Fundamentals of Linguistic Analysis

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Preface

In reviewing another "problems" book some years ago, I made the comment that an adequate text to span the gap between linguistic theory and linguistic practice was still lacking. This comment was not altogether fair, for it is doubtful that any text can serve this function adequately. I fully expect the same criticism to be leveled at the present volume, and I wish to acknowledge its correctness in advance.

It is apparent nevertheless that books of this kind have an important role to play in linguistic pedagogy. Linguistics is a rather esoteric discipline that students find it hard to come to grips with. Explaining to them precisely what linguists do when they do linguistics is not easy, and showing them is not much easier. The best way for students to learn what linguistics is all about is by doing it themselves, by working with real language data and discovering for themselves regularities of the kind that linguists have come to expect. Materials that make linguistic analysis into a concrete reality for students instead of the mysterious abstraction that it tends to be thus have great pedagogical importance.

This book is intended to meet in part the need for such materials. It is meant for intermediate and advanced undergraduate students in linguistics and might also be used by graduate students who enter the field with little or no previous training. The book presupposes an introductory course in linguistics which covers the subject matter presented in my 1968 textbook, *Language*

and Its Structure, or some comparable volume. Although there is no intrinsic connection between this book and *LAIS*, I have found it convenient to use the latter as a guide in determining what background material to present here in detail and what material to treat only briefly or omit altogether. For example, the basic phonetic symbols introduced in *LAIS* have been used here without comment, while others are explained in the text when they are first employed. The terminology and theoretical orientation of *LAIS* have also been adopted here, but for the most part the terms are standard ones and the theory is a general one that should prove compatible with the requirements of most instructors.

I have tried to make this text as general and flexible as possible, and it can be used in a number of ways. First, it can serve as the primary textbook for a course in linguistic analysis. As a supplementary text providing practical problems to accompany other course material, it should be appropriate for courses on various levels dealing with a variety of subject matter. Finally, teachers may find it useful as a reference manual, providing topics for class discussion and problems that can be adapted for exercises or examinations.

The book is intended for study rather than light reading, and it is contemplated that relatively few students will work through it without the guidance of an instructor. Problems with solutions are included in the text as pedagogical aids. They serve both to exemplify the substantive points under discussion and to show the student what to look for when working with linguistic data. These problems constitute an introduction to the series of problems without accompanying solutions that conclude each section. (Solutions to these problems are available, to instructors only, in a separate key.) The problems are arranged in increasing order of difficulty, but this gradation is highly subjective and should not be interpreted too rigorously.

One immediately faces a host of philosophical and practical decisions when conceiving and planning a book of this sort. Should the book concentrate on a single area, like syntax, or should it be more general? What theoretical orientation should be adopted? How much emphasis should be placed on procedural hints and "discovery procedures"? What format should be used for the problems? How should long vowels be written?

I cannot guarantee that I have made the correct philosophical decisions in all instances, nor can I hope to justify them fully in a few lines; but since these decisions directly determine the character of this book, it is appropriate that they at least be made explicit.

One or several volumes could easily be devoted to each of the topics covered here, namely lexical, syntactic, phonological, and diachronic analysis. The coverage of each of these topics is less inclusive and perhaps less satisfactory than it would have been had a whole book been devoted to it alone. However, a book dealing with just one area would have only limited usefulness, and it is questionable whether the degree of detail that could be presented in a book restricted to a single domain would really be appropriate at the

undergraduate level. I believe, moreover, that there is some value to integrating all these facets of linguistic analysis in a single volume with a unified methodological and theoretical outlook.

The theoretical outlook adopted here requires some comment. The general orientation is transformational, and the version of transformational theory followed most closely is generative semantics; no distinction is made here between syntactic rules and semantic interpretation rules, and no special level of deep structure is posited between semantic and surface syntactic representations. I believe that this choice is justified on pedagogical grounds, and I have not made it solely on the basis of my own theoretical convictions, which do not coincide precisely with any current theory. Undergraduate instruction is not the place for detailed examination of competing linguistic theories, and close adherence to the controversial idiosyncrasies of any particular theory would be especially out of place in a book of this kind. Generative semantics is followed in its broad outlines primarily because this framework is conceptually the simplest. Nothing essential would be gained by the considerable expenditure of space and student credibility that would be required to introduce the distinction between syntactic and semantic rules or the notion of a level of deep structure distinct from semantic representations. In any event, the practical consequences of the choice from the instructor's standpoint should prove relatively minor. Problems that presuppose generative rather than interpretive semantics are confined almost entirely to the chapter on syntax, they are relatively few in number, and they are presented (I hope) in a reasonably non-provocative manner. Indeed, theory is de-emphasized to the point that most of the problems should be perfectly acceptable even to those of a non-transformational persuasion.

What has been emphasized here is the kinds of regularities found in language data and the importance of viewing this data in relation to underlying representations and rules that connect these representations with their surface manifestations. Unless the student is led to see the value of these abstract theoretical constructs, he cannot possibly appreciate the character of insightful linguistic analysis. Consequently, I have attached much more importance to the nature of linguistic argumentation and the nature of the evidence that can be adduced in support of rules and abstract structures than I have to specific procedures for manipulating data. Neither the problems nor the solutions follow a rigid format, and nothing resembling a battery of discovery procedures is offered. My personal conviction is that the intelligent student, left to his own devices with a collection of data that illustrates a structural regularity, is perfectly capable of finding this regularity on his own without having to be told how to proceed, especially when he has been given an idea of what to look for. While step-by-step procedures and hints about analytical techniques may help some students in the short run, in the long run the student is best served by being exposed to the powers of his own resourcefulness and creativity.

The noteworthy practical problems that attend the preparation of a book such as this all pertain to data: finding it, selecting it, organizing it, analyzing it, and transcribing it. In a book of this magnitude (190 problems involving some 90 languages), these problems are particularly acute.

I have taken data from many kinds of sources, including articles, monographs, practical grammars, dissertations, unpublished papers, personal communications, live informants, and my own intuitions. Naturally I cannot personally vouch for the full accuracy of every piece of data found in this book. However, I have used no sources whose validity was subject to serious question on my part, nor have I consciously altered or distorted the data my sources contain. I have rarely extrapolated from the data actually listed, and only in cases where explicit rules were given. In many instances I have used secondary sources even though primary sources exist. Secondary sources are convenient because of both their availability and their selectivity; very often they present interesting arrays of data culled from primary sources that would have remained buried and unnoticed had I employed only the latter. I have no reason to doubt the authenticity of the data obtained in this way, and the time and effort required to trace all the data back to its origins would have been prohibitive.

Many difficulties arise in dealing with data from so many sources, and even the data obtained from my own intuitions is not problem-free. One source of difficulty is dialectal variation. I am sure, for example, that not all users of this book will accede to all my judgments of grammaticality concerning English. I must ask students and instructors to accept as given the data from English (and any other language in which dialectal conflicts arise) for purposes of working the problems. Once they have been worked, it may prove profitable to discuss the dialectal differences and explore their consequences for the analysis.

Assuring the correctness of an analysis is never an easy matter. This problem has been compounded for me by the fact that I have had to handle data from a wide variety of languages with which I am not personally familiar and by the necessity of providing analyses that are simple enough and sufficiently self-contained to serve as solutions for problems in an undergraduate text. It is conceivable that some of the analyses, whether they are my own or have been adapted from the work of other linguists, are basically incorrect. It is certainly the case that some of these analyses will not prove fully general, though they are perfectly valid for the data presented. I have tried to convey to the student the notion that no problem is fully self-contained and that the adequacy of linguistic descriptions is consequently not a matter of absolutes but one of degree, and these remarks apply with special force to the analyses in this book. However, I have not knowingly adopted any solutions that are plainly wrong in major respects. My aim throughout has been to lead students to construct analyses which are defensible for the data presented and could in principle be fully general.

Transcription has been an especially difficult matter. Part of the difficulty lies in dealing with the variability and occasional indeterminacy of the transcriptions employed in the references I have consulted. Needless to say, every writer has his own transcriptional preferences. Moreover, many do not always state the values of the symbols they use, and some do not even make it clear whether their transcription is phonetic, phonemic, orthographic, or some combination thereof. The remainder of the difficulty lies in devising a unified system of transcriptions and notations sufficiently flexible to do the many different jobs required of it, yet sufficiently precise, simple, and straightforward to be pedagogically useful. My solution to these problems may not be optimal, but it certainly requires explanation.

I have employed two basic types of transcription, phonetic and orthographic. However, the phonetic transcriptions are not strictly phonetic, nor are the orthographic transcriptions strictly orthographic. The phonetic transcriptions are in general fairly broad, but they range from narrow phonetic through phonemic, and the amount of detail they specify varies in accordance with the requirements of individual problems. Phonetic distinctions marked in the data for one problem may be omitted in another. For example, I have generally omitted markings for stress in syntactic problems (for which lexical stress is seldom pertinent), even for those languages in which I have marked stress elsewhere. I have treated a transcription as orthographic when it represents a standard orthography or when I have not had sufficient information to determine how to translate it into the system of phonetic transcription adopted here.

Phonetic and orthographic transcriptions are not specially marked in tabular arrays of data, including in particular the list of data for each problem. In the text, however, phonetic transcriptions are included in square brackets ([]) while orthographic transcriptions are italicized. With the exception of commas to mark clause boundaries, I have used capitalization and punctuation only for standard orthographic representations with which the reader is likely to be familiar, such as those of English and French. Hyphens are often employed to mark morpheme boundaries in either type of transcription. In order to facilitate comprehension, I have sometimes included literal word-by-word or morpheme-by-morpheme glosses beneath the phonetic or orthographic transcription of an expression. When the transcription and literal gloss contain different numbers of elements, braces (⌣ or ⌢) are used to group together the sequence of elements that corresponds to a single element in the other representation.

After complaining at some length about the difficulties involved in writing a book of this kind, I should like to conclude by acknowledging the various people who have contributed in one way or another to making the chore less onerous than it might otherwise have been. A number of people have been kind enough to supply me with problems, data, intuitions, or papers from which relevant data could be extracted; these include William Bright, Kenneth

Hale, Benjamin T'sou, Eric Hamp, S. -Y. Kuroda, and Jo-Ann Flora. Special thanks are due to Mrs. Villiana Hyde, from whom I have learned what little I know about Luiseño. More generally, I must acknowledge the many scholars on whose work I have drawn, as well as the students whom I have subjected to various problems. Arlene Jacobs is to be commended for her courage and patience in typing a substantial portion of the manuscript. Finally, my wife Peggy is to be cited for the same reason, and also for the many other ways in which she has helped.

<div align="right">R.W.L.</div>

Notations

Most of the special notations used in this book are explained in the text when they first occur, but they are summarized here for ease of reference. The great majority are standard linguistic notations. However, no attempt has been made to include standard notations not employed in this book.

PHONETIC NOTATIONS

The phonetic symbols employed here are of three kinds: segmental symbols, diacritics, and boundary symbols. Diacritics accompany segmental symbols as subscripts or superscripts and qualify their phonetic values. Boundary symbols are written between segmental symbols.

Segmental Symbols

The precise value of the segmental symbols listed below may vary somewhat depending on the phonetic detail of the language and the requirements of individual problems. Some of the finer distinctions, such as the distinction between tense and lax vowels, are not always made notationally when they do not bear on the matter under consideration. [e], for example, always designates a tense mid front vowel when it is used in contrast to [ɛ], but when

it is not contrasted with [ɛ], [e] may be either tense or lax. In some instances, the notational distinctions labeled tense versus lax in the vowel chart below may be used instead for gradations of height.

Vowel Symbols

		UN-ROUNDED	ROUNDED		UN-ROUNDED	ROUNDED
HIGH	Tense	i	ü	ə	ɨ	u
HIGH	Lax	ɪ	ü		ɨ	ʊ
MID	Tense	e	ö	ə	ë	o
MID	Lax	ɛ	ɔ̈		ʌ	ɔ
LOW		æ			a	
		FRONT		CENTRAL	BACK	

In some instances, the notational distinctions labeled voiceless versus voiced in the consonant chart on p. ix may be used instead to differentiate tense and lax consonants.

Consonant Symbols

		BILABIAL	LABIO-DENTAL	DENTAL	ALVEOLAR	PALATAL	VELAR	UVULAR	PHARYNGEAL	GLOTTAL
STOP	Voiceless	p		t			k	q		ʔ
	Voiced	b		d			g			
FRICATIVE	Voiceless		f	θ	s	š	x	χ	ħ	h
	Voiced	β	v	ð	z	ž	γ	ɣ		
AFFRICATE	Voiceless				c	č				
	Voiced				ʒ	ǰ				
LATERAL	Voiceless			L						
	Voiced			l						
NASAL		m		n		ñ	ŋ			
GLIDE		w				y				

Several consonant symbols cannot be adequately accommodated in the chart above:

r   Any *r*-like sound (it has not been necessary to distinguish them in this book). It may be an alveolar flap or trill; a uvular trill or uvular friction; or a sound like the English *r*, which involves a special tongue configuration but no oral obstruction or friction.

ƛ   Voiceless lateral affricate.

D   Voiced stop produced by rapidly flapping the tongue against the alveolar ridge.

Diacritics

The special symbols *c* and *v* are used here to show the position of diacritics. They stand for consonant symbols and vowel symbols respectively.

    ç Voiceless.

    c̜ Syllabic.

    c̪ Articulated farther toward the front than usual.

    y̆ Articulated as a glide.

    c̣ Retroflex. Articulated farther toward the back than usual.

    $c^ʔ$ Glottalized.

    c^h Aspirated.

    c^y Palatalized.

    c^w Labialized or rounded.

    c^1 Unreleased.

    c' Tense.

    $c^ə$ Offglide toward mid central position.

    c̃ Palatalized.

    ṽ Nasalized.

    v̈ Opposite of usual value for front-back feature.

    c̄ Glottalized and implosive.

    v̄ Long.

    cc Long.

    vv Long.

Stress:

    v́ Primary stress.

    v̂ Secondary degree of stress.

    v̀ Tertiary degree of stress.

    v̌ Weakly stressed or unstressed.

    v̋ Focus stress.

    v‴ Emphatic or contrastive stress.

Tone (notations vary from language to language):

    v́ High. Rising. High rising.

    v̂ Mid. Falling. Mid-high trailing.

    v̌ Rising. Low falling-rising.

    v̀ Low. Mid. Falling. Low trailing.

    v̄ High.

Boundary Symbols

    + Boundary between two elements of compound.

    - Morpheme boundary.

    . Syllable boundary.

NON-PHONETIC NOTATIONS

Lexical

=	Lexical rule.
∅	Zero.
-	Morpheme boundary.

Syntactic

⇒	Syntactic (transformational) rule.
*	Ungrammatical.
[ ]	Subordinate clause.
S	Sentence. Clause. Proposition.
PRED	Predicate.
ARG	Argument.
N	Noun.
V	Verb.
ADJ	Adjective.
P	Preposition.
ART	Article.
ADV	Adverb.
PRON	Pronoun.
NP	Noun phrase or nominal.
VP	Verb phrase.
PP	Prepositional phrase.
REL	Relative clause marker.
ABS	Absolutive suffix.
NOM	Nominative case.
ACC	Accusative case.
ERG	Ergative case.
X, Y	Arbitrary symbols that can stand for any element or any sequence of elements.
$X_i\ Y_i$	X and Y are coreferential.
$X_i\ Y_j$	X and Y are non-coreferential.

Phonological

⟶	Phonological rule. (Also used in diagrams of rule ordering.)
C	Consonant.
V	Vowel.
/ /	Phonemic or phonological representation.
[ ]	Any phonological transcription, ranging in detail or abstractness from narrow phonetic through phonemic.

Diachronic

    X > Y   X becomes Y historically.
    Y < X   Y derives from X historically.
       *   Reconstructed.

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