

Summary

In this chapter, we've examined some common phonological rules of English—assimilation, dissimilation, insertion, deletion, fronting, and metathesis. We've seen examples of these rules at work in our “standard” language, in child language, and in different North American dialects, as well as in earlier varieties of English. We have also examined some of the phonological processes that affect larger units of sounds, including syllables, stress, and intonation. We have seen that all of these processes are systematic and patterned and that they occur unconsciously.

Sources and Resources

- Anderson, S. 1974. *The organization of phonology*. New York: Academic Press.
- Berko, J. 1958. The child's learning of English morphology. *Word* 14.150–177.
- Chomsky, N. & M. Halle. 1968. *The sound pattern of English*. New York: Harper & Row.
- Clark, J. & C. Yallop. 1990. *An introduction to phonetics and phonology*. Oxford, UK: Blackwell.
- Cowan, W. & J. Rakušan. 1985. *Source book for linguistics*. Philadelphia/Amsterdam: John Benjamins Publishing.
- Denham, K. 2005. Ludlings teach language diversity and change. *National Council of Teachers of English (NCTE) Annual Meeting*, Pittsburgh, PA.
- Deutsch, D., et al. 1999. Tone language speakers possess absolute pitch. *Acoustical Society of America (ASA)* 138. Columbus, OH.
- Deutsch, D., et al. 2006. Absolute pitch among American and Chinese conservatory students: Prevalence differences, and evidence for a speech-related critical period. *Journal of the Acoustical Society of America* 119. 719–722.
- Jusczyk, P. 1993. From general to language-specific capacities: The WRAPSA model of how speech perception develops. *Journal of Phonetics* [Special issue on phonetic development], 21(1–2). 3–28.
- Kenstowicz, H. 1995. *Phonology in generative grammar*. Oxford, UK: Blackwell.
- McMahon, A. 2002. *An introduction to English phonology*. Oxford, UK: Oxford University Press.
- National Public Radio. 2006. Behaves so strangely. *Radio Lab*. Show #202. April 21. <http://www.wnyc.org/shows/radiolab/episodes/2006/04/21>. (17 October, 2008.)
- Nunberg, G. 2004. Going nuclear. *Fresh Air*. National Public Radio. October 2. Published in *Going nuclear*. 2004. New York: Public Affairs.
- Treiman, R. 2003. Linguistics and reading. *The handbook of linguistics*, ed. by M. Aronoff & J. Rees-Miller, 664–672. Malden, MA: Blackwell.
- Werker, J. & R. Desjardins. 1995. Listening to speech in the first year of life: Experiential influences on phoneme perception. *Current Directions in Psychological Sciences* 4(3). 76–81.

Review, Practice, and Explore

RPE 4.1 Allophones of [l] in English

There are three distinct allophonic forms of the phoneme /l/ in many English dialects, shown here as [l], [ɫ], and [ɭ]. Figure out the rule that determines when each allophone of the phoneme /l/ occurs. To do so, look at the sounds that occur on either side of the [l]s, and write what determines when each sound occurs.

[lɪp]	lip	[pɪl]	pill
[laɪ]	lie	[aɪt]	isle
[pleɪ]	play	[blu]	blue
[klʊ]	clue	[glu]	glue

Now look up each of the symbols and write the description of each of these allophones (in terms of place and manner of articulation and voicing).

RPE 4.2 Italian [n] and [ɲ]: Phonemes or Allophones?

Using the following words, determine whether [n] and [ɲ] are allophones of one phoneme or separate phonemes in Italian. Do the sounds occur in the same positions? Determine the environment in which each sound occurs; that is, look at the sounds that occur on either side of [n] and [ɲ] to see what determines when each sound occurs. If one sound always occurs before a certain natural class of sound, then the occurrence of that sound is determined by a phonological rule. What is that rule?

[nero]	black	[rana]	frog
[ʎente]	people	[aŋke]	also
[tenda]	tent	[fango]	mud
[tinta]	dye	[tiŋgo]	I die

RPE 4.3 Korean [s] and [ʃ]: Phonemes or Allophones?

Using the following words, determine whether [s] and [ʃ] are allophones of one phoneme or separate phonemes in Korean. Do the sounds occur in the same positions? Determine the environment in which each sound occurs; does the sound always occur before a certain natural class of sound, and if so which one? (Adapted from Cowan and Rakušan 1985, 42)

[son]	hand	[ʃihap]	game
[səm]	sack	[ʃipsam]	thirteen
[sosəl]	novel	[ʃinho]	signal
[sek]	color	[maʃi]	delicious
[us]	upper		

RPE 4.4 Hungarian [a] and [a:]: Phonemes or Allophones?

Consider the sounds [a] and [a:] (where : indicates a long vowel). Are these sounds allophones of one phoneme or separate phonemes? Determine the environment in which each sound occurs; do they occur in the same positions or different ones? (Adapted from Cowan and Rakušan 1985, 66)

[bamba:n]	foolishly	[a:g]	branch
[cafatoł]	tear	[a:da:z]	furious
[aga:r]	greyhound	[ba:mul]	wonder
[felad]	to give up	[ca:pa]	shark
[cimborafa]	collar beam	[cikorn'a:ʃ]	over-ornamented
[holta]	posthumously	[fela:za:ʃ]	soaking up
[oldal]	side	[ra:k]	crayfish
[ado:ʃ]	in debt	[a:bra]	illustration
[kortina]	curtain	[olda:ʃ]	solution
[rak]	to put	[ča:]	to the right

RPE 4.5 A Variation of the Pluralization Rule

In the text, you saw the three plural endings involved in plural formation for most adult speakers of English. Children acquiring English sometimes have variations on this rule. Consider the following pronunciations of some plural words by a child between the ages of 2½ and 3 years.

a. bath	+	plural	=	/bæθəz/
b. knife	+	plural	=	/nəfəz/
c. cliff	+	plural	=	/klɪfəz/
d. self	+	plural	=	/selfəz/
e. sleeve	+	plural	=	/slivəz/
f. horse	+	plural	=	/hɔrsəz/
g. fuzz	+	plural	=	/fʌzəz/
h. fish	+	plural	=	/fɪʃəz/
i. church	+	plural	=	/tʃɜrʃəz/
j. cat	+	plural	=	/kæts/
k. dog	+	plural	=	/dagz/
l. pup	+	plural	=	/pʌps/
m. pad	+	plural	=	/pædz/
n. kick	+	plural	=	/kɪks/
o. stamps	+	plural	=	/stæmps/
p. bib	+	plural	=	/bɪbz/
q. lamb	+	plural	=	/læmz/
r. can	+	plural	=	/kænz/
s. camel	+	plural	=	/kæməlz/
t. caterpillar	+	plural	=	/kæləpɪtərz/

This child's rule of plural formation seems to match the adult rule for the data in items (j) through (t)—although notice his metathesis of syllables in his pronunciation of *caterpillars*. However, the adult rule that adds /əz/ after sibilants is slightly different for him. After which sounds does the child add /əz/? Briefly discuss how this rule is similar to and different from the adult rule of plural formation, and consider how this child might have come to acquire this rule.

RPE 4.6 A Different Variation of Pluralization

A well-known psycholinguistic experiment that has come to be known as the *wug* test, first conducted by Jean Berko Gleason (Berko 1958), presents children with made-up words and asks them to make them plural. For example, a child might be shown a picture of a fantasy creature and be told, "This is a wug. Imagine there are two of them. There are two ____." The children then fill in the blank. Very young children are able to do this quite easily, supplying the adult forms: /s/ after voiceless Cs, /z/ after voiced Cs, and /əz/ after sibilants.

In one experiment, the 4-year-old subjects produced a slight variation of the adult plural rule; again, as with the other child variation, the variation was only with the /əz/ form. The attachment of /s/ and of /z/ matched the adult rule, as shown in items (a)–(g):

a. cats	/kæts/	c. pups	/pʌps/
b. dogs	/dagz/	d. pads	/pædz/

- e. kicks /kɪks/ g. bibs /bɪbz/
f. stamps /stæmps/

Made-up words demonstrated a similar pattern:

- h. wug /wʌgz/ i. biff /bɪfs/

However, the plural forms in items (j) and (k) indicate that these children have a different rule when the word ends in a sibilant:

- j. fish /fɪʃ/ k. bunch /bʌnʃ/

Again, made-up words demonstrated a similar pattern:

- l. clush /klʌʃ/ m. tazz /tæz/

What is these children's rule of plural formation, and how does it differ from the adult rule? Briefly discuss how this rule is similar to and different from the adult rule of plural formation, and discuss how these children might have come to acquire this rule.

RPE 4.7 They Hissed, Banged, and Faded

- A. Determine the past-tense form of each of the following words. Remember to think phonemically here—ignore spelling. For example, the past tense of *dance* is /dænst/.

crush	turn	weed	wish	thrive	sift
kick	plow	hate	tuck	bag	bait
hiss	play	demand	botch	nab	import
heap	climb	pit	possess	breathe	relate
cinch	singe	tote	winch	bang	sand
pass	kill	pat	face	faze	fade

What are the three phonological forms of the regular English past tense? What natural classes of sounds determine the past-tense form used? What natural class of sounds does /t/ follow? What natural class of sounds does /d/ follow? What natural class of sounds does /ɪd/ (or /əd/) follow?

Notice that some of this assimilation has come into the spelling system. Consider *crept*, *slept*, *wept*, *leapt*. Can you think of others? Some words, such as *dreamed* and *dreamt*, have two distinct standard spellings and pronunciations in the past tense. Can you think of any others?

- B. In some dialects, there is a slight variation of the rule you have discovered already for past tense. Consider the following data from some high school students in Seattle (Dialect B):

	Dialect A	Dialect B
skinned	/skɪnd/	/skɪndɪd/
boned	/bɒnd/	/bɒndɪd/
burned	/bʌrnd/	/bʌrndɪd/

How is this past-tense rule different from the rule you already described?

RPE 4.8 Dissimilation

The word *cardomom*, a kind of spice, is frequently pronounced as if spelled *cardomon*, with an /n/ at the end. Look up the following words in a good etymological dictionary to determine their origins. Explain the process of dissimilation that occurred to achieve the Present-Day English forms: *seldom*, *random*, *pilgrim*.

RPE 4.9 Schwa Insertion

In many people's speech, a schwa sound is commonly inserted after a syllable ending in /l/ or preceding a syllable beginning with /l/.

realtor /riltər/	→	/rilətər/
athlete /æθlit/	→	/æθəlɪt/

Conduct a survey among your peers to determine whether the following words have a schwa inserted: *athletic*, *biathlon* (*decathlon*, *pentathlon*), *jewelry*. Can you think of others?

RPE 4.10 Where Have All the /l/s Gone?

The deletion of /l/ before other consonants is in a state of flux in English. In most words in which /l/ is followed by another consonant, the /l/ is not pronounced by most speakers: *half*, *calf*, *walk*, *salmon*, *would*, *could*, *should*. This /l/ before a consonant had disappeared across the board by the time of Early Modern English (1500–1800), though it remained in the spelling. However, some people now pronounce the /l/ because of what we call a “spelling pronunciation,” an effect of seeing the /l/ in the word in print. (This has also happened with the /t/ of *often*, which used to not be pronounced but now is by some speakers, though not in *soften* or *fasten*.) Some words with an /l/ have two standard pronunciations, so you may hear *folk* or *psalm* with or without the /l/, though other /l/s before consonants are not pronounced by most speakers, such as in *yolk*. And though most speakers do not pronounce the /l/ in *half* or *calf*, those same speakers might pronounce the /l/ in *wolf* and criticize those who do not have an /l/ in *wolf*.

Consider the following and determine whether you have an /l/ in your pronunciation:

half, calf, walk, salmon, salve, palm, calm, talk, golf, wolf, Rudolph, elf, shelf, myself, always, folk, psalm

Are there some words that you can pronounce either with or without the /l/? If so, what do you think determines which pronunciation you use? What factors do you associate with particular instances of /l/-dropping in these words? Try to come up with other examples of words that have an <l> in the spelling but may or may not have an /l/ in the pronunciation.

RPE 4.11 Deletion of /r/ in American English

Even the so-called standard American dialect that doesn't traditionally delete /r/ after vowels may delete /r/s elsewhere. Some Americans who regularly pronounce /r/ elsewhere do not have it in the middle of the word *governor*, for instance, although they may have it in *governing* or *government*. Can you suggest any reason for the loss of /r/ in the one word when it is retained in the other two?

Say the following words; in which ones do you pronounce the /r/s? Be careful not to be fooled by the spelling—you may think you have an /r/ where you really do not pronounce one. Then describe the circumstances under which the loss of /r/ occurs. Consider the position of the stress in the words and also whether there are other /r/s in the word.

surprise	mirror	February
thermometer	gubernatorial	temperature
vernacular	spectrograph	caterpillar
reservoir	southerner	particular
repertory	formerly	Arthur
wintergreen	paraphernalia	kindergarten

RPE 4.12 Switching Sounds Around

Some words commonly involve sound exchanges, either as slips of the tongue or as dialectal variations. Describe the metathetic pronunciation of the following words, which are given following each word, and discuss anything that surprises you about these pronunciations.

integral /ɪntrəɡəl/	foliage /foyləʃ/
cavalry /kælvəri/	relevant /revəlɪnt/
comfortable /kʌmfɪtəbəl/	strategy /stræʃəti/

Also look up the older forms of each of the following words, whose Present-Day English pronunciation is the result of metathesis. Give the older form of the words.

horse, run, frost

And finally, consider the word *iron*. How is metathesis at work in the standard pronunciation of this word?

RPE 4.13 Slips of the Tongue

Slips of the tongue involve accidental manipulation of the building blocks of language: phonetic, phonological, morphological, and syntactic. For the following phonological slips, describe what happened from the intended utterance to the actual utterance, using the terminology from syllable structure.

Intended Utterance	Actual Utterance
a. play with fire	fay with plire
b. stoke the fire	stike the foire
c. take off your snowpants	snake off your toepants
d. fish net	fit nesh
e. I would name it . . .	I nould wame it . . .

RPE 4.14 Where's the Stress?

Remember that the English stress system is quite complicated. In the following words, for example, the words in data set A and those in data set B follow two different stress rules. What are the two rules that determine which syllable is stressed in these groups of English nouns? The accent mark ' indicates the primarily stressed syllable for most English speakers.

Data Set A

synópsis
veránda
agénda
consénsus
amálgam
uténsil

Data Set B

cábinet
América
cínema
aspáragus
metrópolis
jávelin

It will be useful to divide the words into syllables. Then examine the structure of the syllables that receive primary stress. Write a rule that describes which syllable receives primary stress.

RPE 4.15 Da DUM da DUM da DUM da DUM da DUM

Do you recognize iambic pentameter? Recall that an iambic foot (one iamb) is an unstressed syllable followed by a stressed syllable, such as in the words *today* and *undo*. Shakespeare, among many other poets, used a lot of *iambic pentameter*, in which a poetic line consists of five iambic feet. Find or invent some examples of iambic trimeter (three sets of iambs), tetrameter (four sets of iambs), and pentameter (five sets of iambs).

Other terms from poetry of varied stress patterns are the following:

- Trochee** two syllables, stressed–unstressed, as in the words *lamppost* and *standard*
- Anapest** three syllables, unstressed–unstressed–stressed, as in the words *unperturbed* and *disengage*
- Dactyl** three syllables, stressed–unstressed–unstressed, as in the words *probably* and *imbecile*

Find examples of each of these in poetry as well.

RPE 4.16 Watch Your Tone!

Place the intonation nucleus in at least two places in the following sentences, then describe the way the meaning changes when the intonation changes.

- I don't remember his name.
- Did you forget to lock the door?
- I hope she isn't too disappointed.
- I think we've run out of pullover sweaters.
- How can we persuade them to help?
- Her secretary wouldn't say where the client was.

RPE 4.17 Rules of a Language Game

Here's an English-speaking children's language game called Pet. Using your knowledge of syllable structure, figure out and explain the rules of this language game.

/betpətəpər letpet ðænpæn nəvpən əpər/

Betpetterper latepate thanpan nevpeverper.

Chapter at a Glance

Morphemes and Meaning

Morphemes and Syllables
Recognizing Morphemes

Word Classes

Content Words
Function Words
Word Classes and Our Mental Lexicon

Free and Bound Morphemes

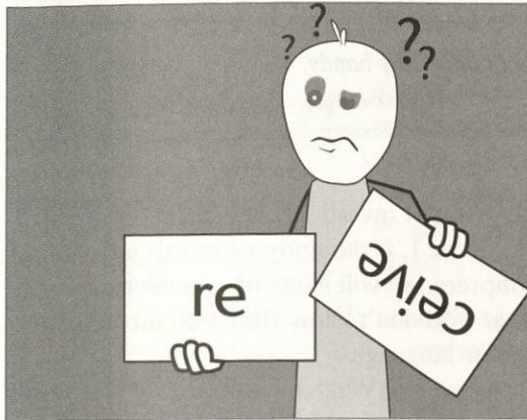
Affixes
Roots

Derivational Affixation**Affixation and Our Mental Lexicon**

Drawing Word Trees
Word Trees and Ambiguity

Inflectional Affixation

Inflectional Affixation of English
Nouns
Inflectional Affixation of English
Verbs
Suppletive Verbs and Adjectives

Summary**Sources and Resources****Review, Practice, and Explore**

Morphology: Words and Their Parts

Key Concepts

- We all have unconscious knowledge of word structure.
- Words can be divided into two basic classes: content words and function words.
- Morphemes are pieces of words that express their own meanings.
- Morphology helps us recognize words and possible words.
- Morphemes come in a variety of types; some can stand alone as words themselves, and others can't.
- *Affixes* attach to other morphemes according to specific rules.

Did You Know . . . ?

Pooh on Pronouns
Linguists in Hollywood

Language Alive!

Embiggen His Soul!
What about *Cranapple*?
Word-*orama*!
The Battle over *Whom*
Ain't Ain't Had It Easy!

Linguistics in the News Arkansas's Apostrophe

Accent on Field Linguistics