositions.

The Conceptual Geometry of Linguistic Meaning
Zero Semantics
The Case for Geometric Knowledge Representation
Foundations of Geometric Cognition
Significance in Language Features
Representation Learning for Natural Language Processing

The new digital media offers us an unprecedented memory capacity,an ubiquitous communication channel and a growing computing power.How can we exploit this medium to augment our personal and socialcognitive processes at the service of human development?

Combininga deep knowledge of humanities and social sciences as well as areal familiarity with computer science issues, this bookexplains the collaborative construction of a globalhypercortex coordinated by a computable metalanguage. Byrecognizing fully the symbolic and social nature of humancognition, we could transform our current opaque global brain intoa reflexive collective intelligence.

The cognitive foundations of geometry have puzzled academics for a long time, and even today are mostly unknown to many scholars, including mathematical cognition researchers. Foundations of Geometric Cognition shows that basic geometric skills are deeply hardwired in the visuospatial cognitive capacities of our brains, namely spatial navigation and object

recognition. These capacities, shared with non-human animals and appearing in early stages of the human ontogeny, cannot, however, fully explain a uniquely human form of geometric cognition. In the book, Hohol argues that Euclidean geometry would not be possible without the human capacity to create and use abstract concepts, demonstrating how language and diagrams provide cognitive scaffolding for abstract geometric thinking, within a context of a Euclidean system of thought. Taking an interdisciplinary approach and drawing on research from diverse fields including psychology, cognitive science, and mathematics, this book is a must-read for cognitive psychologists and cognitive scientists of mathematics, alongside anyone interested in mathematical education

or the philosophical and historical aspects of geometry.

This book systematically investigates what follows about meaning in language if current views on the limited, or even redundant, role of linguistic semantics are taken to their radical conclusion. Focusing on conditionals, the book defends a wholly pragmatic, wholly inferential account of meaning – one which foregrounds a reasoning subject's individual state of mind. The topics discussed in the book include conceptual content, internalism and externalism, the semantics-pragmatics distinction, meaning holism and explicit versus implicit communication. These topics and the author's analysis of conditionals will allow the reader to engage with some traditional and current research in linguistics,

philosophy and psychology.
Linking is one of the challenges for theories of the syntax-semantics interface. In this new approach, the author explores the hypothesis that the positions of syntactic arguments are strictly determined by lexical argument geometry. Through careful argumentation and original analysis, her study provides a framework for explaining the linking patterns of a range of verb classes, leading to a number of insights about lexical structure and a radical rethinking of many verb classes.
Perspectives on a Key Notion in Linguistics
Conceptual Spaces: Elaborations and Applications
An Introduction to the Mathematical Theory of Meaning in Natural Language

Cognitive Semantics
The Semantics of English Prepositions
Computation, Cognition and Information Economy
Metaphor

A new approach to linguistic meaning and grammatical constructions based on simple geometric principles.

This book elucidates the nature of the semantics / pragmatics distinction in both synchrony and diachrony and proposes a definition of semantics and pragmatics that is orthogonal to the question of truth-conditionality. A corollary aim of the study is to propose an account of how and why

erstwhile pragmatically-determined elements of meaning may, in the course of time, become semanticized.

This practical coursebook introduces all the basics of semantics in a simple, step-by-step fashion. Each unit includes short sections of explanation with examples, followed by stimulating practice exercises to complete in the book. Feedback and comment sections follow each exercise to enable students to monitor their progress. No previous background in semantics is assumed, as students begin by discovering the value and fascination of the

subject and then move through all key topics in the field, including sense and reference, simple logic, word meaning and interpersonal meaning. New study guides and exercises have been added to the end of each unit to help reinforce and test learning. A completely new unit on non-literal language and metaphor, plus updates throughout the text significantly expand the scope of the original edition to bring it up-to-date with modern teaching of semantics for introductory courses in linguistics as well as intermediate students. This book, which gathers in one place the theories of 10 leading

cognitive and functional linguists, represents a new approach that may define the next era in the history of psychology: It promises to give psychologists a new appreciation of what this variety of linguistics can offer their study of language and communication. In addition, it provides cognitive-functional linguists new models for presenting their work to audiences outside the boundaries of traditional linguistics. Thus, it serves as an excellent text for courses in psycholinguistics, and appeal to students and researchers in cognitive science and functional linguistics.

Semantics Based on Conceptual Spaces

A Cross-Disciplinary Guide to the Mental Lexicon

The Geometry of Thought

Semantics

Conjoining Meanings

Thought Experiments between Nature and Society

The Semantic Tradition from Kant to Carnap

Toward the end of the 20th century, there is both a dissatisfaction with existing formal semantic theories and a wish to preserve insights from other semantic traditions. Cognitive semantics, the latest of the major trends which have dominated the century, attempts to do this by

focusing on meaning as a cognitive phenomenon. This book provides different perspectives on meaning as a cognitive phenomenon. Jens Allwood presents an approach where meaning is analyzed in terms of context sensitive cognitive operations. Peter Gärdenfors examines the relationship between cognitive semantics and standard formal extensional and intensional semantics. Peter Harder discusses the relation between functionalism and cognitive semantics. Sören Sjöström and +ke Viberg extend a cognitive semantic approach to new empirical domains like vision and physical contact. Elisabeth Engberg Pedersen extends the use of

cognitive semantics even further in order to analyze deaf sign language and, finally, Kenneth Holmqvist and Jordan Zlatev discuss two different possibilities of implementing a cognitive semantic approach using computer programs. The variety of perspectives on cognitive semantics make this book suitable as course material.

An argument that the meaning of written or auditory linguistic signals is not derived from the input but results from the brain's internal construction process. When we read a text or listen to speech, meaning seems to be given to us instantaneously, as if it were part of the input. In Meaning in the Brain,

Giosuè Baggio explains that this is an illusion created by the tremendous speed at which sensory systems and systems for meaning and grammar operate in the brain. Meaning, Baggio argues, is not derived from input but results from the brain's internal construction process. With this book, Baggio offers the first integrated, multilevel theory of semantics in the brain, describing how meaning is generated during language comprehension, production, and acquisition. Baggio's theory draws on recent advances in formal semantics and pragmatics, including vector-space semantics, discourse representation theory, and signaling game theory. It is designed

to explain a growing body of experimental results on semantic processing that have accumulated in the absence of a unifying theory since the introduction of electrophysiology and neuroimaging methods. Baggio argues that there is evidence for the existence of three semantic systems in the brain—relational semantics, interpretive semantics, and evolutionary semantics—and he discusses each in turn, developing neural theories of meaning for all three. Moreover, in the course of his argument, Baggio addresses several long-standing issues in the neuroscience of language, including the role of compositionality as a

principle of meaning construction in the brain, the role of sensory-motor processes in language comprehension, and the neural and evolutionary links among meaning, consciousness, sociality, and action. Within cognitive science, two approaches currently dominate the problem of modeling representations. The symbolic approach views cognition as computation involving symbolic manipulation. Connectionism, a special case of associationism, models associations using artificial neuron networks. Peter Gärdenfors offers his theory of conceptual representations as a bridge between the symbolic and connectionist

approaches. Symbolic representation is particularly weak at modeling concept learning, which is paramount for understanding many cognitive phenomena. Concept learning is closely tied to the notion of similarity, which is also poorly served by the symbolic approach. Gärdenfors's theory of conceptual spaces presents a framework for representing information on the conceptual level. A conceptual space is built up from geometrical structures based on a number of quality dimensions. The main applications of the theory are on the constructive side of cognitive science: as a constructive model the theory can be applied to the

development of artificial systems capable of solving cognitive tasks. Gärdenfors also shows how conceptual spaces can serve as an explanatory framework for a number of empirical theories, in particular those concerning concept formation, induction, and semantics. His aim is to present a coherent research program that can be used as a basis for more detailed investigations.

The key topics discussed in this book illustrate the breadth of cognitive linguistic research and include semantic typology, space, fictive motion, argument structure constructions, and prototype effects in grammar. New themes such as individual differences, emergence,

and default non-salient interpretations also receive coverage.

A Study of the Syntactic Conception of Quantificational Meaning

Science and Sanity

Introduction to English Semantics and Pragmatics

Particles at the Semantics/pragmatics Interface

Meaning in the Brain

Structures and Algorithms

The Case of Conditionals

This volume provides an overview of applications of conceptual spaces theory, beginning with an introduction to the modeling tool that unifies the chapters. The first section

explores issues of linguistic semantics, including speakers' negotiation of meaning. Further sections address computational and ontological aspects of constructing conceptual spaces, while the final section looks at philosophical applications. Domains include artificial intelligence and robotics, epistemology and philosophy of science, lexical semantics and pragmatics, agent-based simulation, perspectivism, framing, contrast, sensory modalities, and music,

among others. This collection provides evidence of the wide application range of this theory of knowledge representation. The papers in this volume derive from international experts across different fields including philosophy, cognitive science, linguistics, robotics, computer science and geography. Each contributor has successfully applied conceptual spaces theory as a modeling tool in their respective areas of expertise. Graduates as well as researchers in the areas

of epistemology, linguistics, geometric knowledge representation, and the mathematical modeling of cognitive processes should find this book of particular interest.

The category P belongs to a less studied area in theoretical linguistics, which has only recently attracted considerable attention. This volume brings together pioneering work on adpositions in spatial relations from different theoretical and cross-linguistic perspectives. The common theme in these

contributions is the complex semantic and syntactic structure of PPs. Analyses are presented in several different frameworks and approaches, including generative syntax, optimality theoretic semantics and syntax, formal semantics, mathematical modeling, lexical syntax, and pragmatics. Among the languages featured in detail are English, German, Hebrew, Igbo, Italian, Japanese, and Persian. This volume will be of interest to students and researchers of

formal semantics, syntax and language typology, as well as scholars with a more general interest in spatial cognition.

Of the remaining chapters, the first isolates certain problems of a pragmatic nature from the central semantic concern, chapter II follows with a survey of recent scholarship on the question of semantic deviance, and chapter V compares the theory expounded in chapters III and IV with three other accounts of metaphor.

This book explains exactly

what human knowledge is. The key concepts in this book are structures and algorithms, i.e., what the readers "see" and how they make use of what they see. Thus in comparison with some other books on the philosophy (or methodology) of science, which employ a syntactic approach, the author's approach is model theoretic or structural. Properly understood, it extends the current art and science of mathematical modeling to all fields of knowledge. The link between structure and

algorithms is mathematics. But viewing "mathematics" as such a link is not exactly what readers most likely learned in school; thus, the task of this book is to explain what "mathematics" should actually mean. Chapter 1, an introductory essay, presents a general analysis of structures, algorithms and how they are to be linked. Several examples from the natural and social sciences, and from the history of knowledge, are provided in Chapters 2–6. In turn, Chapters 7 and 8 extend the

analysis to include language and the mind. Structures are what the readers see. And, as abstract cultural objects, they can almost always be seen in many different ways. But certain structures, such as natural numbers and the basic theory of grammar, seem to have an absolute character. Any theory of knowledge grounded in human culture must explain how this is possible. The author's analysis of this cultural invariance, combining insights from evolutionary theory and neuroscience, is presented

in the book's closing chapter. The book will be of interest to researchers, students and those outside academia who seek a deeper understanding of knowledge in our present-day society.
Word Knowledge and Word Usage
Mathematics and the Nature of Knowledge
Its Cognitive Force and Linguistic Structure
Semantics, Pragmatics and Meaning Revisited
The Geometry of Argument Structure
Spatial Scenes, Embodied Meaning, and Cognition

Continuity in Linguistic Semantics

Linking – how semantic arguments map to the syntax – is one of the challenges invloved with theories of the syntax-semantics interface. The text explores the hypothesis that the positions of syntactic arguments are strictly determined by lexical argument geometry.

Major figures of twentieth-century philosophy were enthralled by the revolution in formal logic, and many of their arguments are based on novel mathematical discoveries. Hilary Putnam claimed that the Lwenheim-Sklem theorem refutes the existence of an objective, observer-independent world; Bas van Fraassen claimed that arguments against empiricism in philosophy of science

are ineffective against a semantic approach to scientific theories; W. V. O. Quine claimed that the distinction between analytic and synthetic truths is trivialized by the fact that any theory can be reduced to one in which all truths are analytic. This book dissects these and other arguments through in-depth investigation of the mathematical facts undergirding them. It presents a systematic, mathematically rigorous account of the key notions arising from such debates, including theory, equivalence, translation, reduction, and model. The result is a far-reaching reconceptualization of the role of formal methods in answering philosophical questions.

An introduction to the linguistic study of meaning, this book outlines the meaning potential (semantics) of

English and how language knowledge is put to use (pragmatics). As well as gaining a systematic overview of meaning in English, readers can learn how to argue for analyses. Among the significant concepts introduced are denotation, sense relations, event types, explicature, implicature, presupposition, metaphor, reference, speech acts and (at an elementary level) Generalised Quantifier Theory. Sense relations - such as antonymy and hyponymy - are presented as summarising patterns of entailment. The sense of a word is seen as the contributions it makes to the entailments carried by sentences. This book presents a critical overview of current work on linguistic features and establishes new bases for their use in the study and understanding of language. Features are fundamental

components of linguistic description: they include gender (feminine, masculine, neuter); number (singular, plural, dual); person (1st, 2nd, 3rd); tense (present, past, future); and case (nominative, accusative, genitive, ergative). Despite their ubiquity and centrality in linguistic description, much remains to be discovered about them: there is, for example, no readily available inventory showing which features are found in which of the world's languages; there is no consensus about how they operate across different components of language; and there is no certainty about how they interact. This book seeks at once to highlight and to tackle these problems. It brings together perspectives from phonology to formal syntax and semantics,

expounding the use of linguistic features in typology, computer applications, and logic. Linguists representing different standpoints spell out clearly the assumptions they bring to different kinds of feature and describe how they use them. Their contrasting contributions highlight the areas of difference and the common ground between their perspectives. The book brings together original work by leading international scholars. It will appeal to linguists of all theoretical persuasions.

Introducing Semantics

The Semantic Sphere 1

An Introduction to Non-Aristotelian Systems and General Semantics

The Philosophy and Science of Language

A Coursebook

The Semantics of Metaphor
Interdisciplinary Perspectives
Cognitive Linguistics is an approach to language study based on the assumptions that our linguistic abilities are firmly rooted in our cognitive abilities, that meaning is essentially conceptualization, and that grammar is shaped by usage. The Handbook of Cognitive Linguistics provides state-of-the-art overviews of the numerous subfields of cognitive linguistics written by leading international experts which will be useful for established researchers and novices alike. It is an interdisciplinary project with

contributions from linguists, psycholinguists, psychologists, and computer scientists which will emphasise the most recent developments in the field, in particular, the shift towards more empirically-based research. In this way, it will, we hope, help to shape the field, encouraging methodologically more rigorous research which incorporates insights from all the cognitive sciences. Editor Ewa D?browska was awarded the Alexander von Humboldt Professorship 2018.
Humans naturally acquire languages that connect meanings with pronunciations. Paul M. Pietroski presents an

account of these distinctive languages as generative procedures that respect substantive constraints. Children acquire meaningful lexical items that can be combined, in certain ways, to form meaningful complex expressions. This raises questions about what meanings are, how they can be combined, and what kinds of meanings lexical items can have. According to Pietroski, meanings are neither concepts nor extensions, and sentences do not have truth conditions. He argues that meanings are composable instructions for how to access and assemble

concepts of a special sort. More specifically, phrasal meanings are instructions for how to build monadic concepts (a.k.a. mental predicates) that are massively conjunctive, while lexical meanings are instructions for how to fetch concepts that are monadic or dyadic. This allows for polysemy, since a lexical item can be linked to an address that is shared by a family of fetchable concepts. But the posited combinatorial operations are limited and limiting. They impose severe restrictions on which concepts can be fetched for purposes of semantic composition. Correspondingly,

Pietroski argues that in lexicalization, available representations are often used to introduce concepts that can be combined via the relevant operations.

J. Albert Coffa traces the roots of logical positivism in a semantic tradition that arose in opposition to Kant's theory that a priori knowledge is based on pure intuition.

Until recently, most linguistic theories as well as theories of cognition have avoided use of the notion of continuity. At the moment, however, several linguistic trends, sharing a preoccupation with semantico-

cognitive problems (e.g. cognitive grammars, 'psychomechanics', 'enunciative theories'), are trying to go beyond the constraints imposed by discrete approaches. At the same time, mathematical (e.g. differential geometry and dynamical systems) and computer science tools (e.g. connectionism) have been proposed that can be used for modelling of continuous linguistic phenomena. In this volume, linguists, philosophers, mathematicians and computer scientists discuss which semantic phenomena (linked to the lexicon, to grammatical

theories or to syntactic structures) call for continuous models and which formalisation tools can contribute to the development of such models. The first part of the book is devoted to linguistic issues, the second part deals with modelling issues. Many important questions are raised in the discussion, for instance: Is continuity just a convenient representation of gradual yet discrete facts, or is it an intrinsic characteristic of semantic phenomena? How can the introduction of continuity be reconciled with a methodology based on the falsifiability of

theories? What is the link between continuity and Gestalt theory? Can linguistic continuity be accounted for by mathematical models? What about statistical models? How can continuity be implemented on a digital and therefore discrete machine?

Cognitive and Functional Approaches To Language Structure

Syntax and Semantics of Spatial P

Synchronic and Diachronic Issues : a Study with Special Reference to the French Phasal Adverbs

To the Vienna Station

The Geometry of Meaning

The New Psychology of Language

Geometry and Meaning

This edited book focuses on concepts and their applications using the theory of conceptual spaces, one of today's most central tracks of cognitive science discourse. It features 15 papers based on topics presented at the Conceptual Spaces @ Work 2016 conference. The contributors interweave both theory and applications in their papers. Among the first mentioned are studies on metatheories, logical and systemic implications of the theory, as well as relations between concepts and

language. Examples of the latter include explanatory models of paradigm shifts and evolution in science as well as dilemmas and issues of health, ethics, and education. The theory of conceptual spaces overcomes many translational issues between academic theoretization and practical applications. The paradigm is mainly associated with structural explanations, such as categorization and meronomy. However, the community has also been relating it to relations, functions, and systems. The book presents work that provides a geometric model for the representation of human conceptual

knowledge that bridges the symbolic and the sub-conceptual levels of representation. The model has already proven to have a broad range of applicability beyond cognitive science and even across a number of disciplines related to concepts and representation. Geometric models similar to those of Pythagoras and Einstein are now being applied to the conceptual space of information and meaning, for example in the arrangement of Internet documents. This text explores the computational techniques necessary to represent meaning and their basis in conceptual space.

Introducing some of the

foundational concepts, principles and techniques in the formal semantics of natural language, Elements of Formal Semantics outlines the mathematical principles that underlie linguistic meaning. Making use of a wide range of concrete English examples, the book presents the most useful tools and concepts of formal semantics in an accessible style and includes a variety of practical exercises so that readers can learn to utilise these tools effectively. For readers with an elementary background in set theory and linguistics or with an interest in mathematical modelling, this fascinating study is an ideal introduction to natural language

semantics. Designed as a quick yet thorough introduction to one of the most vibrant areas of research in modern linguistics today this volume reveals the beauty and elegance of the mathematical study of meaning.
The purpose of this book is to provide a comprehensive philosophical theory which explains the cognitive contribution of metaphor. The argument is illustrated with analysis of metaphors from literature, philosophy, science, and everyday language.
Conceptual Spaces
A Theory of Semantics
Elements of Formal Semantics
Handbook of Cognitive Linguistics

The Logic in Philosophy of Science
Semantics Without Truth Values
A Festschrift for Nenad Miš?evi?