

Morphology - The Study of Word Structure

Words are the fundamental building blocks of language

Intuitively, learning a language learning words

Words may be the basis for the organization of language in the brain:

sound system words syntax

meaning

Despite their centrality, words aren't neatly defined:

Meaning: concrete purely syntactic
e.g. chair piece of pie

Sound: stressed unstressed
e.g. era ser want to eat

In fact, there is not a clear cut distinction between words & inflections

clitics lean on other words phonologically and semantically

e.g., take up a topic

Make a distinction between: free forms & bound forms
 occur in isolation must be attached
 no fixed position

Traditionally morphology classes practice identifying morphemes:

nu-tz'i? a-tz'i? u-tz'i?
my-dog your-dog his/her-dog

Identification is made more difficult by allomorphs-variant forms of morphemes:

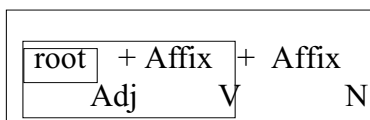
w-al aw-al r-al
my-son your-son her-son (*al* only used by females)

We'll deal with this complication later.

Words may be simple or complex

Complex words have an internal structure - they are not just random assortments of morphemes, e.g., rationalization

This word contains several affixes. Affixes specify the lexical category of the words they attach to (e.g., N or V). Removing all the affixes from a word leaves the root - the simplest form.



Roots are not necessarily words. Stems are actual words that affixes may be added to.

Need to predict word structure with rules. Specify lexical entries in some detail:

Words enter

form: [ɛntr̩]

meaning: [GO [] [TO [IN []]]]
 Event Thing Path Place Thing

lexical category: V

subcategory: (can take a direct object) [___ (NP)]

Affixes un-

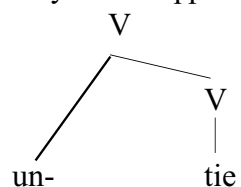
form: [ʌn]

meaning: reverse/opposite? (not un- Adj, meaning **not**)

lexical category: V

subcategory: must attach to V [___ [V]]

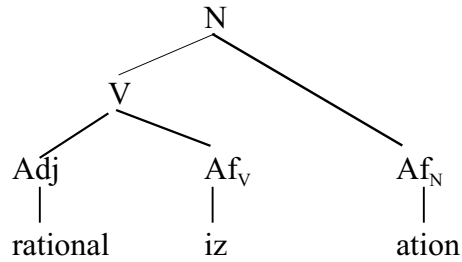
We need to specify what happens when we attach affixes to words:



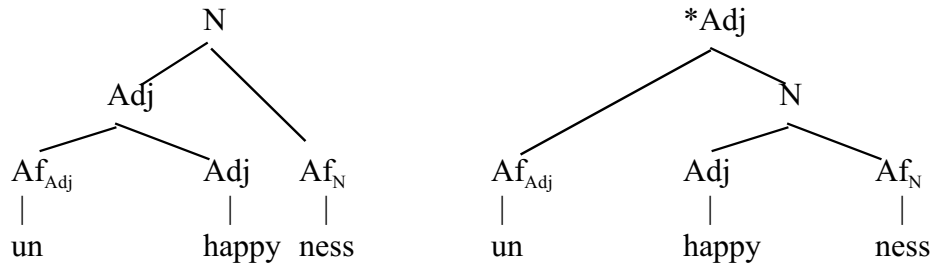
Both morphemes belong to particular lexical categories. What determines the category of the derived word? - the head - the main part of a word or phrase

The evidence shows that the affixes are the heads

This process is known as “feature percolation”. It passes features from node to node.

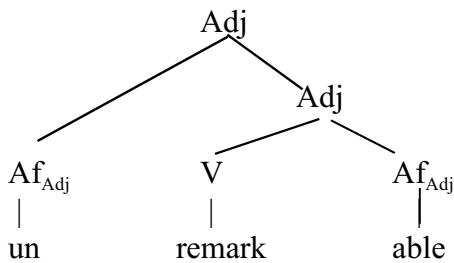


Another example show how to determine word structure:

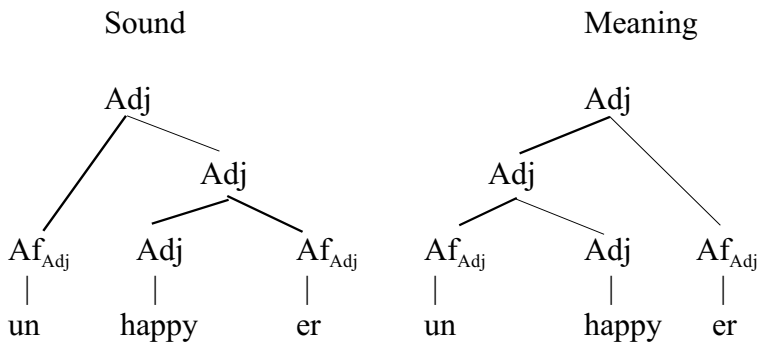


Since *un-* doesn't combine with most nouns, except for *uncola!*

Compare these with:



Also find differences between sound & meaning (Lieber, p. 148):



-er only attaches to 1 or 2 words, e.g.,
redder, purer
happier, drippier

It means "more unhappy", not
"not more happy"
e.g., 'happy, but not more happy'

*eloquenter, *fidgetier

This is an example of a Bracketing Paradox

Try drawing a diagram of the morphological structure for the words:

reconstruction misunderstandable insincerity oversimplification

The many different types of affixes:

1. prefixation: affix attached to the front of its base/stem, e.g., disappear, replay
2. suffixation: e.g., sits, distribution, hunter
3. infixation: affix attached inside root, e.g., abso-blooming-lutely, guaran-damn-tee

Tagalog - Philippine

Root	Infix	Infix form
takbuh 'run'	tumakbuh	'ran'
lakad 'walk'	lumakad	'walked'

4. Reduplication: duplicate base

a. full reduplication, e.g.,

Indonesian	oraṅ	'man'	oraṅoraṅ	'all sorts of men'
	anak	'child'	anakanak	'all sorts of children'

b. partial reduplication, e.g.,

Tagalog	takbuh	'run'	tatakbuh	'will run'
	lakad	'walk'	lalakad	'will walk'

5. conversion/zero-derivation: no overt marker, e.g., report, butter, fish

6. Ablaut: replacement of a vowel

Stem	Noun	
sing	song	
abide	abode	Vestige of an earlier stage of English
shoot	shot	

7. circumfixation: discontinuous affixes, e.g.,

Dutch	ge ... t		
	het been	'the bone'	het gebeente 'the skeleton'
	de berg	'the mountain'	het gebergte 'the mountains'

8. suppletion: wholesale replacement, e.g.,
English be, am, was; go, went

Compounding introduces a number of analytical issues:

1. What lexical classes can we combine to produce compounds?

Noun + Noun	towel rack, windmill, comfort station
Adjective + Noun	blackbird, numbskull, shorthand
Noun + Verb	muckrake
Preposition + Verb	overdo, underscore, outrun
etc.?	

2. How do we derive the meaning of a compound?

The meaning of an **endocentric compound** is based on the meaning of the compound's head, e.g.,

girlfriend is a kind of friend blackboard is a kind of board

The meaning of an **exocentric compound** cannot be derived from the compound's head, e.g.,
couch potato redneck cheapskate greenhorn

3. How do we inflect compounds (Pinker, The Language Instinct, p. 143)?

What is the plural form of:	What is the past tense form of:
workman	overdo
sawtooth	outrun
low-life	fly out
flatfoot	grandstand

Free morphemes seem to encode more important meanings than bound morphemes.

But languages don't make the same distinctions. Free morphemes in English can be bound in other languages, e.g.,

Hare (Athabaskan - Canada NW), inalienable possession
sefi 'my head' (never just *fi 'head')
nebe 'your belly' (never just *be 'belly')

Some bound forms in English are free in other languages, e.g., past tense -ed

Mandarin	Ta chi le fan	Ta chi fan le
	He eat past meal	He eat meal past
	'He ate the meal'	'He ate the meal'

If a morpheme refers to an object or action, it is less likely to be an affix (bound morpheme)

Still face the question of what human languages can encode as affixes

Some of the more common affixes encode: aspect, tense, mood, voice, number, person, case

What would not occur? A temperature affix - above freezing

a 'good vibes' affix - approach/avoid

a 'sea level' affix - above/below

Find cross-linguistic differences in what inflections languages require:

When we observe an object of the type that we call a "stone" moving through space towards the earth, we involuntarily analyse the phenomenon into two concrete notions, that of a stone and that of an act of falling, and, relating these two notions to each other by certain formal methods proper to English, we declare that "the stone falls." We assume, naively enough, that this is about the only analysis that can be properly made. [However], in German and in French we are compelled to assign "stone" to a gender category... in Chippewa we cannot express ourselves without bringing in the apparently irrelevant fact that a stone is in inanimate object. If we find gender beside the point, the Russians may wonder why we consider it necessary to specify in every case whether a stone, or any other object for that matter, is conceived in a definite or an indefinite manner, why the difference between "the stone" and "a stone" matters. "Stone falls" is good enough for Lenin, as it was good enough for Cicero. And if we find barbarous the neglect of the distinction as to definiteness, the Kwakiutl Indian of British Columbia may sympathize with us but wonder why we do not go a step further and indicate in some way whether the stone is visible or invisible to the speaker at the moment of speaking, and whether it is nearest to the speaker, the person addressed, or some third party. "That would no doubt sound fine in Kwakiutl, but we are too busy!" ... The Chinese get on with a minimum of explicit formal statement and content themselves with a frugal "stone fall". (Sapir 1949: 157 in D. G. Mandelbaum, ed.)

It is hard to draw a definite boundary that determines what notions cannot be expressed as affixes.

Nootka, spoken on Vancouver Island (Sapir 1915), has a verb affix for talking to or about various classes of people, e.g., children, unusually fat or heavy people, unusually short adults, those suffering from some defect of the eye, hunchbacks, those that are lame, left-handed people, and circumscribed males

All require distinct affixes, e.g., -aq' 'unusually big or fat'
hint'ciLweʔinⁱ 'He comes, it is said'
weʔinⁱ 'I am quoting someone'

for a fat person:

hin-t'-ciL-aq'-weʔinⁱ
be/do-come-starts-'you are fat'-quote 'Someone fat comes, it is said'

Another language from the Northwest Coast, Columbian Salish, has a set of verb affixes for body parts and other entities.

na-k'əs=lwás
bad=heart/chest 'mean person'

t-q'il=lwás
sick=heart/chest 'suffer'

s-x^wiy=ánaʔ
sharp=ear 'cactus'

k'†-mər'k^w=cin=ákst
under-sprain=mouth=hand 'sprain wrist'

tʃ^w-ʃ^wʔ'-ápl'aʔ
hole-handle 'needle'

n-xaʔ-amx-cin
loc-here-people-mouth 'Columbian Salish'

Linguists make rough distinctions between languages based on their type of morphology. You can classify languages along a scale of **synthesis**, e.g.,

Analytic or **isolating** languages have few if any bound inflectional morphemes

Vietnamese

khi tôi đến nhà bạn tôi, chúng tôi bắt đầu làm bài

when I come house friend I, PLURAL I begin do lesson
'When I came to my friend's house, we began to do lessons.'

Synthetic languages have bound inflectional morphemes. There are two types of synthesis:

Agglutinating languages are synthetic languages with clear boundaries between bound morphemes

Beja

tam-y-aa-n-ee-t
eat-3sing-past-plural-relative_clause-feminine_object
'(food) which they ate'

rih-y-aa-n-hook
see-3sing-past-plural-2per_object
'They saw you'

Fusional languages are synthetic languages in which a single morpheme encodes several functions

Russian

	stol 'table'		lipa 'lime tree'	
Declension	Ia		II	
	Sing	Plural	Sing	Plural
Nominative	stol	stol-y	lip-a	lip-y
Accusative	stol	stol-y	lip-u	lip-y
Genitive	stol-a	stol-ov	lip-y	lip
Dative	stol-u	stol-am	lip-e	lip-am

Polysynthetic languages combine nouns, verbs, etc. into a single word

Siberian Yupik

angya-ghlla-ng-yuq-tuq
boat-augmentative-acquire-desiderative-3sing
'He wants to acquire a big boat'

N.B., Languages do not exhibit a single type of synthesis. English is mostly analytic, but has some fusional affixes, and even some polysynthesis!

e.g., We went bird-watching yesterday.

Languages also have different types of verb agreement or case systems

Accusative (Turkish)

TV Adam- \emptyset ev-i Ahmed-e göster-di
man-Nom house-Acc Ahmed-Dat show-past
'The man showed the house to Ahmed'

IV Adam- \emptyset ev-de kal-di
man-Nom house-Loc stay-past
'The man stayed in the house'

Ergative (Yidin^y)

TV Wagudya-ngu dyugi- \emptyset gundal
man-Erg tree-Abs is cutting
'The man is cutting the tree'

IV Wagudya- \emptyset gundal
man-Abs is cutting
'The man is cutting'

Accusative Languages

Nominative

Subject of TV
Subject of IV

Accusative

Object of TV

Ergative Languages

Ergative

Subject of TV

Absolutive

Object of TV
Subject of IV

Active (Eastern Pomo, Sally McLendon 1978 IJAL)

mí:p' mí:pal šá:k'a
he-A him-O killed
'He killed him.'

mí:p' káluhuya
he-A went-home
'He went home.'

há: c'e:xélka
I-A slide
'I'm sliding (on purpose)'

mí:pal xá: ba:kú:ma
he-O in₁ water fell
'He fell in the water'

wí c'e:xélka
I-O slide
'I'm slipping (accidentally)'

Dependant-Marked Languages (Turkish and Yidin^y)

Head-Marked Languages (K'iche')

TV k-θ-u-paq'i:j le: che:? le: achih
Asp-Abs-Erg-split the board the man
'The man is splitting the board'

IV k-θ-paq'i:n le: che:?
Asp-Abs-split the board
'The board is splitting'

ZOQUE

Zoque is a Native American language spoken by approximately 5,000 people in Chiapas, Mexico. Linguists prize it for the complexity of its phonological rules. Identify the underlying forms of the morphemes in the following data from Copainalá Zoque. The symbol [ɨ] represents a high central vowel and the symbol [j] represents a voiceless velar fricative. At least three phonological processes are involved in deriving these surface representations. What are they?

1. popya	'he/she runs.'	9. poya	'Run!'
2. minba	'he/she comes.'	10. miniɨ	'Come!'
3. maŋba	'he/she goes.'	11. mawɨ	'Go!'
4. kenba	'he/she looks.'	12. kena	'Look!'
5. japya	'he/she writes.'	13. jayɨ	'Write!'
6. siŋba	'It swells.'	14. siwɨ	'Swell!'
7. putpa	'He/she leaves'	15. putɨ	'Leave!'
8. jemba	'he/she swims.'	16. jema	'Swim!'

Write a phonological rule for each of the three phonological processes you identified.