

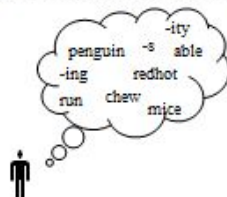
Morphology

Linguistics for NA Communities
AILD 2014

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Morphology

The study of words, word formation, and word structure.



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What is a word?

Arbitrary pairing of a string of sounds with some meaning.

/haus/ + place of residence = house
phonological form + meaning = word



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Lexicon

Speaker's mental dictionary, where words are permanently stored.

Entry:	BROTHER
Phonological	/brʌðə/
Morphological	simple
Syntactic	noun
Semantic	male sibling, monk, etc.
Pragmatic	"oh, brother"

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Lexicon

Speaker's mental dictionary, where words are permanently stored.

Entry:	
Phonological	/_____/
Morphological	_____
Syntactic	_____
Semantic	_____
Pragmatic	_____

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What is meant by "Arbitrary Pairing"?

Nothing intrinsic to the string 'h-a-u-s' implies the meaning "place of residence".

We know this because the sound string associated with any particular meaning changes from language to language:

/kasa/	casa (house)
/dʒm/	dom (house)
un petit d'un petit	Humpty Dumpty
S'étonne aux Halles.	Sat on a wall.



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More on Arbitrariness

Any one sound string can often be chunked into words in multiple ways in a language.

Adeline Moore	=	add a line more
Ineeda Czech	=	I need a check
Maury Missions	=	more emissions
Dewey, Cheetham & Howe	=	do we cheat 'em and how!

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Exception: Onomatopoeia

Sounds are chosen to simulate the sound of the thing being named.

In English: buzz sizzle cuckoo

But compare:

English	Japanese	Tagalog
meow	nyaa	ngiyaw
chirp	pii-pii	tiritit

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Types of Words (1)

Simple: words whose form and meaning cannot be predicted from anything else.

⇒ penguin about
done girl



Simple words are composed of *one* morpheme, where a **morpheme** is the smallest unit of meaning in a word.

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Types of Words (2)

Complex words are those whose form and meaning can be constructed and comprehended by the application of general rules.

⇒ penguins roundabout
undone fishing

Complex words are composed of *two or more* morphemes (**marked by hyphens**).

⇒ penguin-s round-about
un-done fish-ing

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Types of Morphemes

Free: a morpheme that can occur on its own as an independent word. ‡

⇒ penguin about round
done fish the

Bound: a morpheme that must be attached to another word (cannot stand alone). ¶

⇒ -s -er pre-
un- -ing -ity

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Language Specificity 🌐

Morphemes that are free/bound in one language are not necessarily free/bound in another.

English	Diné		
hair	-tsii' 'head'	shitsii'	'my head'
stomach	-bid 'stomach'	nibid	'your stomach'
hand	-la' 'hand'	bíla'	'her/his hand'

In Diné, body parts are bound morphemes; in English, body parts are free morphemes.

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Language Specificity 🌐

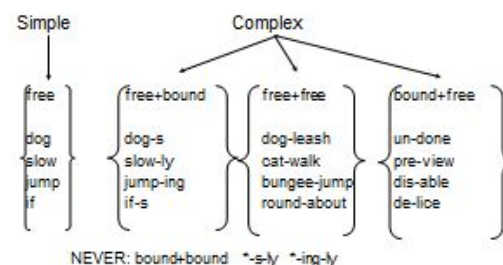
Conversely, morphemes that are bound in English may be free in other languages.

English
{PAST}=-ed Ernie jumped on the bed.

Tohono O'odham
{PAST}='ant 'A:ni 'ant neo.
I PAST spoke.

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Words & Morphemes



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Allomorph

Some morphemes have more than one associated morph. The variant forms of a morpheme are called **allomorphs**.

Morpheme	Allomorphs
{PAST}	/t/ "walked"
	/d/ "sneezed"
	/əd/ "handed"

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Morpheme vs. Morph

A **morph** is the phonological instantiation of a morpheme (the sound of a morpheme).

Morpheme	Morph
{ADV}	adverbial suffix /li/
{PRPROG}	present progressive /ɪŋ/
{SPEAK}	speak /spɪk/

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Distribution of Allomorphs

The distribution of allomorphs can be conditioned by a number of factors, including:

Phonological:	cat-s	/s/
	dog-s	/z/
	horse-s	/əz/
Lexical:	oxen	/ɪn/
	children	/ɪɪn/

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Complex words

Consist of a root morpheme and one or more affixes.

Root: core of the word that carries the major component of its meaning.

Affix: always a bound morpheme; contributes meaning but does not constitute the core meaning of the word.

teach-er teach-ing un-teach-able

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Roots & Lexical Categories

Roots typically belong to a lexical category:

Noun (N)	⇔	car, otter, Tucson, mask
Verb (V)	⇔	run, jump, hide, analyze
Adjective (Adj)	⇔	tall, green, smart, funny
Adverb (Adv)	⇔	slowly, yesterday, always

⇒ Affixes do not belong to a lexical category.

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Open Class vs. Closed Class Words

• **Open Class or Content Words:** belong to a lexical category (N, V, Adj, etc.).

• **Closed Class or Function Words:** have no clear lexical meaning or are required only by the rules of syntax.

Determiners (Det) ⇔ a, the, this, these

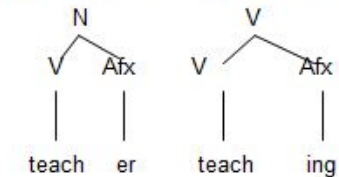
Auxiliaries Verbs (Aux) ⇔ is, am, was

□ FINISHED FILES ARE THE

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Representing Word Structure

The structure of words can be represented using a diagram called a **tree** structure.



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Some More Practice

faith ful ness dis appear ing

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Chist oso Poder oso

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Llor ona cry baby

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Ambiguities (2)

un lock able un lock able
 "able to be unlocked" "not able to be locked"

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Morphological Distinctions

- Simple vs. complex words
 - words composed of one vs. more than one morpheme
- Free vs. bound morphemes
 - morphemes that are independent words vs. those that must attach to another word
- Morpheme vs. morph
 - the smallest unit of meaning vs. the phonological instantiation of it
- Separate morphemes vs. allomorphs
 - same phonetic form with two distinct meanings vs. different phonetic forms with same meanings

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Categories of Bound Morphemes

Prefix: affix that attaches to the left of a root or base (e.g., re-, un-, dis-, pro-, anti-).

Suffix: affix that attaches to the right of a root or base, includes contracted forms (e.g., -ize, -ed, -able, -'ll, -'re).

Circumfix: two affixes surround the root/base.

Infix: affix inserted into a root (e.g., f****in)

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Steps to Solving Morphological Problems

1. First, isolate and compare partially similar forms. This means compare words that have similar meanings and see what part of the words they have in common.
2. If one phonetic form has two distinct meanings, classify it as two different morphemes.
3. List the morphemes.
4. Determine if there are different phonetic forms for the morpheme.
5. Write a word formation rule.

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Morphological Analysis (1)

Isleta

temiban	'I went'	mimiy	'he was going'
amiban	'you went'	tewanban	'I came'
temiwe	'I am going'	tewanhi	'I will come'

1. List the morphemes for these words.

I: _____ he: _____
 you: _____ go: _____
 come: _____ past: _____
 future: _____ past progressive: _____

2. Write a word formation rule for Isleta verbs.

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Morphological Analysis (2)

English

worker	'one who works'
builder	'one who builds'
rowdier	'more rowdy'
faster	'more fast'

1. List the meanings for the morpheme for -er.
Two distinct meanings: 'one who Xs' and 'more x'
2. Do they have the same phonetic form?
Same phonetic form: [ɜ]
2. Are they the same or different morphemes
Two different morphemes: -er₁ ≠ 'one who Xs'
-er₂ ≠ 'more X'

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Morphological Analysis (3)

English

walked	[wɒkt]	'past tense of walk'
sneezed	[sni:zd]	'past tense of sneeze'
handed	[hændɪd]	'past tense of hand'

1. List the underlying morpheme for past tense.
Same meaning: 'past tense'
2. List the three different phonetic forms. List the phonetic environment for each phonetic form.
Different phonetic forms: [t], [d], [ɪd]
3. Are the phonetic forms different morphemes or allophones of one morpheme?
Must be allomorphs of same MORPHEME
4. What type of affix is the past tense morpheme? Bound, inflectional

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Inflectional Affixes (1)

- ⇒ Do not change the lexical category of the root or base.

cat = N → cats = N
 walk = V → walked = V,
 spoke = V → spoken = V

- ⇒ Are obligatory under certain conditions.

* I am teach (must have -ing)

- ⇒ Are typically productive (new words use them freely).

you bloofed, he/she bloofs, they are bloofing

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Inflectional Affixes (2)

- ⇒ Are added to the base after derivational affixes

modern-ize-g not modern-g-ize

- ⇒ Express important grammatical distinctions
e.g., number, tense, gender, case

- ⇒ Are always suffixes in English
-s (PLUR), -ed (PAST), -ing (PROG), -en (PPART)

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Language Specificity & Inflection (1)

Not all languages express the same grammatical distinctions in the same way. For example:

- Ute does not express number for inanimate nouns
Nū' karunapū asti.
I chair(s) want
'I want chair(s).'
- But Inuktitut has a three-way number contrast
Iglu 'a house'
Iglu-k 'two houses'
Iglu-t 'three or more houses'

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Language Specificity & Inflection (2)

Some languages group nouns into classes according to shared semantic or phonological properties.

This is referred to as **Noun Class** and is marked in different ways across languages that make use of it.

- Russian uses one set of suffixes for feminine nouns and a different set for masculine nouns

masculine	-Ø	dom	'a house'
feminine	-a	ulic-a	'street'
neuter	-o	tjuvstv-o	'sensation'

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Diné Handling Verbs

Identify particular classes of object by appearance

-Self-contained item:

'fry bread, knife, book'
 Dii naa nish'aah. 'I am giving this (self-contained object) to you.'

-Plural Objects that fit/carry in the palm of your hand:

'several pinons/beans, wood chips, earrings'
 Dii naa nishjaáh. 'I am giving these plural object to you.'

-Animate Being:

'baby, little girl/boy, kid goat, stuffed toy'
 Dii naa nish'teeh. 'I am giving this animate being to you.'

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Case

- A system a language uses to indicate a noun's grammatical role (subject, object) in the sentence.
- Can be shown on the nouns. This type of inflection is very common in languages with freer word order.

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English Case

1. *The baby the dog saw
 2. *saw the baby the dog
 3. The baby saw the dog.
- rigid word order

_____ + _____ + _____

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Southern Ute Case

1. Nuruachj napüchi punikiya. "The baby sees the old man."
Napüchi nuruachj punikiya. "
Punikiya napüchi nuruachj. "
2. Nuruachi sarichj punikiya. "The dog sees the baby."
Sarichj nuruachi punikiya. "
Punikiya sarichj nuruachi. "

a) List the meaning for the following words.

nuruachj _____ napüchi _____
sarichj _____ punikiya _____

b) How is the Case marked in Southern Ute?

Subject Nominative (NOM) End with [-voi] vowel
Object Accusative (ACC) End with [+voi] vowel

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Derivation Affixes

- ⇒ Can be prefixes and suffixes in English
-able, -ness, -ize but un-, re-, pro-
- ⇒ Change the meaning of the root or base
use/useable, happy/happiness, attach/reattach, true/untrue
- ⇒ Usually change the lexical category of the root or base

use=V/useable=ADJ happy=ADJ/happiness=N
BUT attach/reattach=V true/untrue=ADJ

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Derivational Affixes (2)

- ⇒ Are added to the base before inflectional affixes
operat-ion-al-ize-s not operat-s-ion-al-ize
- ⇒ Are typically unproductive
bloofable?, rebloof?, unbloof?
- ⇒ Are optional
I am happy.
Happiness abounds.
Happily, I sing.

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Morphological Affixes

Inflectional

- Do not change the lexical category of the root or base
- Are obligatory under certain conditions
- Are typically productive (new words use them freely).
- Are added to the base after derivational affixes
- Express important grammatical distinctions
- Are always suffixes in English

Derivation

- Change the meaning of the root or base
- Are optional
- Are typically unproductive
- Are added to the base before inflectional affixes
- Can be prefixes and suffixes in English

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Morphological Processes

- Cliticization
- Reduplication
- Affixation
 - Suffixation
 - Prefixation
 - Infixation
 - Circumfixation
- Internal Change
- Suppletion
- Stress and Tone Changes
- Compounding
- Conversion
- Clipping
- Blends
- Backformation
- Acronyms
- Word Coinage

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Morphological Process Types

Concatenative

- Words are built by assembling morphemes in an additive, linear fashion
 - Suffixation
 - Prefixation
 - Cliticization
 - Reduplication

Nonconcatenative

- Words are built by nonlinear processes
 - Infixation
 - Root internal changes
 - Suppletion.

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Concatenative Morphology

Words are built by assembling morphemes in an additive, linear fashion. Ex: suffixation, prefixation, cliticization, reduplication (?).

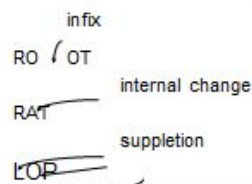
...Prefix + Root + clitic
Reduplicant + +suffix...

_____ + _____ + _____

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Nonconcatenative Morphology

Words are built by nonlinear processes. Ex: infixation, root internal changes, suppletion.



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Reduplication

A grammatical or semantic contrast is marked by repeating all or part of the root.

Tohono O'odham

Root		Reduplicated Form
gogs	'dog'	gogogs 'dogs'
haiwañ	'cow'	hahaiwañ 'cows'
kawyu	'horse'	kakawya 'horses'

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Inflection

The insertion of an affix inside its root.

	Root		Infixed form	
Tagalog:	bili	'buy'	b-in-ili	'bought'
	basa	'read'	b-in-asa	'read' (past)
	sulat	'write'		'wrote'
Arabic:	ktb	'write'	katab	'write'
			aktub	'be writing'
			uktab	'being written'

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Internal Change

Phonological changes in the root that cause a grammatical change.

Ablaut: past tense is signaled by vowel change.
⇒ sing/sang, drive/drove

Umlaut: plural is signaled by change in vowel.
⇒ goose/geese, foot/feet

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Suppletion

When one morpheme is replaced by an entirely different morpheme in order to indicate a grammatical contrast.

Basic Form		Suppletive Form
English:	go	went
Ute:	karu' 'sit SG'	yugwiyu 'sit PL'
Russian:	/xoroʃə/ 'good'	/lutʃʲə/ 'better'

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Stress and Tone Changes

Changes in stress or tone indicate a grammatical contrast.

	Noun		Verb
English:	ímport		impórt
	súbject		subjéct
Mono-Bili:	dá 'spanked'		dà 'will spank'
	wó 'killed'		wò 'will kill'

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Compounding (1)



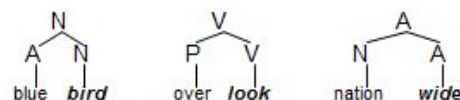
The combination of two or more existing words to create a new word. In English, compounding usually results in a N, V, or ADJ.

- Noun compounds: N+N = fire engine; A+N = bluebird; V+N = jumpsuit; P+N = afterthought
- Verb compounds: N+V = spoon feed; A+V = white wash; P+V = overlook; V+V = dropkick
- Adjective compounds: N+A = nationwide; A+A = redhot; P+A = overgrown

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Compounding (2)

The lexical category of the compound is most often determined by the rightmost morpheme.



The morpheme that determines the lexical category of the compound is referred to as its **head**.

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Compounding (3)


Compounding is recursive; i.e. larger compounds can be made from smaller ones.

pickled eggs jar lid

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Language Specificity (1)

Tagalog compounds are left-headed.



tubig ulan	tanod bayan	anak araw
water rain	guard town	child sun
'rain water'	'policeman'	'albino'

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Language Specificity (2)

Chukchee: forms compound verbs; process referred to as **incorporation**.

Without Incorporation	→	ta-pelarkən qorəŋə I leave reindeer 'I'm leaving the reindeer.'
With Incorporation	→	ta-qorə-pelarkən I reindeer-leave 'I'm in the process of reindeer-leaving.'

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Conversion/Zero Derivation

No affix is added; rather an already existing word is assigned to a new syntactic category.

V from N	N from V	V from A
ink	permit	dirty
butter	survey	right

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Clipping

Shortens a polysyllabic word by deleting one or more syllables.

<i>prof</i>	for	professor
<i>burger</i>	for	hamburger
<i>phys-ed</i>	for	physical education
<i>condo</i>	for	condominium

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Blends

Mixes together non-morphemic parts of two already existing words.

<i>brunch</i>	→	breakfast and lunch
<i>smog</i>	→	smoke and fog
<i>chunnel</i>	→	channel and tunnel
<i>spam</i>	→	spiced and ham

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Backformation

Removes a real or supposed affix from an already existing word.

<i>enthuse</i>	→	enthusiasm
<i>edit</i>	→	editor
<i>liposuct</i>	→	liposuction
<i>attrit</i>	→	attrition

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Acronyms

The initial letters of some or all of the words in a phrase are pronounced as a word.

laser	→	light amplification by stimulated emission of radiation
scuba	→	self-contained underwater breathing apparatus
NASA	→	National Aeronautics and Space Administration

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Word Coinage

Creation of new words, usually for a commercial purpose.

Kodak Teflon

Sometimes the process is so effective that the product name becomes the generic term.

Kleenex xerox saran wrap

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Linguistics for NA Communities

Morphology Type

1

What Morphological Process?

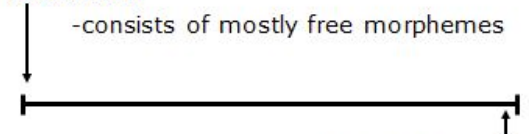
ran	->	run	_____
am	->	was	_____
wini	->	esa- wini -kači	_____
sing	->	sang	_____
go	->	went	_____
treat	->	pre-treat	_____
ka- -wa'->		ka -yenin- wa'	_____
suppletion		internal change	
infixation		prefixation	circumfixation

2

Language Morphological Types

ISOLATING

-consists of mostly free morphemes



POLYSYNTHETIC

-consists of many morphemes which
contain the meaning normally
found in one sentence

3

Language Type?

- English
- [a] run
- 1SG run
- 'I run.'

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Our Languages

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4

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