

# Morphology

General Linguistics

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(Most slides: Petra Hendriks)

# Levels of language

- Text/Dialogue   ⇒  Pragmatics                   (lecture 11)
- Sentences       ⇒  Syntax                   (lectures 5 en 6)  
                              Sentence semantics (lecture 10)
- Words           ⇒  Morphology               (lecture 4)  
                              Lexical semantics   (lecture 9)
- Syllables       ⇒  Phonology           (lecture 3)
- Sounds          ⇒  Phonetics           (lecture 2)

How do you recognize a word?

# How do you recognize a word?

- Orthographic criteria (spaces between words)
  - But: In English *dead calm* – Ned. *doodkalm*
- Phonological criteria (pauses between words)
  - But: actually there are no pauses
- Semantic criteria (a semantic unit?)
  - But: what about compound words like *doodkalm*?
- Syntactic criteria (syntactische eenheid)

# Syntactic criteria

- Words can be used in isolation:
  - (Wil je grote of kleine appels?) Grote.
- Entire words can be moved (Verplaatsbaarheid):
  - \*Dood liep Jan kalm naar huis.
  - Not all words can be moved:
  - \*Op reed Jan de fiets naar huis.
- Non-splitable ((On)scheidbaarheid):
  - de fiets → de oude fiets
  - A single word can't be split into other words
    - exceptions: compound words and in denials/corrections

# The mental lexicon

- Collection of words that a speaker knows
- Size:  $\pm$  40.000 – 80.000 words
- Words can be found quickly
- We speak with a speed of  $\pm$  6 syllables per second (= 3 words)
- The mental lexicon must be organized in a systematic way

# Similarities with regular dictionaries

The mental lexicon has information about:

- Sounds, possible sound combinations
  - Not all possible sound combinations are allowed in words, depending on the language: *accidental gaps*.
- Meaning
  - There aren't words for every possible meaning
    - e.g. we haven't lexicalized a word that means “not a parent”
- Types of words
  - Not all languages use all word forms
- Word usage

# Differences from regular dictionaries

The organization of the mental lexicon:

- Isn't alphabetic but
  - according to similar sounding words
  - according to similar rhythm
  - based on similar meaning relationships
- The mental lexicon is more flexible (new words, new pronunciations always being added).
- Contains much more information for each entry
- ➔ Believed to be organized as a kind of network with different types of connections



# How are words stored?

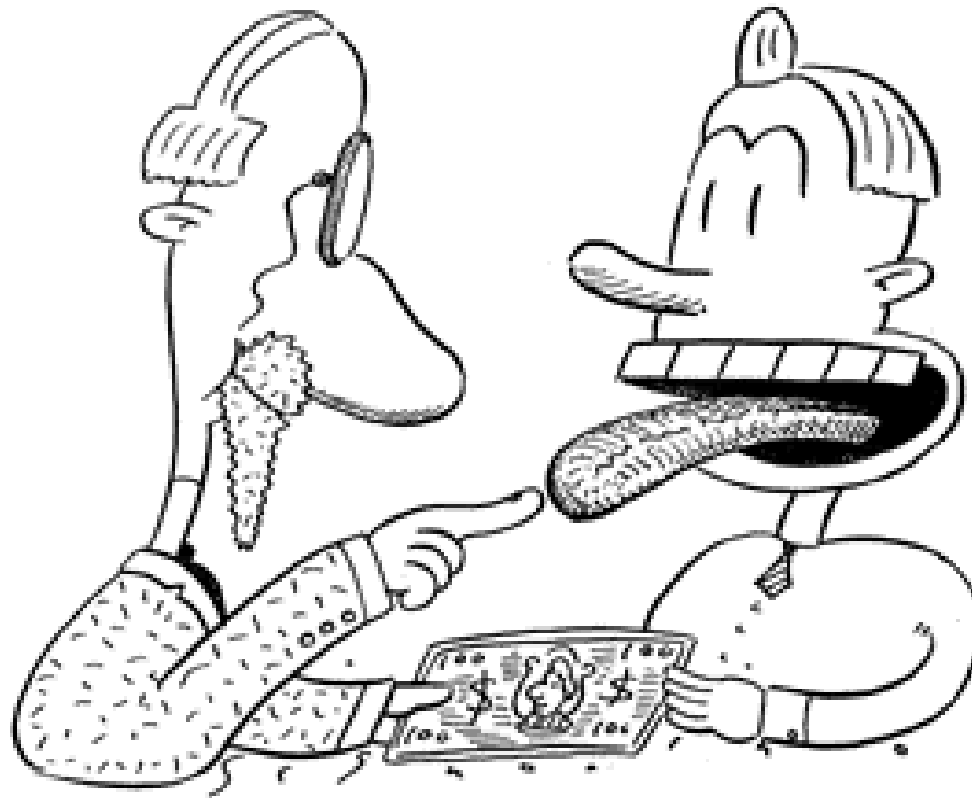
- Are concepts and the mental lexicon (linguistic forms) stored in the same place or are they separate?
- Research has shown that concepts are stored in a kind of graph-network like structure...
- Indications: that concept and the mental lexicon are separate



# Primed production tasks

- Pim Pam Pet
- Loftus: asked subjects to name:
  1. Fruits that are red
  2. Fruits that begin with /p/
- Subjects are much faster at naming members of a category beginning with a certain sound
- When primed with a category both types faster
- But when “blocking” occurred with category-letter questions, i.e. one type of question again and again, even faster listing
- Suggests that mental lexicon and concept dictionary are different

# Tip-of-the-tongue syndrome



From <http://www.straightdope.com/classics/a961213.html>

# Tip-of-the-tongue syndrome

- Brown and McNeil (1966)
- Read subjects definitions of low-frequency words
  - Those who couldn't name the word were asked questions about what they knew about the word
  - Discovered that subjects could accurately name
    - The number of syllables (approximately)
    - The 1<sup>st</sup> letter or sound









# Making words

The mental lexicon isn't just a list of words and information:

- Basic words:
    - de, niet, tafel, gordijn, hamer.
  - Derived words:
    - jager, zoethout, aardedonker, opbel.
- ➔ The mental lexical also contains word formation rules.

# Important distinction

- Function words:
  - determiners,
  - conjunctions, prepositions, pronouns
  - pretty much a closed class
- Content words:
  - nouns, verbs, adjectives and adverbs
  - open class.

# How do you make new words?

- Compounding (Samenstelling or compositie)
- Derivation (Afleiding or derivatie)
- Inflection (Verbuiging or inflectie)
- and a few other methods...

# Compound words

- Compound words are made from two free morphemes

# Morphemes

- Morphemes: the smallest unit in language that bears meaning
- **Free morphemes:** a morpheme that occurs independently as a word:
  - jaag, tafel, zoet, hamer
- **Bound morphemes:** a morphem that can't occur on its own:
  - -er, -s, -heid, ont-

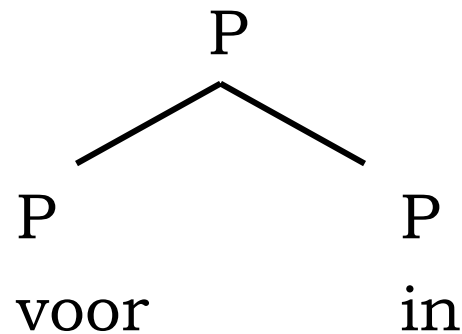
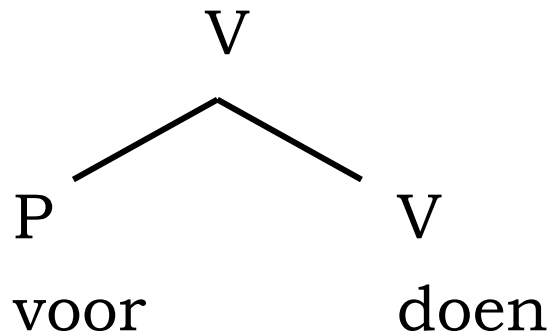
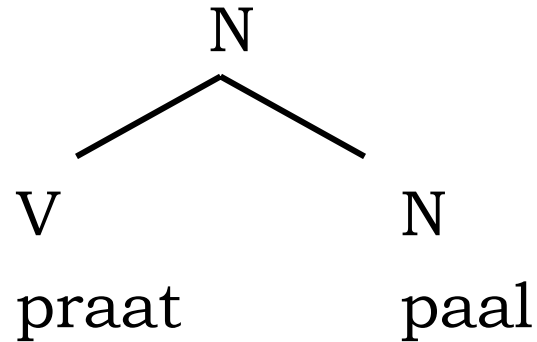
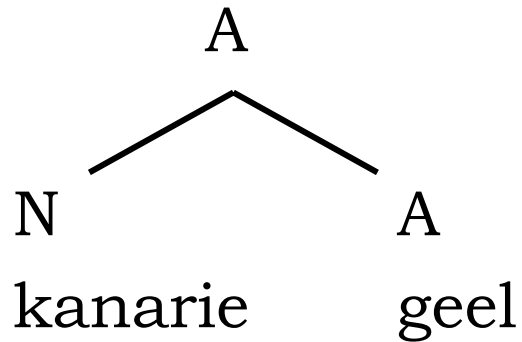
# Compounds

Connections between free morphemes:

- zeilweek
- zachtgroen
- opbellen
- achterop

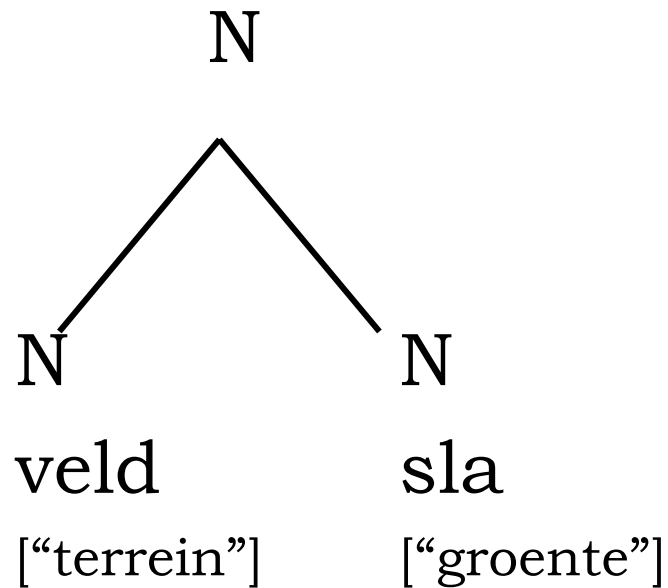
Categories: N = nouns, A = adverbs, P = prepositions, V = verbs

# Structure of a compound word

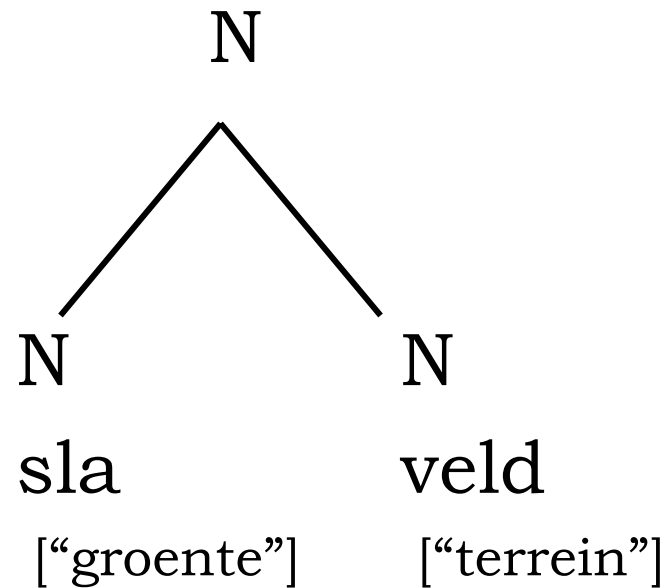


# Structure of compounds

veldsla: [“groente”]



slaveld: [“terrein”]





# Right Hand Head Rule

- The right element from the compounds is the head (determines the core meaning and characteristics of the compound):
  - veld*sla*
  - sla*veld*
  - kanarie*geel*
  - praat*paal*
  - voor*doen*
  - voor*in*

# Other characteristics

- Sometimes there is a “bindfoneem” :
  - koning-s-dochter
  - bes-e-sap
  - tand-en-borstel (but “tandpasta”)
- Word stress is often on the first part of the compound:
  - hóóggebergte – hoog gebérgte
  - smálfilmrolletje – smal filmrolletje
- Dutch and German allow very complex compounds:
  - randjongerenhangplekkenbeleidsambtenarensalaris-besprekingsafspraken

# Representation of the structure of derived words

- Can be represented as a binary tree structure
- These in turn can be represented with *labeled brackets*:
  - $[[\text{sla}]_N [\text{veld}]_N ]_N$
  - $[[\text{kanarie}]_N [\text{geel}]_A ]_A$
  - $[[[\text{veld}]_N [\text{sla}]_N ]_N [\text{bed}]_N ]_N$

# Derivations (Afleiding)

- A derivation is made when a free morpheme is combined with a bound morpheme
- 4 types of bound morphemes (type name: affixes in Dutch that belong to type):
  - prefixes: *ge-*, *on-*, *ont-*, etc.
  - suffixes: *-heid*, *-ing*, *-baar*, etc.
  - infixen: Dutch doesn't really have them
  - circumfixes: *ge-* + *-t/d*

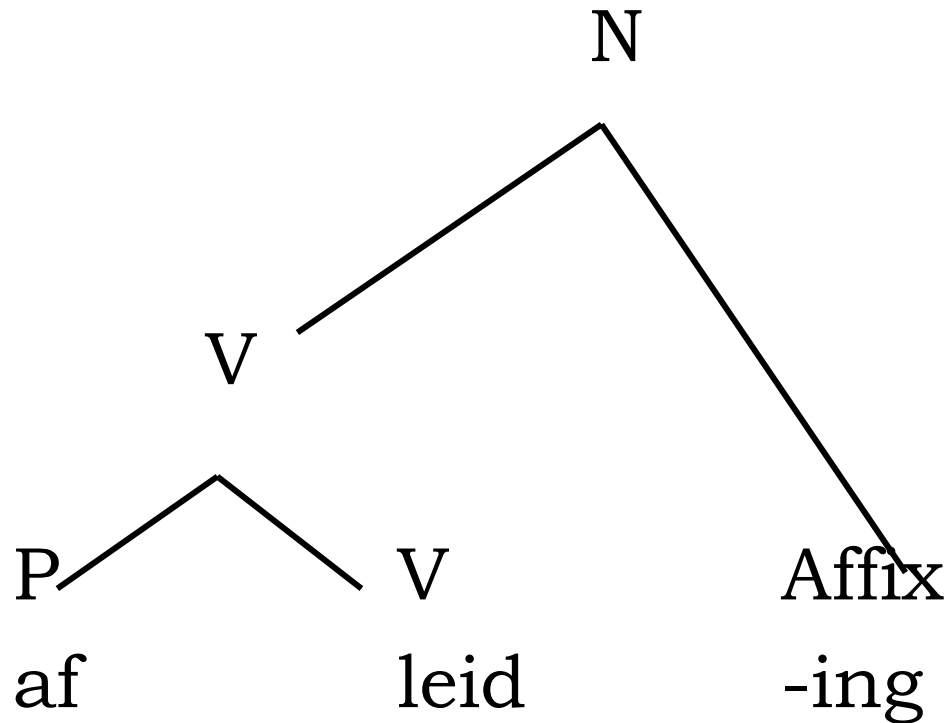
# English doesn't really have infixes either

- Tagalog: Philippino language famous for infixes

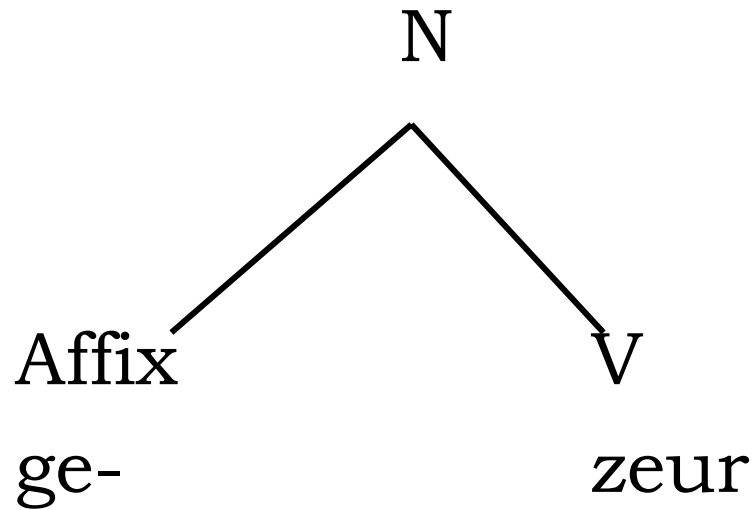
But English uses a kind of “infix” as a kind of “strengthenener”

- E.g. “unbelievable” → “un-f! @ # \$ % & \*believable!”
- E.g. “terrorism” → “terror ! @ # \$ % & \*ism!”

# Structure of a derivation



# Structure of a derivation



# Affix-percolation

- The Right Hand Head Rule doesn't apply to derivations e.g. *gezeur*.
- Characteristics of the affix “percolate” to the top level of the entire word: affix-percolation





# Bracketing paradox

Two groups of affixes:

- geel – gelig – geligheid
- geel – geelheid – \*geelheidig

Affixes seem to follow strict rules of what order they can be used: eerst *-ig*, dan *-heid*.

*-ig* → group-1-affix (Must be attached before group-2-affixes, can lead to a change in word stress)

– vĳand - vĳāndig

*-heid* → group-2-affix (doesn't affect word stress)

# Bracketing paradox



- Ongelukkigig = on- + gelukkig + -er
  - *on-*: group-2-affix
  - *-er*: group-1-affix
- Thus: first attach *-er*, then *on-*.
- Result: on[gelukkigig].
- The meaning that should be associated with *ongelukkigig* is ‘niet gelukkigig’.
- Problem: the actual meaning is ‘meer ongelukkigig’, which would seem to correspond to [ongelukkigig]er.
- Bracketing paradox.

# Derivations without affixes

Usual derivations are made with a base morpheme and one or more affixes, but there are some exceptions:

- Zero-derivation: nagel<sub>N</sub> → nagel<sub>V</sub>
- Ablaut: schiet<sub>V</sub> → schot<sub>N</sub>

# Difference between compounding and derivations

Telling the difference between compounding and derivations isn't always simple:

- Some free morphemes only occur in certain compounds:
  - aalbes = aal + bes



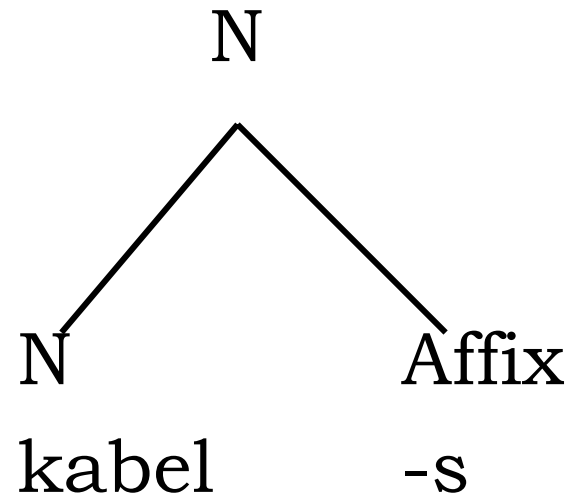
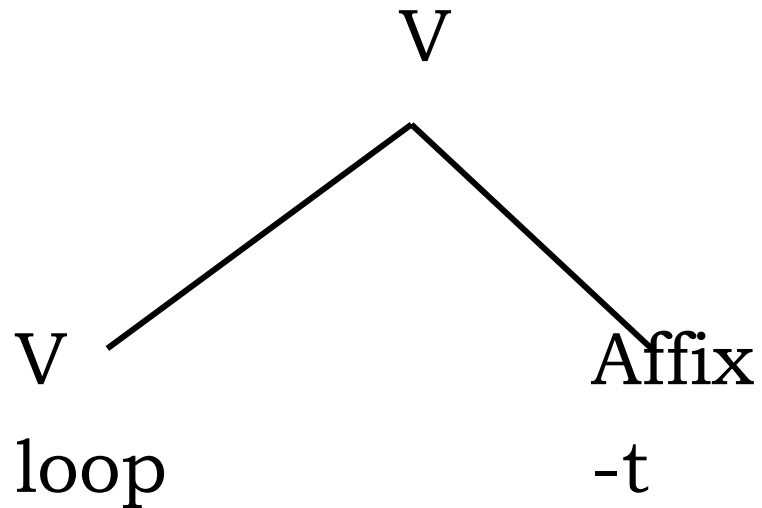
Languages change. Sometimes a word only remains in compounds or certain expressions

➔ Etymological dictionaries can help

# Inflections

- An inflection is a relationship between a free morpheme and an **inflectional**
- Inflectional affixes are dependent on the function of the word in the sentence, and contain grammatical information e.g.:
  - number (enkelvoud of meervoud)
  - tense (werkwoordstijd)
- Inflection uses information over word boundaries

# Structure of inflections



# Inflection of nouns

- Number (*getal*):
  - een fiets / \*een fietsen / twee fietsen
- Gender (*woordklasse*):
  - de hond / het paard (in Dutch the contrast is made between m/f – neuter)
- Case (*naamval*):
  - hij – hem (in Dutch you generally only find case with pronouns)

# Inflection of verbs

- Subject-verb-agreement (agreement in number and person):
  - Jan fietst / \*Jan fietsen / Jan en Piet fietsen
- Tense:
  - loop / liep / gelopen
- Voice (active or passive):
  - slaan / geslagen



# Distinction between derivation and inflection

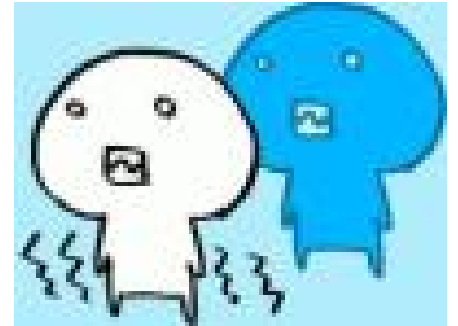
- Inflection doesn't result in a different part of speech
- Derivational affixes have their own meaning, (e.g. *on-*), inflectional affixes generally do not (bijv. *-t*)
- Inflectional affixes don't generally change word accents, some derivational affixes (nl. group-1-affixes) do
- Inflectional affixes are always found at the edges of words

# Other ways to make new words

- *Clipping*: auto (from automobiel), lab (from laboratorium), bieb (from bibliotheek).
- *Acronyms*: RUG, AIDS, ALICE, DINGFLOFBIPS.
- *Blends (Samensmeltingen)*: motel (motor + hotel), brunch (breakfast + lunch), smog (smoke + fog).
- *Brandnames*: luxaflex, maggi, spa rood.
- *Onomatopoeic*: koekoek.
- *Back formation*: Mabelgate (uit Watergate), cheeseburger (uit hamburger).
- *Loan words*: computer, restaurant, tomaat (Azteeks: tomatl), hangmat (Haïtisch: hamaca).

# Giongo, Giseigo, Gitaigo

- Giongo & Giseigo: Japanese words that mimic sounds or voices
- **Buruburu**: shivering with cold or fear
- **Zaazaa**: heavy rainfall



- **Pikapika**: giving off a bright light, shiny
- **Bukubuku**: the sound or appearance of something bubbling

# Recently acquisitions in Dutch

- Mabelgate
- poederbrief
- ontpaarsing
- gebotoxiseerde samenleving

# Making new words

- S????tor creates new names
  - For companies
  - For products
    - Can't be too similar to other product, but good if it relates well to the product
  - For medicine
    - Shouldn't be similar to other medicines
      - This could lead to confusion or potentially dangerous mistakes if the word sounds too similar
  - New names should avoid words that might be offensive or have the wrong connotation in other languages

# Some names that weren't portable

- Nova
  - Name for car, in Spanish speaking countries: “No go!”
- Kukident
  - Good connotation in German-speaking countries
    - “kaiserlicher und königlicher Hoflieferant”
  - In Swedish, vulgar name for male organ



# Next time...

- Syntax