Danish in Head-Driven Phrase Structure Grammar

Stefan Müller, Bjarne Ørsnes

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Danish in Head-Driven Phrase Structure Grammar

This book describes a fragment of the Danish language that is formalized in the framework of Head-Driven Phrase Structure Grammar. Each chapter consist of a large empirical part that uses corpus data for the discussion of phenomena whenever this is appropriate. The description is theory-driven but the formulations of the insights are as theory-neutral as possible.

After a brief introduction into the basic assumptions that are made in HPSG, we provide a topological model of the Danish clause. This topological model is used to explain the basic clause structure of Danish (SVO) and to set up the HPSG analysis of these rather basic facts. After this rather basic part detailed descriptions and analyses of the following phenomena are provided: object and negation shift, copula constructions, including specificational structures and the relation to left dilocation and question tag formation, extraposition, passive, raising passives, in which objects of embedded verbs are raised to subject, preposed negation, extraction (V2), the insertion of positional expletives in extraction contexts, and *Do-Support*.

The grammar that is described in this book is computerprocessable and hence internally consistent. It was developed in the CoreGram project, which develops grammars of various languages and tries to find crosslinguistic generalizations. This is also reflected in the book, which contains sections that compare the analyses for Danish with those for German and English.

Stefan Müller is professor for German and General Linguistics at the Freie Universität Berlin. Bjarne Ørsnes is Associate Professor at the Copenhagen Business School.

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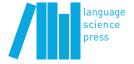
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			α , and the HEAD Feature	7

Part I

Part Title: Ɓasaá, fulɓe, move-α, and the HEAD Feature

1 Chapter Title: Ɓasaá, fulɓe, move-α, and the HEAD Feature

- 1.1 Section Title: The details Ɓasaá, fulɓe, move-α, and the HEAD Feature
- 1.1.1 Subsection Title: more specific points on Ɓasaá, fulɓe, move-α, and the HEAD Feature
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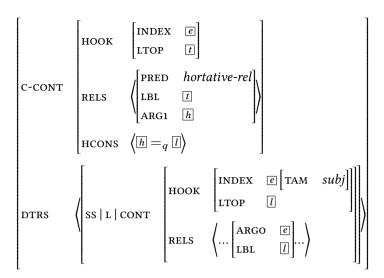
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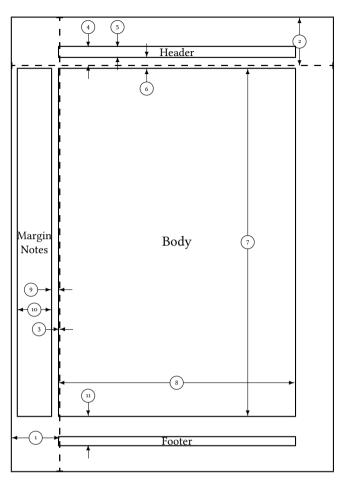
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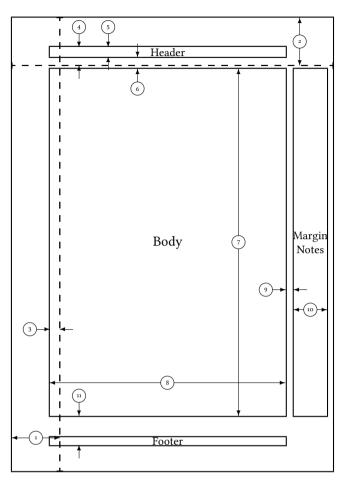
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Bibliography

- Bech, Gunnar. 1963. Grammatische Gesetze im Widerspruch. Lingua 12, 291–299.
- Chomsky, Noam and Miller, George A. 1963. Introduction to the Formal Analysis of Natural Languages. In Luce et al. (1963), pages 269–321.
- Erdmann, Oskar. 1886. *Grundzüge der deutschen Syntax nach ihrer geschichtlichen Entwicklung*, volume 1. Stuttgart: Verlag der J. G. Cotta'schen Buchhandlung.
- Hockett, Charles F. 1960. The Origin of Speech. Scientific American 203, 88-96.
- Jespersen, Otto. 1909–1949. A Modern English Grammar. London: George Allen & Unwin.
- Jespersen, Otto. 1924. *The Philosophy of Grammar*. Chicago, IL/London: The University of Chicago Press, second edition.
- Luce, R. Duncan, Bush, Robert R. and Galanter, Eugene (eds.). 1963. *Handbook of Mathematical Psychology*. New York: John Wiley & Sons, Inc.
- Paul, Hermann. 1916. Deutsche Grammatik. Teil I: Geschichtliche Einleitung, Teil II: Lautlehre, volume 1. Halle an der Saale: Max Niemeyer Verlag.
- Wackernagel, J. 1892. Über ein Gesetz der indogermanischen Wortstellung, volume 1. Göttingen: Vandenhoesch und Ruprecht.