

Head-Driven Phrase Structure Grammar

The handbook

Edited by

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Empirically Oriented Theoretical
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Preface

Head-driven Phrase Structure Grammar (HPSG) is a declarative (or, as is often said, constraint-based) monostratal approach to grammar which dates back to early 1985, when Carl Pollard presented his Lectures on HPSG. It was developed initially in joint work by Pollard and Ivan Sag, but many other people have made important contributions to its development over the decades. It provides a framework for the formulation and implementation of natural language grammars which are (i) linguistically motivated, (ii) formally explicit, and (iii) computationally tractable. From the very beginning it has involved both theoretical and computational work seeking both to address the theoretical concerns of linguists and the practical issues involved in building a useful natural language processing system.

HPSG is an eclectic framework which has drawn ideas from the earlier Generalized Phrase Structure Grammar (GPSG, Gazdar et al. 1985), Categorical Grammar (Ajdukiewicz 1935), and Lexical-Functional Grammar (LFG, Bresnan 1982), among others. It has naturally evolved over the decades. Thus, the construction-based version of HPSG, which emerged in the mid-1990s (Sag 1997; Ginzburg & Sag 2000), differs from earlier work (Pollard & Sag 1987; 1994) in employing complex hierarchies of phrase types or constructions. Similarly, the more recent Sign-Based Construction Grammar approach differs from earlier versions of HPSG in making a distinction between signs and constructions and using it to make a number of simplifications (Sag 2012).

Over the years, there have been groups of HPSG researchers in many locations engaged in both descriptive and theoretical work and often in building HPSG-based computational systems. There have also been various research and teaching networks, and an annual conference since 1993. The result of this work is a rich and varied body of research focusing on a variety of languages and offering a variety of insights. The present volume seeks to provide a picture of where HPSG is today. It begins with a number of introductory chapters dealing with various general issues. These are followed by chapters outlining HPSG ideas about some of the most important syntactic phenomena. Next are a series of chapters on other levels of description, and then chapters on other areas of

linguistics. A final group of chapters considers the relation between HPSG and other theoretical frameworks.

It should be noted that for various reasons not all areas of HPSG research are covered in the handbook (e.g., phonology). So, the fact that a particular topic is not addressed in the handbook should not be interpreted as an absence of research on the topic. Readers interested in such topics can refer to the HPSG online bibliography maintained at the Humboldt Universität zu Berlin.¹

All chapters were reviewed by one author and at least one of the editors. All chapters were reviewed by Stefan Müller. Jean-Pierre Koenig and Stefan Müller did a final round of reading all papers and checked for consistency and cross-linking between the chapters.

Open access

Many authors of this handbook have previously been involved in several other handbook projects (some that cover various aspects of HPSG), and by now there are at least five handbook articles on HPSG available. But the editors felt that writing one authoritative resource describing the framework and being available free of charge to everybody was an important service to the linguistic community. We hence decided to publish the book open access with Language Science Press.

Open source

Since the book is freely available and no commercial interests stand in the way of openness, the \LaTeX source code of the book can be made available as well. We put all relevant files on GitHub,² and we hope that they may serve as a role model for future publications of HPSG papers. Additionally, every single item in the bibliographies was checked by hand either by Stefan Müller or by one of his student assistants. We checked authors and editors; made sure first name information was complete; corrected page numbers; removed duplicate entries; added DOIs and URLs where appropriate; and added series and number information as applicable for books, book chapters, and journal issues. The result is a resource containing 2623 bibliography entries. These can be downloaded as a single readable PDF file or as \BibTeX file from <https://github.com/langsci/hpsg-handbook-bib>.

¹<https://hpsg.hu-berlin.de/HPSG-Bib/>, 2021-04-29.

²<https://www.github.com/langsci/259>, 2021-04-29.

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We thank Sebastian Nordhoff and Felix Kopecky for constant support regarding \LaTeX issues, both for the book project overall and for individual authors. Felix implemented a new \LaTeX class for typesetting AVMs, `langsci-avm`, which was used for typesetting this book. It is compatible with more modern font management systems and with the `forest` package, which is used for most of the trees in this book.

We thank Sašo Živanović for writing and maintaining the `forest` package and for help specifying particular styles with very advanced features. His package turned typesetting trees from a nightmare into pure fun! To make the handling of this large book possible, Stefan Müller asked Sašo for help with externalization of `forest` trees, which led to the development of the `memoize` package. The HPSG handbook and other book projects by Stefan were an ideal testing ground for externalization of `tikz` pictures. Stefan wants to thank Sašo for the intense collaboration that led to a package of great value for everybody living in the woods.

Abbreviations and feature names used in the book

1ST-PC	first position class
ACCENT	accent
ACT(OR)	actor argument
ADDRESSEE	index for addressee
AFF	affixes
AGR	agreement
ANAPH	anaphora
ANCS	anchors
ANTEC	antecedent referent markers
ARG	semantic argument of a relation
ARG-ST	argument Structure

Preface

AUX	auxiliary verb (or not)
BACKGROUND (BACKGR)	background assumptions
BD	boundary tone
BG	background (in information structure)
BODY	body (nuclear scope) of quantifier
CASE	case
CATEGORY	syntactic category information
C-INDICES (C-INDS)	contextual indices
CL	inflectional class
CLITIC (CLTS)	clitics
CONDS	predicative conditions
CLUSTER	cluster of phrases
COLL	collocation type
COMPS	complements
CONCORD	concord information
CONTENT (CONT)	lexical semantic content
CONTEXT (CTXT)	contextual information
COORD	coordinator
CORREL	correlative marker
DET	semantic determiner (a.k.a. quantifier force)
DSL	double slash
DEPS	dependents
DOM	order Domain
DR	discourse referent
DTE	designated terminal element
DTRS	daughters
ECONT	external content
EMBED	embedded (or not)
ENDING	inflectional ending
EXP	experiencer
EXCONT (EXC)	external content (in LRS)
EXTRA	extraposed syntactic argument
FC	focus-marked lexical item
FCOMPL	functional complement
FIG	figure in a locative relation
FIRST	first member of a list
FOCUS	focus

FORM	form of a lexeme
FPP	focus projection potential
GEND	gender
GIVEN	given information
GRND	ground in a locative relation
GROUND	ground (in information structure)
GTOP	global top
HARG	hole argument of handle constraints
HCONS	handle constraints (to establish relative scope in MRS)
HEAD (HD)	head features
HD-DTR	head-daughter
HOOK	hook (relevant for scope relations in MRS)
IC	inverted clause (or not)
ICONS	individual constraints
ICONT	internal content
I-FORM	inflected form
INDEX (IND)	semantic index
INCONT (INC)	internal content (in LRS)
INFL	inflectional features
INFO-STRUC	information structure
INHER	inherited non-local features
INST	instance (argument of an object category)
INV	inverted verb (or not)
IP	intonational phrase
KEY	key semantic relation
LAGR	left conjunct agreement
LARG	label argument of handle constraints
LBL	label of elementary predications
LEX-DTR	lexical daughter
LEXEME	lexeme identifier
LF	logical form
LID	lexical identifier
LIGHT	light expressions (or not)
LINK	link (in information structure)
LISTEME	lexical identifier
LISZT	list of semantic relations
LOCAL	syntactic and semantic information relevant in local contexts

Preface

L-PERIPH	left periphery
LTOP	local top
MAJOR	major part of speech features
MAJOR	major or minor part of speech
MAIN	main semantic contribution of a lexeme
MARKING (MRKG)	marking
MAX-QUD	maximal question under discussion
MC	main clause (or not)
μ -FEAT	morphological features
MINOR	minor part of speech features
MKG	information structure properties (marking) of lexical items
MOD	modified expression
MODAL-BASE	modal modification of situation core
MOOD	mood
MORPH	morphology
MORPH-B	morphological base
MP	morphophonology
MPH	morphs
MS	morphosyntactic (or morphosemantic) property set
MUD	morph under discussion
N	nominal part of speech
NEG	negative expression
NON-HEAD-DTRS (NH-DTRS)	non-head daughters
NONLOCAL	syntactic and semantic information relevant for non-local dependencies
NUCL	nucleus of a state of affairs
NUMB	number
PARAMS	parameters (restricted variables)
PA	pitch accent
PARTS	list of meaningful expressions
PERS	person
PC	position class
PFORM	preposition form
PHON (PH)	phonology
PHON-STRING	phonological string
PHP	phonological phrase

POL	polarity
POOL	pool of quantifiers to be retrieved
PRD	predicative (or not)
PRED	predicate
PREF	prefixes
PRE-MODIFIER	modifiers before the modified (or not)
PROP	proposition
QUANTS	list of quantifiers
QSTORE	quantifier store
QUD	question under discussion
QUES	question
RAGR	right conjunct agreement
REALIZED	realized syntactic argument
REL	indices for relatives
RLN (REL)	semantic relation
RELS	list or set of semantic relations
REST	non-first members of a list
RESTR	restriction of quantifier (in MRS)
RESTRICTIONS (RESTR)	restrictions on index
RETRIEVED	retrieved quantifiers
R-MARK	reference marker
ROOT	root clause or not
RR	realizational Rules
SAL-UTT	salient Utterance
SELECT (SEL)	selected expression
SIT	situation
SIT-CORE	situation core
SLASH	set of locally unrealized arguments
SOA (SOA-ARG)	state Of Affairs
SPEAKER	index for the Speaker
SPEC	specified
SPR	specifier
STATUS	information structure status
STEM	stem phonology
STM-PC	stem position class
STORE	same as Q-STORE
STRUC-MEANING	structured meaning

SUBJ-AGR	subject agreement
SUBCAT	subcategorization
SYNSEM	syntax/ Semantics features
SUBJ	subject
TAIL	tail (in information structure)
TAM	tense, aspect, mood
TNS	tense
TOPIC	topic
TP	topic-marked lexical item
UND	undergoer argument
UT	phonological utterance
V	verbal part of speech
VAL	valence
VAR	variable (bound by a quantifier)
VFORM	verb form
WEIGHT	expression weight
WH	<i>wh</i> -expression (for questions)
XARG	extra-argument

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Part I

Introduction

