MORPHOLOGY I
LING-440A - FALL 2002
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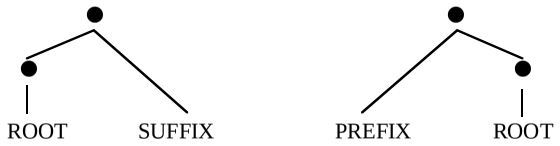
UNIT 3 COMPOUNDING

3.1 Compounds have two roots.

- Thus far, we have been looking at how complex words inherit their features from their pieces, and all of our examples have been asymmetric—there is an identifiable ***root*** and one or more ***affixes***. The root in our word-structure trees is privileged, and is dominated by a non-branching node.

(1)



(2) a. Root + Suffix: happi-ness, care-ful, work-er
b. Prefix + Root: en-rage, un-happy, re-write

- These asymmetric structures allow the PC and NLC to work correctly: If the affix has features, then they will determine the properties of the complex (branching) node [by NLC]. If the affix does not have relevant features, then the features of the ***stem*** node will percolate up [by PC] and determine the features of the complex.

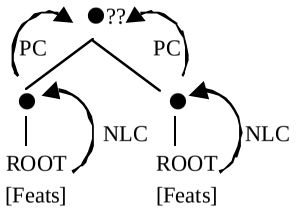
(3) Now consider the following:

A	B	C	D
hubcap	greenhouse	overdose	swearword
sales manager	highschool	outhouse	rattlesnake
frogman	blackbird	underdog	pickpocket
bullfrog	blackboard	uprising	scarecrow

E	F	G	H
headstrong	icy-cold	overripe	outlive
skin-deep	white-hot	underprivileged	overdo
jet-black	widespread	ingrown	uproot
nationwide	easy-going	outspoken	overthrow

- OBSERVATION 1 These words contain more than one root.
- DEFINITION: *Compound*: A word with more than one root.

(4) How are the features of the whole determined?
The NLC will apply to each root, labelling the intermediate nodes.
The NLC cannot apply to label the top node. [Do you see why not?]
The PC could apply, but could in principle apply on either side.



- *What is the descriptive generalization to be made—what fact do we need to capture?*
- *What property do all the words in groups A-D share (and all those in E-H lack)?*

3.2 Percolation in Compounds: The (Right-Hand) Head Rule

- OBSERVATION The cateogry of the whole is (almost) always that of the right hand member of the compound (in English).

(5)

N + N = N	hub + cap = hubcap	N + A = A	skin + deep = skin-deep
A + N = N	green + house = greenhouse	P + A = A	over + ripe = over-ripe
P + N = N	over + dose = overdose	A + A = A	white + hot = white-hot
V + N = N	swear + word = swearword	P + V = V	over + do = overdo

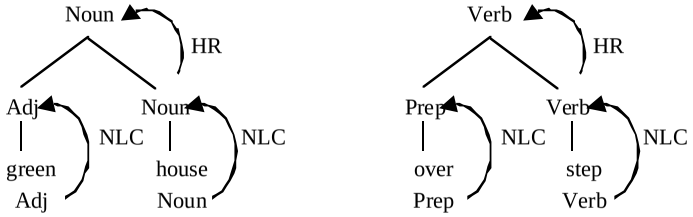
In this sense, we see a systematic asymmetry in compounds. As far as syntactic category is concerned, the righthand member of the compound is *stronger* or *privileged*. Let's call it the HEAD.

(6) The (Right-Hand) Head Rule: [HR]

The features of the **right**-hand member of a compound determine the features of the whole. [English]

(7) Once again, we can express this in our labeled Word-Structure Trees. We indicate this with an arrow, and we will label the arrow "HR" for "Head Rule".

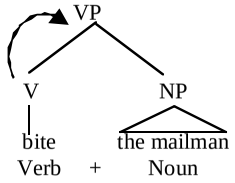
(8) The RHR at work:



- Is this simply a matter of convenience, or is there something deeper to the notion of HEAD?
- The notion of HEAD to refer to the stronger member of any linguistic *constituent* is central in many parts of linguistics, it is of importance in Syntax and Phonology as well. By using the same term, we are claiming that Headedness is a property of various modules of grammar.

(9) Syntax: The *head* of a phrase (XP) is the terminal node (X°) that determines the syntactic category of the phrase:

Fido will [$_{VP}$ bite the Mailman].



(10) Phonology (stress): The *head* of a metrical unit (e.g., a foot) is the more prominent (or stress-bearing) unit: (e.g., in systems with alternating rhythym)

English: Míssissípi:

```
(*      *   )
(*  *)(*  *)      Left-Headed/ Trochaic
Mississippi
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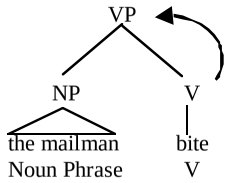
- One of the most clearly observable parameters in Syntax and Phonology is HEADEDNESS. For almost any parameter which privileges "left" or "right" in some language, one can find another language in which the opposite value holds:

(11) Syntax: The VP: English = Left-Headed
German = Right-Headed

German: Bello wird [$_{VP}$ den Briefträger beißen].
<dog's name> will the mailman bite



(12) Phonology (stress): English = Left-Headed
Araucanian = Right-Headed

Araucanian kimúbalúwuláy 'he pretended not to know'

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(  *    *    *)
(* *)(* *)(* *)  Right-Headed/ Iambic
kimu balu wulay
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- If it is correct to posit a Head Rule which makes reference to left and right, then we should expect a Headedness Parameter in Compounds as well.

(13) Vietnamese: Tones not indicated.

nha = 'person' [N] +	thuong 'be wounded' [V]	=	nha-thuong 'hospital' [N]
lam = 'do' [V] + viec 'matter, thing' [N]		=	lam-viec 'work' [V]
lam = 'do' [V] + ruong 'rice-field' [N]		=	lam-ruong '(to) farm' [V]

Practice: Draw the tree for the Vietnamese compounds in (13), indicating percolation with an appropriately labelled arrow.

(14) Hebrew: (note: Hebrew orthography is read from right to left, confusing the matter. Parameters in Linguistic Theory are **always** stated over sound, and by convention, transcription takes "left" to be the temporal start of the sound/signal and "right" to be the end).

yom = 'day' [N] + tov 'good' [Adj]	=	yom-tov 'holiday' [N]
kesef = 'money' [N] + katan 'small' [Adj]	=	kesef-katan 'change' [N]
tov = 'good' [Adj] + lev 'heart' [N]	=	tov-lev 'kind' [Adj]
raze = 'thin' [Adj] + panim 'face' [N]	=	raze-panim 'thin-faced' [Adj]
kaxol = 'blue' [Adj] + kehe 'dark' [Adj]	=	kaxol-kehe 'dark-blue' [Adj]

3.3 Compounds versus Separate Words

- IMPORTANT. Orthography at the best of times only provides clues as to what's going on linguistically. Often, orthography can confuse things more than it helps. In English, we sometimes write compounds together *blackboard*, sometimes with a hyphen *pan-fry*, and sometimes as two units *drop kick, sales manager*. How can we tell compounds from separate words?

(15) Stress: (NB: Dialect variation in left column, not in right column)

bláckbòard	black bóard	• Compounds typically have a prominent
gréenhòuse	green hóuse	stress on the first syllable, while separate
blúebèrry	blue bérry	words stress the second word.
sáles manager	young mánager	
fórest ranger	junior ránger	We must abstract away from the
túrkey sandwhich	rotten sándwhich	possibility of contrastive focus/stress.

(16) Modification

An adverb (intensifier) cannot modify an adjective which is in a compound (as the non-head), though it can modify the same adjective out of the compound.

This is a very black board.	[The board is very black].
*This is a very bláckboard.	Cf. This is a very black blackboard.

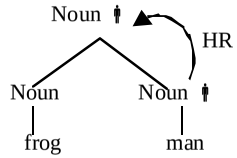
(17) Special (Non-Compositional) Meaning

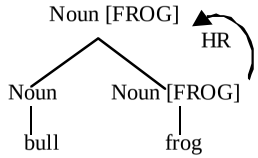
Compounds quite often take on a meaning which is not simply the sum of their parts, (note, this is just a guide or clue, it's not a foolproof test).

black board	a board which is black	blackboard	need not be black
green house	a house which is green	greenhouse	an indoor garden

- In these compounds, while the meaning of the non-head may have become more vague, the head still contributes not only its grammatical features (e.g., category) but also its meaning, by the Head Rule. These are called *endocentric* and are by far the most common.

(18) Why is a 'frogman' a 'man' (and not a frog) but a 'bullfrog' is a 'frog' and not a bull?





- In French, a scuba-diver is referred to as *homme-grenouille* lit: 'man-frog' What does that suggest about headedness in French N-N compounds?

(19) Exocentric Compounds

- There is a small group of compounds in English for which the HR applies for category features (the following are all nouns), but for which the head does not pass on its meaning (a *sabertooth* is not a tooth, a *redcap* is not a cap, and a *pickpocket* is not a pocket). These are called *exocentric* compounds.

A+N	sweetheart, redcap
N+N	sabertooth,
V+N	scarecrow, pickpocket

- Do these obey the HR?

(20) An aside - Plurals.

A striking property of exocentric compounds in English is that words that take irregular plurals normally take the regular plural *–s* in exocentric compounds.

tooth ~ teeth	but	sabertooth	sabertooths *saberteeth
leaf ~ leaves	but	Maple Leafs	(Toronto Hockey Team)
foot ~ feet	but	Bigfoot	Bigfoots *Bigfeet

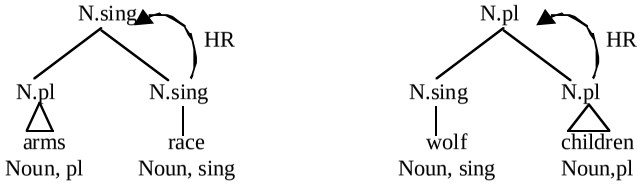
3.3.1 Aside: Some Rare Compound Types in English

(21)

V+A	(die-hard)	A+V	(dry-clean, sharp-shoot)
N+V	(babysit, bartend, trouble-shoot)	V+V	(stir-fry, slam-dunk)

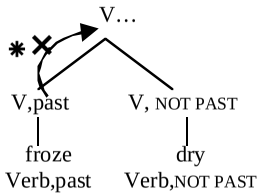
3.4 The Head Rule with Other Features

(22) Singular and Plural



(23) Past and Present Tense:

The past tense of 'to freeze-dry' is… (a) froze-dry, (b) freeze-dried, or (c) froze-dried ?



- Because of the Head Rule, tense and plural markers have to be added to the second member of the compound in order to give their meaning to the whole compound. This gives us another clue that we can use to find compounds, especially those with verbs as their first members:

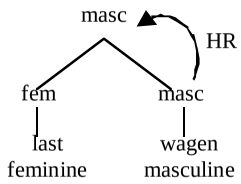
(24) a. *The player on the field **drop** the ball. must be: dropped (or drops)
b. The player on the field [drop kick]-ed the ball.
c. *The player on the field dropped kick(ed) the ball.

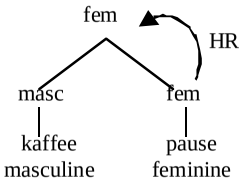
(25) a. *I stirred-fri(ed) the veggies.
b. *I stir-fried the veggies.

(26) a. We have a lot of [beehive]-s. c. Look at all the bullfrog-s.
b. *We keep a lot of beeshive(s). d. *Look at all the bullsfrog(s).

Gender (German) *[German has 3 genders, feminine, masculine and neuter]*

(27) die Last [fem] 'cargo' die Pause [fem] 'break, pause'
der Wagen [masc] 'vehicle' der Kaffee [masc] 'coffee'
der Lastwagen [masc] 'truck' die Kaffeepause [fem] 'coffee break'



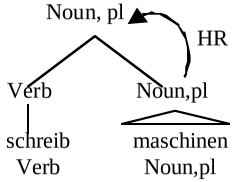


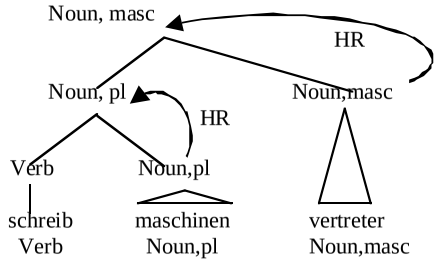
(28) Why does German have such long words?

Compounding is very productive and is always written as a single word:
(some internal morpheme divisions suppressed)

der Schreibmaschinenvertreter 'The typewriter salesman'

schreib- [Verb] 'write'
maschinen [Noun,plural] 'machines'
vertreter [Noun, masc] 'agent or salesman'



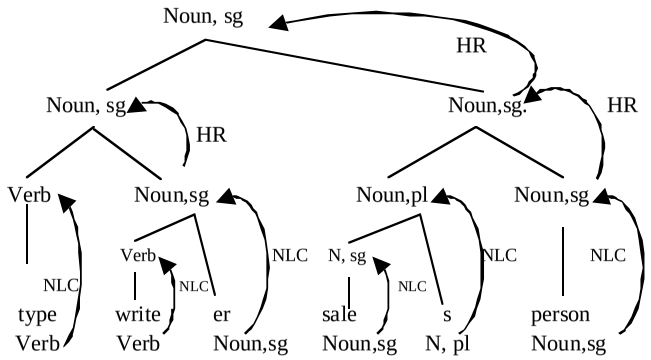


(29) Der Donaudampfschifffahrtsgesellschaftskapitänskajütentürschlüssel
Danube-steam-ship-driving-company-captain-cabin-door-key
[[[[Danube-[[steam-ship]-driving]]-company]-captain]-[[cabin-door]-key]]

Practise: *Given the following information, draw the tree for this word, indicating all gender features and the application of the* Head Rule. (Ignore inexplicable occurrences of the letter "s" between nouns).

neuter noun:	Schiff 'ship'		
masculine nouns:	Dampf 'steam'	Kapitän 'captain'	Schlüssel 'key'
feminine nouns:	Donau 'Danube'	Fahrt 'driving'	Gesellschaft 'company'
	Kajüte 'cabin'	Tür 'door'	

(30) German is not really so exotic when you think of it, it's just that we typically write big compounds as more than one word in English.



3.5 Roots versus Words in Compounds (aside)

- Why do we say a compound is a word with more than one root as opposed to a word made up of more than one other word?

(31) a. blúeberry, góoseberry b. cránberry, húckleberry c. erythrocyte, chlorophyll

The words in b. look like normal English compounds, except that their first members are not words, in fact, they can really only occur in these compounds. Words like those in c. (typically from specialized scientific language) can involve two elements which are both unable to stand on their own.

- In English, the difference between a root and a (simple) word is not very striking (other than bound roots, we cannot tell the difference)—however, in many languages in which there is a difference, compounds are (or can be) made up of roots, not words…

(32) German again:

- In German, verbs do not occur without a suffix of some sort. Thus, the verb *treffen* 'to meet' is bi-morphemic, consisting of the root *treff-* and the "infinitive suffix" *-en*. As a finite verb, it may occur with other (inflectional) suffixes, *ich treff-e* 'I meet'; *ihr treff-t* 'You-pl meet' but **treff* alone is not a word. Now consider: (cf. (28))

treffen 'to meet'	*Punkt* 'point'	*Treffpunkt* 'Meeting point'
essen 'to eat'	Lokal 'place'	*Esslokal* 'Eating place'
brechen 'to break'	Hammer 'hammer'	*Brechhammer* 'A hammer for breaking things.'

**treff* **ess* **brech*

3.6 The functions of Compounding

(33) Exocentric compounds in English are mainly (though not only) used to refer to people, and typically have the structure: modifier - head:

A+N	sweetheart:	someone with a sweet$_{ADJ}$ heart
	redcap:	someone who wears a red$_{ADJ}$ cap
N+N	sabertooth:	something with a tooth that is like a saber

(34) The structure modifier-head is also a common type of relation in endocentric (i.e., transparent) compounds (at least historcially):

A+N	blackboard:	a particular kind of board which (used to be) black
	whiteboard:	a particular kind of board which is white
	blueberry:	a particular kind of blue berry
N+A	jet-black:	black like jet (a type of black rock)
	lemon-yellow:	yellow like lemons
A+A	dark blue:	compare Hebrew: kaxol-kehe lit. 'blue-dark' [Adj]

(35) Another kind of compounding, less common in English, involves a kind of co-ordination, with no dependency between the two elements. These are called **dvandva** compounds (the term is from Sanskrit):

Austria-Hungary; Bosnia-Hercegovina;
mother-daughter (as in 'The mother-daughter relationship is …')
girlfriend, boyfriend, … (questionable - these could go above)

Malayalam:

waḍ^{h}u	'bride'	waṟan	'groom'	-maar	[plural]	waḍ^{h}uuwaṟanmaar	'wedding pair'
aaṭə	'goat'	maaṭə	'cow'	-kaḷə	[plural]	aaṭəmaaṭəkaḷə	'goats and cows'
	'father'		'mother'		[plural]	acchanammamaaṟe	'parents'

(36) A very productive kind of compounding in English involves the arguments of a verb:

truck-driver, history-teacher, meat-eater, …

Jean is a **truck**-driver.
Jean drives **trucks**.

We can say that in -er compounds, of the form N+[V+er]$_{N}$, the first N often corresponds to the object of the Verb.

In order to understand these compounds, we need to understand more about Argument Structure and we will pick this up in the next unit…