Lexicology: Introduction

- Structuralism: lexis, lexicon and their study were considered to be of minor importance. Grammar and syntax were in the centre of interest.
- BUT: ...almost everything in language is related in some way or another to words.” (Singleton 2000:1)

Association between the word and language

- I want a word with you.
- The Prime Minister’s words have been misinterpreted by the media.
- Jemandem das Wort entziehen.
- Keine großen Worte machen.
- ...
  - Words are vital for communication!

What’s in a word?

What’s in a word?

Definitions/approaches

- The orthographic approach
- The phonetic approach
- The phonological approach
- The semantic approach
- The grammatical approach

Terminology

- Lexeme
- Word-form
- Citation form
- Lexical word (content word, full word)
- Function word (grammatical word, empty word)
Lexicon and other linguistic subdisciplines

- Phonology
- Morphology
- Syntax
- Semantics
- Lexicography
- Historical linguistics
- Psycho-linguistics
- Lexicology
- Sociolinguistics
- Historical linguistics
- Psycho-linguistics
- Lexicology
- Lexicon and other linguistic subdisciplines

Morphology and the lexicon

- “[...] it is the word, rather than the morpheme, that is regarded as the key unit of morphological analysis.” (Katamba 1993: 89)
- “[...] there is a symbiotic relationship between the rules that build the morphological structure of a word and the phonological rules responsible for the way a word is pronounced.” (ibid.)
- “All these rules are found in the lexicon where they are organised in blocks called strata (or levels or layers) which are arranged hierarchically [...].” (ibid.)
- “Central to lexical morphology is the principle that the morphological component of a grammar is organised in a series of hierarchical strata [...].” (ibid.)

Lexical strata

- Two classes of English affixes
  - Neutral:
    - No phonological effect on the base
    - Serious – serious-ness; power – powerless;
  - Non-neutral
    - Effect on the consonant or vowel segments, or the location of stress
    - Strategy – strategic; employ – employee; wide - width
- Also referred to as: secondary and primary affixes

Ordering of strata/level ordering

- Affixes are added at different strata in the lexicon
- Each stratum of the lexicon has associated with it a set of morphological rules which are responsible for the word-formation processes
- The morphological rules are linked to phonological rules
- The inflectional and derivational processes involved in the building of complex word-forms belong either to stratum 1 or to stratum 2

Derivation

- The ordering of the strata in the lexicon reflects the ordering of word-formation processes
- The underived root is like the nucleus of the word
- Primary (non-neutral) affixes are attached first at stratum 1
- The processes of compounding and the attachment of secondary, neutral, affixes, happen at stratum 2
- Stratum 1 affixes are therefore closer to the root of the word
- Stratum 2 affixes form an outer layer

Example:

```
[grammar] → [grammarism-ism-ian]
```

Graphical representation of the ordering of affixes in the lexicon:

- Stratum 1 affix
- Stratum 2 affix
- Root
- Stratum 1 affix
- Stratum 2 affix
- Example:
  - grammar
  - -ism
  - -ian
- [grammar] → [grammarism-ism-ian]
Examples

- Stratum 1 affixes:
  - -ity: sane > sanity; extreme > extremity
  - -ory: explain > explanatory
  - -acy: supreme > supremacy

- Stratum 2 affixes:
  - -ness: remote > remoteness
  - -ful: purpose > purposeful
  - -ly: severe > severely
  - -wise: money > moneywise

Inflection

- Similar to derivational processes:
  - Non-neutral processes are found at stratum 1
  - Neutral processes are found at stratum 2

- Most stratum 1 inflectional affixes are either
  1. Erratic morphemes whose behaviour is unpredictable
  2. Relics of formerly productive inflectional processes
  3. Borrowed affixes which are mostly restricted to those loanwords from a foreign language

Frozen historical relics

- **Ablaut**: change in a root vowel which indicates a change in grammatical function
  - ride > rode: \([\text{r}a\text{ud}] \rightarrow [\text{r}\text{ood}]\)
  - Pattern of vowel alternation goes back to IE
  - Reflexes of Old English ‘strong verbs’
  - **Blocking effect** applies at stratum 1 and pre-empts the regular past tense formation found at stratum 2

- **Umlaut**: the fronting of a vowel if the next syllable contains a front vowel
  - Originally phonologically conditioned but eventually became a morphological process for marking plurality in a small set of nouns
    - foot > feet; goose > geese; tooth > teeth, louse > lice, mouse > mice
  - **Fossilised process**
  - Other fossilised plural affixes: -en as in oxen, children, brethren

Borrowed inflectional affixes

- Loanwords borrowed from Latin and Greek
  - stratum > strata
  - erratum > errata

- Reanalysis as a singular noun sometimes possible
  - E.g.: media, data

Lexical rules

- **Lexical rules** build words in the lexicon
  - The lexicon contains word-formation rules which form words out of bases/roots and affixes
  - Lexical rules are cyclic, i.e. phonological rules are linked with morphological rules
  - The morphs required to build a word are generated by morphological rules and the word is subsequently submitted to the rules of the phonological module at the same stratum
Example: *beds and pets*

- The nuclei *bed* and *pet* have no plural assignment at stratum 1, thus the regular −s plural suffixation applies by default:
  - **Stratum 2:**
    - Insert −s in environment [Y___] Word + Plural
    - Output Y-s
  - *Bed-s* and *pet-s* are produced by this morphological rule
- These words are immediately submitted to the phonological rule of assimilation, which indicate how the word created by the morphological rule has to be pronounced:
  - > /bed-s/ /pet-s/

**Hierarchical ordering of strata**

- Morphological processes are ordered hierarchically
- All lexical processes precede post-lexical processes (see below)
- Stratum 1 processes precede stratum 2 processes (see above)
- Affixes of the same stratum are also ordered:

**Ordering restrictions within the same stratum**

- *-ful, -less, -ness* are stratum 2 affixes
- They can co-occur in a word
- *-ness* attaches to adjective bases to form abstract nouns, whereas *−less* and *−ful* attach to nouns to form adjectives
- Thus, *−less* or *−ful* must be attached to a noun first, thereby turning it to an adjective, before *−ness* can be attached:
  - Examples:
    - home − less − ness
    - care − ful − ness

**Post-lexical processes**

- Post-lexical rules work on words once they are fully formed in the lexicon and processed by the syntax
- These rules can apply across word boundaries, to words which have been grouped together into phrases
- Example: deletion of word-final alveolar stop in a consonant cluster, if the following word has a word-initial consonant:
  - last trip: /last tri p/ → [lsts tri p]
  - lost property: /lost propu ty/ → [lsts propu ty] 
  - it's not: /itsnot/ → [tsnot]

Where both derivational and inflectional morphemes are attached at the same stratum, derivational morphemes are nearer to the root than inflectional morphemes

Thus: derivational processes precede inflectional processes at the same stratum:

- work − er − s
- *work − ∅ − ∅"
Lexicon and syntax

- Relationship between syntactic patterns and certain lexemes
- Lexemes do not occur in isolation but are usually combined into larger units such as phrases and sentences
- Combination of lexemes is rule-governed
- Approaches to syntax and to the relationship between syntax and lexicon search to explain the generation of grammatical vs. ungrammatical sentences, i.e. possible vs. impossible structures
- Role of the lexicon in the structuring of sentences

The role of the lexicon

- Lexemes seem to contain grammatical information
- Lexemes therefore seem to determine the syntactic shape of sentences
- Examples:
  - This question concerns Peter.
  - Peter is concerned by the question.
  - This question regards Peter.
  - Peter is regarded by this question

Approaches to syntax

- The computational perspective
- Lexicogrammar
- Valency Grammar
- Generative Grammar
- Lexical Functional Grammar

Computational linguistics

- Applied approach => machine translation
- Corpus linguistics
- Problems?
  - Difficulty of separating lexis and grammar
  - Fuzzy categories
  - Collocations (cf. next section)
  - Lexicography (cf. session on July, 11th)

Lexicogrammar

- Halliday
- Lexis and syntax are regarded as the two poles of a continuum = lexicogrammar
- Syntactic distinctions are not qualitatively different from lexical distinctions
  - man – pregnant
  - mass – count nouns
  - Interaction between extra-linguistic reality and intra-linguistic reality
Valency grammar

- Student's presentation

Generative grammar

- Chomsky
- 1957-1965: Transformational Generative Grammar
- Attempts to account for the structure of all the grammatical sentences of a language
- Intuition; intuitive knowledge about acceptability of sentences (competence)
- Finite set of words
- Finite set of rules
- Generation of an infinite set of sentences
- Recursive rules
- Productivity

Categories and lexicon

- From 1968 onwards: Extended Standard Theory
- The lexicon contains information about the category membership of the lexemes
- Lexemes of the same category share grammatically significant properties
- Grammatical rules which refer to categories rather than to particular lexemes are more general and thus a better approach to productivity and to the question how an infinite number of sentences is generated from a finite set of rules and lexical items

Lexemes and their syntactic behaviour

- The following aspects determine the syntactic behaviour of a lexeme
  - The syntactic category label (N, V, Adj., Det...)
    - Distribution is limited to nodes bearing the same label as defined by phrase structure rules
  - Rule feature
    - Triggering the application of particular transformations such as Tough Movement (it is hard to please Lisa > Lisa is hard to please)

Lexical Functional Grammar

- Joan Bresnan; Ronald Kaplan
- Name reflects the central characteristics of this approach
- Role of the lexicon is central
- Lexical entries are elaborate
- Every single inflected form has its own entry
- Grammatical relations are called grammatical functions

- Subcategorisation features
  - Specification of the number of sister constituents the lexeme requires or allows as well as the syntactic category of these sister constituents
  - I.e.: eat subcategorizes for an optional direct object NP, while describe subcategorizes for an obligatory NP
- Selectional restrictions
  - Specification of the semantic properties of the surrounding constituents
  - I.e.: drink requires that the NP following it denote a liquid
Phenomena that are explained by the interaction of transformations are accounted for by the regular interaction of lexical processes.

Example: passivisation and further lexical rules, such as adjective conversion and compounding (snow-covered).

Recognition of two syntactic levels of representation:
- C-structure: constituent structure tree
  - The outer, visible hierarchical organisation of words into phrases
- F-structure: information on grammatical functions
  - The inner, more abstract hierarchical organisation of grammatical functions into complex functional structures
  - Contains all the necessary information for the semantic interpretation of an utterance.

C-structure
- Encodes phrasal dominance and precedence relations
- Is represented as a phrase structure tree

F-structure
- Encodes syntactic predicate-argument structure
- Is represented as an attribute-value matrix
- Consists of a collection of attributes (e.g., PRED, SUBJ, OBJ) whose values can be other f-structures.

Lexical partnerships
- Collocational range: nice
- Restricted collocational range: addled, blond
- Fixed expressions
- Collocations
- Idioms
- Proverbs, sayings
- Compounds
  - There are lexical units which consist of more than one word
  - Knowledge of lexical partnerships is of vital importance especially to the language user.

Collocational research
- On the basis of corpora:
  - small vs. little
  - big vs. large vs. great
  - to start with vs. to begin with
- Group work with texts by D. Biber et al. 1998. *Corpus Linguistics*
Lexicon and meaning

- Relationship between words and meaning
- ‘Real world’
- Referent
- Denotation vs. connotation

Structuralist approaches to meaning

- Structuralism:
- De Saussure (Europe)
- Language as a system
- Sets of distinctive features
- Synchronic vs. diachronic linguistics
- Neglect of psychological factors

Semantic field theory

- Rejection of the view that the vocabulary is unordered
- Long tradition in Germany (Trier, Weisgerber)
- Assumption that meanings represented in the lexicon are interrelated and cluster together to form so-called fields of meanings
- These fields of meaning cluster into even larger fields until all lexemes of a language are comprised
- The entire lexicon can be divided and subdivided into interlinked fields

Semantic field theory

- Lexical vs. semantic vs. word fields?
- “… a set of lexemes which cover a certain conceptual domain and which bear certain specifiable relations to each other.” (Lehrer 1985)
- Words have field properties which unite them
- The lexemes within each field interrelate and define each other
- Lexemes cannot be seen in isolation

Semantic field theory

- Lexemes are systematically related
- The semantic value of a lexeme is always relative to the semantic value of another semantically related lexeme
- The image of a mosaic: Language is divided into adjoining small areas
- Assumption of absence of gaps
Examples: Group work

- Semantic fields
- Colour
- Kinship terms
- Love
- Lexical fields
  - Nucleus: die
  - Nucleus: kill
  - Nucleus: move

Criticism/weaknesses

- Words cannot always be separated from each other
- Clear delineation between words and fields difficult
- Fuzzy boundaries → focal points, prototypes
- Syntagmatic relations are neglected
- Notion of absence of gaps is contradicted by linguistics facts:

Absence of gaps?

- English cooking terms:

<table>
<thead>
<tr>
<th>Conducted heat (oven)</th>
<th>Radiated heat (fire)</th>
<th>Contact heat (pan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>with water, without oil vaporized</td>
<td>steam</td>
<td></td>
</tr>
<tr>
<td>not vaporized</td>
<td>boil</td>
<td></td>
</tr>
<tr>
<td>with oil, without water</td>
<td>(oven-fry)</td>
<td>X</td>
</tr>
<tr>
<td>without oil, without water</td>
<td>bake</td>
<td>broil</td>
</tr>
</tbody>
</table>

  Figure 2. English cooking terms (after Lehrer 1974).

Componential analysis

- Student’s presentation