Universität Leipzig
Seminar: Wo ist die Morphologie?
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CATEGORIES IN THE LEXICON
Don (2004)

OUTLOOK

- Roots are stored in the lexicon with a categorial specification.
- Conversion is a directional process with one form being more 'basic' than the other.
- This view runs contrary to the theory of Distributed Morphology where roots are (categorially) underspecified.
- Evidence for categorial specification comes from Dutch and English data.

1. CONVERSION

UNDERSPECIFICATION ANALYSIS

(1) Zero derivation

$\sqrt{\text{HATE}}$ $\rightarrow$ [hate]$_V$

$\rightarrow$ [hate]$_N$

- The root $\sqrt{\text{HATE}}$ appears as a verb, if it is inserted under a syntactically verbal node, and as the noun if it is inserted under a nominal node.
- There is no direct morphological relation between the two forms, i.e. neither is derived from the other.
- Therefore, "derived nominals" and "denominal verbs" are essentially appearances of the same root in different syntactic environments.

DIRECTIONAL CONVERSION

(2) Zero derivation

a. [hate]$_V$ $\rightarrow$ [hate]$_N$

b. [hate]$_V$ $\leftarrow$ [hate]$_N$

- Conversion is a directional process, in the sense that one form is more basic than the other.
- The relation between the verb hate and the noun hate should therefore be represented as in (2), depending on which process we are dealing with: verb-to-noun conversion (2b) or noun-to-verb-conversion (2a).

- Roots should be stored with categorical specifications.

2. ARGUMENTS FOR DIRECTIONALITY OF CONVERSION

2.1 ENGLISH SYLLABLE-STRESS (KIPARSKY 1997)

- English disyllabic verbs do not always have a verbal stress pattern (second-syllable stress) but can have a nominal one (first-syllable stress) if they are denominal (3b).

(3) a. [tormént]$_V$ $\rightarrow$ [tórmènt]$_N$ *[tormént]$_N$

b. [páttern]$_N$ $\rightarrow$ *[pàttérn]$_V$ [páttern]$_V$

- By assuming that V$\rightarrow$N conversion operates before the stress rules, which in turn apply before N$\rightarrow$V conversion, the stress patterns in (3) follow.
- If we do not distinguish between two different directions of conversion, it is far from obvious how the difference between (3a) and (3b) might be accounted for.

2.2 IRREGULAR PAST INFLECTION IN ENGLISH: VERBS ENDING IN –ink/ -ing

Observation

This class of verbs almost exclusively exhibits irregular inflection, e.g. *to drink, to think, to cling, to sing, to string, to ring.* The few exceptions, like for example, *to ring* (what one does with birds), *to ink*, etc. all have phonologically identical nouns (a *ring*, the *ink*).

This observation follows directly from directionality of conversion:

(4) irregular verb – underived verbal stem

regular verb – N$\rightarrow$V conversion

$\rightarrow$ By assuming that irregular inflection is a property of underived verbal stems, we can easily account for the fact that precisely the regularly inflected ones have a phonologically identical nominal counterpart: in these cases, the verb is derived through noun-to-verb conversion.

2.3 DUTCH MORPHOLOGY: GENDER AND INFLECTION TYPE

Dutch has a gender distinction between neuter and non-neuter. The gender of a noun can be seen from the choice of definite article, which is either *het* for neuter nouns, or *de* for non-neuters.

Dutch verbs also fall into two main classes: regular verbs, using the same stem in all tenses; and the so-called "strong" or irregular verbs, which have different stems in different tenses and in some cases deviant inflection endings.

Given these two classes of nouns and two classes of verbs, without further assumptions we expect four types of conversion pairs to occur:

(5)

	non-neuter noun	neuter noun
regular verb	fiets – de fiets 'bike' ren – de ren 'run' tel – de tel 'count'	werk – het werk 'work' deel – het deel 'part' feest – het feest 'party'
irregular verb	val – de val 'fall' wijk – de wijk 'flee' lool – de loop 'walk'	no examples
	V→N	N→V

The lack of data for the pairing *irregular verb – neuter noun* can be explained under a directional view of conversion.

(6) V→N   –   non-neuter nouns
   N→V   –   regular verbs

If the two processes in (6) are the only way to make new words from phonological identical forms, then the pairs of irregular verbs and neuter nouns are expected to be nonexistent.

Further evidence that V→N renders non-neuters in Dutch:

- There are nouns, with the same semantics as the deverbal conversions but marked by the affix *–ing*, which are also non-neuter (*de verwoest-ing* 'destruction', *de weiger-ing* 'refusal').
- Another class contains nouns which consist of a particle and a verbal stem (*de aan-vang* 'beginning', **de vang*, *de aan-voer* 'supply', **de voer*). The fact that these nouns are all non-neuter is further support for the hypothesis that V→N renders non-neuter nouns.

What could a possible DM analysis look like?

2.4 DUTCH PHONOLOGY: SYLLABLE STRUCTURE

According to Trommelen (1989), Dutch nouns may have far more complex syllable structures than verbs.

- Verbs have a very limited phonological make-up: they are restricted to monosyllables, with a heavily constrained rhyme structure, or to disyllabic forms with the same restrictions on the rhyme of the first, and of which the last syllable contains a schwa.
- All verbs with a complex syllable structure and multisyllabic verbs (i.e. containing at least two full vowels) have a nominal counterpart, while only verbs with simple syllable structure have no nominal counterparts (7).

(7) Relation between verb syllable structure and nominal counterpart

	Simple syllable structure	Complex syllable structure
With identical noun	numerous examples: *bal, lepel, kat,* etc.	some examples: *oggst, feest, fiets*
No identical noun	numerous examples: *win, kom, vang,* etc.	no examples
	underived verbs	derived verbs N→V

So, as in the case of gender and irregular inflection, here again we are confronted with a systematic gap in the set of lexical items, as illustrated in the table in (7).

The gap again follows from directionality of conversion and by assuming some kind of "simple-syllable-structure constraint" that holds for underived verbs only.

Again, what could a possible DM analysis look like?

3. ARGUMENTS FOR A CATEGORY-LESS LEXICON

Chomsky's (1972) argument repeated by Marantz (1997):

(8) a.   John destroys the city
   b.   John's destruction of the city
   c.   John grows tomatoes
   d.   *John's growth of tomatoes

- The root √GROW does not allow for an external causer, GROW being a root of the class "change-of-state; internal causation".
- The "cause" argument in (8c) must result from a higher (soundless) "little v" with which the root combines.
- It follows from the ungrammaticality of (8d) that derived nominals can only be formed from the lexical root and not from the combination of the root with this cause-root.

However, the same argument goes through if we assume that *grow* belongs to the category V, which in (8c) is combined with a higher little v, where in (8d) the noun *growth* cannot be combined with this verbal node.

Argument from L1 acquisition

- Deriving the categorial specification of words from syntax rather than from the lexicon would be much more economical and would make the child's task to learn language a lot easier

4. ENGLISH DENOMINAL VERBS

Kiparsky (1997) notes a clear difference between the verbs in (9) and those in (10).

(9)   to tape, to chain, to button, to bicycle, to screw, to padlock, to snowplow
(10)   to hammer, to brush, to paddle, to string, to whistle, to saw, to anchor

- The verbs in (10) all allow for an adverbial phrase (of instrument) containing a noun that is different from the "supposed" incorporated noun after which the verb is named (12), while the verbs in (9) do not allow for such adverbials (11).

(11)   *to tape with pushpins
        *to chain with a rope
        *to button with a zipper
(12)   to hammer with a shoe
        to brush with your hand
        to paddle with a board

- According to Kiparsky, this observation can be explained by assuming that the verbs in (10) are instances of underived verbs (which have a root that is phonologically identical to a noun). Those in (9), however, should be taken as actually derived from nouns.

Harley (1999, 2001) supports the idea of a category-less lexicon by deriving aspectual properties of denominal verbs and specific semantic properties of nouns from the same "underlying" property of the roots involved.

(13)   Correlation of the aspectual properties of verbs and the semantic properties of nouns with the boundedness of the underlying root

	Aspect	**Countability**
Bounded root e.g. √FOAL	telic *to foal*	count noun *a foal*
Unbounded root e.g. √DROOL	atelic *to drool*	mass noun *a drool, the drool*

- This corresponds to the well-known observation from Verkuyl (1972) that certain objects may determine the aspectual properties of the verb phrase (14).

(14)   a. Mary drank beer   for hours/#in an hour
        b. Mary drank a pint of beer   #for hours/in an hour

- Now a problem arises for verbs like *hammer* and *brush*. Despite the fact that these verbs have an incorporated root that is clearly bounded, the verb becomes atelic (15).

(15)   she hammered the metal   for five minutes/#in five minutes

- This is true of all instrumental verbs and may not be too problematic in view of the fact that it is in accordance with the observation that in sentences like (16), the verb is also atelic.

(16)   she beat the metal with a hammer   for five minutes/#in five minutes

- Harley therefore proposes that it is the adverbial instrumental phrase that somehow incorporates into the verb in a process she calls "manner incorporation" which allows an adverbial of manner to be incorporated in the verbal head of the structure.

  !!! Such an analysis flies in the face of the basic tenets of the theory which tries to derive restrictions on word formation from syntactic principles such as the ECP, which – among other things – bans incorporation of adjuncts.

5. CONCLUSION

An underspecification analysis of words might be conceptually an appealing one (economy), but ample evidence from Dutch gender and inflection type as well as from English irregular verbs suggests that roots are marked in the lexicon for categorial status.

6. REFERENCES

Don, Jan. (2004). Categories in the Lexicon. *Linguistics,* 931-956.