

Inflectional Morphology

A new contribution to linguistic theory, this book presents a formal framework for the analysis of word structure in human language. It sets forth the network of hypotheses constituting Paradigm Function Morphology, a theory of inflectional form whose central insight is that paradigms play an essential role in the definition of a language's system of word structure. The theory comprises several unprecedented claims, chief among which is the claim that a language's realization rules serve as clauses in the definition of a paradigm function, an overarching construct which is indispensable for capturing certain kinds of generalizations about inflectional form.

This book differs from other recent works on the same subject in that it treats inflectional morphology as an autonomous system of principles rather than as a subsystem of syntax or phonology and it draws upon evidence from a diverse range of languages in motivating the proposed conception of word structure.

GREGORY T. STUMP is Associate Professor of English and Linguistics in the Department of English at the University of Kentucky. He is the author of *The Semantic Variability of Absolute Constructions* (1985) and has published numerous articles in such journals as the *Journal of Linguistics*, *Language*, *Linguistic Analysis*, *Linguistics*, *Natural Language and Linguistic Theory* and the *Yearbook of Morphology*.



CAMBRIDGE STUDIES IN LINGUISTICS

General Editors: S. R. ANDERSON, J. BRESNAN, B. COMRIE, W. DRESSLER, C. J. EWEN, R. LASS, D. LIGHTFOOT, P. H. MATTHEWS, S. ROMAINE, N. V. SMITH, N. VINCENT

In this series

- 54 EVE SWEETSER: From etymology to pragmatics: metaphorical and cultural aspects of semantic structure
- 55 REGINA BLASS: Relevance relations in discourse: a study with special reference to Sissala
- 56 ANDREW CHESTERMAN: On definiteness: a study with special reference to English and Finnish
- 57 ALESSANDRA GIORGI AND GIUSEPPE LONGOBARDI: The syntax of noun phrases: configuration, parameters and empty categories
- 58 MONIK CHARETTE: Conditions on phonological government
- 59 M. H. KLAIMAN: Grammatical voice
- 60 SARAH M. B. FAGAN: The syntax and semantics of middle construction: a study with special reference to German
- 61 ANUM P. SALEEMI: Universal Grammar and language learnability
- 62 STEPHEN R. ANDERSON: A-Morphous Morphology
- 63 LESLEY STIRLING: Switch reference and discourse representation
- 64 HENK J. VERKUYL: A theory of aspectuality: the interaction between temporal and atemporal structure
- 65 EVE V. CLARK: The lexicon in acquisition
- 66 ANTHONY R. WARNER: English auxiliaries: structure and history
- 67 P. H. MATTHEWS: Grammatical theory in the United States from Bloomfield to Chomsky
- 68 LJILJANA PROGOVAC: Negative and positive polarity: a binding approach
- 69 R. M. W. DIXON: Ergativity
- 70 YAN HUANG: The syntax and pragmatics of anaphora
- 71 KNUD LAMBRECHT: Information structure and sentence form: topic, focus, and the mental representations of discourse referents
- 72 LUIGI BURZIO: Principles of English stress
- 73 JOHN A. HAWKINS: A performance theory of order and constituency
- 74 ALICE C. HARRIS and LYLE CAMPBELL: Historical syntax in cross-linguistic perspective
- 75 LILIANE HAEGEMAN: The syntax of negation
- 76 PAUL GORRELL: Syntax and parsing
- 77 GUGLIELMO CINQUE: Italian syntax and Universal Grammar
- 78 HENRY SMITH: Restrictiveness in case theory
- 79 D. ROBERT LADD: Intonational Phonology
- 80 ANDREA MORO: The raising of predicates: predicative noun phrases and the theory of clause structure
- 81 ROGER LASS: Historical linguistics and language change
- 82 JOHN M. ANDERSON: A notional theory of syntactic categories
- 83 BERND HEINE: Possession: cognitive sources, forces and grammaticalization
- 84 NOMI ERTESCHIK-SHIR: The dynamics of focus structure
- 85 JOHN COLEMAN: Phonological representations: their names, forms and powers
- 86 CHRISTINA Y. BETHIN: Slavic prosody: language change and phonological theory
- 87 BARBARA DANCYGIER: Conditionals and prediction: time, knowledge, and causation in conditional constructions



- 88 CLAIRE LEFEBURE: Creole Genesis and the Acquisition of Grammar
- 89 HEINZ GIEGERICH: Lexical strata in English: morphological causes, phonological effects
- 90 KEREN RICE: Morpheme order and semantic scope
- 91 APRIL MCMAHON: Lexical phonology and the history of English 92 MATTHEW CHEN: Tone sandhi: patterns across Chinese dialects
- 93 GREGORY T. STUMP: Inflectional morphology: a theory of paradigm structure

Supplementary volumes

- LILIANE HAEGEMAN: Theory and description in generative syntax: a case study in West Flemish
- A. E. BACKHOUSE: The lexical field of taste: a semantic study of Japanese taste terms
- NICKOLAUS RITT: Quantity adjustment: vowel lengthening and shortening in early Middle English

Earlier issues not listed are also available



INFLECTIONAL MORPHOLOGY

A Theory of Paradigm Structure

GREGORY T. STUMP

University of Kentucky





PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK
40 West 20th Street, New York, NY 10011–4211, USA
10 Stamford Road, Oakleigh, VIC 3166, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

http://www.cambridge.org

© Cambridge University Press 2001

This book is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2001

Typeface Times New Roman 10/13pt. System QuarkXPress™ [SE]

A catalogue record for this book is available from the British Library

ISBN 0 521 78047 0 hardback

Transferred to digital printing 2002



for Robert and Jeanne Stump

for Marcia Hurlow

for Marjorie Hurlow Stump



Contents

	Acknowledgments	page x11
	List of abbreviations	xiv
I	Inferential-realizational morphology	I
I.I.	Theories of inflectional morphology	I
I.2.	Evidence favouring realizational theories over incrementa	1
	theories	3
1.3.	Minimizing unmotivated theoretical distinctions in	
	inflectional morphology	9
I.4.	The interface between syntax and inflectional morphology	/ I2
1.5.	On certain properties that make some affixes SEEM like	
	syntactic objects	17
1.6.	Conclusion	27
2	Paradigm functions	31
2.I.	Paradigm Function Morphology	32
2.2.	Bulgarian verb inflection	34
2.3.	Morphosyntactic properties	38
2.4.	Paradigms and paradigm functions	43
2.5.	Realization rules and rule blocks	44
2.6.	Morphophonological rules and morphological	
	metageneralizations	47
2.7.	Defining a language's paradigm function in terms of its	
	realization rules	50
2.8.	Summary and prospect	57
3	Rule competition	62
3.I.	Two approaches to resolving rule competition	62
3.2.	Evidence from Potawatomi	63
3.3.	Evidence from Georgian	69
		ix



x Contents

3.4.	Two modes of application for realization rules	72		
3.5.	.5. The Pāṇinian approach is more restrictive than the			
	rule-ordering approach	73		
3.6.	Generalizing over expansion schemata	75		
3.7.	Expansion metarules are not always reducible to argument			
	hierarchies	86		
	Appendix: Analysis of a fragment of Potawatomi verb			
	morphology	88		
4	Headedness	96		
4. I .	Introduction	96		
4.2.	Headed morphological expressions	99		
4.3.	Four generalizations about head marking	103		
4.4.	The Head Operation Hypothesis	112		
4.5.	Head marking in PFM	I I 4		
4.6.	Some apparent counterexamples to the PUG	119		
4.7.	The problem of word-to-stem derivatives	134		
4.8.	Conclusions	134		
5	Rule blocks	138		
5.I.	Introduction	138		
5.2.	Portmanteau rule blocks	139		
5.3.	Parallel rule blocks	144		
5.4.	Reversible rule blocks	149		
5.5.	Rule blocks or feature discharge?	156		
5.6.	Conclusions	167		
6	Stem alternations	169		
6.1.	Introduction	169		
6.2.	Stem-selection rules and morphological			
	metageneralizations	173		
6.3.	Stem formation and stem indexing	183		
6.4.	Summary of the proposed theory of stem alternations	199		
6.5.	Some applications of the theory	202		
7	Syncretism	212		
7.I.	Four types of syncretism	212		
7.2.	Rules of referral	218		
7.3.	Symmetrical syncretisms	222		



		Contents x
7.4.	Rule interactions involving rules of referral	223
7.5.	Syncretism across paradigms	230
7.6.	Restrictions on the incidence of syncretism	235
8	Conclusions, extensions, and alternatives	242
8.1.	A synopsis of PFM	242
8.2.	Beyond inflection	246
8.3.	Alternatives	260
	Notes	277
	References	292
	Index	301



Acknowledgments

This book is a comprehensive elucidation of Paradigm Function Morphology, a theory of inflectional form that I have been developing over the past ten years. Over the years, the theory has changed in a number of subtle respects, and other evolutionary modifications are no doubt in the offing. Still, the fundamental premise underlying the theory remains the same: that paradigms are not the epiphenomenon that they are often assumed to be in other morphological frameworks, but are central to the definition of a language's inflectional system. This book is an attempt to justify this idea and to give it formal substance.

I began writing this book during the 1989–90 academic year at the Université de Bretagne Occidentale; I would like to thank the staff of the Centre de Recherche Bretonne et Celtique for their research hospitality during that year, and the National Endowment for the Humanities for granting me a fellowship which helped make that sabbatical possible. The manuscript took much of its present shape during the 1996–97 academic year at the University of Essex; I would like to thank the Department of Language and Linguistics at Essex for their invaluable assistance during this time. The manuscript was completed in the summer of 1999 at the University of Kentucky.

I thank my colleagues in the Department of English and the Linguistics Program for the many ways in which they have facilitated this work since its inception; thanks also to Raphael Finkel and Lei Shen in the University of Kentucky's Department of Computer Science for their work in realizing KATR, an extension of the DATR language (Evans and Gazdar 1996) which allows the theoretical conclusions advocated here to be implemented computationally in a straightforward fashion.

The insights of the community of morphologists in Brighton, Colchester, and Guildford have led to significant improvements in the theory developed here: thanks to Lynne Cahill, Roger Evans, Norman Fraser, Gerald Gazdar, Andrew Hippisley, and – with particular gratefulness for their

xii



Acknowledgments xiii

comments on earlier drafts of the manuscript – Dunstan Brown, Greville Corbett, and Andrew Spencer.

My profound thanks to Ernest Scatton for his generous and invaluable advice on Bulgarian.

I thank the scholars whose research on inferential—realizational approaches to morphology has been an indispensable frame of reference for the proposals put forward in this book: Stephen Anderson, Mark Aronoff, P. H. Matthews, and especially Arnold Zwicky; no one familiar with their work should have any difficulty detecting its influence in these pages. I would also like to thank the many people whose interest in discussing issues of inflectional morphology has, in one way or another, helped me sharpen the ideas advanced here; without attempting to list all of these people, I should make particular mention of Geert Booij, Andrew Carstairs—McCarthy, Mark Donohue, Morris Halle, Martin Haspelmath, Richard Janda, Brian Joseph, the late Steve Lapointe, Alec Marantz, Rolf Noyer, David Perlmutter, Geoff Pullum, and Jerrold Sadock. Thanks also to the participants in my morphology seminar at the 1993 LSA Summer Institute at the Ohio State University and to the intrepid students in my autumn 1997 morphology seminar at the University of Kentucky.

Over the period during which this book was written, several native speakers of Breton have provided me with exceptionally useful information about the authentic morphology of their language; my sincerest thanks to Miek and Daïc Kervella, Anne-Marie Le Gall, the late Alain Le Gall, Fañch Yesou, Christiane and Jean-Louis Mallejac, Madeleine and Louis Jezequel, Lucien Cras, and the late Louis Bodénès.

For overseeing the review of the manuscript and for his guidance in putting it into its final shape, I heartily thank Andrew Winnard at Cambridge University Press.

Chapter 4 is a modified and abbreviated version of my 1995 article 'The uniformity of head marking in inflectional morphology' (in G. Booij and J. van Marle (eds.), *Yearbook of Morphology 1994*, pp. 245–96), which is used here with kind permission from Kluwer Academic Publishers.

Finally, I thank my family for their inspiration and unfailing encouragement.



Abbreviations

Ι first person second person 2 double-marking subclass of headed expressions $_{2}M$ third person 3 ablative case abl accusative case acc active voice act AGR AGREEMENT feature AGR(ob) AGREEMENT(object) feature AGR(su) AGREEMENT(subject) feature anim animate class ANIM ANIMATE feature aorist tense aor noun class cl comparative degree compar conj conjunct mood **CONJ CONJUGATION** feature CUG Coderivative Uniformity Generalization dative case dat DEG **DEGREE** feature DΙ Differentiated Inflection (hypothesis concerning promiscuous inflections) DIM diminutive DIRECT case feature DIR dual number du EM external marking subclass of headed expressions excl exclusive FCD **Function Composition Default** feminine gender fem finite form fin

xiv



List of abbreviations xv

FLOH Fixed Linear Ordering Hypothesis

FUT Lingala FUTURE feature

gen genitive case

GEN GENDER feature

HAP Head-Application Principle

HM head-marking subclass of headed expressions

HOH Head Operation Hypothesis IFD Identity Function Default

impf imperfect tense impv imperative mood inanim inanimate class

incl inclusive
INCL INCLUSIVE feature

indic indicative mood inf infinitive form instrumental case loc locative case masc masculine gender mid middle voice

MR Potawatomi MAJOR REFERENCE feature

neg negative polarity
neut neuter gender
nom nominative case
NUM NUMBER feature

ob object obv obviative pass passive voice pcl particle

PER PERSON feature

PFM Paradigm Function Morphology

pl plural number POL POLARITY feature

pos positive polarity; also positive degree

POSS POSSESSOR feature

pple participle

Pr prefixal affix position

pres present tense

PRES Lingala PRESENT feature

PRET PRETERITE feature



xvi List of abbreviations

PUG Paradigm Uniformity Generalization

REFL REFLEXIVE feature rel.past Fula relative past tense sg singular number

su subject

superl superlative degree TNS TENSE feature

UMoR Undifferentiated Mass of Rules (hypothesis

concerning promiscuous inflections)

VCE VOICE feature

VFORM VERB FORM feature

voc vocative case