

Morphology

Carve every word before you let it fall.

—OLIVER WENDELL HOLMES SR.

Morphology

- Study of words and word formation
- Example: how we form plurals:
 - cat → cats
 - meemeet → meemeets

Words

- Word = smallest free form
- Free = not fixed to a certain position
 - Rhino is weird.
 - Is Rhino weird?
- “Rhino” is a word



Words

- What about this?
 - Bolt runs.
 - *-S Bolt run.
- “-S” ≠ word



Isolation

- Words can occur in isolation
 - Person A: What movie did you watch?
 - Person B: Bolt.
 - Person A: Cool.
- “Bolt” and “cool” are words.

Isolation

- What about this?
 - Person A: What movie did you watch?
 - Person B: -S.
 - Person A: What? That's not a word!
- “-S” ≠ word

Isolation

- A word must be a free form
- Doesn't have to be isolated:
 - Person A: Are they happy?
 - Person B: *Are.

Morphemes

- Words sometimes have smaller parts
- Called morphemes
- Morpheme = smallest unit of meaning

Morphemes

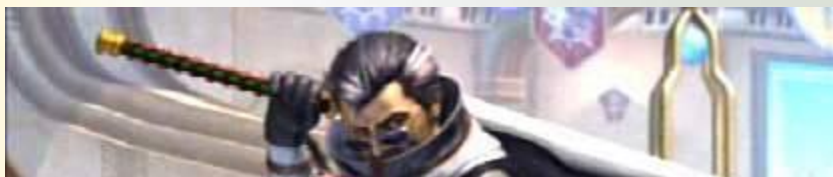
- Teacher = teach + er
- “Teach” w/ a meaning of giving knowledge
- “er” makes the verb a noun meaning someone who does the verb (someone who teaches)

Morphemes

- Languages = ?
- Languages = language + s
 - “language” meaning medium of communication
 - “s” makes the noun plural

Morphemes

- Human = ?
- Is it “hu” + “man”?



Hu



man

Morphemes

- Or “human”?

Auron (Human)



Morphemes

- Some words are morphemes
- “Human” is a word of one morpheme
- One morpheme words are simple words
- Two or more morpheme words are complex words

Morphemes

- No single part of “human” contributes to its meaning
- i.e., “hu”, “hum”, “huma”, “u”, “um”, “uma”, “uman”, “m”, “ma”, “man”, “a”, “an”, “n” have no meaning related to “human”

Morphemes

- Free and bound
- Free morphemes can be isolated
 - Trains = train + s
- Bound morphemes cannot
 - Trains = train + s

Allomorphs

- Different forms of a morpheme
- “a” and “an”

Complex Words

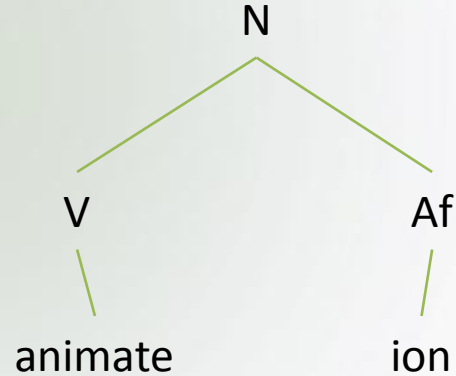
- Typically contain root morpheme and affixes
- Root types (lexical categories) include
 - Noun (N)
 - Verb (V)
 - Adjective (A)

Affixes

- = Bound morphemes
- Attached to base
- If before, then prefix
- If after, then suffix

Affixes

- Animation = animate + ion
- “animate” = root/base
- “ion” = affix (suffix)



Infixes

- Affix inside of a morpheme = infix
- Very rare in English

Infixes

- Example infix: frickin'
- Massachusetts + frickin' (as infix):
 - Massafrickinchusetts
- Commercial + frickin' (as infix):
 - Comfrickinmercial

Infixes

- Is there a rule for where “frickin” is placed?
- More examples:
 - *Massachufrickinsetts
 - *Commerfrickincial
 - Alafrickinbama
 - Gifrickinraffe
 - Mofrickinzilla

Infixes

- “Frickin’” infix placed before primary stress
- So...
 - Introfrickinduction
- But!
 - Frickininfixes (“prefix”)

Infixes

- Tagalog infixes:
 - sulat “write” → s + in + ulat → sinulat “wrote”
- Arabic infixes:
 - katab “write” → k + u + t + i + b → kutib “wrote”

Derivation

- Process of word creation from affixes
- Common derivational affixes:
 - -er
 - -able
 - -ize
 - anti-
 - in-

Derivation

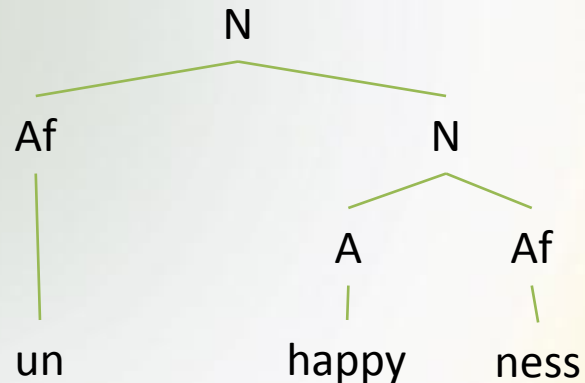
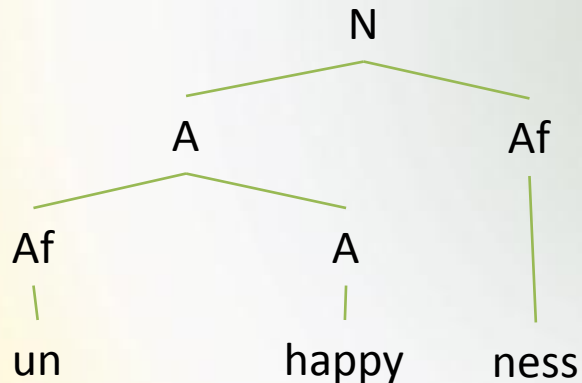
- Deconstruct “worker”:
 - work (?) + er (Af → N)
- Is “work” the verb (V) or the noun (N)?

Derivation

- Compare with other –er derived words
- Teacher
 - teach (V) + er (Af → N)
- Runner
 - run (V) + er (Af → N)
- “Teach” and “run” = verbs → “Work” = verb

Complex Derivation

- Consider “unhappiness”
- Which is correct?

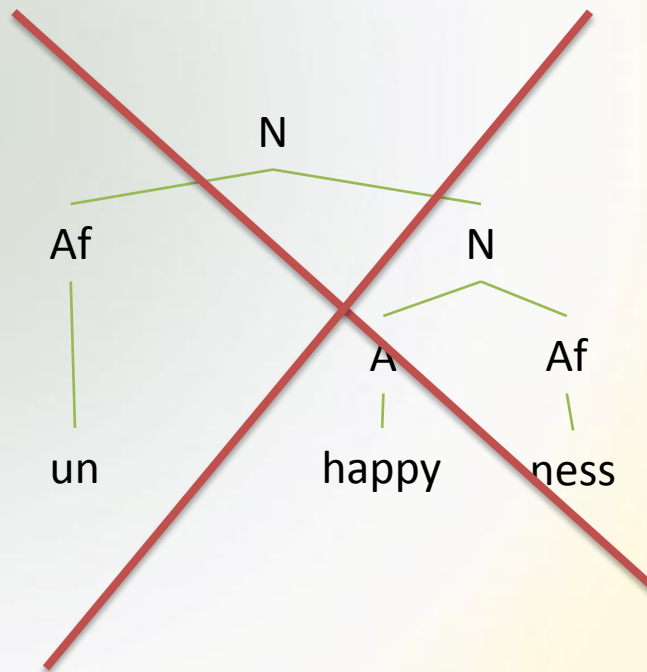
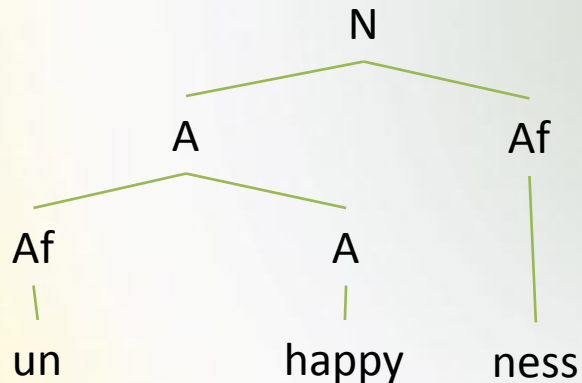


Complex Derivation

- Compare with other words:
- Un + knowledgeable (A) → unknowledgeable
- Un + knowledge (N) → *unknowledge

Complex Derivation

- “Un” combines with adjectives, NOT nouns



Compounds

- A compound word is a combination of two or more words
- Slide show = slide (N) + show (N)
- Snow white = snow (N) + white (A)

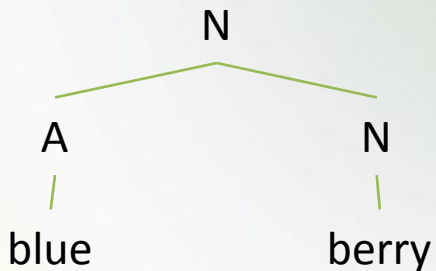


Compounds

- Every compound has a head
- It determines the lexical category (noun, adjective, etc.)

Compounds

- Blueberry = blue (A) + berry (N)
- “berry” is the head → makes the compound a noun



Compounds

- So is “blueberry” a “blue” berry?
- Or is it a “blueberry”

Not blue!



Compounds

- Compounds vs. non-compounds
- Depends on stress

- blueberry = blúeberry
- blue berry = bluebérry

Compounds

- Wisdom tooth = a type of tooth
- Wisdom tooth is an endocentric compound
- Endocentric compounds are subtypes of the head



Compounds

- Saber tooth = a type of BIG cat
- Saber tooth \neq a type of tooth
- saber tooth is an exocentric compound

- Exocentric compounds are not subtypes of the head



Compounds

- Major difference in endo- and exocentric compounds
- Wisdom tooth (sing.) → wisdom teeth (pl.)
- BUT!
- Saber tooth (sing.) → Saber teeths (pl.)

Incorporation

- Process of creating compound verbs
- In Chukchee:

Without incorporation	With incorporation
tə-pelaɯkən qoraŋə.	tə-qora-pelaɯkən
I-leave reindeer	I-reindeer-leave
“I’m leaving the reindeer.”	“I’m in the process of reindeer leaving.”

Inflection

- Process of word change to express change in grammatical info
- i.e., cat → cats
- Addition of “s” suffix makes “cat” plural



Inflection

<u>Number</u> → Person ↓	Singular	Plural
First	I love	we love
Second	you love	y'all love
Third	he loves <u>es</u>	they love

Inflection

- English has weak inflection system
- Look at French:

Inflection

<u>Number</u> → Person ↓	Singular	Plural
First	j'aime (je + aime)	nous aimons
Second	tu aimes	Vous aimez
Third	il/elle aime	ils/elles aiment

Inflection

- Inflection does not change lexical category
- Derivation might change lexical category

Inflection

- Marked by:
 - Affixes
 - Ablaut
 - Tone change
 - Suppletion
 - Reduplication

Ablaut

- Vowel change within a word to reflect grammatical change
- Sing (pres.) → sang (past)
- Goose (sing.) → geese (pl.)



Tone Change

- In Mono-Bili:
 - dá “spanked” → dà “will spank”
 - zí “ate” → zì “will eat”
- High tone = past
- Low tone = future

Suppletion

- Complete word change:
 - Spanish: voy “I am going” → fui “I went”
 - German: ist “is” → sind “are”

Reduplication

- Turkish:
 - javaɟ “slowly” → javaɟ javaɟ “very slowly”
 - Full reduplication
- Tagalog:
 - takbuh “run” → tatakbuɦ “will run”
 - Partial reduplication

Summary

- Morphology = study of words and word formation
- Words made up of morphemes
- Affixes make complex words
- Compounds made up of 2+ words
- Inflection = morphological change to reflect grammatical change

NT: Phonetics

- /'stʌ.diɪ ʌv səʊndz/
 - Study of sounds!
- /nɛkst tʰaɪm juʊt lɜ:n ðə aɪ pʰiɪ eɪ/
 - Next time you'll learn the IPA
(International Phonetic Alphabet)
- [nɛkst kʰl̩æ̩s ɪz ðn 'eɪ.pʰɪɪt̩ fɔɪθ]
 - Next class is on April 4th

LOTW: Sanskrit

संस्कृतम् saṃskṛtam



LOTW: Statistics

- ~14,000 speakers
- ?th largest by speakers
- 1500BCE - ?
- Spoken in Mattur, India and other places
- One of 22 official languages of India

LOTW: Classification

- Indo-European → Indo-Iranian → Indo-Aryan
- Devanāgarī script / Latin alphabet
- Sanskrit refers to “saṃskṛtā vāk”, the cultured language

LOTW: History

- Migration theory ~2000 BCE to India/Pakistan
- Earliest text is the Hindu text, *Rigveda*
- ~1500 BCE = Vedic Sanskrit
- ~1000 BCE = Classical Sanskrit
- Spoken language died some ~2000 years later

LOTW: Written Sample

वैश्वानरस्य सुमतौ स्याम राजा हि कं भुवनानामभिः
इतो जातो विश्वमिदं वि चष्टे वैश्वानरो यतते सूर्येण
पृष्टो दिवि पृष्टो अग्निः पृथिव्यां पृष्टो विश्वा औषधीरा विवेश
वैश्वानरः सहसा पृष्टो अग्निः स नो दिवा स रिषः पातु नक्तम
वैश्वानर तव तत सत्यमस्त्वस्मान रायो मघवानः सचन्ताम
तन नो ...

vaiśvānarasya sumatau syāma rājā hi kaṃ bhuvanānāmabhiḥ
ito jāto viśvamidaṃ vi caṣṭe vaiśvānaro yataṭe sūryeṇa
pṛṣṭo divi pṛṣṭo aghniḥ pṛthivyāṃ pṛṣṭo viśvā oṣadhīrā viveśa
vaiśvānaraḥ sahasā pṛṣṭo aghniḥ sa no divā sa riṣaḥ pātu naktam
vaiśvānara tava tat satyamastvasmān rāyo maghavānaḥ sacantām
tan no ...

-ऋग्वेद

-ṛgvedā

May we be in the favor of the Universal One
For indeed he is king, sustainer of beings.
Born from here he views all this world,
The Universal One takes his place with the sun.
Agni, invoked in heaven, invoked on earth,
Invoked, he has entered all the plants.
The Universal One, Agni is mightily invoked,
...

-Rigveda Book 1, Hymn 98

LOTW: Spoken Sample

- [Spoken Sanskrit in Jhiri, India](#)
- [Heart Sutra \(by Imee Ooi\)](#)
 - Musical arrangement of a Buddhist mantra

Bibliography

- "Ancient Sanskrit Online: Lesson 1." The University of Texas at Austin - Web Central. 21 Mar. 2009 <<http://www.utexas.edu/cola/centers/lrc/eieol/vedol-1-X.html>>.
- "Ancient Sanskrit Online: Series Introduction." The University of Texas at Austin - Web Central. 21 Mar. 2009 <<http://www.utexas.edu/cola/centers/lrc/eieol/vedol-0-X.html>>.
- Auron. Digital image. All Final Fantasy Info: Auron Profile. 21 Mar. 2009 <<http://allfinalfantasy-info.blogspot.com/2008/02/auron-profile.html>>.
- Blueberries. Digital image. Blueberry. 21 Mar. 2009 <<http://en.wikipedia.org/wiki/Blueberry>>.
- Bolt. Digital image. Disney Bolts to Harry Potter's Date | /Film. 21 Mar. 2009 <<http://www.slashfilm.com/2008/08/14/disney-bolts-to-harry-potters-date/>>.
- Canadian Goose. Digital image. Goose. 21 Mar. 2009 <<http://en.wikipedia.org/wiki/Goose>>.
- Hug. Digital image. LiveVideo.com Group: TheCatLovers. 21 Mar. 2009 <<http://groups.livevideo.com/group/discussions.aspx?gid=12165&tid=5849>>.
- O'Grady, William, John Archibald, Mark Aronoff, and Janie Rees-Miller. Contemporary Linguistics An Introduction. Boston: Bedford/St. Martin's, 2004.
- Palm leaf. Digital image. Sanskrit. 21 Mar. 2009 <http://en.wikipedia.org/wiki/Classical_Sanskrit>.
- Powerpoint. Digital image. Powerpoint. 21 Mar. 2009 <<http://en.wikipedia.org/wiki/Powerpoint>>.
- Puss in Boots. Digital image. Pictures of cats: Big Eyes Cat. 21 Mar. 2009 <<http://funnycatpicture.blogspot.com/2008/07/big-eyes-cat.html>>.
- Rhino. Digital image. Bolt | Moo2u.com - Free Tutorials & the latest VFX news. 21 Mar. 2009 <<http://www.moo2u.com/tag/bolt/>>.
- "The Rig Veda in Sanskrit: Rig Veda Book 1: Hymn 98." Internet Sacred Text Archive Home. 21 Mar. 2009 <<http://www.sacred-texts.com/hin/rvsan/rv01098.htm>>.
- "Rigveda -." Wikipedia, the free encyclopedia. 21 Mar. 2009 <<http://en.wikipedia.org/wiki/Rigveda>>.
- Saber tooth. Digital image. Smilodon. 21 Mar. 2009 <<http://en.wikipedia.org/wiki/Smilodon>>.
- "Sanskrit -." Wikipedia, the free encyclopedia. 21 Mar. 2009 <http://en.wikipedia.org/wiki/Classical_Sanskrit>.
- Wisdom Tooth. Digital image. Teeth. 21 Mar. 2009 <<http://en.wikipedia.org/wiki/Teeth>>.