

THE COMPOSITIONAL NATURE OF TENSE,
MOOD AND ASPECT

Bringing together fifty years' worth of cross-linguistic research, this pioneering monograph explores the complex interaction between tense, mood and aspect. It looks at the long way of combining elementary semantic units at the bottom of phrase structure up to and including the top of a sentence. Rejecting ternary tense as blocking compositionality, it introduces three levels obtained by binary tense oppositions. It also counters an outdated view on motion by assuming that change is not expressed as having an inherent goal but rather as dynamic interaction between different number systems that allows us to package information into countable and continuous units. It formally identifies the central role of a verb in a variety of argument structures and integrates adverbial modifiers into the compositional structure at different tense levels of phrase structure. This unique contribution to the field will be essential reading for advanced students and researchers in the syntax-semantics interface.

HENK J. VERKUYL is Professor Emeritus at the Utrecht University Research Institute UIL OTS. This book rounds off a suite of works on tense and aspect, including *On the Compositional Nature of the Aspects* (1972), *A Theory of Aspectuality* (Cambridge University Press, 1993) and *Binary Tense* (2008).

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*To the smallest circle of warmth and love
around me divided over three generations:
1. to Gina, my wife;
2. to David and Antoinette; to Judith and Ole;
to Jessica and Martin;
3. to Mischa and Noah; to Tijn, Yaël and Siem;
to Luna and Liza.*

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Preface

This book is written for linguists doing research in the domain of interaction between semantics, syntax and morphology focussed on tense, mood and aspect. The term *linguists* may include computational linguists, psycholinguists, SLA-linguists and even logicians focussed on the question of how their formal tools can be used for dealing with natural language. In a different use, the term *linguists* captures a variety of scholars from different persuasions such as categorial grammarians, minimalists, generativists in a broader sense, functional grammarians, cognitive grammarians, among many others. It also captures linguists working in the tradition of Discourse Representation Theory. For them the central notion of *e*(vent(uality)) is a primitive one, whereas in the present book this notion will be broken apart into different pieces of atemporal information that serve on different layers of phrase structure rendering a temporal *e* ultimately at the level of a tensed sentence.

The book is written for all of them because compositionality has the nice property of not being bound to an ideology if one is able to see it as a technical notion. Janssen (1997:461) underscores the methodological virtue of compositionality: it requires a decision on what the basic units in syntax and semantics are, and how they are related to one another and are combined into larger units. Of course, I am committed to a theoretical position by choosing these units, especially with the help of formal semantic tools, but on the other hand it does not make sense to write about compositionality informally. Moreover, the use of tools has the rewarding effect of leading to new insights at the point where they signal inconsistency. This is because sharply defined tools are more ordaining than critical opinions of peers. Inconsistencies can never be ignored on the penalty of making the whole theoretical enterprise senseless.

To not scare readers when it comes to giving formulas which ‘prove’ compositionality, I will embed them in informal text before and after, thus making it possible to skip a close inspection of them in favour of just following the main line of argument. I trust that sufficient readers remain fond of subjecting formulas to an accurate assessment. The book is easy to read for people familiar

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with basic notions of set theory and formal type logic including the lambda calculus which has established itself reasonably well in linguistic semantics on the basis of introductory works like Partee et al. (1990) and Gamut (1991).

My Utrecht PhD thesis *On the Compositional Nature of the Aspects* finished in 1971 appeared without substantial corrections as Verkuyl (1972a). In the seventies, it took some time to master and apply the then-new techniques of formal semantics in exploring aspectual issues that I felt were insufficiently accounted for in my thesis. In the eighties, my main focus was on research into the quantificational contribution of an NP to complex aspectual information at the higher levels of phrase structure resulting in *A Theory of Aspectuality* (1993), which contains only a brief section on tense. In the meantime, I had become acquainted with a binary tense system developed in the nineteenth century which requires compositionality. Increasingly I felt the need to connect tense and aspect on a compositional basis. This resulted in *Binary Tense* which appeared in 2008 and is more about tense than about aspect.

However, a crucial problem had not been solved yet: what is the real contribution of a verb to the compositional process of construing phrase structure? In the Galilean perspective, motion is unbounded unless it is blocked by an external force. The present book aims at finally formalizing this Galilean angle of approach that has always informally determined my view on aspectuality. Thus, as far as Chapter 4 is concerned, the intended readership described in the first paragraph may be extended so as to include philosophers due to its rejection of the Aristotelian teleological perspective on the nature of motion which has become dominant in the current mainstream in the linguistic theory of tense and aspect on the authority of ordinary language philosophers.

A consequence of research in progress is that a new publication builds on earlier work: the aforementioned books and papers, some of which were jointly written. Hence reference to that earlier work is inevitable. Combining my work on aspectuality with my work on binary tense yielded formal tools needed for cracking the contribution of the verb to aspectual information in the past decade. Therefore previous results have been adapted to a new formal setting and they are given a new perspective so that simple recycling is evaded or reduced to acceptable proportions, as I hope and also think so. This distinguishes the present book crucially from a collection of papers: the search for the basic elements of compositionality is described here for the first time in a completely new context: from bottom to top with new results.

I would like to thank a number of people who have helped me in the course of writing this book or earlier. First of all, I want to express my gratitude to Marie-Eve Ritz and Hans Broekhuis for having read all the eight chapters up

to and including the final version. Marie-Eve is an expert on one of the central themes, the perfect, but on another central theme – the French tense system – her being a native speaker of French made me feel protected against slipping away in wild claims about the theoretical status of the French aoristic tense forms: the Passé Simple and the Passé Antérieur. Finally, she could test the binary theory presented here in her work on Polynesian languages. Hans Broekhuis convinced me to leave the rather timid position of Verkuyl (2008) with respect to Te Winkel's binary system where I left open that posteriority could be interpreted both temporally and modally, as Te Winkel (1866) had done. In Broekhuis and Verkuyl (2014), we found a common ground, and since then, we have had many stimulating discussions based on disagreement because it is quite hard for me to give syntax the most prominent place in a domain which, in my view, is predominantly semantic.

As to the formal technical part, I owe much to Dick de Jongh, Reinhard Muskens and, at earlier stages, Harry Sitters. I feel safe in presenting the logical-semantic machinery here due to the preciseness resulting from frequent exchanges with each of them. In particular, Chapter 8 would not have achieved its present form without the many mails exchanged between Reinhard and myself both with regard to modality and to getting to the final stage of the bottom-top compositional process sketched in the present book. Thanks also to Johan van Benthem for his stimulating comment on that chapter.

For their contribution to the way I have been able to write about Slavic aspect and about the aorist I would like to thank Egbert Fortuin, Jaap Kamphuis and Adrie Barentsen. They also organized a lecture for Slavicists as a check on whether the formalization of their theory on Slavic aspect in Chapter 7 does justice to the facts. I thank Maaïke Schoorlemmer for checking whether I did justice to her analysis of Russian aspect. Andrei Stoevsky and Krasimir Kabakčiev were very helpful by providing more insight in how the aorist functions in the Bulgarian tense system and how it relates to aoristic forms in Romance languages.

Leonoor Oversteegen was so kind as to provide improvements in my representation of her work discussed in Chapter 2 and Geert Booij guided my small excursion to the domain of morphology in Chapter 5. I also thank Harm Pinkster for preventing elementary mistakes in my account of the connection between current linguistic theory on tense and aspect and the age-old tradition of classical, in particular Latin, grammar.

The rest of the acknowledgements date back from earlier occasions. Around 2014, I felt the need to get to the original text of Aristotle's *Metaphysics* 1048b in order to study it with a strictly linguistic view on the tensed verbs it contains

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and I wrote a paper about that which has remained unpublished: it is partly included here in Chapter 4. For comments on the paper, I would like to thank the late Emmon Bach, Olga Borik, Regine Eckardt, Antonio Fábregas, Hana Filip, Ray Jackendoff, Hans Kamp, Michael Moortgat, the late Remko Scha, Pieter Seuren, Henriëtte de Swart, Hedde Zeijlstra and Joost Zwarts.

I could not have done the linguistic inspection of the tense forms in 1048b without the professional expertise of Albert Rijksbaron, co-author of the *Cambridge Grammar of Classical Greek* (2019), which conquered an important place in several chapters of the present book. Numerous lunches attest to the thoroughness and depth of his view on the text and its implications. I am very grateful for Albert's support of my strictly non-philosophical and non-philological approach to the original 1048b, even though it has led to a different conclusion for the theory of tense and aspect than he drew in Rijksbaron (1989) in which he used the aspectual classifications proposed by natural language philosophers, now countered in Chapter 4. I add to this gratitude that which I owe to Alexander Mourelatos, whose stimulating comments then and more recently were taken to heart. When Chapter 8 was written, once again I could use Albert's reassuring help, this time with a purely linguistic approach to Aristotle's famous passage about the sea-battle taking place tomorrow.

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