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## Sign Language and Linguistic Universals

Sign languages are of great interest to linguists, because, although they are the product of the same brain, their physical transmission differs greatly from that of spoken languages. In this pioneering and original study, Wendy Sandler and Diane Lillo-Martin compare sign languages with spoken languages, in order to seek the universal properties they share. Drawing on general linguistic theory, they describe and analyze sign language structure, showing linguistic universals in the phonology, morphology, and syntax of sign language, while also revealing non-universal aspects of its structure that must be attributed to its physical transmission system. No prior background in sign language linguistics is assumed, and numerous pictures are provided to make descriptions of signs and facial expressions accessible to readers. Engaging and informative, *Sign Language and Linguistic Universals* will be invaluable to linguists, psychologists, and all those interested in sign languages, linguistic theory, and the universal properties of human languages.

WENDY SANDLER is Professor of Linguistics in the Department of English Language and Literature at the University of Haifa, Israel, and has been investigating the phonology and morphology of American Sign Language and Israeli Sign Language for almost twenty years. She has previously published *Phonological Representation of the Sign* (1989) and *Language in Space: A Window on Israeli Sign Language* (co-authored with Irit Meir, 2004).

DIANE LILLO-MARTIN is Professor and Head in the Department of Linguistics, University of Connecticut, and Senior Research Scientist at the Haskins Laboratories, with research interests in both the structure and acquisition of American Sign Language. She has previously published *Universal Grammar and American Sign Language: Setting the Null Argument Parameters* (1991) and *Linguistic Theory and Language Acquisition* (co-authored with Stephen Crain, 1999).

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We dedicate this book to our parents

Milton Sandler (1919–2005)  
Bernice Sandler

Clifford LeRoy Lillo  
Elizabeth Mae Lillo (1924–2004)

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## Preface

Natural sign languages are clearly very similar to natural spoken languages in many significant ways. Sign languages are conventional communication systems that arise spontaneously in all deaf communities. They are acquired during childhood through normal exposure without instruction. Sign languages effectively fulfill the same social and mental functions as spoken languages, and they can even be simultaneously interpreted into and from spoken languages in real time. These basic common characteristics lead to a compelling expectation: that natural languages in the two modalities will be similar to one another from a strictly linguistic point of view as well, in both content and organization.

But how similar are sign languages and spoken languages *really*? When we attempt to describe and analyze morphology, syntax, and phonology in sign language, are we wandering in the realm of metaphor? Or are we traveling in familiar territory? By “sign language phonology,” for example, do we only mean that sign languages have a taxonomy of formational components? Or do we really mean they have a finite set of meaningless contrastive units that combine in constrained ways to form meaningful morphemes and words, and that the mental representations of these lexical items may differ predictably and discretely from their actual realization? The difference between the latter characterization and the former is the difference between metaphorical analogy with spoken language phonology and concrete comparison. More than that, the latter characterization describes a linguistic system and the former, well, almost anything.

We think that the way to address this question is to take linguistic theory seriously, as a theory about universal properties of human language, and to use it in the investigation of natural human languages in a different physical modality. It is this approach that we take in this book, as described in detail in Unit 1. The more rigorous the specific theory or subtheory appealed to in a particular analysis, the more convincing the cross-modality similarities that it reveals. And wherever this approach uncovers differences, it exposes the effects of the physical modality on each of the two natural language systems. The goal, then, is to appeal to

general theories of linguistic structure to analyze the morphology, phonology, and syntax of sign languages, and in so doing, to arrive at a pool of properties that are truly universal. The results of that endeavor form the content of Units 2–4. Properties attributed to the modality of transmission are dealt with in Unit 5.

Throughout, we try to make the sign language phenomena and analyses clear and accessible, so that linguists can sink their teeth into them, whether or not they work in the same theoretical frameworks as those presented, and whether or not they have a sign language background. To the same end, the book is profusely illustrated with examples. We also try to avoid analyses that are overly theory-internal, in the hope that the accounts presented will be informative in their own right, and that the properties ascribed to sign language will be valid, regardless of the particular theoretical framework with which they are explored.

The field of sign language research is dynamic and prolific. Many phenomena have been described by different researchers from different points of view, but often without clarifying areas of convergence or divergence. Different models of various aspects of sign language structure abound as well. Even if it were possible to summarize all the work in the field, such an effort would be ill-advised, as it would likely leave the reader in a hopeless maze. Therefore, the book is not intended to be an exhaustive overview of the field, and much work has been left out.

The field has also been branching out and becoming specialized. There is a large and growing body of research in many areas such as psycholinguistics, acquisition, neurolinguistics, sociolinguistics, and bilingualism. Unfortunately, we were not able to include discussion of the many important and influential works in these areas. We have limited our discussion to studies which deal with the linguistic structure of sign language from the perspective of theoretical linguistics.

Our strategy has been twofold. First, we select phenomena that are important for understanding the structure of sign language and its relation to spoken language. Second, in accounting for those phenomena, we focus mainly on analyses that are (a) explanatory, (b) informed by general linguistic theory, and (c) part of more comprehensive sign language models. In this way, the same models are returned to at different points throughout the book, making it possible, we hope, for a coherent view of sign language linguistic structure to emerge, and for certain prominent models of that structure to be compared. We have attempted to include a fairly wide range of phenomena even though by necessity some works of relevance and interest have not been selected. This strategy is guided by our stated goal: to discover linguistic universals by viewing signed and spoken languages through the medium of linguistic theories that purport to capture such universals.

We are governed by the same strategy in selecting which sign languages to report on from among the ever growing list of sign languages being studied around the world. Our main focus is American Sign Language (ASL) because that language has been the subject of the most intensive theoretical research over the longest period of time so far. But theoretical research is on the rise in other places, and research on Israeli Sign Language (ISL), Sign Language of the Netherlands (SLN), Brazilian Sign Language (LSB), and other sign languages will also be reported.

Work on one sign language often reveals properties common to sign languages in general. There are two reasons for this. First, the modality appears to influence certain key aspects of the structure of these languages, though this does not mean that the structures so influenced necessarily fall outside the predictions of general linguistic theory (see Unit 5). Second, the field of sign language research is not very old, and for the most part we have not yet arrived at the level of detail that will ultimately distinguish grammars cross-sign-linguistically in a significant way. Therefore, at this point in the development of the field, analyses of specific sign languages shed light on the structure of languages in this modality more generally.

Another choice was to refrain from taking a position here on metatheoretical issues such as innateness and cognitive modularity. Such issues are, of course, of great importance, as they relate to the question of *why* there should be linguistic universals. However, our approach at this stage has been to contribute to the scientific discourse a detailed account of what we take those universals to be, and to separate them from characteristics that are widespread within each natural language modality, but not shared by the two.

We hope that this book will be read and used by linguists who are familiar with sign languages and those who are not. Because of the surface differences between sign and oral languages, and the concomitant differences in jargon and assumptions, too often researchers unfamiliar with sign languages find this field inaccessible or irrelevant. We believe it is highly relevant, and thus aim to make it accessible. Exposure to sign language linguistics can be like looking into a kaleidoscope. A multitude of colorful fragments fleetingly arranges itself into one pattern and then dissolves into another – with every slight turn of the barrel, another mysterious and alluring array presents itself. We hope that this volume will serve to make the patterns more clearly focused and less elusive, leading to an increase in research on sign languages that will benefit the study of theoretical linguistics and of language more generally.

This book was written over many years, sparked by a suggestion from Harry van der Hulst that there was a gap in the theoretical sign language literature that ought to be filled. We are grateful to Harry for encouraging us to fill it. The book was written by the two authors

working together in Storrs and in Haifa, and by each going it alone, at home and during extended visits elsewhere. We are deeply indebted to many colleagues, friends, and family members for making it possible.

We extend our gratitude to Mark Aronoff, Željko Bošković, Diane Brentari, Laura Downing, Karen Emmorey, Richard Meier, and Carol Padden for taking the time to read large parts of the manuscript and to make thoughtful and detailed comments that were of immeasurable value to the final outcome. We are also grateful to John Kingston, Irit Meir, Carol Padden, Gunter Senft, and Rachel Sutton-Spence for discussions of data, specific concepts, and analyses. We applaud and thank Sarah Felber, who produced our index. There are others to whom the two authors wish to express gratitude individually.

WS spent 2001–2002, a critical year for book writing, on sabbatical, mostly at the University of Nijmegen, through the generosity of the Netherlands Organization for Scientific Research (NWO). I owe many thanks to colleagues on the sign language prosody project there: Onno Crasborn, Carlos Gussenhoven, Wim Emmerik, and Els van der Kooij. Thank you to Carlos Gussenhoven for being a most thoughtful and gracious host, and for teaching me a great deal about intonation and about all that I still must learn. Thanks also to researchers and students associated with the Language and Cognition Group and the Gesture Group at the Max Planck Institute for Psycholinguistics in Nijmegen, for their interest, support, and most helpful discussions, especially Nick Enfield, Marianne Gullberg, Satoro Kita, Stephen Levinson, Asli Ozürek, and Gunter Senft, and to Jennie Pyers and other members of the outstanding Sign Language Research Group that Dan Slobin organized there that year. The first two sabbatical months were spent at my alma mater, the University of Texas at Austin. Thanks to Richard Meier and his students for welcoming me to the lively sign language atmosphere at UT. I also wish to express my gratitude to my teacher Peter MacNeilage for discussions of sign language in the broader context during that period, and over the course of many years, discussions which have always been inspirational.

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As we acknowledge those with whom we have had stimulating and informative discussions, we want to single out for special mention two of our former students who have become close research colleagues. Irit Meir

and Ronice Quadros worked with us first as students to be instructed and guided in the ways of theoretical linguistics. Over time, regular discussions in which the mentor leads the way became dialogues to which both teacher and student contribute. By now, our roles have morphed to that of collaborators, walking together on paths of search and discovery. Exploring the nature of a system like the grammar of sign languages is especially fruitful when ideas can be bounced off someone who shares the same background knowledge – particularly when that person is also able to tell us when an idea just isn't convincing. Thank you – *todos* – and *obrigado* for continuing to stimulate our fascination for sign linguistics.

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Our families have supported us with love, encouragement, patience, understanding, and humor through all the years that it took to produce this volume. Yoav and Hadar, and Steve, Stephanie, Amy, and Allan know how deeply grateful we are to them for helping us write this book, and we know that the best token of our appreciation is its completion!

## Notation conventions

When we cite the work of others, we use their notation unless otherwise marked. Although this means that the notation used throughout the text is not uniform, we preferred to reproduce exactly the cited works rather than introduce our own interpretation of their notation.

Despite the variation found across sources, there are many conventions for sign language notation which are quite common. We provide here a summary of the conventions we have adopted. Other uses may include superscripts or subscripts where we keep the text on a single line; additional notational variants are described in the text.

SIGN	English glosses in small capital letters stand for signs with approximately the same meaning as the English word.
SIGN-SIGN	If more than one English word is required to gloss a single sign, the words are connected with hyphens.
S-I-G-N	Fingerspelling, representing each letter of a spelled-out English word by a different handshape, is indicated using hyphens.
#SIGN	Fingerspelled loan signs are represented with a preceding hatch mark.
SIGN^SIGN	Compounds are indicated with a caret between component signs.
_____ t	Non-manual markers are indicated by a solid line above the glosses for the signs they co-occur with. 't' indicates a topic non-manual; 'br' indicates brow raise; 'n' indicates a negative headshake; 'wh' indicates the WH-question non-manual; 'q' or 'y/n' indicates a yes/no question non-manual; 'hn' indicates head nod; 'mm' indicates the facial adverb 'with relaxed enjoyment'; 'th' indicates the facial adverb 'carelessly.'
SIGN[aspect]	When a sign is marked for an aspectual inflection, the name of that inflection is given in square brackets.

a-SIGN-b	Lower-case letters are used to indicate spatial locations. Nouns are marked with an index at the beginning of the gloss to indicate the locus with which they are associated. Verbs are marked with an index at the beginning to indicate the onset location, and/or at the end to indicate the endpoint location.
a-C-SIGN	Indices with a dash indicate a plural, in which the hand moves from locus 'a' to locus 'c.'
SIGN <sub>i</sub>	Subscripts from the middle of the alphabet (or, in some cases, numbers) are used to indicate abstract coreference.
IX(loc)	Pointing signs, including pronouns, demonstratives, and locatives, are glossed IX (for 'index'). The object of the pointing is indicated in parentheses. Variants include PT ('point'), S/HE, THERE.
CL:C'x'	Classifiers are indicated using the abbreviation CL, followed by a symbol for the hand configuration used in the classifier, and a description of the meaning in single quotes.
*()	An asterisk indicates an ungrammatical string. An asterisk outside parentheses indicates that the elements inside are obligatory. An asterisk inside the parentheses indicates that the elements inside are ungrammatical.
(she)	A pronoun will be included in parentheses if it is not given in the original language but is needed for a grammatical English translation.
(-them)	A pronoun within parentheses is marked with a hyphen if it is signified by verb agreement.