What is Morphology?

Second Edition

Mark Aronoff
and Kirsten Fudeman

WILEY-BLACKWELL
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"Aronoff and Fudeman have produced a clear and jargon-free introduction to contemporary morphological theory and practice. The book succeeds particularly in clarifying the empirical content, organizational principles and analytic techniques that distinguish morphology from other areas of linguistics."

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"This unusual book combines a basic start on morphology with an introduction to Kujamaat Jóola. It is a fine addition to teaching materials on morphology: a book for beginners to use with a teacher, yet one from which any linguist could learn. The authors intend students to develop 'a lasting taste for morphology'. I think many will."

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"Morphology has its own organizing principles, distinct from those of syntax, phonology, and the lexicon. Too many morphology textbooks obscure this fascinating fact, but Aronoff and Fudeman refreshingly make it the cornerstone of their exposition."

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Preface

This little book is meant to introduce fundamental aspects of morphology to students with only a minimal background in linguistics. It presupposes only the very basic knowledge of phonetics, phonology, syntax, and semantics that an introductory course in linguistics provides. If, having worked through this book, a student has some understanding of the range of basic issues in morphological description and analysis; can appreciate what a good morphological description looks like, how a good morphological analysis works and what a good theory of morphology does; can actually do morphological analysis at an intermediate level; and most importantly understands that linguistic morphology can be rewarding; then the basic goal of the book will have been met.

The book departs from a trend common among current linguistics textbooks, even at the elementary level, which tend to be quite theoretical in orientation and even devoted to a single theory or set of related theories. We have chosen instead to concentrate on description, analysis, and the fundamental issues that face all theories of morphology. At the most basic level, we want to provide students with a grasp of how linguists think about and analyze the internal structure of complex words in a representative range of real languages. What are the fundamental problems, regardless of one's theoretical perspective? We therefore dwell for the most part on questions that have occupied morphologists since the beginnings of modern linguistics in the late nineteenth century, rather than on more detailed technical points of particular theories.

Of course, this means that we assume that there are general questions, but in morphology, at least, the early modern masters were grappling with many of the same questions that occupy us to this day. Descriptions and analyses that Baudouin de Courtenay wrote in the 1880s are not

merely understandable, but even interesting and enlightening to the modern morphologist. The same is true of the work of Edward Sapir and Roman Jakobson from the 1920s and 1930s. Yes, the terminology and theories are different, but the overall goals are much the same. That is not to say that no progress has been made, only that the basic issues about word-internal structure have remained stable for quite a long time.

One fundamental assumption that goes back to the beginnings of modern linguistics is that each language is a system where everything holds together ("la langue forme un système où tout se tient et a un plan d'une merveilleuse rigueur": Antoine Meillet). More recent linguists have stressed the importance of universal properties that all languages have in common over properties of individual languages, but not even the most radical universalists will deny the systematicity of individual human languages. It is therefore important, from the very beginning, that a student be presented, not just with fragmentary bits of data from many languages, as tends to happen with both morphology and phonology, but with something approaching the entire morphological system of a single language. To that end, we have divided each of the chapters of this book up into two parts. The first part is the conventional sort of material that one would find in any textbook. Here our focus is often on standard American English, although we present data from many other languages, as well. The second part describes in some detail part of the morphology of Kujamaat Jóola, a language spoken in Senegal. For each chapter, we have tried to select an aspect of Kujamaat Jóola morphology that is close to the topic of the chapter. By the end of the book, the student should have a reasonable grasp of the entire system of Kujamaat Jóola morphology and thus understand how, at least for one language, the whole of the morphology holds together. Of course, no one language can be representative of all the world's languages, and morphology is so varied that not even the most experienced analyst is ever completely prepared for what a new language may bring. But students certainly will benefit from a reasonably complete picture of how a single language works.

The Kujamaat Jóola material complements the material in the main portion of the chapter, but it is not meant to mirror it exactly. Our inclusion of particular Kujamaat Jóola topics was dictated in part by the data that were available to us. Our primary sources were J. David Sapir's *A Grammar of Diola-Fogny*, his 1967 revisions to the analysis of the Kujamaat Jóola verb (Thomas and Sapir 1967), and his unpublished

dictionary. In a number of cases, we have used the Kujamaat Jóola section of each chapter to delve into topics not treated in the main portion, or treated only superficially. Thus chapters 2 and 7 contain detailed examinations of Kujamaat Jóola noun classes and verb morphology, respectively, and in chapter 3 we address its rich interactions between vowel harmony and morphology.

We chose Kujamaat Jóola for this book because its morphology, though complex and sometimes unusual, is highly regular, which makes it an excellent teaching vehicle. Some might question this choice, preferring a language with a higher degree of morphological fusion. Such a language might have led to theoretical issues, for example, that we do not explore in any detail here. However, we felt that in a book of this type, aimed at the beginning or intermediate-level morphologist, Kujamaat Jóola was an ideal choice.

One value of presenting beginning students with the largely complete morphological description of a single language is that descriptive grammars (which more often than not concentrate on morphology and phonology) form a mainstay of linguistic research, not only at more advanced levels of study, but throughout a researcher's career. The ability to work through a descriptive grammar is not innate, as many of us assume, but an acquired skill that takes practice. The Kujamaat Jóola sections taken together comprise an almost complete descriptive morphology of that language, so that by the end of the book students will have had the experience of working through an elementary morphological description of one language and will be somewhat prepared to tackle more complete descriptions when the time comes.

This brings us to the topic of how we intend the Kujamaat Jóola sections of this book to be used. Because of their inherent complexity, it is crucial that the instructor not simply assign these sections as readings. Instead, each must be gone over carefully in class until the students have a good grasp of the material in it. Otherwise, students are not likely to extract full value from the Kujamaat Jóola sections. Although we feel that these sections will be both useful and rewarding, it is also the case that the main portions of the chapter are freestanding, and an instructor who prefers not to do some or all of the Kujamaat Jóola sections does not have to.

Each chapter closes with a set of problems that are cross-referenced with the text, and we expect that the solutions to these problems will be discussed in detail in class. Some simpler exercises are integrated into the text itself, with answers provided. We feel that some exercises,

particularly open-ended questions, are especially well suited to class discussion, and so instructors may decide not to assign them in written form. Most chapters also contain Kujamaat Jóola exercises designed to get students to apply the data we have provided creatively and analytically. Chapter 1 contains two sample problem sets with answers (section 1.5.3). We suggest that instructors assign these separately from the rest of the chapter reading and that they ask students to write them out as they would a regular assignment, without reading the explanation and analysis that go with them. Then students can check their work on their own. This should prepare them for doing some of the other analytical problems in the text.

Another feature of this book is a glossary. The terms in it appear in **bold** the first time they are used or explained in the text.

New to the second edition are suggestions for further reading at the end of each chapter. Some of these suggestions are classic treatments of morphological problems, and others represent more recent analyses. We have chosen a number of them because of the clear way in which they illustrate phenomena raised in the chapter. Finally, some of the suggested readings are short enough that instructors might want to assign them in an introduction to morphology class. Other, longer readings could be assigned in part or used by students as they work on morphological problems on their own, whether independently or as a class assignment. While not listed in the further reading for any of the chapters, another extremely useful reference work for students is Bauer's *A Glossary of Morphology* (2004).

Ideally, each class session will be divided into three parts, corresponding to the division of the chapters: exposition of new pedagogical material; detailed discussion of Kujamaat Jóola; and discussion of solutions for the homework problems of the day (we assume that problems will be assigned daily and that students' performance on them will comprise a good part of the basis of their grades in the course).

We close with a warning to both the instructor and the student: this book does not pretend to cover all of morphology, but rather only a number of general topics drawn from the breadth of the field that are of special interest to its authors. We have purposely not gone deeply into the aspects of morphology that interact most with other central areas of linguistics (phonology, semantics, and syntax), because that would require knowledge of these areas that beginning students might not have. Thus there is little discussion of clitics, for example. In this, the second edition, we have added more coverage of exciting new work

that uses experimental and computational methods, methods that are bound to be more central in the future, but we encourage instructors to supplement our text with current readings in this cutting-edge field. In closing, please permit us to remind the user that our ambitions in writing this volume are quite modest. We do not expect students who have worked through this book to have a full understanding, but to have developed a lasting taste for morphology that, with luck, will sustain them as it has us.

We owe a debt of thanks to the many people who helped us as we worked on this project. We are especially grateful to the various people who read drafts of the manuscript and made suggestions on how to make it better. These include Harald Baayen, Donald Lenfest, Lanko Marusic, and two anonymous Blackwell reviewers. We give special thanks to Phil Baldi and Barbara Bullock, who tested the original manuscript in a morphology class at the Pennsylvania State University, and to five anonymous student reviewers. Their comments were particularly thorough and helped us to improve this book on many different levels. Harald Baayen and some of our anonymous student reviewers also suggested a number of excellent exercises, which we incorporated into the current version. Peter Aronoff read the original manuscript over his winter break and still took a linguistics course the next semester. For their input and discussion, we thank Bill Ham, Alan Nussbaum, and Draga Zec. We are also grateful to Jane Kaplan, who shared her collection of language-related cartoon strips, advertisements, and other magazine and newspaper clippings with us.

J. David Sapir generously gave us permission to reproduce copious amounts of Kujamaat Jóola data from his published and unpublished work, and Eugene Nida allowed us to include exercises first published in his classic textbook on morphology. We are pleased that his exercises will be introduced to a new generation of students.

We are also grateful to the many people who wrote to us after using the first edition of this textbook. Many of them requested an answer key. The second edition indeed has one, available on the Wiley website at www.wiley.com/go/Aronoff. Jenny Mittelstaedt carefully prepared a list of questions and comments that enabled us to make a number of corrections and clarifications to the material presented here. Bill Ham also offered useful suggestions. Finally, reviews of the first edition in print and online by Barli Bram, Malcolm Finney, Margaret Sharp, John Stonham, Gregory Stump, and Jonathan White were enormously helpful to us in identifying elements of the book, small and large, that

needed to be revised or updated. In addition to the addition of suggestions for future reading and the expansion (and renaming) of chapter 8, "Morphological Productivity and the Mental Lexicon," this new edition has been thoroughly revised for style and clarity; it has been updated to reflect current research; its glossary and reference list have been expanded; and some exercises have been revised or added.

This book owes a great deal to the guidance and particularly the patience of the editors at Wiley-Blackwell over the years: Philip Carpenter, Sarah Coleman, Danielle Descoteaux, Tami Kaplan, Julia Kirk, Beth Remmes, and Steve Smith. Thanks also to our project manager, Fiona Sewell. Writing this book has been a joint effort, and we would like to emphasize that the order of the authors' names given on the title page is alphabetical.

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The publisher apologizes for any errors or omissions in the above list and would be grateful if notified of any corrections that should be incorporated in future reprints or editions of this book.

Abbreviations

A, adj	adjective
abs	absolutive
acc	accusative
act	active
adv	adverb
agr	agreement
an	animate
apass	antipassive
app	applicative
Ar.	Arabic
asp	aspect
C	consonant
caus	causative
cl	noun class
ct	combining with a circumstantial topic
d	declarative
def	definite
dem	demonstrative
dim	diminutive
dir	directional
du	dual
emph	emphatic
erg	ergative
excl	exclusive
f	feminine
foc	focus
Fr.	French
fut	future

fv	final vowel
gen	genitive
hab	habitual
imp	imperfective
imper	imperative
inan	inanimate
inc	dubitive-incompletive
incl	inclusive
ind	indicative
inf	infinitive
irr	irrealis
loc	locative
m	masculine
Mdk.	Mandinka
n, N	noun
ne	noun emphasis
neg	negative
nom	nominative
nonfut	non-future
nonhum	non-human
NP	noun phrase
nts	combining with a non-topical subject
obj	object
part	participle
partic	particulizer
pass	passive
perf	perfective
pl	plural
Port.	Portuguese
poss	possessive
pres	present
prog	progressive
prtc	particle
ps	past subordinate
qm	question marker
redup	reduplicative
refl	reflexive
rel	relativizer
res	resultative
sg	singular

stat	stative
sub	subject
subord	subordinating morph
tns	tense
tri	trial
v, V	verb; vowel; theme vowel
VP	verb phrase

Remarks on Transcription

Modern linguistics has been struggling with the problem of phonetic and phonological transcription since its inception. The International Phonetics Association was founded in 1886 with the goal of providing for linguistics a worldwide standard system for naming sounds, the International Phonetic Alphabet (IPA), akin to that universal standard language used in chemistry and physics since the mid-nineteenth century to name the elements and their compounds. But linguists have long resisted this standardization, especially for phonological transcription, much to the dismay of students over the generations. There are many reasons for this resistance. The phonological transcription of a language is often driven by the desire to develop a practical orthography, in which phonetic accuracy and consistency take a back seat to ease of use. Also, phonological theorists since the beginning of that field have enjoyed a love–hate relationship with phonetics, arguing over the true nature of the connection between a phoneme and its various phonetic realizations, leading them to downplay the importance of consistency for phonological transcription across languages, since each language has its own unique phonological system. Leonard Bloomfield, for example, one of the great linguists of the twentieth century, used the symbol U for schwa (IPA ə) in his Menomini grammar, largely for typographical convenience.

In this book, we have made a compromise. Wherever possible or practicable, we have used the IPA, a copy of which is included facing p. 1. We have deviated from the IPA chiefly in our representation of the English approximant rhotic, choosing to use instead the symbol <r> for simplicity. (For more on the International Phonetics Association and the International Phonetic Alphabet, visit the website of the Association at http://www.langsci.ucl.ac.uk/ipa/index.html.) But many languages

have well-established orthographies or systems of phonological transcription, which we have not disturbed. Most prominently, in transcribing Kujamaat Jóola, we have adopted wholesale the system used by J. David Sapir in the grammar from which our data and description are adapted. We have endeavored, though, in all cases where transcription departs from the IPA, to give the IPA equivalent for nonstandard symbols.

This lack of consistency may be a little confusing for the student at first, but we hope that it will teach students to be careful, because the symbols used in phonological transcription may sometimes be used in arbitrary and even capricious ways, so that it is important to pay close attention to the phonetic description that accompanies the symbols at their introduction. Reading Bloomfield's Menomini grammar without knowing that U stands for schwa can lead to serious misunderstanding.

The International Phonetic Alphabet

Revised to 2005

CONSONANTS (PULMONIC)

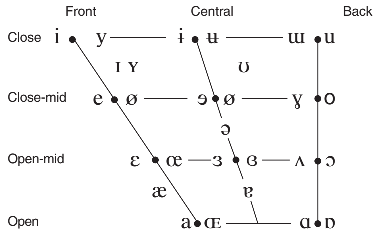
	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fricative				ɬ ɮ							
Approximant		ʋ		ɹ		ɻ	j	ɰ			
Lateral approximant				l		ɭ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

CONSONANTS (NON-PULMONIC)

Clicks		Voiced implosives		Ejectives	
ʘ	Bilabial	ɓ	Bilabial	ʼ	Examples:
ǀ	Dental	ɗ	Dental/alveolar	pʼ	Bilabial
ǃ	(Post)alveolar	ʄ	Palatal	tʼ	Dental/alveolar
ǂ	Palatoalveolar	ɠ	Velar	kʼ	Velar
ǁ	Alveolar lateral	ʛ	Uvular	sʼ	Alveolar fricative

VOWELS



Where symbols appear in pairs, the one to the right represents a rounded vowel.

OTHER SYMBOLS

ʍ Voiceless labial-velar fricative

w Voiced labial-velar approximant

ɥ Voiced labial-palatal approximant

ʜ Voiceless epiglottal fricative

ʢ Voiced epiglottal fricative

ʡ Epiglottal plosive

ɕ ʑ Alveolo-palatal fricatives

ɺ Voiced alveolar lateral flap

ɧ Simultaneous ʃ and x

Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary. k͡p t͜s

SUPRASEGMENTALS

ˈ	Primary stress
ˌ	Secondary stress ˌfoʊnəˈtɪʃən
ː	Long eː
ˑ	Half-long eˑ
˘	Extra-short ĕ
|	Minor (foot) group
‖	Major (intonation) group
.	Syllable break ɹi.ækt
‿	Linking (absence of a break)

DIACRITICS

Diacritics may be placed above a symbol with a descender, e.g. ŋ̊

̥	Voiceless	n̥ d̥	̤	Breathy voiced	b̤ a̤	̪	Dental	t̪ d̪
̬	Voiced	s̬ t̬	̰	Creaky voiced	b̰ a̰	̺	Apical	t̺ d̺
ʰ	Aspirated	tʰ dʰ	̼	Linguolabial	t̼ d̼	̻	Laminal	t̻ d̻
̹	More rounded	ɔ̹	ʷ	Labialized	tʷ dʷ	̃	Nasalized	ẽ
̜	Less rounded	ɔ̜	ʲ	Palatalized	tʲ dʲ	ⁿ	Nasal release	dⁿ
̟	Advanced	u̟	ˠ	Velarized	tˠ dˠ	ˡ	Lateral release	dˡ
̠	Retracted	e̠	ˤ	Pharyngealized	tˤ dˤ	̚	No audible release	d̚
̈	Centralized	ë	̴	Velarized or pharyngealized ɫ				
̽	Mid-centralized	e̽	̝	Raised	e̝ (ɹ̝ = voiced alveolar fricative)			
̩	Syllabic	n̩	̞	Lowered	e̞ (β̞ = voiced bilabial approximant)			
̯	Non-syllabic	e̯	̘	Advanced Tongue Root	e̘			
˞	Rhoticity	ɚ a˞	̙	Retracted Tongue Root	e̙			

TONES AND WORD ACCENTS

LEVEL		CONTOUR	
e̋ or ˥	Extra high	ě or ˩˥	Rising
é ˦	High	ê ˥˩	Falling
ē ˧	Mid	e᷄ ˦˥	High rising
è ˨	Low	e᷅ ˩˨	Low rising
ȅ ˩	Extra low	e᷈ ˧˦˧	Rising-falling
ꜜ	Downstep	↗	Global rise
ꜛ	Upstep	↘	Global fall

1 Thinking about Morphology and Morphological Analysis

mor·phol·o·gy: a study of the structure or form of something
Merriam-Webster Unabridged

1.1 What is Morphology?

The term **morphology** is generally attributed to the German poet, novelist, playwright, and philosopher Johann Wolfgang von Goethe (1749–1832), who coined it early in the nineteenth century in a biological context. Its etymology is Greek: *morph-* means 'shape, form', and *morphology* is the study of form or forms. In biology *morphology* refers to the

study of the form and structure of organisms, and in geology it refers to the study of the configuration and evolution of land forms. In linguistics *morphology* refers to the mental system involved in **word** formation or to the branch of linguistics that deals with words, their internal structure, and how they are formed.

1.2 Morphemes

A major way in which morphologists investigate words, their internal structure, and how they are formed is through the identification and study of **morphemes**, often defined as the smallest linguistic pieces with a grammatical function. This definition is not meant to include all morphemes, but it is the usual one and a good starting point. A morpheme may consist of a word, such as *hand*, or a meaningful piece of a word, such as the *-ed* of *looked*, that cannot be divided into smaller meaningful parts. Another way in which morphemes have been defined is as a pairing between sound and meaning. We have purposely chosen not to use this definition. Some morphemes have no concrete form or no continuous form, as we will see, and some do not have meanings in the conventional sense of the term.

You may also run across the term **morph**. The term 'morph' is sometimes used to refer specifically to the phonological realization of a morpheme. For example, the English past tense morpheme that we spell *-ed* has various morphs. It is realized as [t] after the voiceless [p] of *jump* (cf. *jumped*), as [d] after the voiced [l] of *repel* (cf. *repelled*), and as [əd] after the voiceless [t] of *root* or the voiced [d] of *wed* (cf. *rooted* and *wedded*). We can also call these morphs **allomorphs** or **variants**. The appearance of one morph over another in this case is determined by voicing and the place of articulation of the final consonant of the verb stem.

Now consider the word *reconsideration*. We can break it into three morphemes: *re-*, *consider*, and *-ation. Consider* is called the **stem**. A stem is a base unit to which another morphological piece is attached. The stem can be **simple**, made up of only one part, or **complex**, itself made up of more than one piece. Here it is best to consider *consider* a simple stem. Although it consists historically of more than one part, most present-day speakers would treat it as an unanalyzable form. We could also call *consider* the root. A **root** is like a stem in constituting the core of the word to which other pieces attach, but the term refers only to morphologically simple units. For example, *disagree* is the stem of

disagreement, because it is the **base** to which *-ment* attaches, but *agree* is the root. Taking *disagree* now, *agree* is both the stem to which *dis-* attaches and the root of the entire word.

Returning now to *reconsideration*, *re-* and *-ation* are both **affixes**, which means that they are attached to the stem. Affixes like *re-* that go before the stem are **prefixes**, and those like *-ation* that go after are **suffixes**.

Some readers may wonder why we have not broken *-ation* down further into two pieces, *-ate* and *-ion*, which function independently elsewhere. In this particular word they do not do so (cf. **reconsiderate*), and hence we treat *-ation* as a single morpheme.

It is important to take seriously the idea that the grammatical function of a morpheme, which may include its meaning, must be constant. Consider the English words *lovely* and *quickly*. They both end with the suffix *-ly*. But is it the same in both words? No – when we add *-ly* to the adjective *quick*, we create an adverb that is often synonymous with "rapidly": *The students quickly assimilated the concept*. When we add *-ly* to the noun *love*, we create an adjective: *What a lovely day!* What on the surface appears to be a single morpheme turns out to be two. One attaches to adjectives and creates adverbs; the other attaches to nouns and creates adjectives.

There are two other sorts of affixes that you will encounter, **infixes** and **circumfixes**. Both are classic challenges to the notion of morpheme. Infixes are segmental strings that do not attach to the front or back of a word, but rather somewhere in the middle. The Tagalog infix *-um-* is illustrated below (McCarthy and Prince 1993: 101–5; French 1988). It creates an agent from a verb stem and appears before the first vowel of the word:

(1)

Root	-um-	
/sulat/	/s-um-ulat/	'one who wrote'
/gradwet/	/gr-um-adwet/	'one who graduated'

The existence of infixes challenges the traditional notion of a morpheme as an indivisible unit. We want to call the stem *sulat* 'write' a morpheme, and yet the infix *-um-* breaks it up. This seems to be a property of *-um-* rather than *sulat*. Our definition of morphemes as the smallest linguistic pieces with a grammatical function survives this challenge.

Circumfixes are affixes that come in two parts. One attaches to the front of the word and the other to the back. Circumfixes are controversial because it is possible to analyze them as consisting of a prefix and a suffix that apply to a stem simultaneously. One example is Indonesian

ke…-an. It applies to the stem *besar* 'big' to form a noun *ke-besar-an* meaning 'bigness, greatness' (MacDonald 1976: 63; Beard 1998: 62). Like infixes, the existence of circumfixes challenges the traditional notion of morpheme (but not the definition used here) because they involve discontinuity.

We will not go any more deeply here into classical problems with morphemes, but the reader who would like to know more might consult Anderson (1992: 51–6).

1.3 Morphology in Action

We would like to explore the idea of morphology more deeply by examining some data. These are examples of morphology in action – morphological facts of everyday life.

1.3.1 Novel words and word play

If you had been walking down the street in Ithaca, New York, several years ago, you might have looked up and seen a sign for the music store "Rebop," a name that owes its inspiration to the jazz term *rebop*.[1] *Rebop* was originally one of the many nonsense expressions that jazz musicians threw into their vocal improvisations, starting in the early 1920s. In the 1940s, *rebop* became interchangeable with *bebop*, a term of similar origin, as the term for the rhythmically and harmonically eccentric music played by young black musicians. By the 1950s the name of this musical style was quite firmly established as simply *bop*.[2] Today, the original use of *rebop* is known only to cognoscenti, so that most people who pass by the store will be likely to interpret the word as composed of the word *bop* and the prefix *re-*, which means approximately 'again'. This prefix can attach only to verbs, so we must interpret *bop* as a verb here. *Rebop* must therefore mean 'bop again', if it means anything at all. And this music store, appropriately, specialized in selling used CDs. There's something going on here with English morphology. *Rebop* is not a perfectly well-formed English word. The verb *bop* means something like 'bounce', but the prefix *re-* normally attaches only to a verb whose meaning denotes an accomplishment. The verb *rebop* therefore makes little sense. But names of stores and products are designed to catch the consumer's attention, not necessarily to make sense, and this

one does so by exploiting people's knowledge of English in a fairly complex way and breaking the rules so as to attract attention, as verbal art often does.

Consider now the following phrases, taken from a Toni Braxton song: *Unbreak my heart, uncry these tears*.

We have never seen anyone *unbreak* something, and you certainly can't *uncry* tears, but every English speaker can understand these words. We all know what it means to unbreak somebody's heart or to wish that one's heart were unbroken. If we asked somebody, "unbreak my heart," we would be asking them to reverse the process of having our heart broken. We can visualize "uncry these tears," too – think of a film running backwards. We can understand these words because we know the meaning of *un-*, which, when attached to a verb, reverses or undoes an action. The fact that these particular actions, breaking a heart and crying tears, cannot be reversed only adds poignancy to the song.

All human beings have this capacity for generating and understanding novel words. Sometimes someone creates an entirely new word, as J. R. R. Tolkien did when he coined the now-familiar term *hobbit*. But more often than not, we build new words from pre-existing pieces, as with *unbreak* and *uncry*, or as with *hobbitish* and *hobbit-like*, built by adding suffixes to the stem *hobbit*. We could easily go on to create more words on these patterns.

Novel words are all around us. Jerry Seinfeld has talked about the *shushers*, the *shushees*, and the *unshushables* in a movie theater. Morley Safer was dubbed *quirkologist* – expert on quirky people – on a special episode of *60 Minutes*. For those who hate buffets, the TV character Frasier Crane used the term *smorgsaphobia*. The longest novel morphologically complex word we have been able to find on our own in the daily press is *deinstitutionalization*, from the *New York Times*.

These are everyday morphological facts, the kind you run across every day as a literate speaker of English. What all these words – *rebop*, *unbreak*, *uncry*, *hobbit*, *hobbitish, hobbit-like, quirkologist*, *smorgsaphobia*, and *deinstitutionalization* – have in common is their newness. When we saw or heard them for the first time, they leapt out at us. It is interesting that novel words do this to us, because novel sentences generally do not. When you hear a new sentence, you generally don't realize that it is the first time that you've heard it, and you don't say to yourself, "What a remarkable sentence," unless it happens to be one from Proust or Joyce or some other verbal artist. Many people have made the observation before that morphology differs from syntax in this way. **[Exercises 1–3]**

Morphological challenge

As you work through this book, keep an eye – or an ear – out for novel or otherwise striking words, on television, in magazines and newspapers, in books, and in conversations. Keep a running list of them, then e-mail your list to the authors: mark.aronoff@stonybrook.edu or fudeman@pitt.edu.

1.3.2 Abstract morphological facts

Let's move to some more abstract morphological facts. These are the kind of morphological facts that you don't notice every day. They are so embedded in your language that you don't even think about them. They are more common than the ones we have just looked at, but deeper and more complex.

If you speak English and are concerned about your health, you might say:

(2) I eat one melon a day.

Let's imagine that we are even more concerned about our health than you are. We don't just eat one melon a day, rather:

(3) We eat two melons a day.

It is a fact about standard American or British English that we cannot say:

(4) *We eat two melon a day.

However, if we were speaking Indonesian or Japanese, we would say the equivalent of *two melon* (*three melon*, *four melon*, etc.) because these languages don't use morphological plurals in sentences like this.

(5) Indonesian:
Saiga makan dua buah semangka (se) tiaphari
I eat two fruit melon every day
'I eat two melons every day.'

Japanese:
mainichi futatsu-no meron-o tabemasu
every.day two- GEN melon-OBJ eat.IMP
'I eat two melons every day.'

The morphological grammar of English tells us that we have to put an *-s* on *melon* whenever we are talking about more than one. This fact of English is so transparent that native speakers don't notice it. If we happen to be speakers of a language without obligatory plural marking, however, we will notice and may have trouble with it.

We have now observed something about English morphology. If a word is plural, it takes the suffix *-s*. Living creatures don't eat only melons, however:

(6) The evil giant at the top of the beanstalk eats two melons, three fish, and four children a day.

Everyone agrees that *fish* is plural, even though there is no plural marker. *Children* is also plural, but it has a very unusual plural suffix, *-ren*, plus an internal change: we say [ʧɪld-] instead of [ʧajld]. We do not always mark plural words with an *s*-like thing; there are other ways in which we can mark plurals. Native speakers of English know this, and they do not need to think about it before making a plural. **[Exercise 4]**

Consider the following:

(7) Today they **claim** that they will fix the clock tower by Friday, but yesterday they **claimed** that it would take at least a month.

In this example, we use two different forms of the verb *claim*. One is present tense, and the other is past. Again, this is not true for all languages. If we were speaking Vietnamese, for example, we wouldn't make any distinction between *claim* and *claimed* – we wouldn't mark the verb at all. If we were speaking Chinese, we would not distinguish between *claim* and *claimed* in a sentence like this, because the adverb *zuótian* 'yesterday' is sufficient to indicate past tense:

(8)

jīntiān	tamen	shuō	tāmen	xīngqī		
today	they	say	they	Friday		
wǔ	ké yǐ xiū	hǎo	zhōnglóu,	kě shì	zuótiān	
can	fix	well	clock.tower	but	yesterday	

tāmen they | què however | shuō say | zhì shǎo at least | xū yào need | yíge a | yuè month
'Today they claim that they will fix the clock tower by Friday, but yesterday they claimed that it would take at least a month.'

If we were to leave out *zuótiān* 'yesterday', we would need to use the particle *le* after the verb to show that the action took place in the past. Whether or not a speaker must indicate past tense in Chinese depends on context.

Notice what happens in English when we use some other verbs besides *claim*:

(9) Today they **say** … but yesterday they **said** …
tell us **told** us
know **knew**

That these verbs and others do not add *-t*, *-d*, or *-əd* to make their past tense is an elementary fact about English morphology. We'll talk more about verbs like these later in the chapter.

The next observation about English morphology has to do with pronouns. Here is an exchange between an American mother, who has just watched a billiard ball break through a window, and her 6-year-old boy, who is standing inside:

(10) Who just threw a pool ball through the basement window?
Not me.

In this context, a 6-year-old wouldn't respond *Not I*, though if he were to answer with a sentence, the response would be *I didn't*, not *Me didn't*. Without formally knowing anything at all about subjects and objects, English-speaking 6-year-olds (and children even younger) master the pronoun system of the spoken language. **[Exercise 5]**

Given the following sentence, how many children does Joan have?

(11) All of Joan's children are brilliant and play musical instruments surpassingly well.

From this statement you cannot know how many children Joan has, but one thing is certain: she has more than two. If Joan had only two children, we would normally say *both of Joan's children*, because it is a fact about English that there is a morphological distinction among universal