

Variability of languages in time and space

Lecture 3: Inflectional and derivational morphemes, linguistic disciplines, word formation

Magda Ševčíková

October 26, 2018

Lecture 3 – October 26, 2018

① Types of grammatical morphemes

- Inflectional vs. derivational morphemes, paradigms
- Allomorphs, cranberry morphemes

② Linguistic disciplines

- From phonetics and phonology to semantics and pragmatics
- Morphology in grammar
- Grammar and lexicon, grammar and word formation

③ Word formation

- Adding bound morphemes (affixation)
- Combining free morphemes (compounding etc.)
- Without addition of derivational material (conversion etc.)

Lecture 3 – October 26, 2018

① Types of grammatical morphemes

- Inflectional vs. derivational morphemes, paradigms
- Allomorphs, cranberry morphemes

② Linguistic disciplines

- From phonetics and phonology to semantics and pragmatics
- Morphology in grammar
- Grammar and lexicon, grammar and word formation

③ Word formation

- Adding bound morphemes (affixation)
- Combining free morphemes (compounding etc.)
- Without addition of derivational material (conversion etc.)

Grammatical morphemes: inflectional vs. derivational

With respect to their function, grammatical morphemes (= bound morphemes / affixes) are subclassified into

- inflectional morphemes
 - are used to create word forms of a given lexeme with the same lexical meaning but different inflections
cf. *play-s*, *play-ed*, *play-ing*; *play-er-s*
- derivational morphemes
 - are used to form a new word
cf. *play-er*, *play-er-s*, *dis-taste-ful-ly*

Inflectional morphemes

- add inflectional features, do not change lexical meaning
 - *-s* in English nouns = *+plural*
- possibly cummulate inflectional meanings
 - *-s* in English verbs: *+3rd person +sg +present*
- occur outside derivational morphemes
 - *teach-er-s*
- form more regular and transpratent paradigms → items are predictable

Derivational morphemes

- change the meaning and/or the part-of-speech category of words
 - *-er* in English: *verb* → *noun*
- have specialized meanings, added in succession
 - Czech agent suffix *-tel* and feminine suffix *-ka*: *učí-tel-ka*
- derivational suffixes occur before inflectional morphemes
 - cf. *-er* before *-s* in *play-er-s*
- form less regular and transparent families → items hard to predict

- mentioned already in Dokulil (*Tvoření slov v češtině*, 1962)
- a more focused discussion since the 1990's
 - summarized by Štekauer in “Derivational Paradigms” (*The Oxford Handbook of Derivational Morphology*, ed. by Štekauer – Lieber, OUP, pp. 354–369)
- the most recent proposal
 - Olivier Bonami & Jana Strnadová: Paradigm structure and predictability in derivational morphology, *Morphology journal*, 2018, pp. 1–31, <https://doi.org/10.1007/s11525-018-9322-6>
- project ParaDis (Paradigms and Discrepancies)
 - identifying derivational paradigms in French
 - Nabil Hathout & Fiammetta Namer: La parasynthèse à travers les modèles : Des RCL au ParaDis. In O. Bonami et al. (éds.): *The lexeme in descriptive and theoretical morphology*, pp.365– 399. Berlin: Language Science Press. DOI: 10.5281/zenodo.1407015

Morpheme and allomorphs

Morphemes can be attested in more variants. If the form varies without changing the meaning, the variants are called **allomorphs** of a morpheme.

- allomorph = realization of a morpheme in a given phonemic or graphemic context, cf.
 - allomorphs of lexical morphemes:
tak-e, *took*
vz-í-t 'to take', *vez-m-e* '(he) takes'
od-véz-t 'to take away', *vůz* 'carriage'
 - allomorphs of the past participle suffix in
tak-en, *re-mov-ed*

Cranberry morpheme

There are morphemes in languages that are attested in a single word
= **cranberry morphemes**

- such a morpheme is found in the English word *cranberry*
- in spite of not being attested in any other word, *cran-* in *cranberry* seems to be a morpheme since it combines with *-berry* which is attested in other words (*blueberry*, *strawberry*, *rapsberry*)
- similarly, *-kňub-* in *nekňuba* is probably a morpheme as the word has the same morphemic structure as *nešika*, *nemluva*

1 Types of grammatical morphemes

- Inflectional vs. derivational morphemes, paradigms
- Allomorphs, cranberry morphemes

2 Linguistic disciplines

- From phonetics and phonology to semantics and pragmatics
- Morphology in grammar
- Grammar and lexicon, grammar and word formation

3 Word formation

- Adding bound morphemes (affixation)
- Combining free morphemes (compounding etc.)
- Without addition of derivational material (conversion etc.)

- ① Types of grammatical morphemes
 - Inflectional vs. derivational morphemes, paradigms
 - Allomorphs, cranberry morphemes
- ② Linguistic disciplines
 - From phonetics and phonology to semantics and pragmatics
 - Morphology in grammar
 - Grammar and lexicon, grammar and word formation
- ③ Word formation
 - Adding bound morphemes (affixation)
 - Combining free morphemes (compounding etc.)
 - Without addition of derivational material (conversion etc.)

- Proceeding from phonemes to more complex units in language, the following disciplines are discerned in linguistics, though their boundaries are rather fuzzy.
 - phonetics and phonology
 - = study of sound units of a language
 - morphology
 - = study of internal structure of words
 - syntax
 - = study of sentence structure
 - semantics
 - = study of meaning independently of context
 - pragmatics
 - = study of meaning in contexts

- **Phonetics** and **phonology** are disciplines that deal with sounds of a speech.
 - **Phonetics** focuses on how sounds are produced and perceived.
 - **Phonology** deals with the inventory of sounds items as with non-sign items from which linguistic signs are formed.
- e.g. phonetics answers the question which and how sounds are produced when pronouncing the sequence *bed* [ɛ]
- phonology analyses the sequence in opposition to *bad* [æ] pointing out that the pair of vowels [ɛ] and [æ] has a distinctive function in English, i.e. it differentiates the meaning of the given words

- **Morphology** deals with the internal – morphemic – structure of words, covering morphemes that convey both inflectional and derivational meanings
 - **Inflectional morphology** and **derivational morphology** are distinguished as two subfields of morphological research.
- Adopting the perspective of the speaker, the task of morphology is to deal with the inventory of morphemes and possible combinations to express both types of meanings.
- From the perspective of the hearer, morphology deals with how words are analysed into morphemes and assigned inflectional and derivational meanings.

- The patterns
 - on the basis of which words are combined into larger units up to sentences (the speaker's perspective)
 - to which sentences are analysed (the hearer's perspective)are subject of study of **syntax**.
 - in a cross-linguistic comparison of the sentence structure, subject, verb, and object are the most important sentence elements
 - order of these elements in simple indicative sentences is analysed across languages

- **Semantics** deals with the meaning of linguistic expressions
 - usually in abstraction from the contexts in which words and sentences are uttered.
- In this way, it differs from **pragmatics** which focuses on meanings that a sentence has in a particular context in which it is uttered
 - cf. *There's a car coming* (Matthews 2007)
 - in syntax: an indicative sentence
 - in pragmatics: a warning (if feeling endangered) or an expression of hope (if waiting for a taxi) etc. depending on the context

- Morphology and syntax subsumed under the term **grammar**
 - grammar limited to units that have meanings (to linguistic signs)
- Morphological and syntactic features considered grammatical structure of language

Any systematic account of the structure of a language; the patterns that it describes; the branch of linguistics concerned with such patterns. Often restricted to relations among units that have meaning. Hence opp. phonology: e.g. *singing* is a grammatical unit, as are *sing* and *-ing*, while [s] or the syllable [si] are phonological. Also opposed, though again not always, to a dictionary or the lexicon. E.g. the meanings of *sing* belong to its entry in the lexicon; the role of *-ing* to grammar, where it is described for verbs in general. When limited in these ways, the study of grammar reduces to that of morphology and syntax. Applied by Chomsky in the 1960s to the knowledge of a language developed in the minds of its speakers. A grammar in the widest sense was thus at once a set of rules etc. said to be internalized by members of a speech community, and an account, by a linguist, of such a grammar. This internalized grammar is effectively what is later called I-language.

Both grammar and lexicology involve us in an indefinitely large number of superficially different units. In the case of grammar these are phrases, clauses, and sentences; in the case of lexicology the units are words, or more precisely (since some of the units comprise more than one word) *lexical items*. It is typical of grammar to make general and abstract statements about the units concerned, showing a common construction despite the formal differences. It is typical of lexicology to make specific statements about individual units. In consequence, while the grammar of a language is best handled in chapters devoted to different types of construction, it is normal to deal with the lexicon of a language in an alphabetic dictionary, each entry devoted to a different lexical item.

- Derivational morphemes are studied by **derivational morphology**, which is a part of **grammar**.
- At the same time, derivational morphemes are in focus of **word formation**, which is another linguistic discipline that studies how new words are formed.
 - Derivational morphology can thus be seen as an intersection area between grammar and word formation.
 - esp. in the Anglo-Saxon linguistic tradition
 - in Czech and other languages esp. with rich inflectional morphology, derivation traditionally separated from inflectional morphology and thus not included in morphology (and grammar)

Another opposition, which is traditionally put in linguistics, is the opposition between **grammar** and **lexicon**:

- grammar is a set of patterns according to which
 - word forms of lexemes are formed
 - word forms are combined in sentences
- lexicon is an inventory of lexemes
 - meaning of lexemes and relations among them (the semantic structure of the lexicon) are studied in **lexicology**

Borderline between grammar and lexicon vs. lexicogrammar

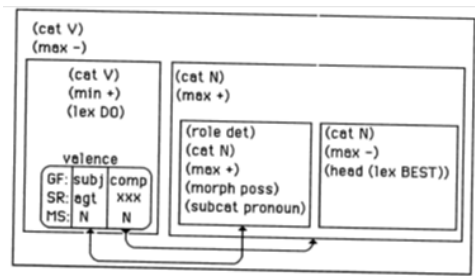
Issues in language that belong neither to the lexicon nor to grammar – both lexical and grammatical knowledge needs to be integrated, e.g.

- valency
- idioms
 - *by and large, krev a mlíko*
 - *to kick the bucket, hodit/házet flintu do žita*
 - *do one's best*

>>> the **lexicogrammatical** approach as an alternative

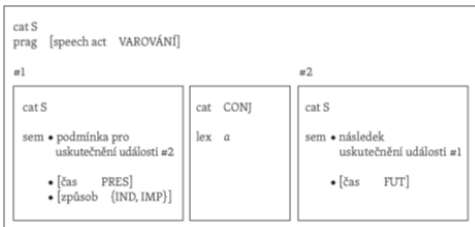
- grammar and lexicon as interconnected areas
- linguistic issues form a scale from clearly lexical topics to clearly grammatical ones

do one's best (Fillmore 1988, p. 49): *He did his best.*



konstrukce nepřímého varování typu [S1 a S2] (Fried 2013, s. 17)

– *Ještě jednou na to sáhneš / sáhni a bude zle!*



1 Types of grammatical morphemes

- Inflectional vs. derivational morphemes, paradigms
- Allomorphs, cranberry morphemes

2 Linguistic disciplines

- From phonetics and phonology to semantics and pragmatics
- Morphology in grammar
- Grammar and lexicon, grammar and word formation

3 Word formation

- Adding bound morphemes (affixation)
- Combining free morphemes (compounding etc.)
- Without addition of derivational material (conversion etc.)

1 Types of grammatical morphemes

- Inflectional vs. derivational morphemes, paradigms
- Allomorphs, cranberry morphemes

2 Linguistic disciplines

- From phonetics and phonology to semantics and pragmatics
- Morphology in grammar
- Grammar and lexicon, grammar and word formation

3 Word formation

- Adding bound morphemes (affixation)
- Combining free morphemes (compounding etc.)
- Without addition of derivational material (conversion etc.)

Word formation is formation of new complex words on the basis of existing words and morphemes.

- Words are formed by using both
 - **lexical / free morphemes**
 - can function as words, or be combined with other morphemes as **roots**
 - **grammatical / bound morphemes**
 - cannot be used separately
 - combined (as **affixes**) with free morphemes

- Štekauer et al. (2012) distinguish three groups of word-formation processes according to which type of morphemes is used:
 - ① adding bound morphemes (affixes):
 - ① affixation / derivation
 - ② combining free morphemes (roots):
 - ① compounding
 - ② reduplication
 - ③ blending
 - ③ without addition of derivational material:
 - ① conversion
 - ② stress, tone/pitch

Ad 1.1: Affixation

- Affixation / derivation

is formation of new lexemes by **adding bound morphemes** to a morpheme or to a word in order

(1) to **change its part-of-speech category**

- *bad*.adj > *badly*.adv
- *špatný* > *špatně*

(2) to **modify or add a non-grammatical meaning to it**

- *child*.noun > *childhood*.noun
- *učitel* > *učitelka*

(3) to do **both**

- *child*.noun > *childish*.adj
- *dítě* > *dětský*

Ad 1.1: Base word and derivative, motivation and foundation

- The word that enters the derivation is called a **base word**. The word that results from derivation is a **derivative**.
- The base word and the derivative are related both formally and semantically (Dokulil 1962):
 - the meaning of the derivative based on the meaning of the base word = **motivation**
 - the form of the derivative based on the form of the base word = **foundation**

Ad 1.1: Direction of derivation

- The direction of derivation is determined by applying the following assumptions:
 - the base word is expected to have a **simpler morphemic structure** than the derivative
 - the base word is expected to have a **broader meaning** than the derivative
- Additional, empirically observed features can be employed, e.g:
 - the base word is often **more frequent** than the derivative
- Examples:
 - *child* (47,629) > *childhood* (642) “state/period of being a child”
 - *large* (26,212) > *to enlarge* (503) “to make larger”
 - absolute frequency (in parentheses) based on the English section of the InterCorp corpus v10 (Klégr et al. 2017)

Ad 1.1: Types of derivation

- prefixation
 - a bound morpheme (prefix) is attached to the front of a word or of a free morpheme
- suffixation
 - a bound morpheme (suffix) is attached to the end of a word or of a free morpheme
- circumfixation
 - prefix and a suffix are added in one step
 - neither the prefix and the root nor the suffix and the root are attested alone
- infixation
 - a bound morpheme (infix) inserted into a free morpheme

Ad 1.1: Prefixation

- in English (Bauer 1983)
 - majority of prefixes of Latin and Greek origin
 - *moral* > a*moral*
 - *act* > i*nteract*
 - native prefixes from prepositions
 - *line* > u*nderline*
 - *load* > o*verload*
 - a continuum between prefixes and first parts of compounds
 - *psycho-*, *eco-*, *techno-*

Ad 1.1: Prefixation in Slavic languages

- mostly adding a semantic feature without changing the part-of-speech category
 - class-maintaining process
 - *veliký*.adj 'big' > *převeliký*.adj 'very big'
 - *psát*.verb 'write' > *zapsat*.verb 'write down'
- highly productive with verbs
 - e.g. Czech:
 - *psát* 'write' > *dopsat* 'finish writing'
 - *psát* 'write' > *připsat* 'add by writing'
 - *psát* 'write' > *vypsát* 'excerpt'
 - *psát* 'write' > *podepsat* 'sign'
 - *psát* 'write' > *nadepsat* 'entitle'
 - *psát* 'write' > *upsat (se)* 'subscribe'
 - *psát* 'write' > *vepsat* 'insert by writing'

Ad 1.1: Suffixation

- either as an addition of the suffix, or replacement of a suffix for another one
 - Czech *učitel* 'teacher' > *učitelka* 'female teacher'
 - Czech *tanečník* 'dancer' > *tanečnice* 'female dancer'
- both class-maintaining and class-changing process
 - German *Tänzer*.noun 'dancer' > *Tänzerin*.noun 'female dancer'
 - *work*.verb > *workers*.noun

Ad 1.1: Multiple prefixation and suffixation

- words can be derived through a sequence of prefixation or suffixation steps applied successively
 - prefixation and suffixation
 - *taste* > *tasteful* > *tastefully* > *distastefully*
or cf. an alternative analysis:
taste > *tasteful* > *distasteful* > *distastefully*
 - multiple prefixation
 - Czech *skočit* 'jump' > *vyskočit* 'jump up' > *povyskočit* 'jump up a little'
 - multiple suffixation
 - Czech *strom* 'tree' > *stromek* 'small tree' > *stromeček* 'very small tree'

Ad 1.1: Circumfixation

- derivation of collective nouns in Tagalog (Štekauer et al. 2012)
 - *Intsik* 'Chinese person' > *kaintsikan* 'the Chinese'
 - *pulo* 'island' > *kapuluan* 'archipelago'
 - derivation of adjectives of small portion of quality
 - *drzý* 'impudent' > *přidrzlý* 'slightly impudent'
 - neither **drzlý* nor **přidrží* attested in Czech
- must be distinguished from subsequent affixation:
cf. suffixation followed by prefixation
- Czech *otrávit*.verb 'poison' > *přiotrávit*.verb 'poison partially' > *přiotrávený*.adj 'partially poisoned'

Ad 1.1: Infixation

- an infix inserted before the last syllable to derive a negative in Hua (Štekauer et al. 2012)
 - *zgavo* 'embrace' > *zga-'a-vo* 'not embrace'
 - *harupo* 'slip' > *haru-'a-po* 'not slip'

Ad 2.1: Compounding

- Two (or more) free morphemes are combined to form a new lexeme
 - a compound prototypically consists of two parts
 - two root morphemes
 - first / left-hand part vs. second / right-hand part
 - with or without a linking element
- attested across languages, but delimited differently
- borders to other areas are not clear-cut
 - to derivation
 - cf. elements *eco-*, *techno-*, *agro-* interpreted either as prefixes or as first parts of compounds
 - to syntax
 - cf. *flower pot*, *flower-pot*, *flowerpot* (Lieber – Štekauer 2009)

Ad 2.1: Delimiting compounds in English

- Lieber (2005) discusses criteria used for delimitation of compounds in English – most of them are problematic:
 - stress (on the first part)
 - *trúck driver, ápple cake* (but *apple píe*)
 - spelling
 - varies a lot: *daisy wheel, daisy-wheel, daisywheel*
 - lexicalized meaning
 - not applicable to new compounds
 - unavailability of the first part to inflection, anaphora and coordination
 - but *children's hour, medical and life insurance*
 - inseparability of the first and second part
 - *truck driver* – **truck fast driver*

Ad 2.2: Reduplication

- A free morpheme is repeated to form a new word.
 - attested both in derivation and in inflection
 - more frequent in derivation
 - different functions:
 - Italian *neri neri* 'really black'
 - Czech *šir-o-šir-ý* 'extremely vast'
 - Spanish *Es un coche-coche* (is-a-car-car) 'It is a very good car'
 - Indonesian *buah-buah-an* (fruit-fruit) 'various sorts of fruit'

Ad 2.3: Blending

- Two free morphemes are reduced and joined to form a new word
 - En. *smoke* + *fog* > *smog*
 - En. *breakfast* + *lunch* > *brunch*
- the base morphemes often overlap in one or more phonemes/graphemes
- French *photocopy* + *pillage* > *photocopillage* ‘illegal photocopying’
- Italian *cantante* + *autore* > *cantautore* ‘singer-songwriter’

Ad 3.1: Conversion

- A new word is coined simply by the change of the part-of-speech category
 - *run.verb* > *run.noun*
- in languages with inflectional morphology, the change of the part-of-speech category can be seen as the change of the set of inflectional features (change of inflectional paradigm)
= **transflexion**
 - Czech *zlý.adj* 'evil' > *zlo.noun* 'evil'
 - German *schlafen.verb* 'sleep' > *Schlaf.noun* 'sleep'

Ad 3.2: Stress and tone / pitch

- Rarely, the replacement of stress is used to form new words
 - En. *recórd*.verb > *récord*.noun
- Similarly, tone / pitch is shifted to form new words
 - e.g. in Vietnamese

References

- Aarts, B. – McMahon, A. (2006): *The Handbook of English Linguistics*. Wiley-Blackwell.
- Bauer, L. – Lieber, R. – Plag, I. (2013): *The Oxford Reference Guide to English Morphology*. Oxford: OUP.
- Booij, G. E. et al. (2000; 2004): *Morphology. An International Handbook on Inflection and Word-Formation*. Volume 1, 2, Berlin – New York: de Gruyter.
- Bybee, J. L. (2001): *Phonology and Language Use*. Cambridge: CUP.
- Cruse, D. A. (1986): *Lexical Semantics*. Cambridge: CUP.
- Crystal, D. (1997): *The Cambridge Encyclopedia of Language*. Cambridge: CUP.
- Fillmore, Ch. J. (1988): The Mechanisms of 'Construction Grammar'. In *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistic Society* 14, pp. 35–55.
- Fillmore, Ch. – O'Conner, P. K. (1988): Regularity and Idiomaticity in Grammatical Constructions: The Case of let alone. *Language* 64, pp. 501–538.
- Fried, M. (2013): Pojem konstrukce v konstrukční gramatice. *Časopis pro moderní filologii* 95, s. 9–27.
- Klégr, A. et al. (2017): *Korpus InterCorp – angličtina, verze 10 z 1. 12. 2017*. Praha: ÚČNK FF UK. Available online <http://www.korpus.cz>
- Matthews, P. H. (2007): *The Concise Oxford Dictionary of Linguistics*. Oxford: OUP.
- Štekauer, P. – Lieber, R. (eds.; 2005): *Handbook of Word-Formation*. Dordrecht: Springer.
- Štekauer, P. et al. (2012): *Word-Formation in the World's Languages*. Cambridge: Cambridge University Press.