Alireza Dehbozorgi

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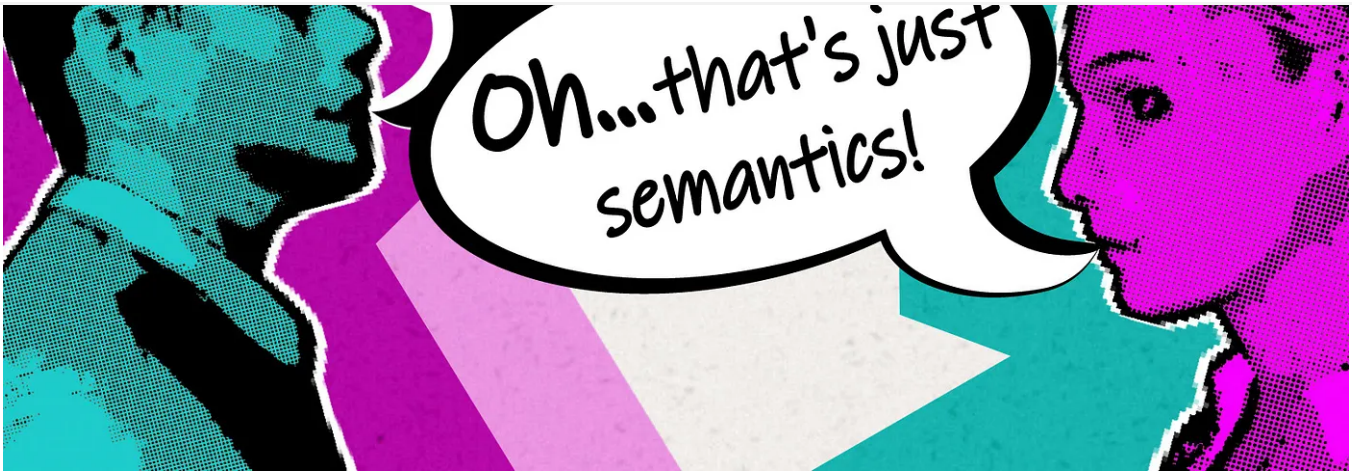
A Survey of theories of linguistic meaning.

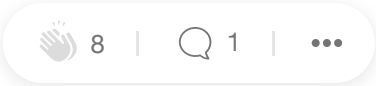


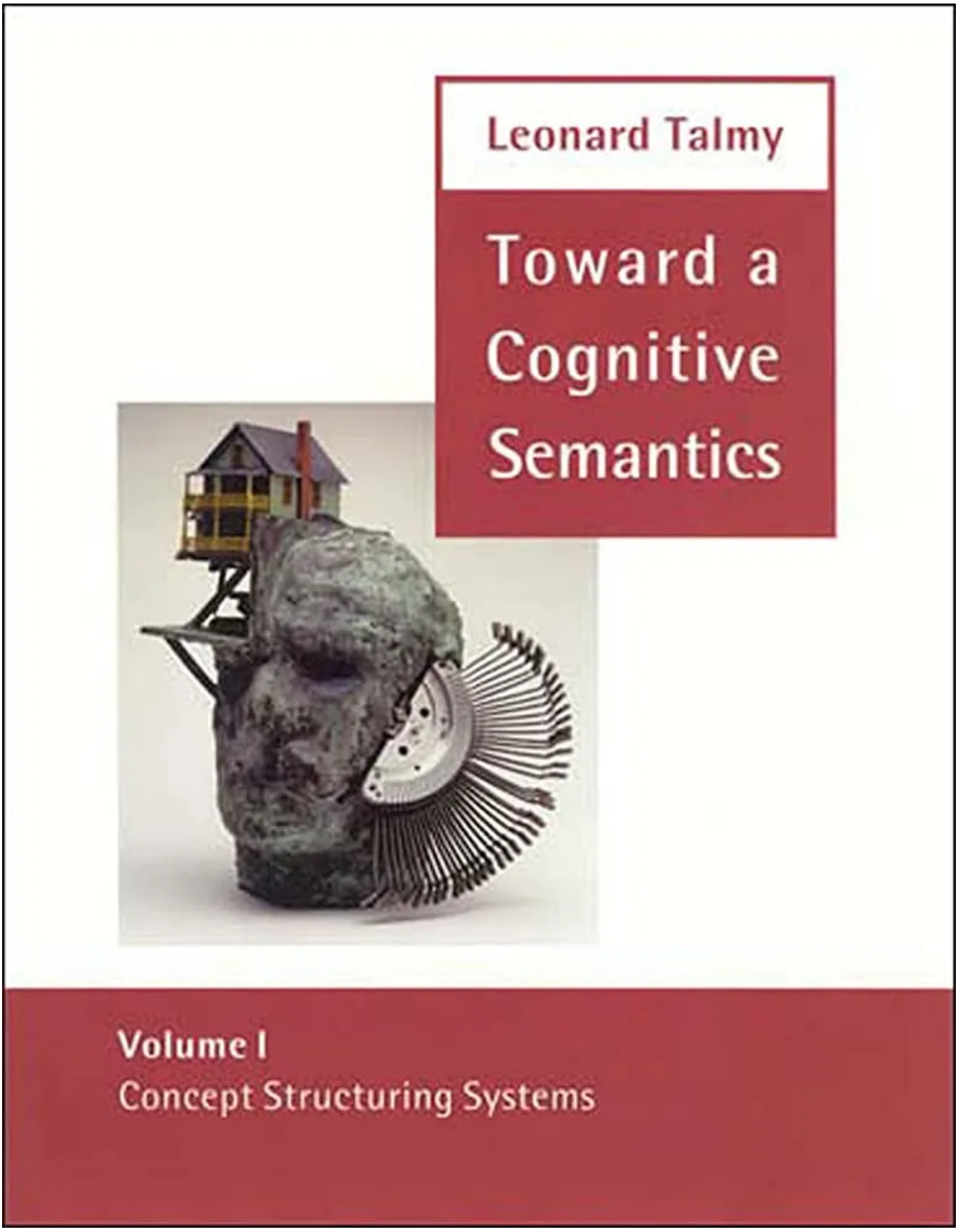
1- **Cognitive Semantics**: The *linguistic representation* (see also Adger 2022) of conceptual structure is the central concern of the two-to-three decades old field that has come to be known as “cognitive linguistics”. Its approach is concerned with the patterns in which and processes by which conceptual content is organized in language. It addresses the linguistic structuring of such basic conceptual categories as space and time, scenes and events, entities and processes, motion and location, and force and causation. To these it adds the basic ideational and affective categories attributed to cognitive agents, such as attention and perspective, volition and intention, and expectation and affect. It addresses the semantic structure of morphological and lexical forms, as well as of syntactic patterns. And it addresses the interrelationships of conceptual structures, such as those in metaphoric mapping,

those within a semantic frame, those between text and context, and those in the grouping of conceptual categories into large structuring systems. Overall, its aim is to ascertain the global integrated system of conceptual structuring in language.

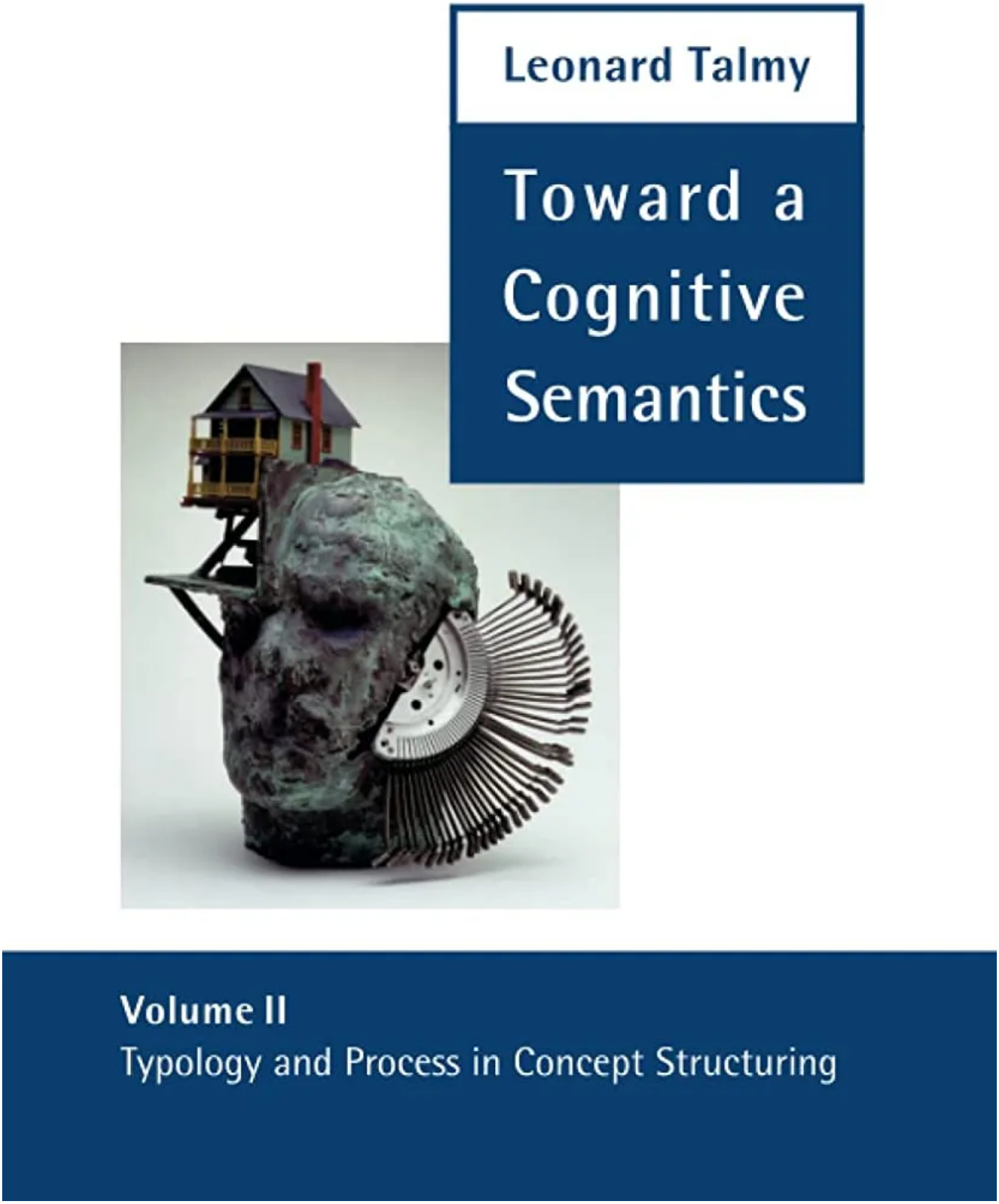
Further Reading:

- Talmy, L. (2000), *Toward a Cognitive Semantics* (2 Vols.). Cambridge, MA, MIT Press.
- Talmy, L. (2018). *The Targeting System of Language*. The MIT Press.

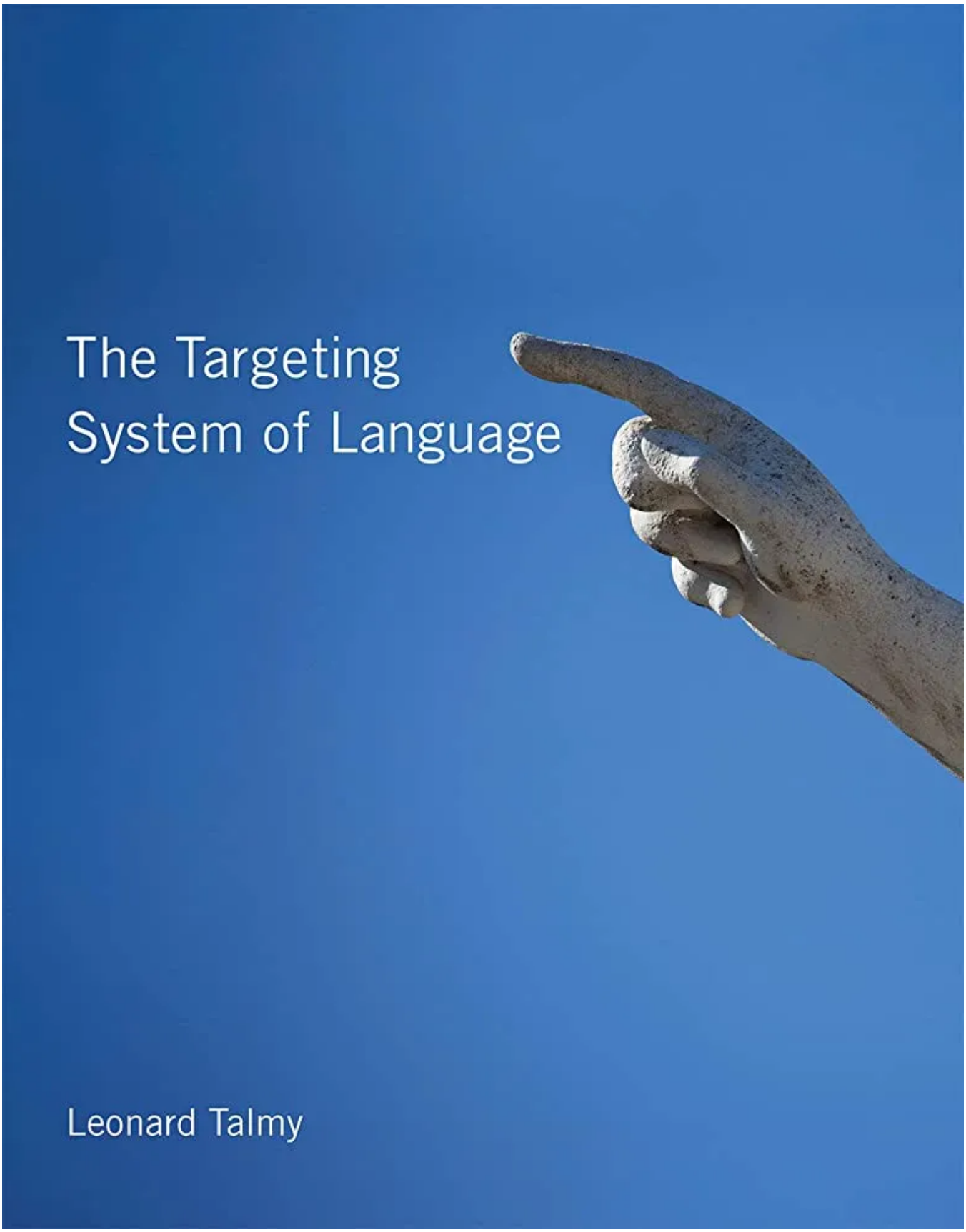




https://www.amazon.com/Toward-Cognitive-Semantics-Structuring-Communication/dp/0262700964



https://www.amazon.com/Toward-Cognitive-Semantics-Language-Communication/dp/0262700972



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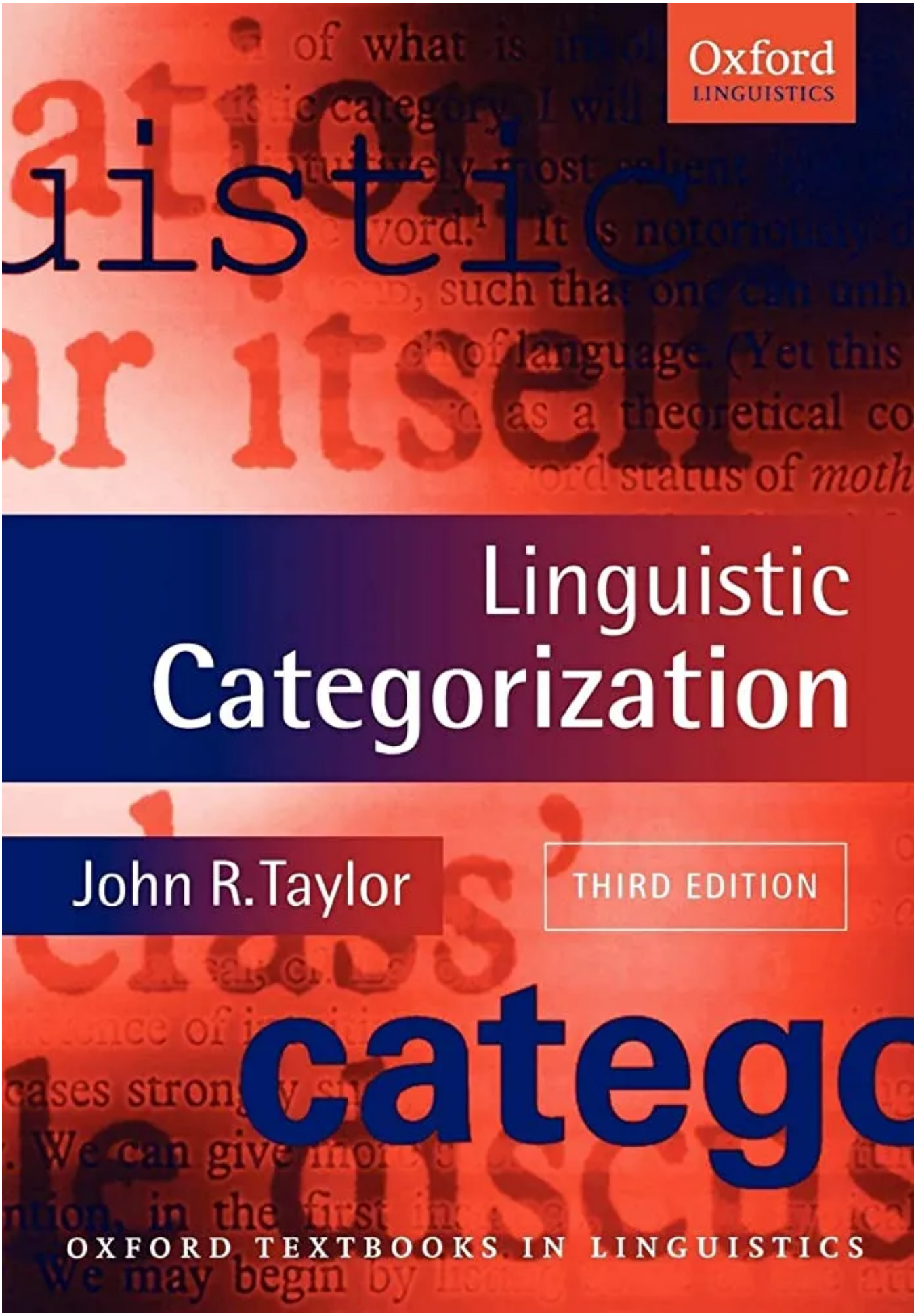
2- **Prototype theory:** According to a long-established theory, categories are defined in terms of a set of features. Entities belong in the category if, and only if, they exhibit each of the defining features. The theory is problematic for a number of

reasons. Many of the categories which are lexicalized in language are incompatible with this kind of definition, in that category members do not necessarily share the set of defining features. Moreover, the theory is unable to account for prototype effects, that is, speakers' judgements that some entities are 'better' examples of a category than others. These findings led to the development of prototype theory, whereby a category is structured around its good examples. This article reviews the relevant empirical findings and discusses a number of different ways in which prototype categories can be theorized, with particular reference to the functional basis of categories and their role in broader conceptual structures. The article concludes with a discussion of how the notion of prototype category has been extended to handle polysemy, where the various senses of a word can be structured around, and can be derived from, a more central, prototypical sense.

Further Reading:

Taylor, J. (2004). *Linguistic Categorization: Prototypes in Linguistic Theory. OUP.*



https://www.amazon.com/Linguistic-Categorization-Oxford-Textbooks-Linguistics/dp/0199266646

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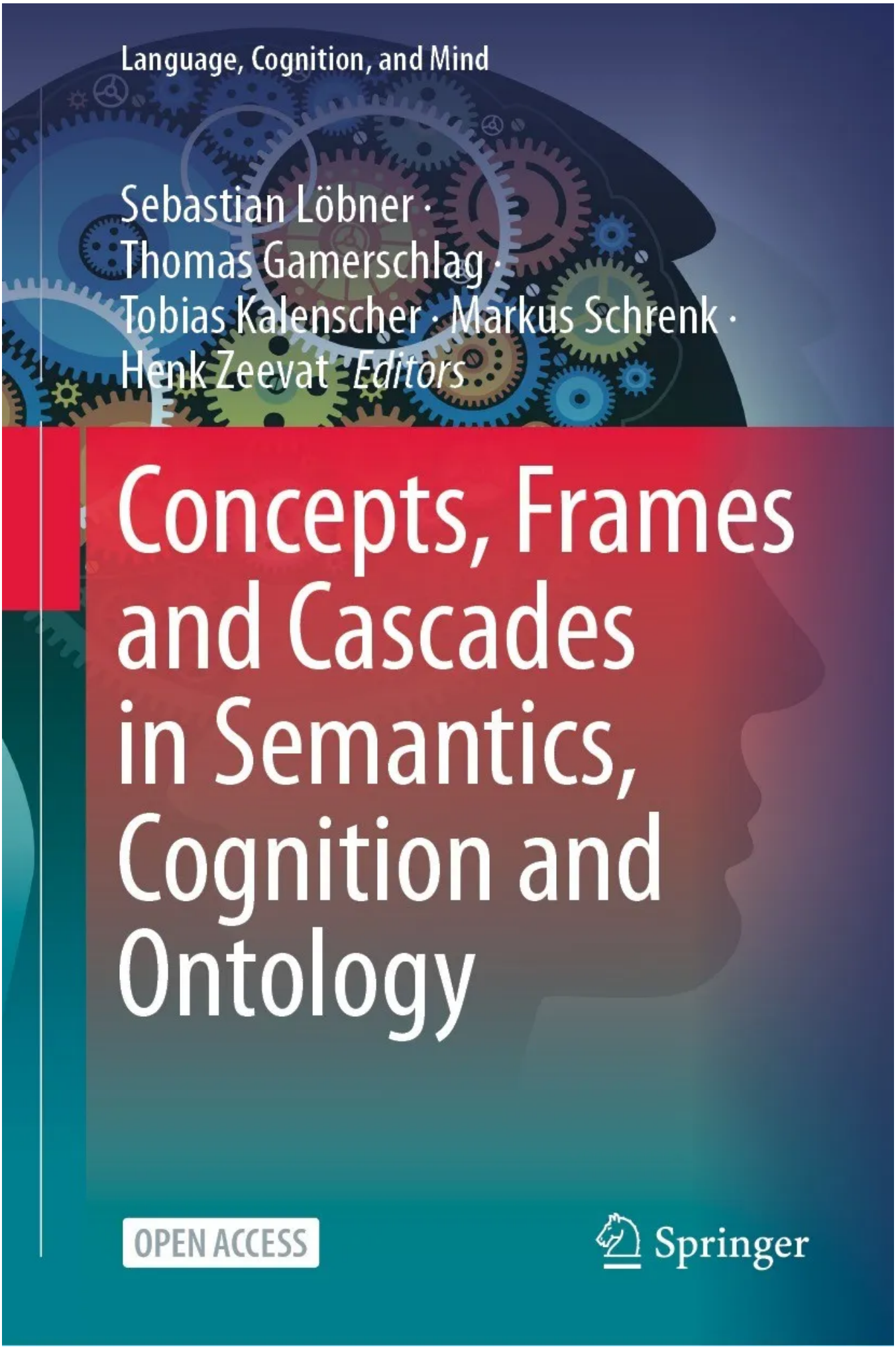
3- **Frame Semantics:** Frames are conceptual structures that provide context for elements of interpretation; their primary role in an account of text understanding is to explain how our text interpretations can leap far beyond what the text literally says. The present article explores the role of frames in providing a principled account of the openness and richness of word-meanings, distinguishing a frame-based account from classical approaches, such as accounts based on conceptual primitives, lexical fields, and connotation, and showing how they can play a role in the account of how word meaning interacts with syntactic valence.

Further Reading:

- Fillmore, C. (1982). *Frame Semantics*. The Linguistics Society of Korea.
- Löbner, S. et, al. (2021). *Concepts, Frames and Cascades in Semantics, Cognition and Ontology*. Springer.


Language, Cognition, and Mind
Sebastian Löbner · Thomas Gamerschlag · Tobias Kalenscher · Markus Schrenk · Henk Zeevat *Editors*
Concepts, Frames and Cascades in Semantics, Cognition and Ontology
OPEN ACCESS
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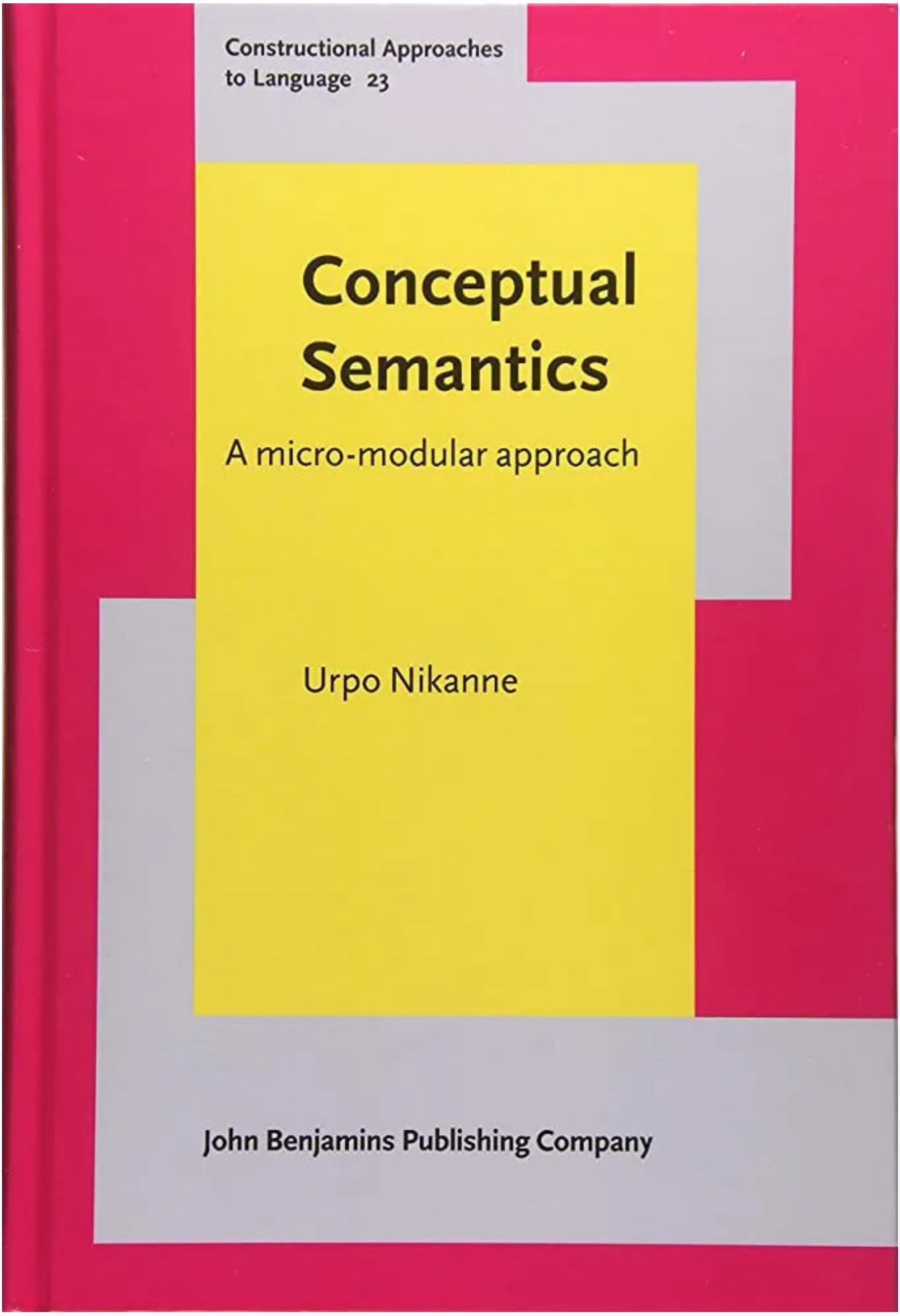
4- **Conceptual Semantics**: Conceptual Semantics takes the meanings of words and sentences to be structures in the minds of language users, and it takes phrases to refer not to the world per se, but rather to the world as conceptualized by language users. It therefore takes seriously constraints on a theory of meaning coming from the cognitive structure of human concepts, from the need to learn words, and from the connection between meaning, perception, action, and nonlinguistic thought. The theory treats meanings, like phonological structures, as articulated into substructures or tiers: a division into an algebraic Conceptual Structure and a geometric/ topological Spatial Structure; a division of the former into Propositional Structure and Information Structure; and possibly a division of Propositional Structure into a *descriptive tier* and a *referential tier*. All of these structures contribute to word, phrase, and sentence meanings. The ontology of Conceptual Semantics is richer than in most approaches, including not only individuals and events but also locations, trajectories, manners, distances, and other basic categories. Word meanings are decomposed into functions and features, but some of the features and connectives among them do not lend themselves to standard definitions in terms of necessary and sufficient conditions. Phrase and sentence meanings are compositional, but not in the strict Fregean sense: many aspects of meaning are conveyed through coercion, ellipsis, and constructional meaning.

Further Reading:

- Nikanne, U. (2018). *Conceptual Semantics: A Micro-modular Approach*. John Benjamins.


Constructional Approaches to Language 23
Conceptual Semantics
A micro-modular approach
Urpo Nikanne
John Benjamins Publishing Company

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5- **Two-level Semantics: Semantic Form and Conceptual Structure**: Semantic research of the last decades has been shaped by an increasing interest in conceptuality, that is, in emphasizing the conceptual nature of the meanings conveyed by natural language expressions. Among the multifaceted approaches emerging from this tendency, the article focuses on discussing a framework that has become known as »Two-level Semantics«. The central idea it pursues is to assume and justify two basically distinct, but closely interacting, levels of representation that spell out the meaning of linguistic expressions: Semantic Form (SF) and Conceptual Structure (CS). The distinction of SF vs. CS representations is substantiated by its role in accounting for related parallel distinctions including 'lexical vs. contextually specified meaning', 'grammar-based vs. concept-based restrictions', 'storage vs. processing' etc. The SF vs. CS distinction is discussed on the basis of semantic problems regarding polysemy, underspecification, coercion, and inferences.

Further Reading:

- Kemmerer, D. & J. Gonzalez-Castillo (2010). *The Two-Level Theory of verb meaning: An approach to integrating the semantics of action with the mirror neuron system*.
- Chalmers, D. *Two-Dimensional Semantics*.

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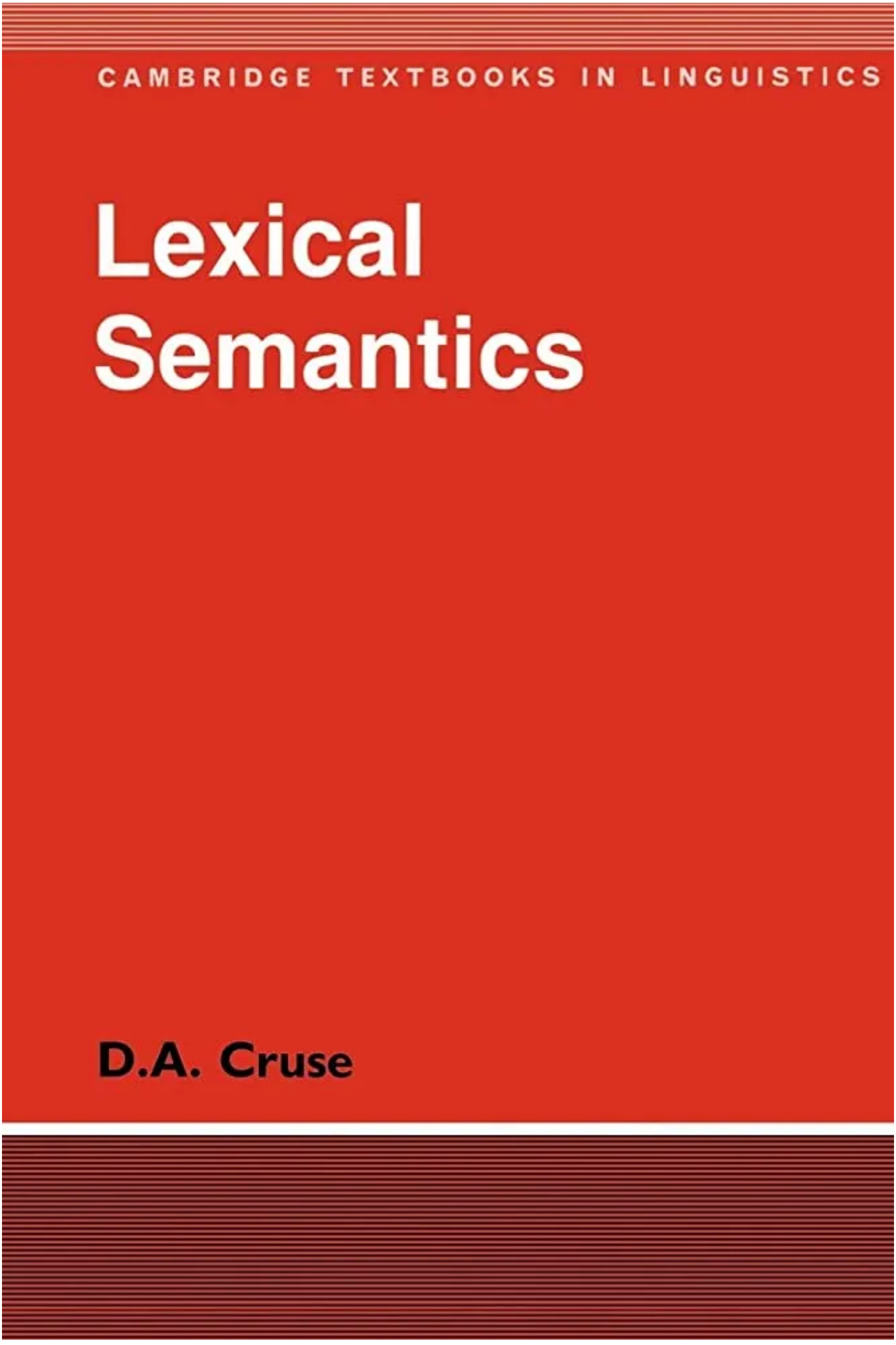
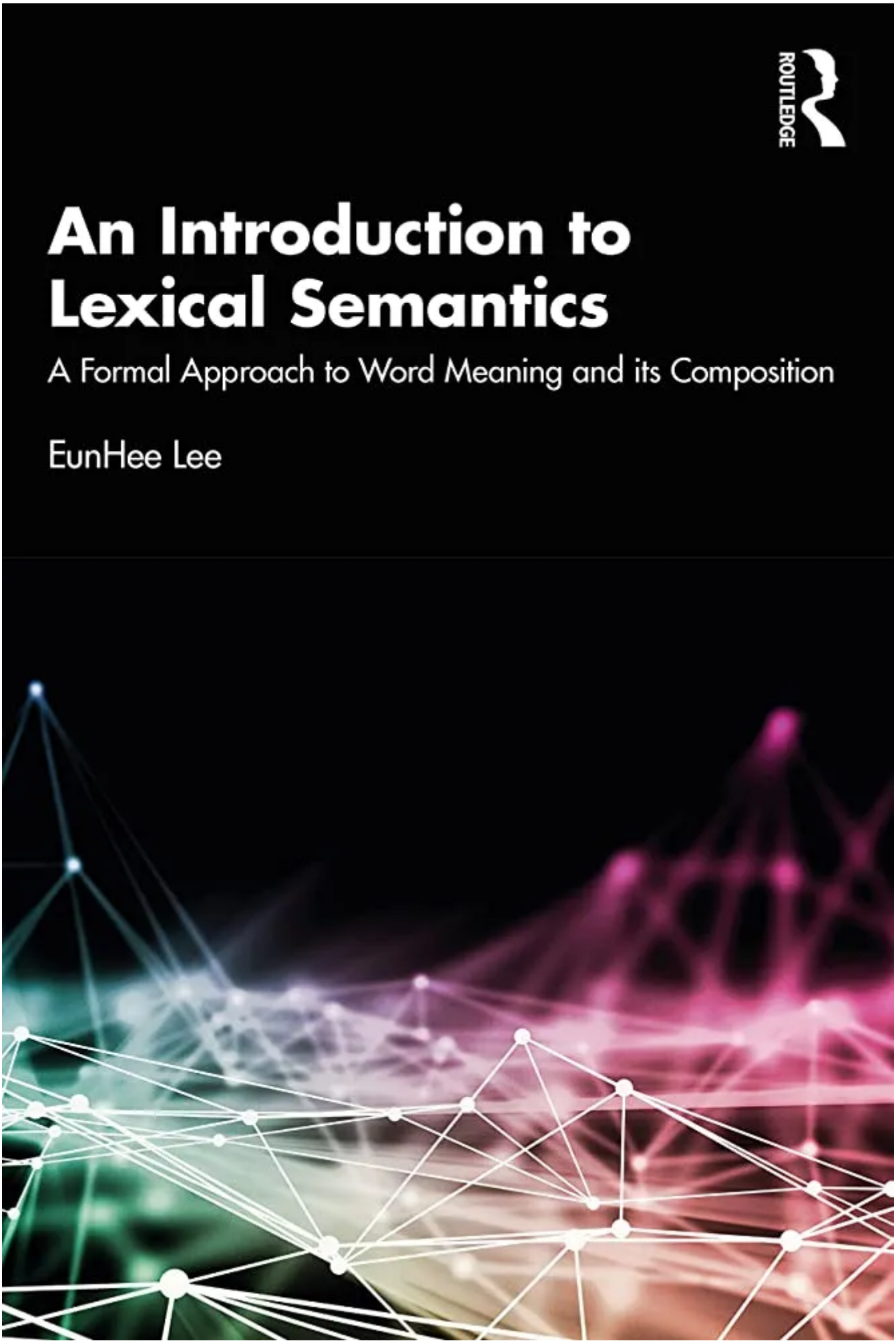
6- **Lexical Semantics:** Lexical semantics should be in part about linking the meanings of words with underlying theories of the world. But for this to be even remotely possible, the theories need to be informed by the insights of cognitive and other linguists about the conceptual structure on which language is based. They have to be axiomatizations of a kind of abstract topology that, for example, includes the domains of composite entities (things made of other things), scalar notions, change of state, and causality. Theories of each of these domains are sketched briefly, and it is shown how three very common polysemous words can be defined or characterized in terms of these theories. Finally, there is a discussion of what sort of boundary one can hope to draw between lexical knowledge and other world knowledge.

Suggested Reading:

- Cruse, A. (1986). *Lexical Semantics*. *CUP*.
- Lee. E. (2022). *An Introduction to Lexical Semantics: A Formal Approach to Word Meaning and its Composition*. Routledge.


CAMBRIDGE TEXTBOOKS IN LINGUISTICS
Lexical Semantics
D.A. Cruse


ROUTLEDGE
An Introduction to Lexical Semantics
A Formal Approach to Word Meaning and its Composition
EunHee Lee

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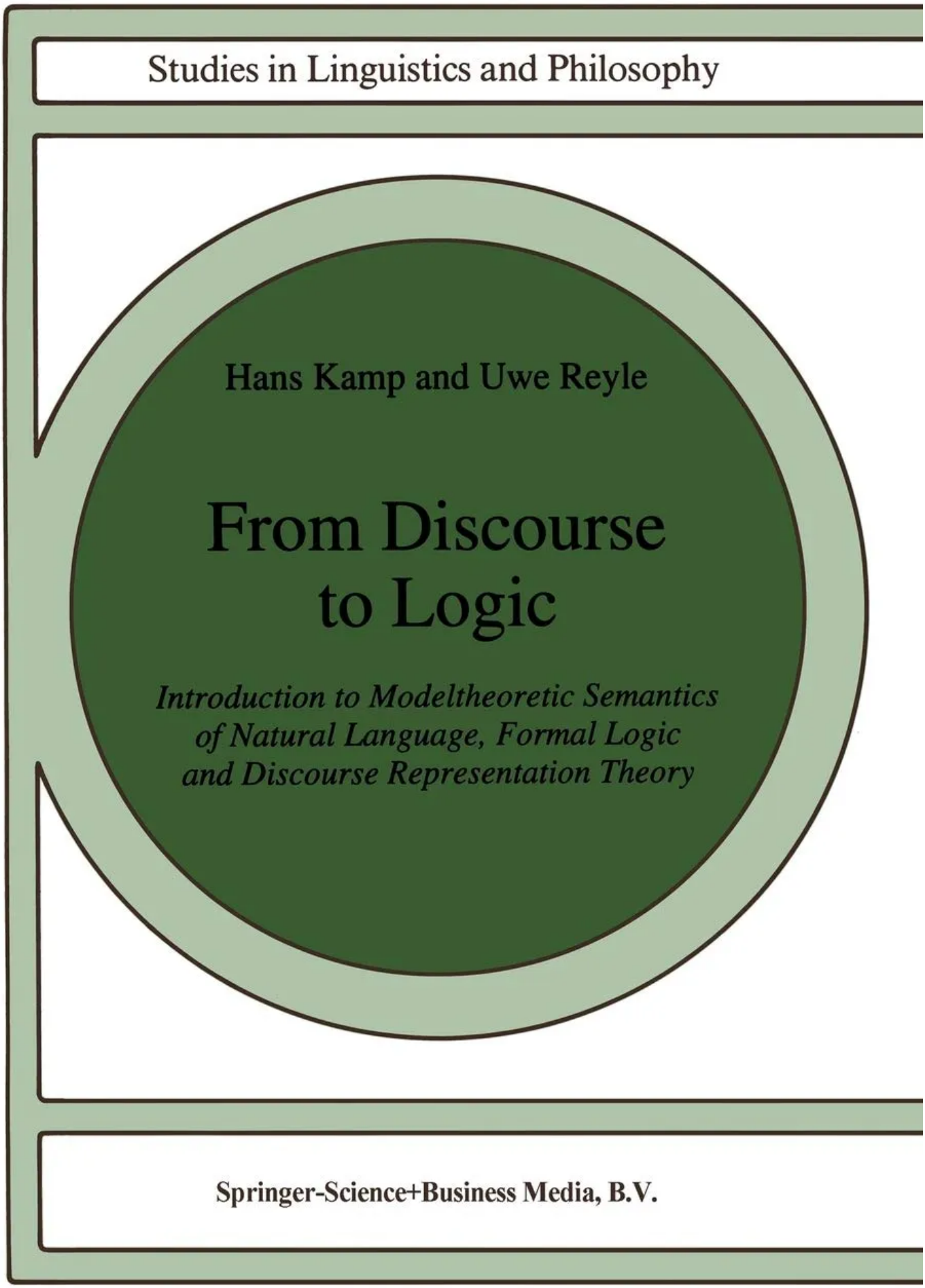
7- **Model-theoretic Semantics:** Model-theoretic semantics is a special form of truth-conditional semantics. According to it, the truth-values of sentences depend on certain abstract objects called models. Understood in this way, models are mathematical structures that provide the interpretations of the (non-logical) lexical expressions of a language and determine the truth-values of its (declarative) sentences. Originally designed for the semantic analysis of mathematical logic, model-theoretic semantics has become a standard tool in linguistic semantics, mostly through the impact of Richard Montague's seminal work on the analogy between formal and natural languages. As such, it is frequently (and loosely) identified with possible worlds semantics, which rests on an identification of sentence meanings with regions in Logical Space, the class of all possible worlds. In fact, the two approaches have much in common and are not always easy to keep apart. In a sense, (i) model-theoretic semantics can be thought of as a restricted form of possible worlds semantics, where models represent possible worlds; in another sense, (ii) model-theoretic semantics can be seen as a wild generalization of possible worlds semantics, treating Logical Space as variable rather than given.

Suggested Reading:

- Kamp, H. & U. Reyle (2012). *From Discourse to Logic: Introduction to Modeltheoretic Semantics of Natural Language, Formal Logic and Discourse Representation Theory*. Springer.


Studies in Linguistics and Philosophy
Hans Kamp and Uwe Reyle
From Discourse to Logic
Introduction to Modeltheoretic Semantics of Natural Language, Formal Logic and Discourse Representation Theory
Springer-Science+Business Media, B.V.

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8- **Event Semantics**: Since entering the linguistic stage in the late sixties, Davidsonian event semantics has taken on an important role in linguistic theorizing. Davidson's (1967) central claim is that events are spatiotemporal things, i.e., concrete particulars with a location in space and time. This enrichment of the underlying ontology has proven to be of great benefit in explaining numerous combinatorial and inferential properties of natural language expressions. This approach will trace the motivation, development, and applications of event semantics during the past decades and provide a picture of current views on the role of events in natural language meaning. Besides introducing the classical Davidsonian paradigm and providing an ontological characterization of events, the article discusses the Neo-Davidsonian turn with its broader perspective on eventualities and the use of thematic roles and/or decompositional approaches. Further topics are the stage-level/individual-level distinction, the somewhat murky category of states and some results of recent psycholinguistic studies that have tested the insights of Davidsonian event semantics.

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9- **Situation Semantics and the ontology of natural language**: Situation Semantics emerged in the 1980s with an ambitious program of reform for semantics, both in the domain of semantic ontology and with regard to the integration of context in meaning. This article takes as its initial focus the topic of a situation-based ontology, more generally discussing the approach to NL ontology that emerged from situation semantics. The latter part of the article will explain how recent work synthesizing situation semantics with type theory enables the original intuitions from situation semantics to be captured in a dynamic, computationally tractable framework.

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10- **Discourse Representation Theory**: Discourse Representation Theory (DRT) originated from the desire to account for aspects of linguistic meaning that have to do with the connections between sentences in a discourse or text (as opposed to the meanings that individual sentences have in isolation). The general framework it

proposes is dynamic: the semantic contribution that a sentence makes to a discourse or text is analysed as its contribution to the semantic representation — Discourse Representation Structure or DRS — that has already been constructed for the sentences preceding it. Interpretation is thus described as a transformation process which turns DRSs into other (as a rule more informative) DRSs, and meaning is explicated in terms of the canons that govern the construction of DRSs. DRT's emphasis on semantic representations distinguishes it from other dynamic frameworks (such as the Dynamic Predicate Logic and Dynamic Montague Grammar developed by Groenendijk and Stokhof, and numerous variants of those). DRT is — both in its conception and in the details of its implementation — a theory of semantic representation, or logical form.

Suggested Reading:

- Geurts, B. (2007). *Discourse Representation Reading*. Stanford Encyclopedia of Philosophy (Online).

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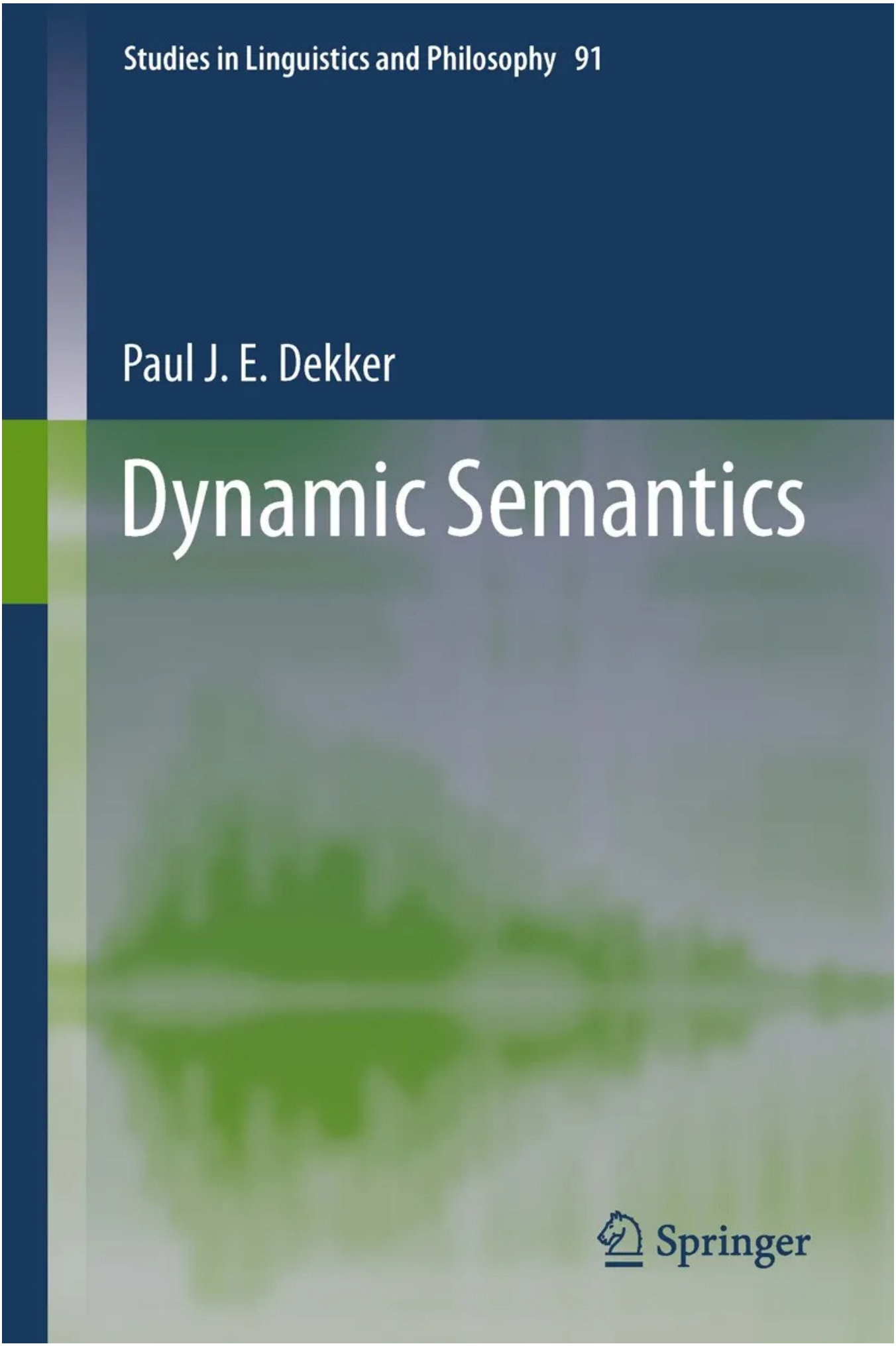
11- **Dynamic semantics**: What is dynamic semantics? Some people claim it embodies a radical new view of meaning, departing from the main logical paradigm as it has been prominent in most of the twentieth century. Meaning is not some abstract Platonic entity, but it is something that changes information states. "Natural languages are programming languages for minds", it has been said. A more modest way of putting the same point consists in acknowledging that natural language is not only devised to describe an independently given world. Natural languages have other points and there are lots of other functions of language than just a descriptive one. Eventually a theory of natural language meaning ought to extend the standardly given framework of a descriptive or referential semantics, and seek to incorporate arguably pragmatic aspects of interpretation. The term 'dynamic semantics' may serve as a generic label for this type of theorizing that does not deny its well-established philosophical, logical, and linguistic roots. Historically, dynamic semantics emerged as a focal point of developments in philosophy, psychology, artificial intelligence, and linguistics.

Suggested Reading:

- Dekker, Paul. J. (2012). *Dynamic Semantics*. Springer.


Studies in Linguistics and Philosophy 91
Paul J. E. Dekker
Dynamic Semantics
Springer

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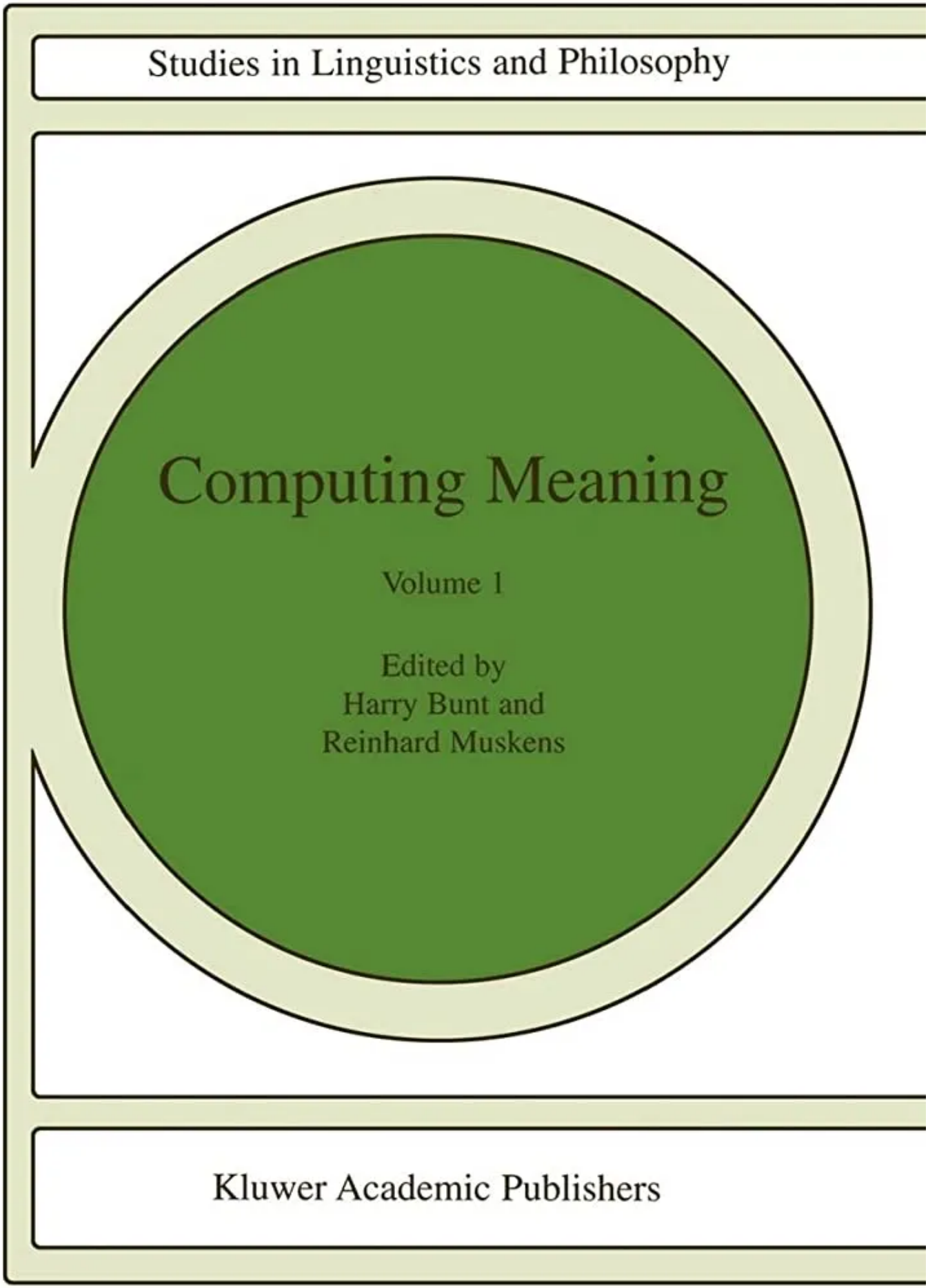
11- **Computational Semantics**: According to Blackburn & Bos (2003, p.27), "Computational semantics is a relatively new discipline that combines insights from formal semantics, computational linguistics, and automated reasoning. The aim of computational semantics is to find techniques for automatically constructing semantic representations for expressions of human language, representations that can be used to perform inference."

Suggested Readings:

- Blackburn, P. & J. Bos, (2003). *Computational Semantics*. Theoria: An International Journal for Theory, History and Foundations of Science. SEGUNDA EPOCA, Vol. 18, №1(46) (Enero 2003), pp. 27–45.
- Bunt, H. & R. Muyskens. (1999). *Computing Meaning, Vol. 1*. Springer.
- Bunt, H., R. Muyskens, & E. Thijsse (2001). *Computing Meaning, Vol. 2*. Springer.
- Bunt, H. & R. Muyskens (2007). *Computing Meaning, Vol. 3*. Springer.
- Bunt, H, R. Muyskens, & S. Pulman (2014). *Computing Meaning, Vol. 4*. Springer.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Reinhard Muskens
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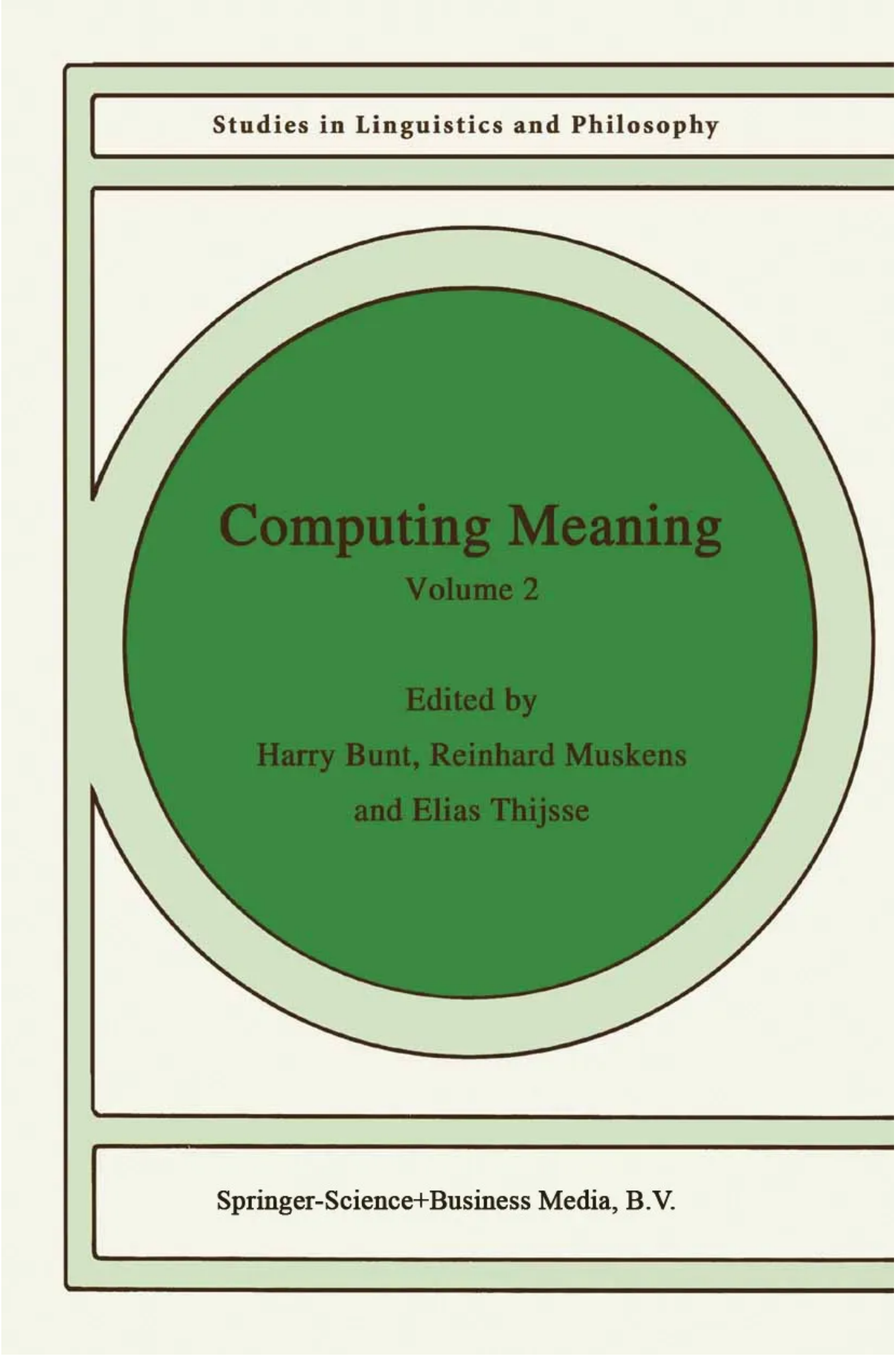
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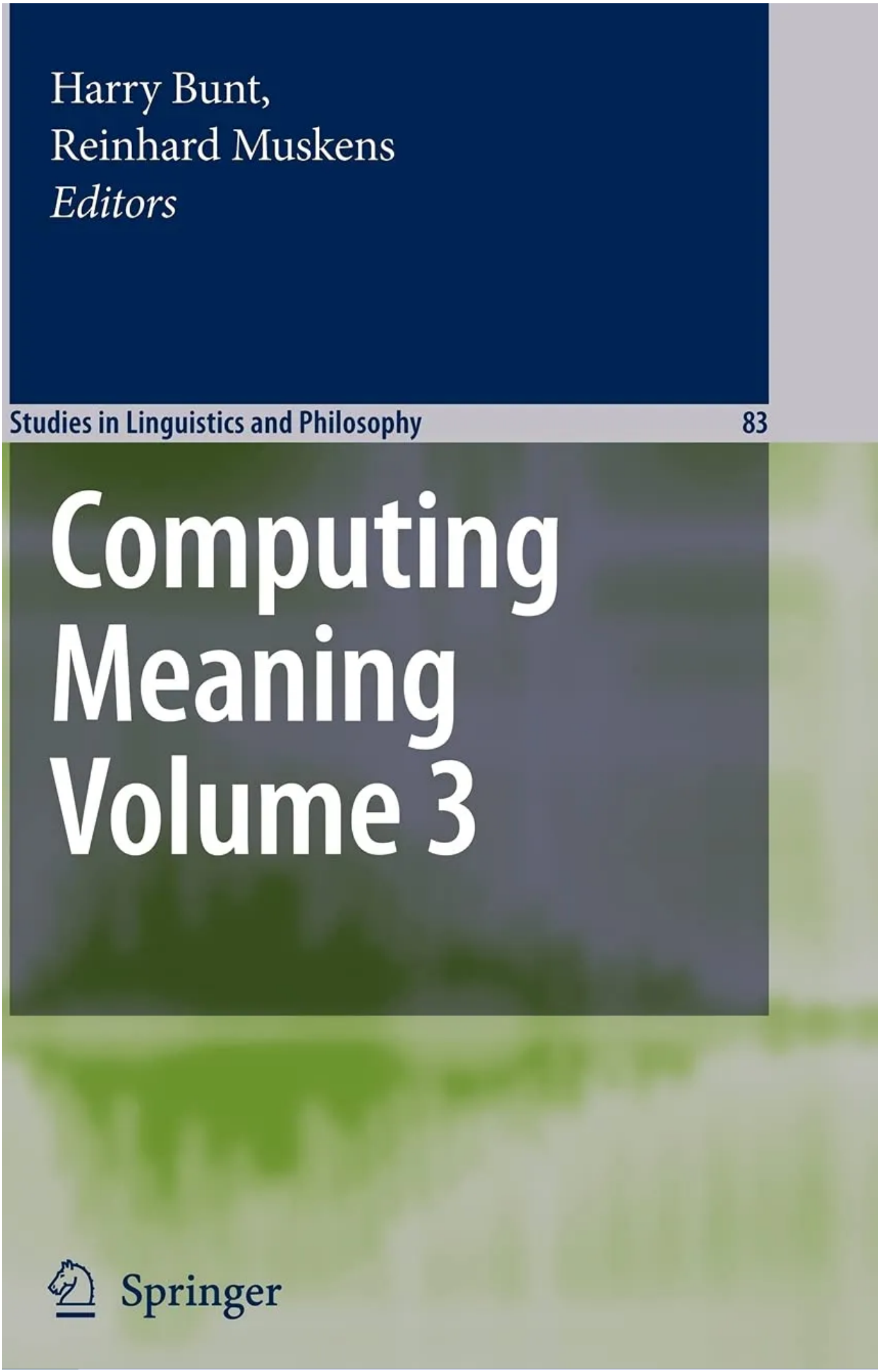
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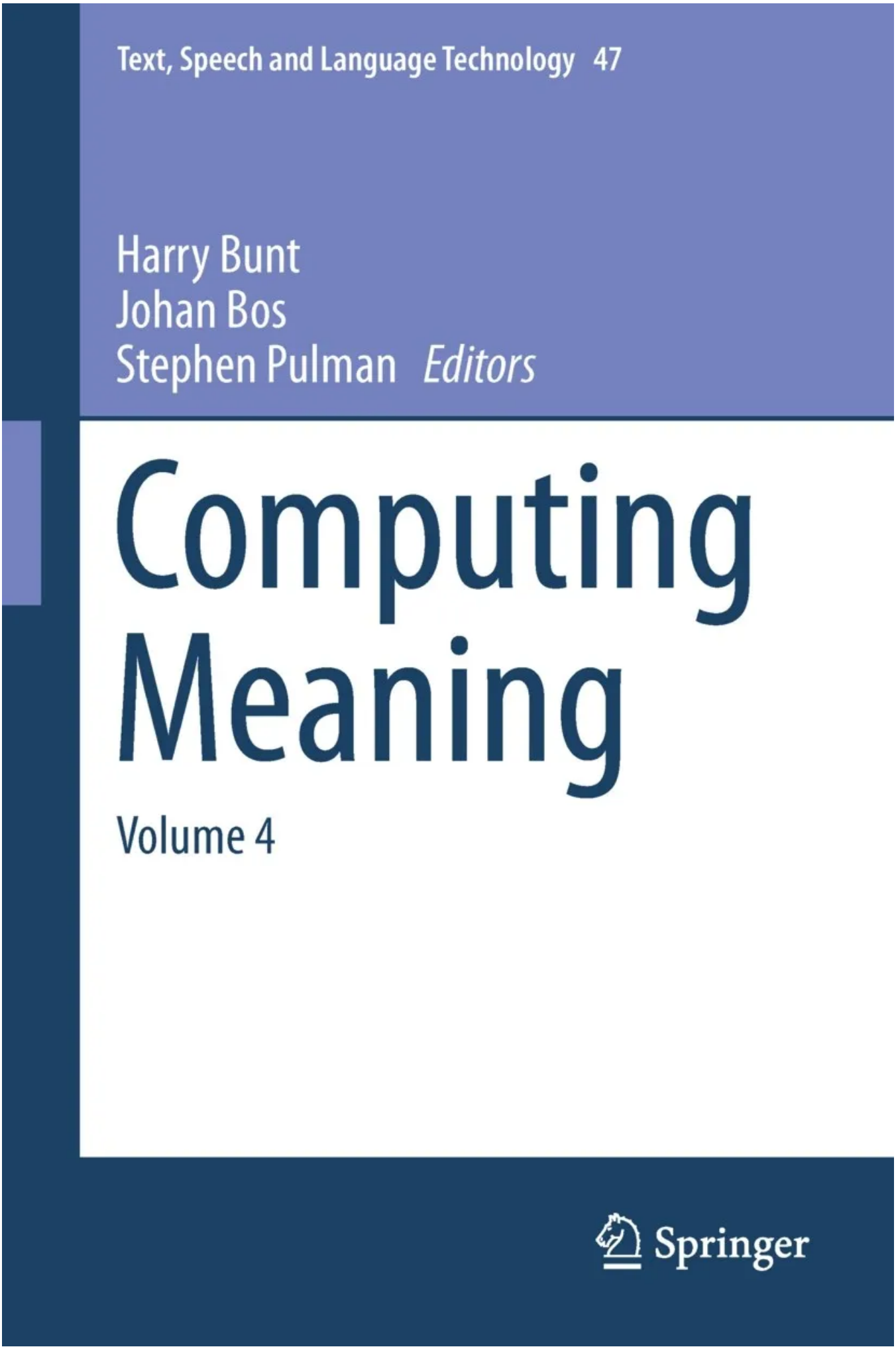
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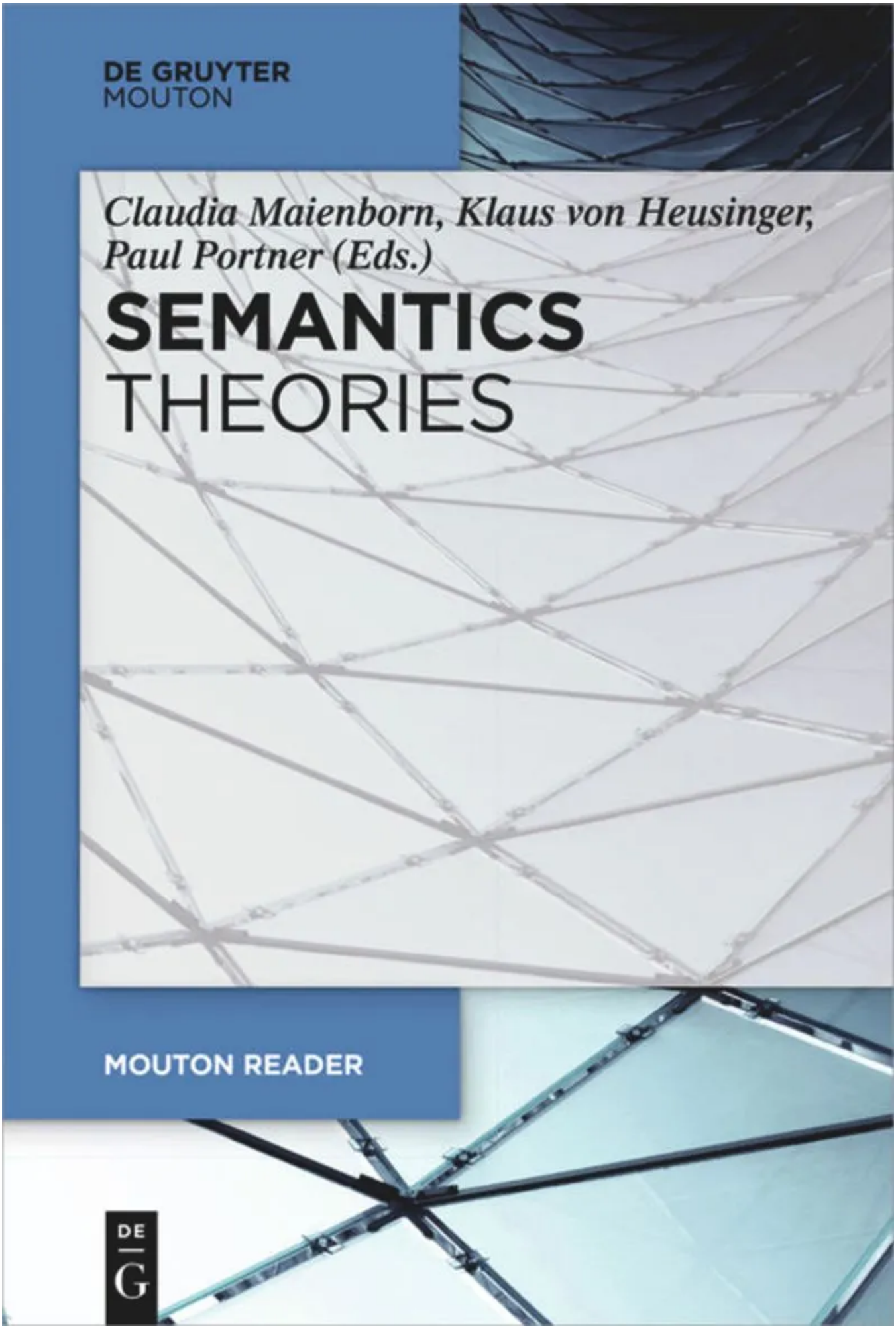
Harry Bunt
Johan Bos
Stephen Pulman Editors
Computing Meaning
Volume 4
Springer

. . .

Selected References:

- Maienborn, C., K. von Heusinger, & P. Portner (Eds.) (2021). *Semantics: Theories*. Berlin: De Gruyter.
- Dascal, M., D. Gerhardus, K. Lorenz, & G. Meggle (Eds.) (1993). *Semantics: An International Handbook of Natural Language Meaning, Vol. 1*. Berlin & London: De Gruyter.
- Dascal, M., D. Gerhardus, K. Lorenz, & G. Meggle (Eds.) (1995). *Semantics: An International Handbook of Natural Language Meaning, Vol. 2*. Berlin & London: De Gruyter.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Paul Portner (Eds.)
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Semantics
An International Handbook of Natural Language Meaning
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Paul Portner
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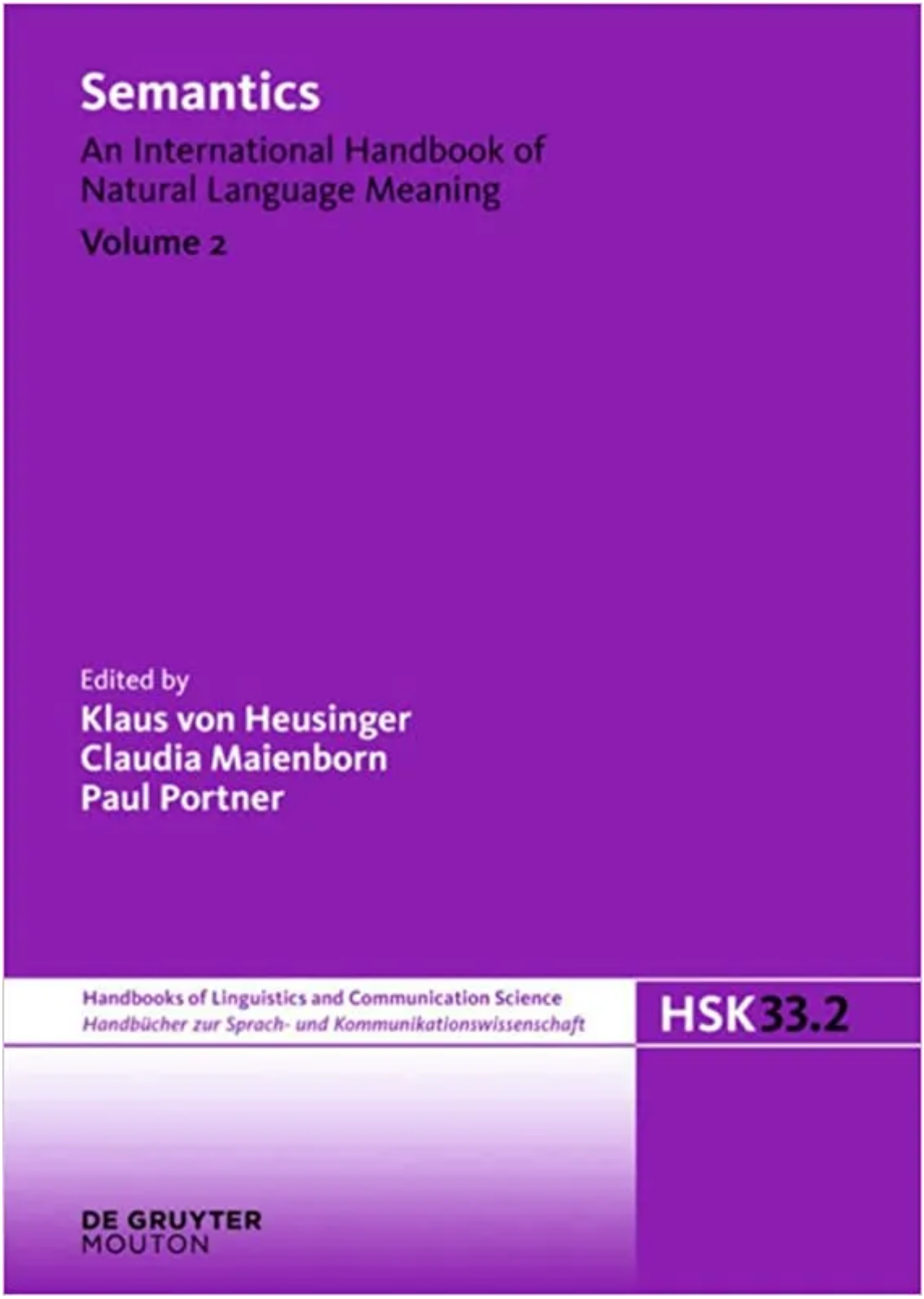

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Naturallanguageprocessing