Morphology

Story of Human Language
Hye-Won
Choi

Words and Word Formation:
The Nature of the Lexicon

▶ Morphology: the component of mental grammar that deals with types of words and how words are formed out of smaller meaningful pieces and other words.

▶ What are words?

▶ How are words formed?

▶ Different words differ in form, meaning, and lexical category.

  ▶ cat, dog

  ▶ cat, a, log, in catalog, kid in kidney

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Derivation

▶ cat vs catty

(1) CAT CATTY

 Form: /kæt/ /kæti/

 Meaning: 'domesticated feline' 'spiteful, (fighting) like a domesticated feline'

 Lexical Category: noun adjective

▶ Derivation: the process of creating words out of other words
- root/stem + affix

▶ Derivational morphology
- verb: -ing, -able
- adjective: - ness, -est, -ly
- noun: -ly

▶ Open lexical categories: nouns, verbs, adjective, adverbs

▶ Closed lexical categories: pronouns, determiners, propositions, conjunctions

Inflection

▶ cat vs cats

(2)   CAT   CATS

   Form: /kæt/   /kæts/

   Meaning: 'domesticated feline' 'domesticated feline'(plural)

   Lexical Category: noun   noun

▶ Inflection: the creation of different grammatical forms of words, but not of new words

▶ Inflectional morphology

   • noun: -s

   • verbs: -ing, -ed

(3) Inflectional affixes of English

Function	Affix(es)	Attaches to	Example
3rd per. Sing. present	-s	verbs	she wait**s** there at noon.
Past tense	-ed	verbs	she wait**ed** there yesterday.
Progressive aspects	-ing	verbs	she is wait**ing** there now.
Past participle	-en, -ed	verbs	Jack has eat**en** the cookies.
			Jack has tast**ed** the cookies.
Plural	-s	nouns	The chair**s** are in the room.
Possessive	-'s, -s'	nouns	The chair**'s** leg is broken.
			The chair**s'** legs are broken.
Comparative	-er	adjectives, adverbs	Jill is tall**er** than Joe.
			Joe runs fast**er** than Jill.
Superlative	-est	adjectives, adverbs	Ted is the tall**est** in his class.
			Michael runs fast**est** of all.

Morphemes

- Morpheme: the smallest linguistic unit with a meaning or a grammatical function

- Free morpheme: words

- Bound morpheme: affixes and a few roots (-fer: infer, confer, refer, defer, prefer, transfer; -ceive: conceive, receive, deceive; -sist: resist, desist, consist, subsist)

  - Prefix

  - Suffix

  - Infix

- Content morpheme: content words, derivational affixes

- Function morpheme: function words, inflectional affixes

▶ 4.1.5 Classifying Elements in Morphology

(4) Possible kinds of morphemes

	Content Morphemes	**Function Morphemes**
Free Morphemes	•Content words: • Nouns • verbs •Adjectives •Adverbs	•Function words: •Determiners •Prepositions • Pronouns •Conjunctions
Bound Morphemes	•Bound roots •Derivational affixes	•Inflectional Affixes

Derived and Infected Words in the Lexicon

▶ In a speaker's mental dictionary, the lexicon, each morpheme is listed individually along with other information such as its meaning, its lexical category (if it is a free morpheme), and rules for how and when it is allowed to attach to stems (if it is a bound morpheme)

▶ For some morphological processes in some language, each time a words I used, it is re-formed from the separate entries in the lexicon of the parts that make it up.

▶ Not true all languages: Even morphologically complex words can apparently have a separate entry in the adult lexicon. e.g. nonrecyclable

▶ Speakers of a language have no problem accessing the patterns in their lexicons and applying them for interpreting unfamiliar words and even for creating them.

- unsmelly, smellability, smellful

- stick-to-it-ive-ness

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A flowchart for identifying the status of morphemes

Start Here.
Identify the morpheme you are interested in investigating. Ensure that it is, indeed, a single morpheme.

Does the morpheme carry semantic content?

YES → **Content Morpheme**

NO → **Function Morpheme**

Can the morpheme stand alone?

YES → **Content Word**
Free Content Morpheme

NO → **Bound Content Morpheme**

Can the morpheme stand alone?

YES → **Function Word**
Free Function Morpheme

NO → **Inflectional Morph**
Bound Function Morp

Can the morpheme have the primary meaning in a word?

YES → **Bound Root**
Bound Content Root Morpheme

NO → **Derivational Morpheme**
Bound Content Non-root Morpheme

Morphological Processes

▶ Word formation processes are systematic and rule-governed.

Affixation

▶ Infixes
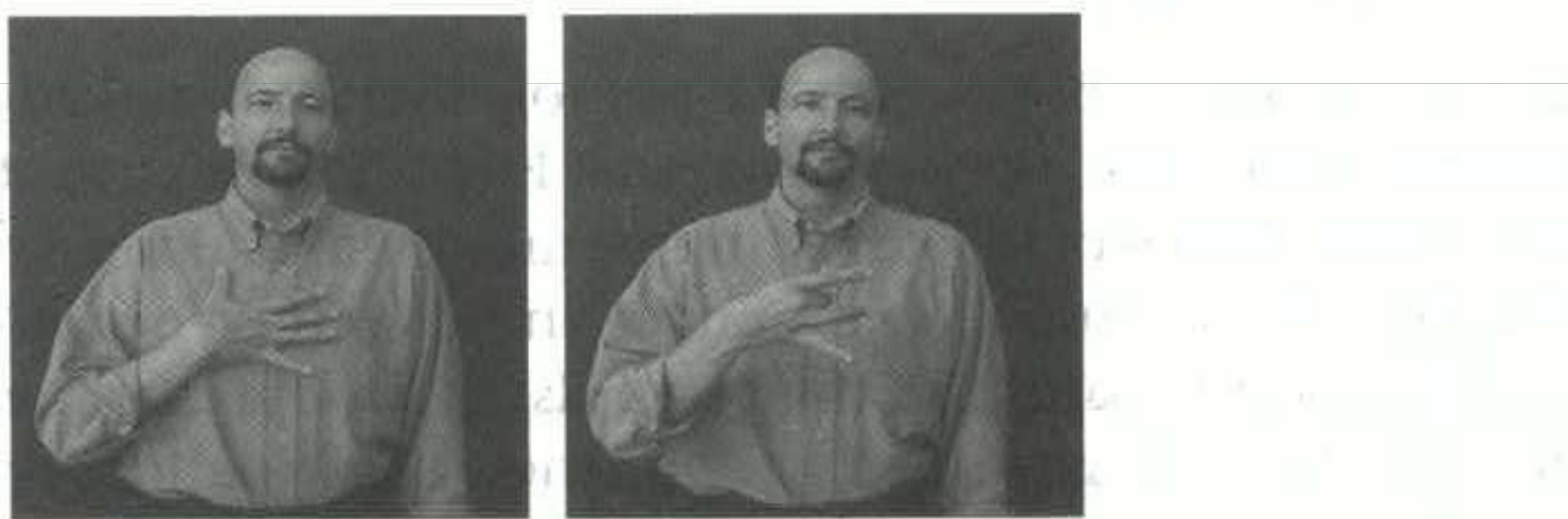
- infinitive infix -um- in Tagalog

(1) **Verb Stem**   **Infinitive**

sulat   'write'   sumulat   'to write'

bili   'buy'   bumili   'to buy'

kuha   'take, get'   kumuha   'to take, to get'

Affixation in Signed Languages

▶ Examples of the REVERSAL -OF- ORIENTATION suffix in ASL

(2)a. LIKE

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b. DON'T-LIKE

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(3)a. WANT

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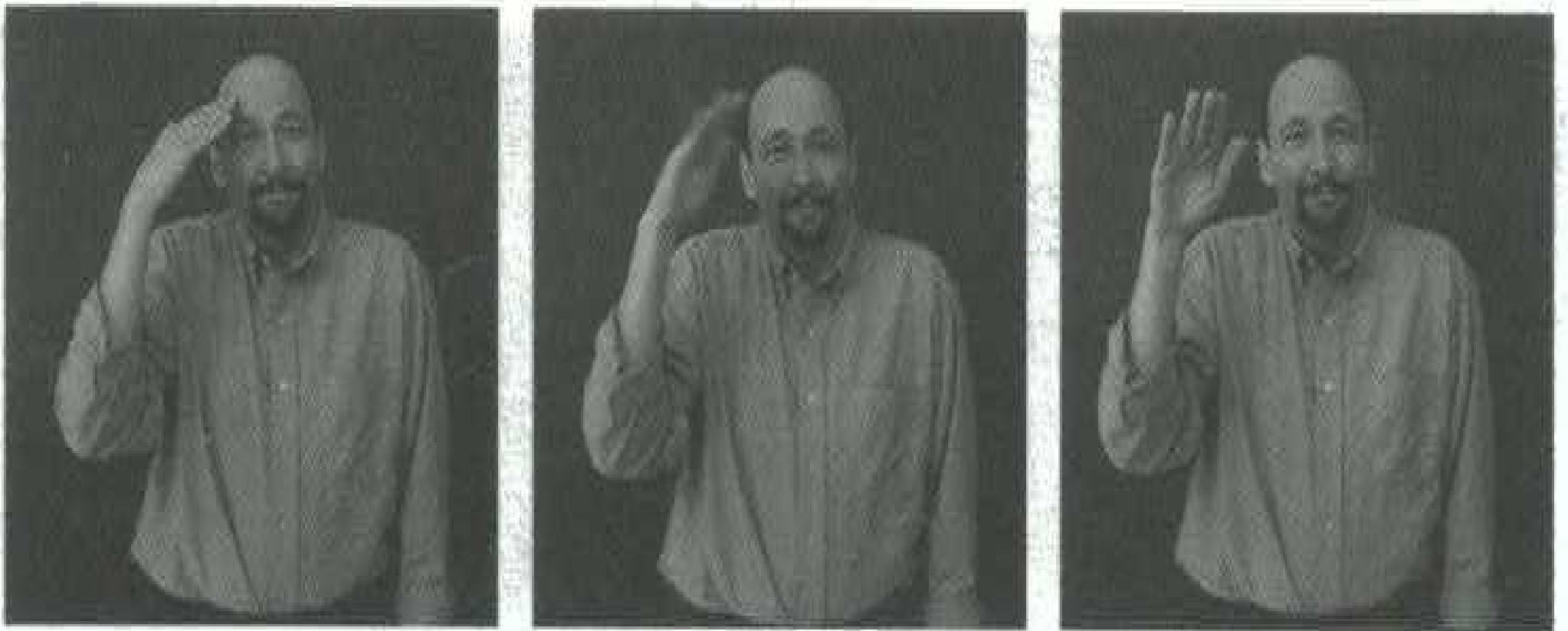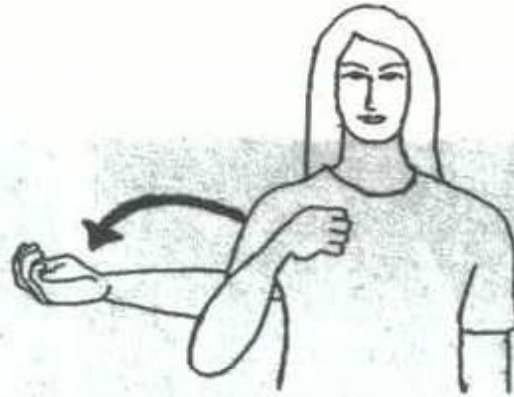
b. DON'T-WANT
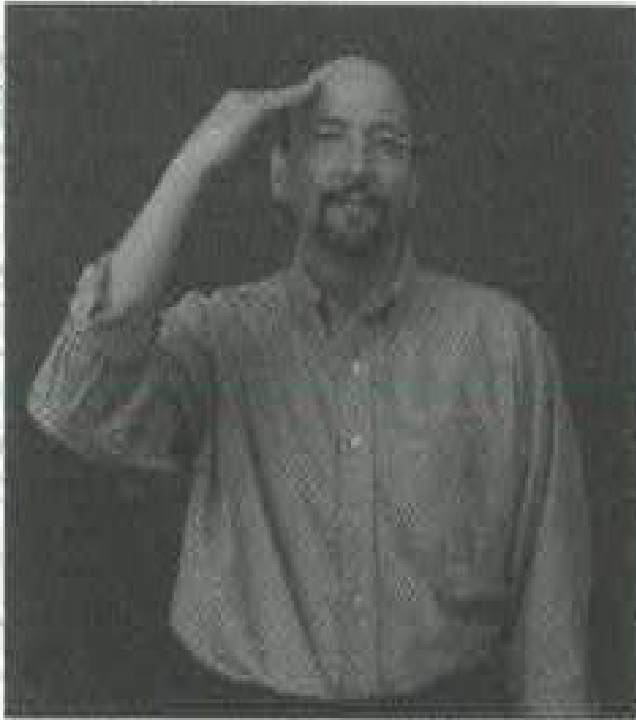
(4) a. KNOW

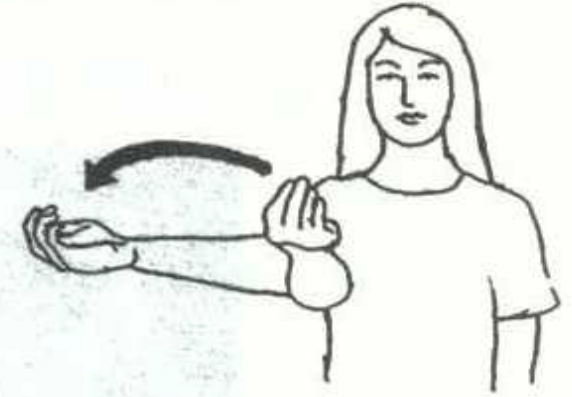© 2006, William Vicars, www.Lifeprint.com. Adapted by permission.

b. DON'T-KNOW

(5)GIVE (inflected for various subjects and objects)

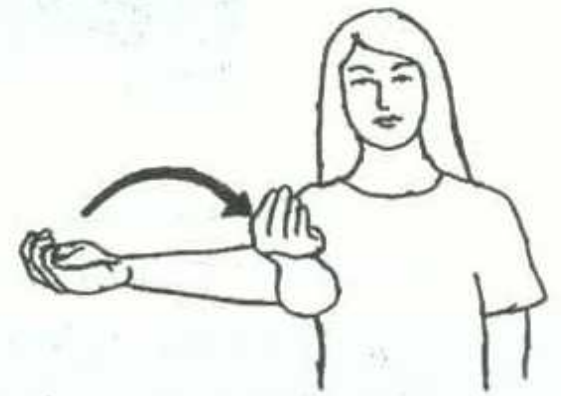

'I give to you'

'I give to him/her/it.'

'You give to him/her/it.'
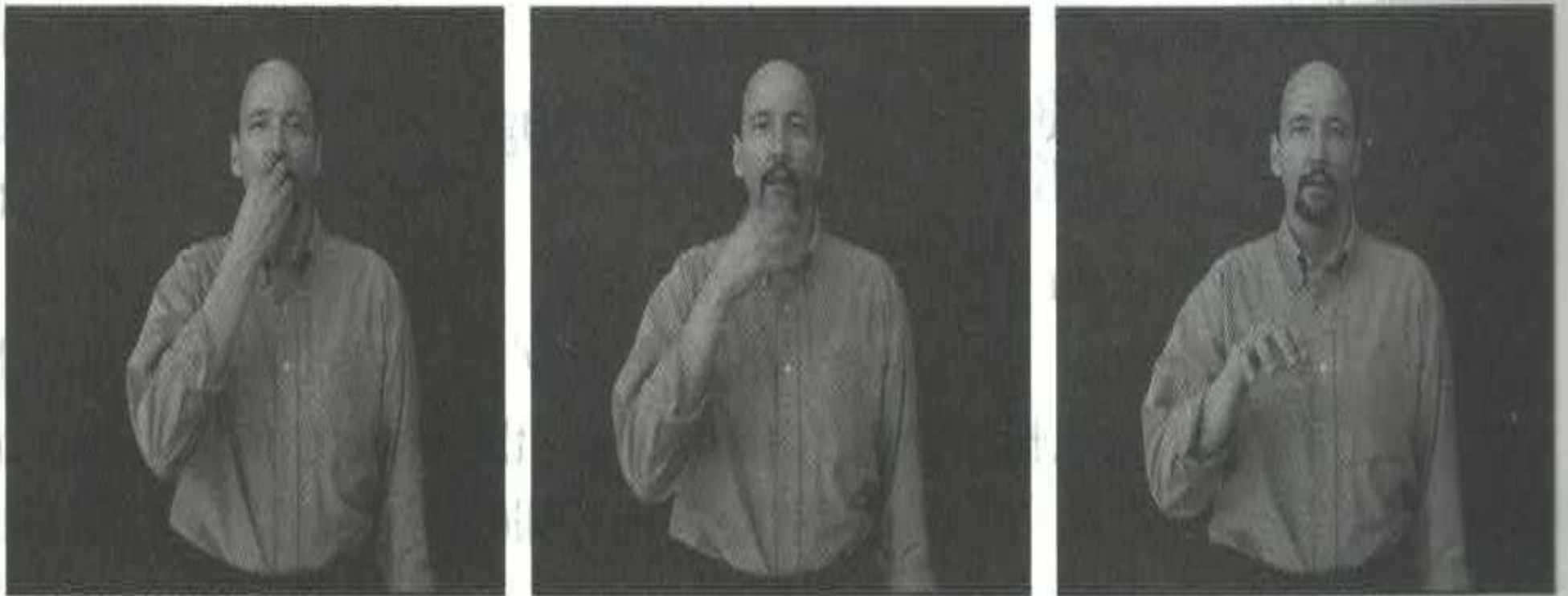
'You give to me.'

'She/he/it gives to me.'

'She/he/it gives to you.'

(6) a. HOT

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b. VERY HOT

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Compounding:
Forming new words from tow or more independent words

(7) Examples of English compounds

Compounding of Free Morphemes	Compounding of Affixed Words	Compounding of Compounded Words
girlfriend blackbird textbook	air-conditioner looking-glass watch-maker	lifeguard chair aircraft carrier life-insurance salesman

(8) a. The wool sweater gave the man a red neck.
   b. If you want to make Tim really angry, call him a redneck.

(9) **Compounds**   **Phrases**
   blackbird   black bird
   makeup   make up

(10)

Compound	Meaning	Meanings of Individual Morphemes
Muttersprache	'native language'	< mother language
Schreibtisch	'desk'	< write table
Stehenbleiben	'stand (still)'	< stand remain
Wunderkind	'child prodigy'	< miracle child
Parkzeitüberschreitung	'exceeding of the amount of time one is allowed to park'	<park time exceedance

Reduplication

- Reduplication: doubling wither an entire free morpheme (total reduplication) or part of it (partial reduplication)

(11) Do you just like him as a friend, or do you like-like him?

(12) That shirt isn't what I had in mind; it's much too pale of a green. I want a shirt that is green-green.

(13) Yesterday we just went out for coffee, but this weekend we're going on a date-date.

▶ Indonesian plural

(14)   **Singular**   **Plural**

rumah   'house'   rumahrumah   'houses'

ibu   'mother'   ibuibu   'mothers'

lalat   'fly'   lalatlalat   'flies'

▶ Tagalog future tense

(15)   **Verb Stem**   **Future Tense**

bili   'buy'   bibili   'will buy'

kain   'eat'   kakain   'will eat'

pasok   'enter'   papasok   'will enter'

▶ Tagalog words for occupation

(16)   **Occupation**   **Morphemes**   **Verb**

[mamimili]   'buyer'   < /maŋ + bi +bili/   [bili]   'buy'

[manunulat] 'writer'   < /maŋ + su + sulat/   [sulat]   'write'

[maŋʔiʔisda] 'fisherman'   < /maŋ + ʔi + ʔisda/   [ʔisda]   'fish'

Alternations:
morpheme-internal modification

(17) Although the usual pattern of plural formation is to add an inflectional morpheme, some English plurals make an internal modification:

m<u>a</u>n	m<u>e</u>n	[æ]	~	[ɛ] ([æ] alternates with [ɛ] in these forms)
w<u>o</u>man	w<u>o</u>men	[ʊ]	~	[ɪ]
g<u>oo</u>se	g<u>ee</u>se	[u]	~	[i]
f<u>oo</u>t	f<u>ee</u>t	[ʊ]	~	[i]

(18) The usual pattern of past and past participle formation is to add an affix, but some verbs show an internal alternation:

r<u>i</u>ng	r<u>a</u>ng	r<u>u</u>ng	[ɪ]~[æ] ~[ʌ]
dr<u>i</u>nk	dr<u>a</u>nk	dr<u>u</u>nk	
sw<u>i</u>m	sw<u>a</u>m	sw<u>u</u>m	
f<u>ee</u>d	f<u>e</u>d	f<u>e</u>d	[ɪ] ~ [ɛ] ~ [ɛ]
h<u>o</u>ld	h<u>e</u>ld	h<u>e</u>ld	[oʊ] ~ [ɛ] ~ [ɛ]

(19) **Root**   **Alternation**   **Alternation and Affixation**

   break   broke   broken

   speak   spoke   spoken

   bite   bit   bitten

   fall   fell   fallen

   give   gave   given

(20) **Nouns**   **verbs**

   strife (n)   [stɹaɪf]   strive (v)   [stɹaɪv]

   teeth (n)   [tiθ]   teethe (v)   [tið]

   breath (n)   [brɛθ]   breathe (v) [brið]

   use (n)   [jʊs]   use (v)   [jʊz]

▶ Hebrew derivational alternation between verb and noun

(21) **Verbs**   **Nouns**

   [limed]   'he taught'   [limud]   'lesson'

   [sijem]   'he finished'   [sijum]   'end'

   [tijel]   'he traveled'   [tijul]   'trip'

   [bikeʁ]   'he visited'   [bikuʁ]   'visit (noun)'

   [dibeʁ]   'he spoke   [dibuʁ]   'speech'

Suppletion:
irregular forms phonetically unrelated to the root

(22) **Present**   **Past**

   [ɪz]   is   [wʌz]   was

   [goʊ] go   [wɛnt] went

(23) **Adj**   **Comparative**   **Superlative**

   [gʊd]   good   [bɛɾ]   better   [bɛst]   best

   [bæd] bad   [wɹs]   worse   [wɹst]   worst

▶ Classical Arabic: plural

(24) **Singular**   **Plural**

   [marʔat]   'woman'   [nisaːʔ]   'women'

   • usual plurals: lenthening of the vowel

(25) **Singular**   **Plural**

   [diraːsat] '(a) study'   [diraːsaːt] 'studies'

   [harakat] 'movement'   [harakaːt] 'movements'

Morphological Types of Languages
Analytic Languages

▶ Made up of sequences of free morphemes

▶ Chinese: plurality, past tense

▶ Word order

(1) [wɔ   mən   tan   tçin]   (tones omitted)

    I   plural   play   piano

    'we are playing the piano'

(2) [wɔ   mən   tan   tçin   lə]   (tones omitted)

    I   plural   play   piano   past

    'we played the piano'

(3) [ta   da   wɔ   mən]   (tones omitted)

    s/he   hit(s)   I   plural

    'S/he hits us'

Synthetic Languages

▶ Bound morphemes are attached to other morphemes, derivation, inflection

▶ Hungarian: grammatical function

▶ Word order not important

(4) [ɔz   ɛmber   la:tjɔ   ɔ   kuca:t]

    the   man-(subject)   sees   the   dog-(object)

    'The man sees the dog'

(5) [ɔ   kucɔ   la:tjɔ   ɔz   ɛmbɛrt]

    the   dog   sees   the   man-(object)

    'The dog sees the man'

► Hungarian, personal possession, location

(6) [ɔ kucɔ la ː tjɔ ɔz ɛmbɛrt]

    the dog   sees   the   man-(object)

    'The dog sees the man'

(7) [ɔz   ɛmber   la ː tjɔ   ɔ   kucɔ]

    the   man-(object)   sees   the   dog

    'The dog sees the man'

(8) [ɔ   ha ː zunk   zøld]

    the house-our   green

    'Our house is green'

(9) [ɔ   se ː kɛd   ɔ   ha ː zunkbɔn   vɔn]

    the   chair-your   the   house-our-in is

    'Your chair is in our house'

The First Type of Synthetic Language: Agglutinating Languages

▶ Morphemes are joined together relatively "loosely"

▶ It is relatively easy to determine where the boundaries between morphemes are

▶ Each bound morpheme carries only one meaning

▶ Hungarian

(10) [haːz-unk-bɔn]   [haːz-od-bɔn]

house-our-in   house-your-in

'in our house'   'in your house'

(11) [haːz-unk]   [haːz-ɔd]

house-our   house-your

'our house'   'your house'

▶ Swahili, subject person, tense

(12) [ni-na-soma]   I -present-read   'I am reading'

[u-na-soma]   you-present-read   'Your are reading'

[a-na-soma]   s/he-present-read   'S/he is reading'

[ni-li-soma]   I -past-read   'I was reading'

[u-li-soma]   you-past-read   'You were reading'

[a-li-soma]   s/he-past-read   'S/he was reading'

[ni-ta-soma]   I -future-read   'I will read'

[u-ta-soma]   you –future-read   'You will read'

[a-ta-soma]   s/he-past-read   'S/he will read'

The Second Type of Synthetic Language: Fusional Languages

▶ The affixes may not be easy to separate from the stem

▶ It is often rather hard to tell where one morpheme ends and the next begins; the affixes are characteristically fused with the stem

▶ Spanish, person and number of the subject. *abl-

(13) [ablo]   'I am speaking'

　　 [abla]   'S/he is speaking'

　　 [able]   'I spoke'

(14) [-o]   first person singular present tense

　　 [-a]   third person singular present tense

　　 [-e]   first person singular past tense

▶ Russian, person and number of the subject, tense

(15) [tʃitajɛt]   's/he is reading'

(16) [tʃital]   's/he was reading'

The Third Type of Synthetic Language: Polysynthetic Languages

▶ Combining several stems and affixes

▶ Incorporation: making nouns into parts of the verb forms

▶ Sora (a language spoken in India)

(17) [aninɲamjɔten]   ---word of Sora

[anin - ɲam   - jɔ   - te   - n]   ---the same word divided into morphemes

he   catch   fish   non-past   do

'He is fish-catching'

i.e., 'He is catching fish'

▶ Cf. English, baby-sit, trout-fish

(18) [ɲamkɪdtenai]   ---word of Sora

   [ɲam - kɪd - te   -n   - ai]   ---the same word divided into morphemes

   catch tiger non-past   do   first person agent

   'I will tiger-catch'

   i.e., 'I will catch a tiger'

(19) [pɔpoʊŋkoʊtam]   ---word of Sora

   [pɔ   - poʊŋ   - koʊ - t   - am]   ---the same word divided into morphemes

   stab   belly   knife   non-past   you(sg.)

   '(someone) will stab you with a knife in (your) belly'

(20) [ɲɛnədʒdʒadarsiəm]   ---word of Sora

   [ɲɛn- ədʒ   - dʒa   -dar   -si   -əm]   ---the wame word divided into morphemes

   I   not   receive   cooked rice hand   you(sg.)

   'I will not receive cooked rice from your hands'

▶ The incorporated form of the noun is not necessarily identical to its free form.
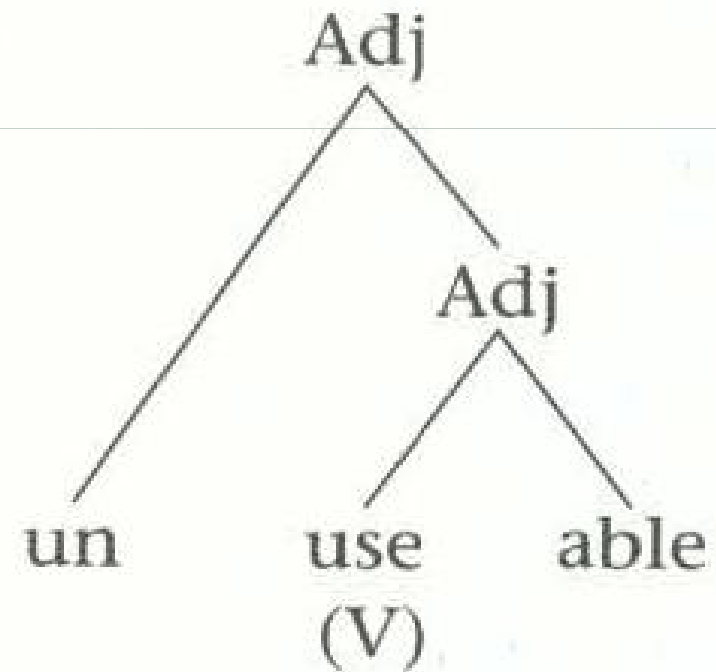
   • 'tiger' [kina], 'hand' [siʔi]

How words Are Put Together

(1)

(2)

(3)

Noun
├── Verb
│   ├── de
│   └── Verb
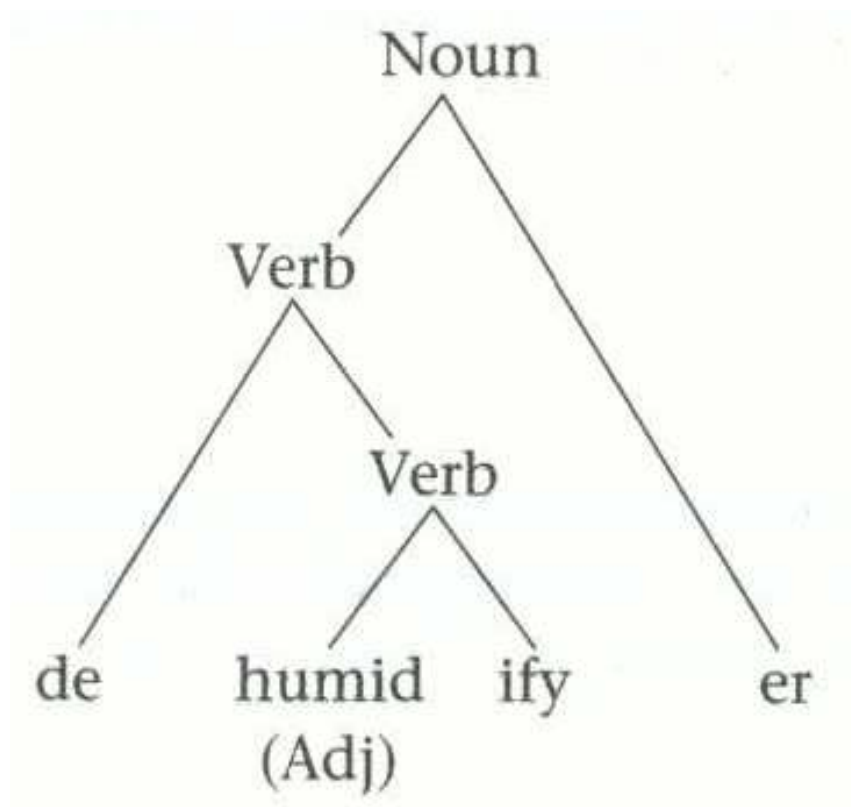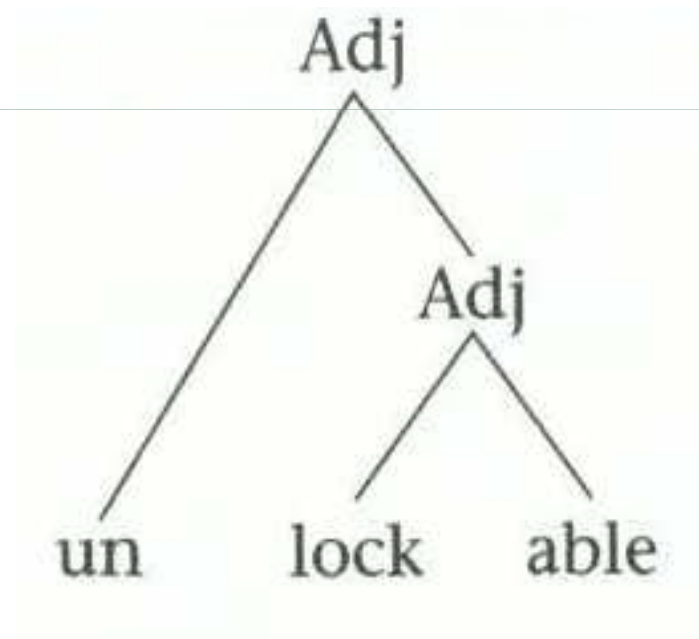│   ├── humid (Adj)
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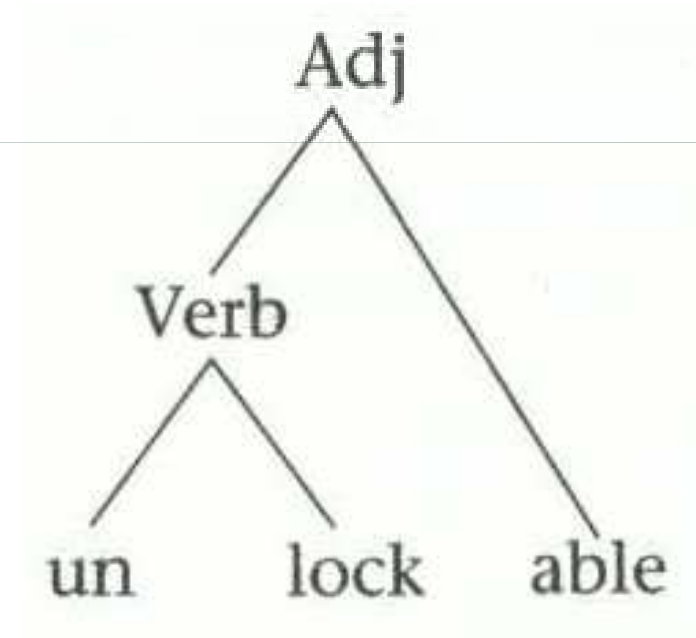└── er
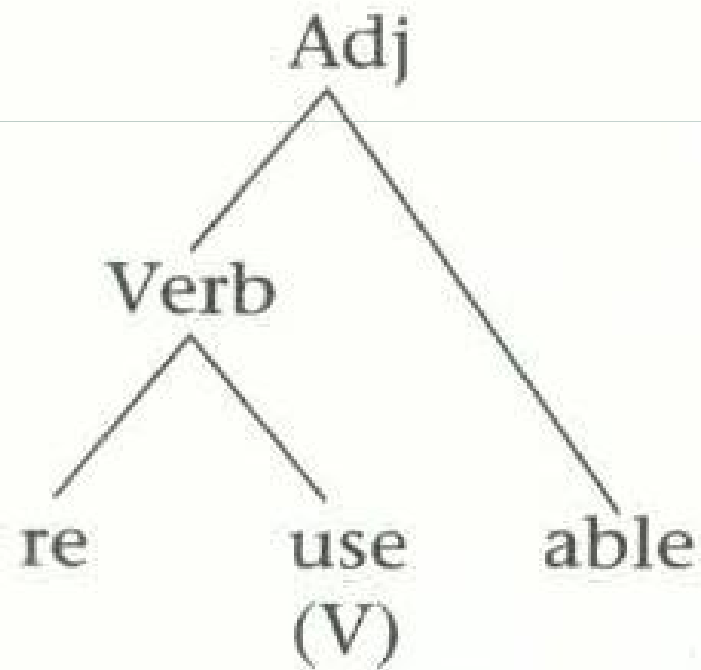
Ambiguous Morphemes and Words

(4)

(5)

Morphemes That Can Attach to More than One Lexical Category

(6) Preexist   Preboard (an airplane)

   Predetermine   Predestine

   Premeditate   Prescreen (a movie)

(7) Preseason   Predawn

   Prewar   Pregame

(8) Prefrontal   Predental

   Preinvasive   Prehistoric

Morphological Analysis

4.5.1 The Nature and Goals of Morphological Analysis

(1)   [hɔz]   'house'

[ɛɬhɔz]   'a house'

[hɔzɔ]   'his/her house'

(2) [boɾ]   'wine'

[ɛɬboɾ]   'a wine'

[boɾɔ]   'his/her wine'

(3) work- worker   fast – faster

(4) a. imprecise   [ɪmpɹɛsaɪs]

   b. inadequate   [ɪnɑːdəkwət]

   c. incomplete   [ɪŋkəmplit]

   d. irresponaible   [ɪɹɪspansɪbl̩]

   e. illegible   [ɪlɛdʒɪbl̩]

[ɪm] before labials - [p], [b], [m]

[ɪŋ] before velars – [k], [g]

[ɪɹ] before [ɹ]

[ɪl] before [l]

[ɪn] elsewhere (before vowels and other consonants),

Some Cautionary Notes

(5) [aŋ bataʔ]   'the child'

   [aŋ mga bataʔ]   'the children'

(6) [dalawa] 'two'   [dalawaŋ bataʔ]   'two chidren'

   [lima]   'five'   [limaŋ bataʔ]   'five children'

(7) [kumakain ako]   'eat I'   = 'I eat'

   [kumakain siy]   'eat he' = 'he eats'

(8) Elements of the Comanche pronoun system

Singular/Dual/ Plural Distinction

[inɨ]   'you (singular)'

[nikwɨ]   'you (two)'

[mɨɨ]   'you (plural)'

Inclusive/Exclusive Distinction

[taa]   'we(inclusive)'

[nɨnɨ]   'we(exclusive)'

Visible/Not Visible

[maʔ]   'it(visible)'

[ʔuʔ]   'it(invisible)'

Near/Far Distinction

[ʔiʔ]   'it (proximate)'

[ʔoʔ]   'it (remote)'