

## 1. Morphology

### 1.1. How to do morphological analysis (or any other kind of linguistic analysis)

Morphology is the study of word formation – how words are built up from smaller pieces. When we do morphological analysis, then, we're asking questions like, what pieces does this word have? What does each of them mean? How are they combined?

In general, when you're asked to do any sort of linguistic analysis, you'll be given a set of data – words or sentences from some language that generally isn't, but occasionally is, English – and asked to find patterns in it.

Cree (Algonquian)	
tʃi:ma:n	canoe
nitʃi:ma:n	my canoe
so:niya	money
niso:niya	my money
wiya: ʃ	meat
niwiya: ʃ	my meat

How to do morphological analysis?

When you don't know anything about the language:

- Find a pair of words whose English translations differ only in a single way that's relevant to the task at hand.
- Find the corresponding difference in the non-English words – often some letters will be added, or the word will be changed in some systematic other way. Making this change in the non-English word therefore produces the relevant change in the English meaning.
- Check your theory: find another pair of foreign words whose English translations also differ only in this relevant way, and make sure this pair of foreign words change in the same way as the last.

We'll encounter kinds of morphology that are more complex than this, but this basic method of looking for forms with minimal differences and figuring out how to describe that difference is always a good approach.

## 1.2. Types of morphemes

Morpheme A morpheme is the smallest unit of meaning we have – that is, the smallest piece of a word that contributes meaning to a word.

Example The word *trainings* has 3 morphemes in it: *train-ing-s*.

To break a word into morphemes, try starting at the beginning of the word and seeing how far into the word you need to go to find a sub-part of the word that has some meaning. For example, in the word *unbreakable*, the first two letters *un-* are independently meaningful in a way that just the first letter, *u-*, is not – *un-* means something like ‘not (whatever)’, and changes the meaning of the word it attaches to in a predictable way; sub-parts of *un-*, like *u-* or *-n-*, don’t have this property. This means that *un-* is a morpheme.

Once you’ve found the first morpheme, ask yourself whether there’s another meaningful sub-part of the word after that first morpheme. Again, *-break-* is independently meaningful; so is the last part of the word, *-able*. So *unbreakable* has three morphemes: *un-break-able*. Some words just have one morpheme, of course – you can’t break down the word *love* into any meaningful sub-parts, for example. We define different kinds of morphemes based on various properties like where they show up in words. All morphemes are either free or bound.

Free A free morpheme is one that can stand on its own – that is, it’s an entire word.

Examples *the, cat, run, pretty, trapezoid*

Free morphemes may appear with other bound morphemes attached to them; crucially, though, they don’t need to have other morphemes on them.

Bound A bound morpheme cannot stand on its own, but rather must be attached to a free morpheme whenever you say it.

Examples *re-, un-, -est, -er, -fer* (see below)

Some morphemes are roots; others are affixes.

Root The primary piece of meaning in a word, to which affixes can be added. In English, a root is often a word itself.

Examples *cat, pretty, -fer*

Affix A morpheme which attaches to roots (or stems), changing their meaning in regular ways.

Examples *re-*, *un-*, *-est*, *-er*, *ing*, *-s*

Affixes are generally either prefixes or suffixes.

Prefix

An affix that goes before a root.

Examples *re-*, *un-* (*re-read*, *un-loved*)

Suffix

An affix that goes after a root.

Examples *-est*, *-er*, *-s* (*quick-est*, *quick-er*, *read-s*, *book-s*)

! Null morpheme:

In morpheme-based morphology, a null morpheme is a morpheme that is realized by a phonologically null affix (an empty string of phonological segments). In simpler terms, a null morpheme is an "invisible" affix. It's also called zero morpheme.

The null morpheme is represented as either the figure zero ( $\emptyset$ ), the empty set symbol  $\emptyset$ .

Example:

The existence of a null morpheme in a word can also be theorized by contrast with other forms of the same word showing alternate morphemes. For example, the singular number of English nouns is shown by a null morpheme that contrasts with the plural morpheme *-s*.

*cat* = *cat* +  $-\emptyset$  = ROOT ("cat") + SINGULAR

*cats* = *cat* + *-s* = ROOT ("cat") + PLURAL

### 1.3 Finding morphemes in other languages

Linguists study languages they don't speak. We are going to study how to do morphology in other languages, i.e. how to decompose a word into morpheme.

You got already an idea from the example in Cree we saw above. Let's do more.

Ex 1: French. How is the noun formed from the Adjective?

[kɔ̃form] conforme (adj.) 'conform'

[kɔ̃formite] conformité (noun) 'conformity'

[legal] légal (adj.) 'legal'

[legalite] légalité (noun) 'legality'

[leʒitim] légitime (adj.) 'legitimate'

[leʒitimite] légitimité (noun) 'legitimacy'

Ex 2: Michoacan Aztec: find every single morpheme in the data below.

1. nokali	'my house'	9. mopelomes	'your dogs'
2. nokalimes	'my houses'	10. ipelo	'his dog'
3. mokali	'your house'	11. pelo	'dog'
4. ikali	'his house'	12. nokwahmili	'my cornfield'
5. kali	'house'	13. mokwahmili	'your cornfield'
6. kalimes	'houses'	14. ikwahmili	'his cornfield'
7. nopelo	'my dog'	15. ikwahmilimes	'his cornfields'
8. mopelo	'your dog'	16. kwahmili	'cornfield'

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How to proceed:

- **Find a pair of words whose English translations** differ only in a single way that's relevant to the task at hand.
- **Find the corresponding difference in the non-English words** – often some letters will be added, or the word will be changed in some systematic other way. Making this change in the non-English word therefore produces the relevant change in the English meaning.
- **Check your theory:** find another pair of foreign words whose English translations also differ only in this relevant way, and make sure this pair of foreign words change in the same way as the last.

### Ex 3: Isleta

Consider the following data from Isleta (a Native American language spoken in New Mexico), and then answer the questions that follow:

- a. temiban 'I went.'      d. mimiay 'He was going.'
- b. amiban 'You went.'      e. tewanban 'I came.'
- c. temiwe 'I am going.'      f. tewanhi 'I will come.'

I. List the Isleta morphemes corresponding to the following English translations:

- (a) I \_\_\_\_\_ (d) come \_\_\_\_\_ (h) future \_\_\_\_\_  
(b) he \_\_\_\_\_ (e) go \_\_\_\_\_ (i) past \_\_\_\_\_  
(c) you \_\_\_\_\_ (f) present progressive (is ... -ing) \_\_\_\_\_  
g) past progressive (was ... -ing) \_\_\_\_\_

II. What is the **order** of morphemes in Isleta?

III. Write a rule that produces in Isleta the second person singular subject ( “You \_\_\_\_\_ “).

IV. Translate each of the following sentences in to Isleta:

- (a) He went.  
(b) I will go.  
(c) You were coming.

#### **1.4 Word formation process in English**

The affixes we just talk about are distinctive in one more way.

They are acting in a particular way when attached to the base.

Either they are giving grammatical information or they are creating a new word.

**INFLECTION** = the process by which affixes combine with roots to indicate basic grammatical categories such as tense or plurality (e.g. in 'cat-s', 'talk-ed', '-s' and 'd'-ed' are inflectional suffixes). Inflection is viewed as the process of adding very general meanings to existing words, not as the creation of new words.

**DERIVATION** = the process by which affixes combine with roots to create new words (e.g. in 'modern-ize', 'read-er', '-ize' and '-er' are derivational suffixes). Derivation is viewed as using existing words to make new words.

Table 1: Inflectional categories and affixes of English

Word class to which inflection applies	Inflectional category	Regular affix used to express category
<u>Nouns</u>	Number	-s, -es: book/books, bush/bushes
.	Possessive	-'s, -': the cat's tail, Charles' toe
<u>Verbs</u>	3rd person singular present	-s, -es: it rains, Karen writes, the water sloshes
past tense	-ed: paint/painted	
. perfect aspect	-ed: paint/painted ('has painted) (past participle)	
. progressive or continuous aspect	-ing: fall/falling, write/writing (present participle)	
<u>Adjectives</u> comparative (comparing two items)	er: tall/taller	
. superlative (comparing +2 items)	est: tall/tallest	

Ex 4: Morpheme zero in French versus English

Je mange [ʒəmãʒ]	1ere pers sg	Nous mangeons [numãʒõ]	1ere pers pl
Tu manges [tymãʒ]	2e pers sg	Vous mangez [vumãʒe]	2e pers pl
Il mange [ilmãʒ]	3e pers sg	Ils mangent [ilmãʒ]	3e pers pl

What about English? Can you draw a comparison?

There is another way to create new words:

**COMPOUND WORD:** a word that is formed from two or more simple or complex words (e.g. landlord, red-hot, window cleaner).

It is probably the most common one in today's English because it is so productively used in technical languages. Compounding is a process whereby two or more individual words are combined as one word. Here are a few examples: *beginning intersect point*, *exit light fixture symbol*, *column centerline grid*, *default Project Architect support directory*, and *delete project menu*. The last example even has a verb (*delete*) in it.

### 1.5 Morphological rules

When you're doing morphological analysis, you'll be asked to report your results in various ways. Sometimes you'll be asked to tell whether various morphemes are free or bound, roots or affixes, prefixes or suffixes, etc. Other times, you'll be asked to write rules that explain how words are built out of morphemes.

The point of writing a rule is to describe exactly what's going on morphologically in



## 1.6 Parts of Speech

You've probably heard definitions for parts of speech like this: "A noun is a person, place, thing, or idea" or "A verb is an action word." That's lovely, but they're slippery definitions – we generally agree that a word like *appetite* is a noun, but it's not really a person, place, thing, or idea; similarly, *seem* is a verb, but it's not really an action word. So instead of these meaning-based definitions of parts of speech, in this class we'll use structural definitions – that is, definitions based on the structure of a word, and/or its position in a sentence structure.

	NOUN	VERB
<b>Affixes it may have</b>	-er/-or <i>owner, actor</i> -ity <i>brevity, solemnity</i> -ment <i>government</i> -ness <i>happiness</i> -(t)ion <i>vision, rendition</i>	-ate <i>designate, appreciate</i> -ify <i>terrify</i> -ize <i>unionize</i> -en <i>darken, lighten</i> en- <i>enroll, ennoble</i>
<b>Affixes it can take</b>	plural –s <i>chairs, appetites</i> possessive –'s <i>chair's, appetite's</i>	past –ed <i>played</i> present –ing <i>playing</i>
<b>Syntactic position</b>	May follow a determiner, or a determiner and an adjective <i>the (big) chair</i> <i>my (first) car</i>	May follow <i>to</i> , as an infinitive <i>to play, to terrify</i> May follow an auxiliary <i>should play, can play</i>

	ADJECTIVE	ADVERB
<b>Affixes it may have</b>	-able <i>readable, edible</i> -ed <i>frightened</i> -ish <i>childish</i> -ive <i>defective</i> -y <i>sandy, hairy</i>	Usually has the suffix –ly. <i>slowly, occasionally, terribly</i>
<b>Affixes it can take</b>	comparative –er <i>taller, shorter</i> superlative –est <i>tallest, shortest</i>	
<b>Syntactic position</b>	May appear between a determiner and a noun <i>the big chair, my first car</i> May appear after <i>seemed</i> <i>the chair seemed big</i> <i>the wolf seemed hairy</i>	May appear after <i>he did it</i> <i>he did it slowly</i> Cannot appear after <i>seemed</i> <i>*the chair seemed slowly</i>

There are a few other English parts of speech that we'll talk about:

### **Determiner**

Syntactic position

Before a noun (and adjective, if one precedes the noun); only one determiner can precede a single noun (*\*the a car*).

*The cat sat on my favorite chair.*

Examples *the, a, my, your, his, her, its, our, their, this, that, those, some, all, every, one, two, three...*

### **Auxiliary**

Syntactic position

Before a verb; no more than three auxiliaries may appear before a single verb.

*I could have been lying on the beach right now.*

Examples *be (is/am/are/were/being...), have (has/had/having...), can, could, may, might, will, would, shall, should, must*

### **Pronoun**

Syntactic position

In a position normally occupied by an entire noun phrase

*I want you to go to him and get it tomorrow.*

Examples *I, me, mine, we, us, ours, you, yours, he, him, his, she, her, hers, it, its, they, them, theirs, one...*

### **Preposition**

Syntactic position

Before a noun phrase; usually only one preposition can precede a single noun phrase (*\*on above the desk*).

*Before the ice age, dinosaurs wandered across the earth.*

Examples *about, above, across, after, against, among, around, ago, as, at, before, behind, below, beside, between, but, by, despite, down, during, for, from, in, inside, into, off, on, out, over, past, since, than, through, to, toward, under, until, up, with, without...*

## 1.7 A few other word formations

### a. Reduplication

Schm- reduplication is a form of reduplication in which the original word or its first syllable (the base) is repeated with the copy (the reduplicant) beginning with schm-, IPA [ʃm]. The construction is generally used to **indicate irony, derision or scepticism** with respect to comments about the discussed object:

He's just a baby!

Baby-schmaby. He's already 5 years old!

Exercise 1:

#### Indonesian

rumah	'house'	rumahrumah	'houses'
ibu	'mother'	ibuibu	'mothers'
lalat	'fly'	lalatalat	'flies'

1. What is the Indonesian rule for forming plurals?

bili	'buy'	bibili	'will buy'
kain	'eat'	kakain	'will eat'
pasok	'enter'	papasok	'will enter'

2. What is the Indonesian rule for forming the future tense?

#### Exercise 2: English

1. Which of the following words does it sound natural to apply schm-reduplication to? (If you don't use or hear these expressions yourself, ask someone who does.)

revenge	pirouette	ballerina	indiscretion
poster	Alabama	bartender	butterfly
dance	banana	police	complaint
apple	map	table	survey

2. What do the words that take schm- easily have in common?



Other expletives may be substituted if you and/or the informant are offended by this one (flippin' and friggin' are popular substitutes).

Once you've established that your informant is familiar with this process, you should elicit some data. Random selection of words is unlikely to yield much insight. Instead, you need to proceed systematically. For example, go through the following list of words with the informant, and ask whether the result is good or not when the expletive is placed in each of the spots indicated by a hyphen:

fan-ta-stic  
a-bra-ca-da-bra  
A-la-ba-ma  
ca-ta-ma-ran  
se-ren-di-pi-ty  
a-po-stro-phe  
can-teen

Ask the informant to grade his/her judgments on a 1-2-3 scale, where 1="fine", 3="horrible", and 2 is somewhere in between. Report your results as follows:

a-bracadabra      3 (i.e., the informant thinks "a-fuckin-bracadabra" is horrible)

abra-cadabra      1 (i.e., the informant thinks "abra-fuckin-cadabra" is fine)

Be sure the informant says the word aloud before passing judgment. Also, make sure that the informant is familiar with the uninfixed word and how it is pronounced.

Now comes the hard and interesting part. What's the generalization? Look over the cases that all have a 1. Do they have anything in common? What about the cases that all have a 3? Do they have anything in common? When searching for commonalities, be sure to consider the syllables that immediately precede and immediately follow the expletive.