

# Morphology I

## meaningful units of speech

Introduction to Linguistics  
Kirsten Middeke  
Institut für Englische Philologie  
2020

phonemes, syllables, morphemes

# LEVELS OF ANALYSIS

# recap: neutralization

German:

**/b,d,g/~/p,t,k/**

→ *mein Rad* [t] < /d/ *Räder, Radfahrer, ...*

→ *mein Rat* [t] < /t/ *raten, ratlos, Rätsel, ...*

neutralization

final devoicing (Auslautverhärtung)

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neutralization

final devoicing (Auslautverhärtung)

Turkish:

**/b,d,g/~/p,t,k/**

→ *kitap* [p] 'book'

*kitabım* [b] 'my book'



# morphemes

*morphology*

form, shape

study, science

***morphology***

*amorphous*

*polymorphous*

*metamorphosis*

*anthropomorphism*

...

*biology*

*chronology*

*psychology*

*geology*

...

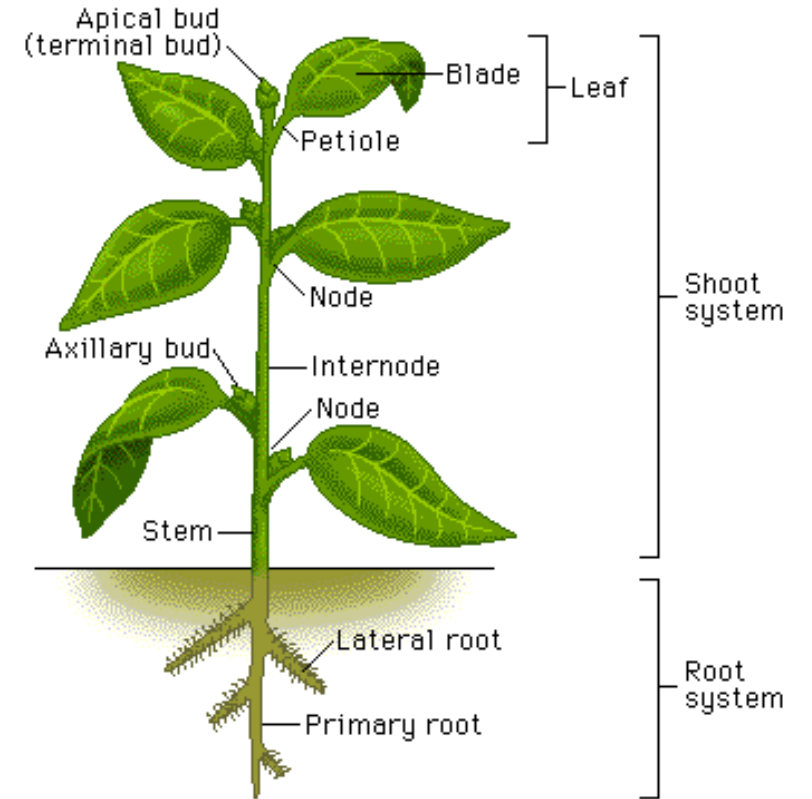
# morphology, n.

**Pronunciation:** Brit. /mɔː'fɒlədʒi/ , U.S. /mɔr'fɒlədʒi/

**Etymology:** < French *morphologie* (1822 in sense [1](#), 1865 in sense [3](#)) < German *Morphologie* (1790 in Goethe in sense [1](#), 1859 in a paper by A. Schleicher in sense [3](#)) < ancient Greek *μορφή* form (see [-morph comb. form](#)) + German *-o-* [-o- connective](#) + *-logie* [-logy comb. form](#).

1. ***Biol.*** The branch of biology that deals with the form of living organisms and their parts, and the relationships between their structures. Formerly: *spec.* the comparison of the forms of organisms and their parts in order to identify homologous structures [...]
2. **orig. and chiefly *Science.*** Shape, form, external structure or arrangement, esp. as an object of study or classification. Also: a particular shape, form, or external structure, esp. of (a part of) an organism, landform, etc. [...]
3. ***Linguistics.*** The structure, form, or variation in form (including formation, change, and inflection) of a word or words in a language; the branch of linguistics that deals with this. [...]

(OED, s.v. *morphology*, accessed Apr 13, 2014)



[http://www.phschool.com/science/biology\\_place/biocoach/images/plants/plant.gif](http://www.phschool.com/science/biology_place/biocoach/images/plants/plant.gif)

# levels of analysis

How can we segment words?

## 1. phonemes

<i>father</i>	/ˈfɑːðə/
<i>further</i>	/ˈfɜːðə/
<i>fathers</i>	/ˈfɑːðəz/
<i>fatherly</i>	/ˈfɑːðəlɪ/
<i>grandfather</i>	/ˈgræn(d)ˌfɑːðə/
<i>grandfathers</i>	/ˈgræn(d)ˌfɑːðəz/



# levels of analysis

How can we segment words?

## 2. syllables

<i>father</i>	/ˈfɑː . ðə/
<i>fathers</i>	/ˈfɑː . ðəz/
<i>fatherly</i>	/ˈfɑː . ðə . lɪ/
<i>grandfather</i>	/ˈgræən(d) . ,fɑː . ðə/
<i>grandfathers</i>	/ˈgræən(d) . ,fɑː . ðəz/

# levels of analysis

How can we segment words?

## 3. morphemes

<i>father</i>	{fa:ðə}	'male parent'	PLURAL
<i>fathers</i>	{fa:ðə}, {s/z}		
<i>fatherly</i>	{fa:ðə}, {lɪ}	ADJECTIVE: 'in the manner of...'	
<i>grandfather</i>	{grænd}, {fa:ðə}		
<i>grandfathers</i>	{grænd}, {fa:ðə}, {s/z}		

- morpheme: the **smallest meaning-bearing unit** of speech
- (phoneme: the smallest meaning-distinguishing unit of speech)

# levels of analysis

What is the difference between a morpheme and a syllable?

(a) phonological (i.e. syllable) structure: /*məʊ* . *nəʊ* . *mɔː* . *fiː* . *mɪc*/

(b) morphological structure:

{*mono*} {*morphem[e]*} {*ic*}

pronunciation

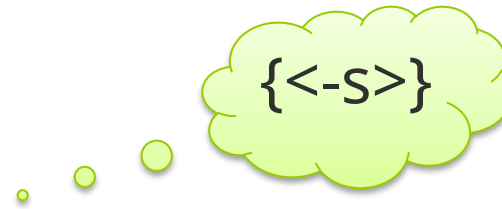
meaning

distribution

# MORPH, MORPHEME, ALLOMORPH

# distribution

<i>boys</i>	/bɔɪz/
<i>dogs</i>	/dɒgz/
<i>stones</i>	/stəʊnz/
<i>cats</i>	/kæts/
<i>tulips</i>	/tju:lɪps/
<i>sticks</i>	/stɪks/
<i>roses</i>	/rəʊzɪz/
<i>bushes</i>	/bʊʃɪz/
<i>judges</i>	/dʒʌdʒɪz/

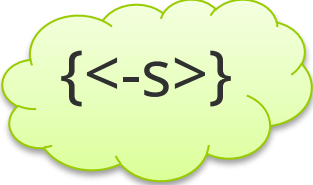


# distribution

<i>boys</i>	/bɔɪz/
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<i>cats</i>	/kæts/
<i>tulips</i>	/tju:lɪps/
<i>sticks</i>	/stɪks/
<i>roses</i>	/rəʊzɪz/
<i>bushes</i>	/bʊʃɪz/
<i>judges</i>	/dʒʌdʒɪz/

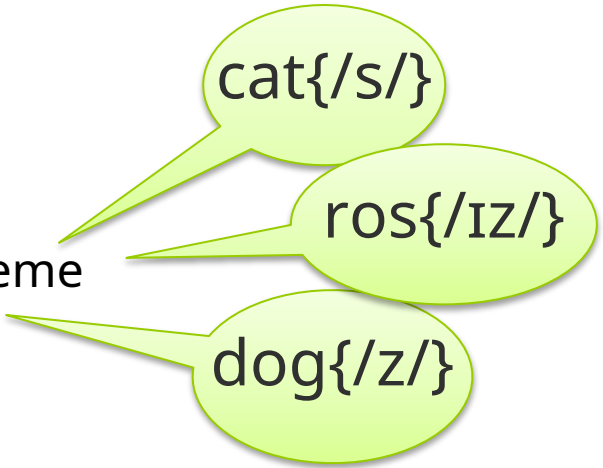
## morpheme

abstract mental category



## morph

the physical realisation of a morpheme



## allomorph

a contextually determined realization of a morpheme

# conditioning

## 1. phonological

Old English

*wīf* {[wi:f]} 'woman' ~ *wīfas* {[wi:v-]} {-as]} 'women'

result of a regular sound change:

**C**

[+FRICATIVE]  
[-VOICE]

>

**C**

[+FRICATIVE]  
[+VOICE]

| **V\_V**

↙  
between  
vowels

nom./acc. *wīf* [f]

gen. *wīf-es* [v]

dat. *wif-e* [v]

nom./acc *wīf-as* [v]

gen. *wīf-a* [v]

dat. *wīf-um* [v]

nom./acc. *þēof* [f]

gen. *þēof-es* [v]

dat. *þēof-e* [v]

nom./acc *þēof-as* [v]

gen. *þēof-a* [v]

dat. *þēof-um* [v]

# conditioning

## 2. morphological

modern English     *wife* {[waɪ**f**]} ~ *wives* {[waɪ**v**-]}{[-z]}

*his wife* [**f**]                      singular  
*his four wives* [**v**]               plural  
*his wife's sister* [**f**]              possessive

## 3. lexical

modern English     *wife* ~ *wives*, *thief* ~ *thieves*, but *chef* ~ *chefs*

*one thief* [**f**]                      *one chef* [**f**]  
*four thieves* [**v**]                  *two chefs* [**f**]  
*the thief's sister* [**f**]            *the chef's favourite* [**f**]



## References

Bybee, Joan. 2018 [2015]. *Language Change*. Cambridge University Press.

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# Morphology II

## the structure of words

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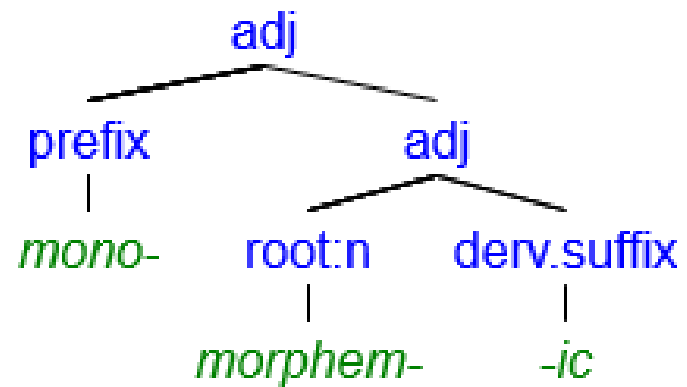
segmenting words, building words

# MORPHOLOGICAL STRUCTURE

# the structure of words

## nested structures

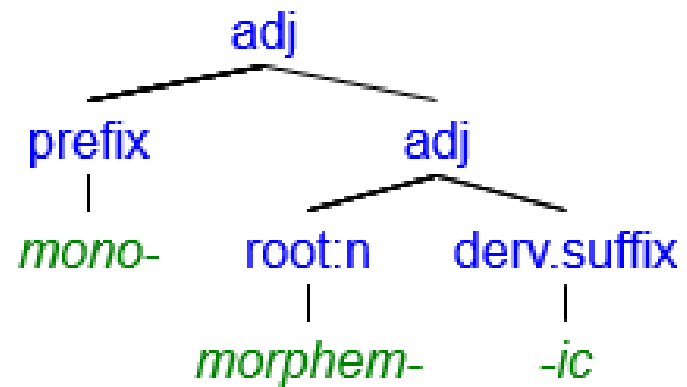
*{mono}* *{morphem[e]}* *{ic}*



# the structure of words

## nested structures

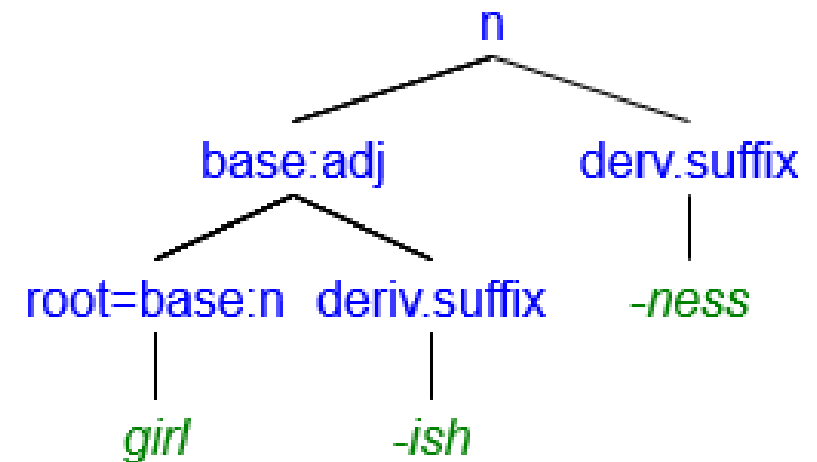
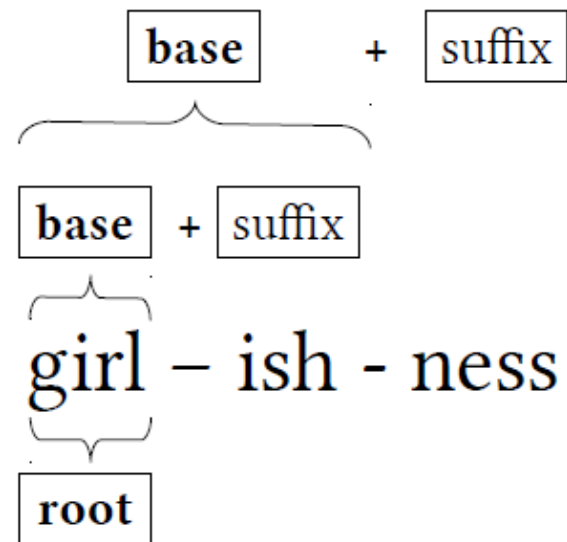
$[ \{mono\} [ \{morphem[e]\} \{ic\} ] ]$



# the structure of words

## derivation

**base + affix** (suffix or prefix)  
creates a **new lexical item**



# the structure of words

## compounding

**root + root** (noun, verb or adjective)

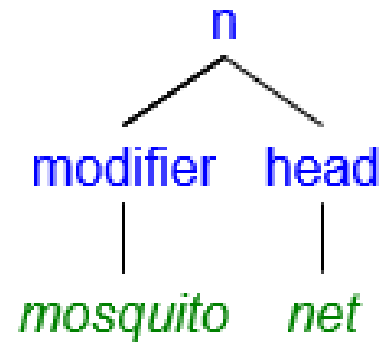
creates a **new lexical item**

English: **modifier-head** structure

*butterfly net*

*mosquito net*

*Anopheline mosquito*



# the structure of words

## compounding

**root + root** (noun, verb or adjective)

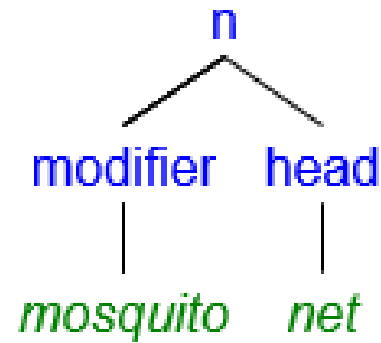
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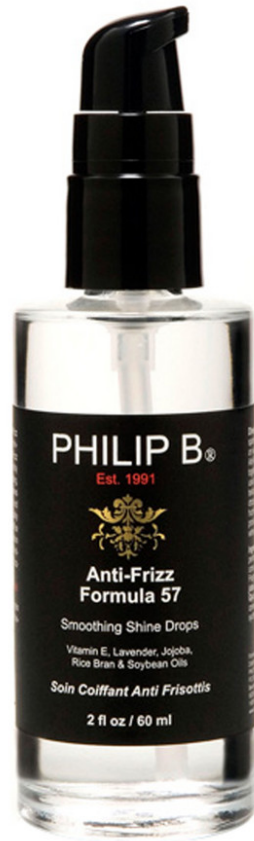


# compounds and phrases

German:           *Schwachkopf*  
                      *schwacher Kopf*  
                      *der schwache Kopf*

English:           *White House*  
                      *white house*

# motivatedness and creativity



# the structure of words

## compounding

**root + root** (noun, verb or adjective)

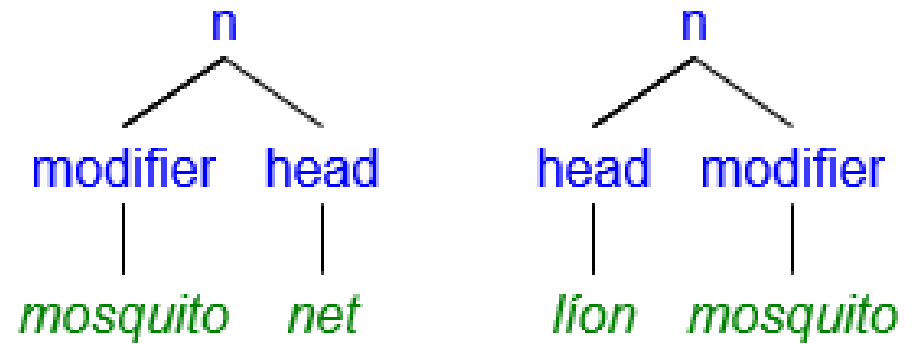
creates a **new lexical item**

English: **modifier-head** structure

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*mosquito net*

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Fr. *moustiquaire*

Sp. *mosquitero*

# the larger picture

Latin

*Maria* 'Mary'

(*ad*) *Mariam* 'to Mary'

Irish

*Bríd* 'Bríd'  
[bri:d]

*do Bhríd* 'to Bríd'  
[do vri:d]

*tuigim* 'I understand'  
[tɪgɪm]

*ní thuigim* 'I don't understand'  
[ni hɪgɪm]

Arabic

*katab* 'wrote'

*yaktaba* 'he writes'

*maktab* 'office'

# the larger picture

## English

*writes*  
[aɪ]

*wrote*  
[əʊ]

*written*  
[ɪ]

*writing*

*writ*  
[ɪ]

*plays*

*played*

*playing*

## German

*schreibt*  
[aɪ]

*schrieb*  
[i:]

*geschrieben*  
[i:]

*Schrieb*  
[i:]

*Schrift*  
[ɪ]

*kommt*  
[ɔ]

*kam*  
[a:]

*Ankunft, Zukunft, Übereinkunft, ...*  
[ʊ]

*spielt*

*spielte*

*gespielt*

# the larger picture

English

*small*

*smaller*

*smallest*

*synthetic* (one word, multiple morphemes)

*important*

*more important*

*most important*

*analytic* (multiple words)

# morphology and its limitations

*pickpocket*  
*inhouse*

*exocentric compound*

*grille-pain 'toaster'*  
*chauffe-feu 'fire extinguisher'*  
*coupe-oeuf 'egg slicer'*  
*coupe-sac 'cutpurse'*  
*pickpocket...*

# morphology and its limitations

*pickpocket*

*exocentric compound*

*inhouse*

*attorney general*

*head-modifier structure*





## References

Carstairs-McCarthy, Andrew. 2002. An introduction to English morphology: words and their structure. Edinburgh: Edinburgh University Press.

# Morphology II

## the structure of words

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# Morphology III

## types of morphemes, types of words

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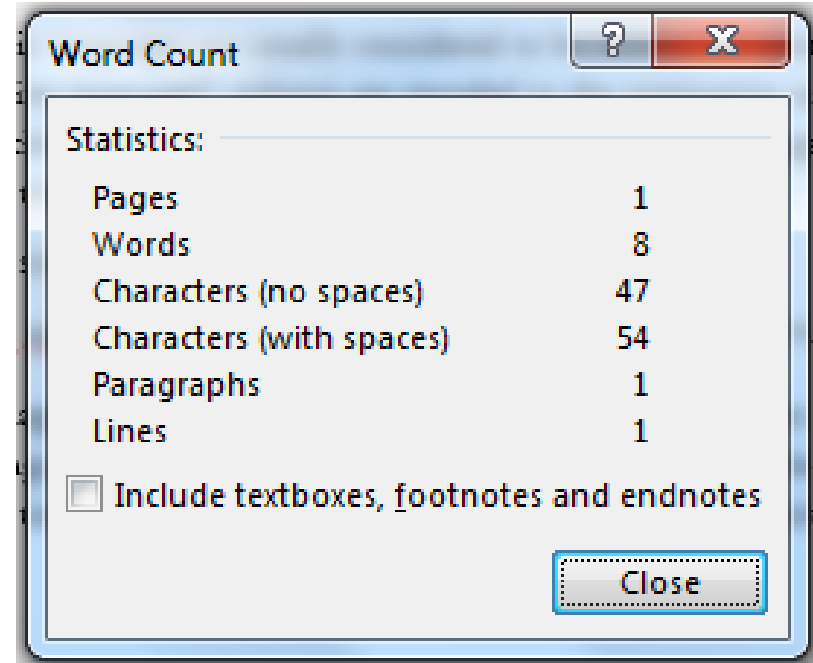
roots and affixes, compounds and derivations

# TYPES OF MORPHEMES, TYPES OF WORDS

# What's (in) a word?

*bake, bakes, baker, bake, bakers, baked, baker, bakery*

- types (6) vs. tokens (8)
- lexemes (3) vs. word-forms (6)



# What's (in) a word?

*heroin-related, lightning, database, locomotive, tarantula, government scheme, responsibilities, seems, hearing, revival, commission*

simplexes	complex words		
	word-formation		inflected word forms
	compounds	derivations	
<i>locomotive</i>	<i>heroin-related</i>	<i>lightning</i>	<i>related</i>
<i>tarantula</i>	<i>database</i>	<i>government</i>	<i>seems</i>
	<i>government scheme</i>	<i>responsibilities</i>	<i>hearing</i>
		<i>revival</i>	<i>responsibilities</i>
		<i>hearing</i>	

# What's (in) a word?

*heroin-related, lightning, database, locomotive, tarantula, government scheme, responsibilities, seems, hearing, revival, commission*

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	<i>government scheme</i>	<i>responsibilities</i>	<i>hearing</i>
		<i>revival</i>	<i>responsibilities</i>
		<i>hearing</i>	

# simple words and complex words

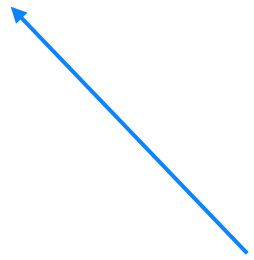
- (1) *duck, schizophrene, walk, green, pen, balcony, mike, beer, geese, wrote*
- (2) *horses, rewrite, hay fever, thoughtless, blueish, staircase, walked, microphone, morpho-syntax*

(1) **simple** (i.e. monomorphemic)

e.g. *duck*

(2) **complex** (i.e. polymorphemic)

e.g. *ducks, duckling*



*all kinds of spellings (one word, two words, hyphenated)*



# free roots, bound affixes

(a) {*help*}, {*blue*}, {*giddy*}

(b) {*ness*}, {*ible*}, {*non*}, {*un*}, {*ish*}

(a) free

e.g. *help*

(b) bound

e.g. as in *unhelpful*, *convertible*

affixes



# compounding

free root + free root

- (a) *staircase, loanword, database*
- (b) *hay fever, tap dance, government scheme*
- (c) *morpho-syntax, heroin-related*

# bound roots

(a) {*help*}, {*blue*}, {*giddy*}

(b) {*ness*}, {*ible*}, {*non*}, {*un*}, {*ish*}

(c) {*le*[dʒ]}, {*aud*(i)}, {*magn*}

(a) free

e.g. *help*

(b) bound

e.g. as in *unhelpful*, *convertible*

(c) bound root (combining form) e.g. *legible*, *magnify*

# free roots and bound roots

a. read-able  
hear-ing  
en-large  
perform-ance  
white-ness  
dark-en  
seek-er



**free root**

+

affix



**derivation**

b. leg-ible  
audi-ence  
magn-ify  
rend-ition  
clar-ity  
obfusc-ate  
applic-ant



**bound root, i.e. combining form**

+

affix



**(pseudo-)derivation**

# derivation

root (free or bound) + affix (prefix or suffix)

(a) *unhelpful, disproportionate, enlarge, sweeten, solidify*

(b) *audible, legible, magnify*

# unique morphemes

(d) {cran}, {rasp}

(d) cranberry morpheme, aka unique morpheme

e.g. *cranberry*, *raspberry*, *mulberry*

[German: *unikales Morphem*, sometimes called *Brombeer-* or *Himbeermorphem* 😊]

# Stupipedia says...

**Brom** ist ein [chemisches Element](#), aus welchem die bekannte [Brombeere](#) besteht. [...] Brom kommt in der [Natur](#) nur als Brombeere oder Halbbromboid vor.

## Herstellung

Man nimmt eine Brombeere. Wurde ausreichend Aktivierungsenergie aufgewandt, reagiert die Erde mit der Beere zu einer [Erdbeere](#) und elementares Brom wird frei. [Erdbeeren](#) (nicht zu verwechseln mit Erdnüssen) sind zusammen mit dem zurückgebliebenem Brom eine hervorragende Energiequelle.

## Reaktionsgleichung:



([www.stupipedia.org/stupi/Brom](http://www.stupipedia.org/stupi/Brom), accessed 21 Apr 2014)

# inflectional affixes

(e) {s}, {/T/}, {ing}

 any dental sound

(e) inflectional morpheme

e.g. *walks*, *walked*, *left*, *leaving*

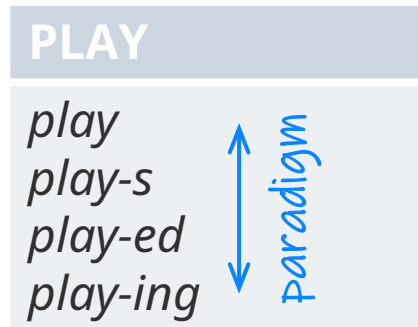


# inflection

stem + affix

creates a **new form** of the **same lexical item**

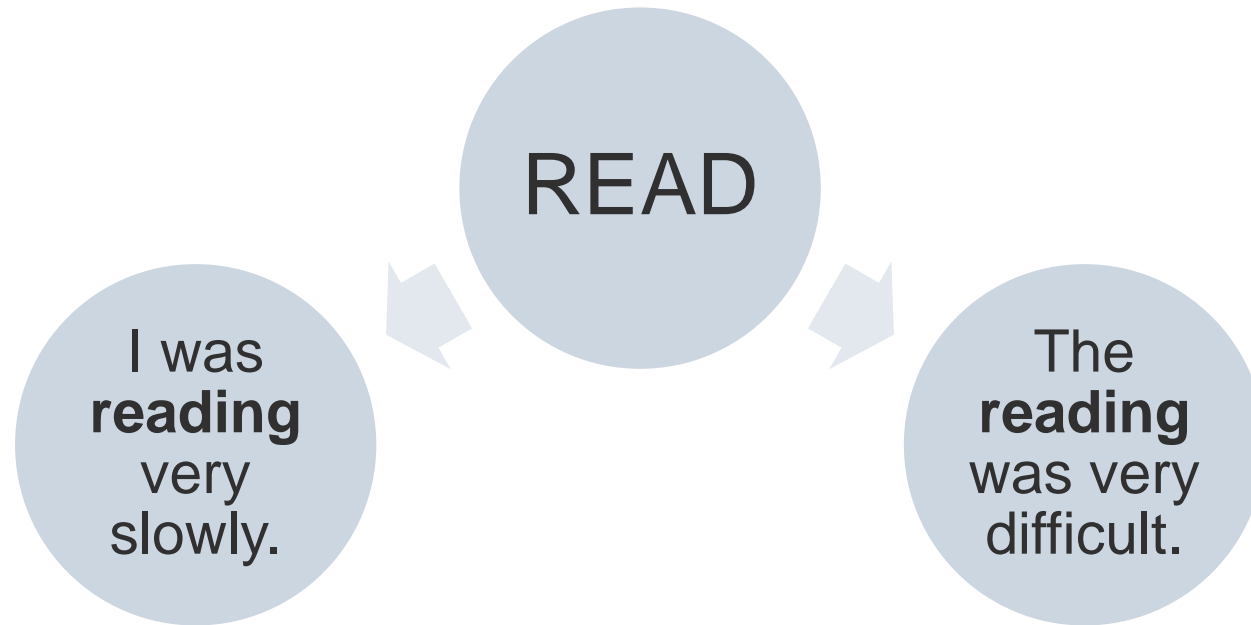
regular



# inflection vs. derivation

root + affix

base + affix



**READ**

*read*  
*read-s*  
*read-ing*

**READING**

*reading*  
*reading-s*  
*reading's*  
*readings'*

# morphological typology of words

simple word (simplex): not analysable (in English, synchronically)

*duck, poltergeist, gospel*

# morphological typology of words

simple word (simplex): not analysable (in English, synchronically)

*duck, poltergeist, gospel*

compound: two free roots

*duck pond*

pseudo-compound: two combining forms

*electroscopy*

derivation: (free) root plus affix(es)

*greatness, readability*

*legible, legibility*

inflected word forms: stem (simple or complex) plus affix

*walking, left, smaller*

*reconsidered*

# Morphology III

## types of morphemes, types of words

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