

Morphology as a module of grammar?

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1 7 3 7

Syntax and Morphology

- ▶ Architecture of the grammar:
 - ▶ Phonology
 - ▶ Morphology
 - ▶ Syntax
 - ▶ Semantics
- ▶ Language as a pairing of form and meaning:

form ≈ phonology

meaning ≈ semantics

pairing ≈ syntax+morphology

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Syntax and Morphology

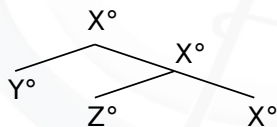
Conceptual and theoretical arguments in favour of a unified module:

- ▶ There is no obvious functional distinction.
- ▶ Both are generative systems manipulating the same objects: heads.
- ▶ **What is a word?** (Dixon & Aikhenvald 2002, Haspelmath 2011)

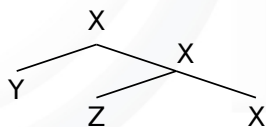
Bare Phrase Structure

- ▶ *Merge* as the only structure-building operation.
- ▶ X° : minimal (non-projecting) head.
- ▶ XP: maximal projection of X.

(1) a.

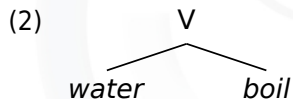


b.



Bare Phrase Structure

- ▶ Suppose we have the structure in (2):



- ▶ We do not know at this point whether the derivation is going to yield *to boil water* or *water boiler*.

Bare Phrase Structure

Representations such as those in (3) and (4) are not distinguished in BPS:



Models of grammar are based on the intuition that there is a distinction between the word level and the phrasal level.

Proposal

- ▶ An optical (or rather acoustic) illusion:

- (4) a. PWd \approx “Morphology”
b. PPhr \approx “Syntax”

The structure-building mechanism does not determine onto which level in the prosodic hierarchy a structure is mapped.

(Separation Hypothesis, Beard 1988)

Arabic verbal nouns

- (5) *ʔaqlaqa-nī -ntiqād-u -l-rajul-i -l-mašrūf-a*
annoy-1sg.O criticising-NOM DEF-man-GEN DEF-project-ACC
'The man's criticising the project annoyed me.'

Properties:

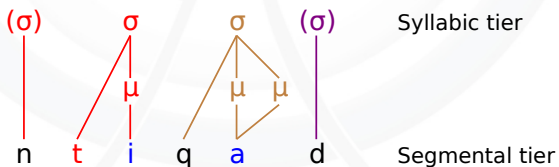
- ▶ Regular form (in most verb stems).
- ▶ *Event-Structure*.
- ▶ Subject takes genitive case.
- ▶ Object takes genitive case when no subject is present, otherwise accusative or PP.
- ▶ In other words: *Poss-ing* or *Ing-of* (Abney 1987).

Arabic verbal nouns

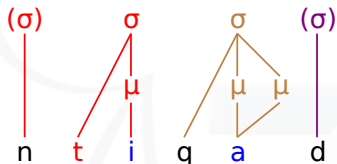
McCarthy & Prince's (1990) account:

Form: *intiqa'd*

Root:	/nq d/	Nominalizer:	/i.a/
Stem VIII:	(σ) σ_{μ} t	Non-finite:	$-\sigma_{\mu\mu}$

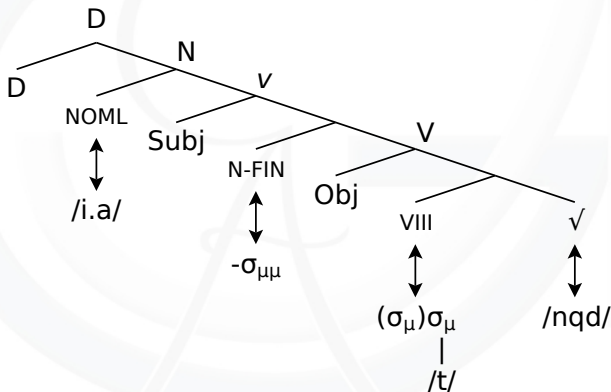


Arabic verbal nouns



- ▶ The four morphemes are ordered based on phonological principles *only*.

Arabic verbal nouns



Arabic verbal nouns

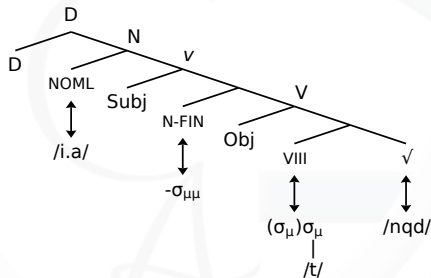
- ▶ The four morphemes in the word form *intiqād* need to be combined.
- ▶ Only phonology needs to “know” that the four morphemes need to be combined; syntax does not.
- ▶ Syntax/phonology mapping principle:

(6) *Input Correspondence*:

If A selects (a projection of) B, $\Phi(A)$ selects $\Phi(B)$.

(Ackema & Neeleman 2004, cf. also Sadock 1992)

Arabic verbal nouns



- ▶ VIII selects \checkmark , N-FIN selects VIII, and NOML selects N-FIN.
- ▶ There is no need for a distinct subtree containing these four heads.
- ▶ By Input Correspondence, all four morphemes must be realised in a single form.

Phonological composition

- ▶ Syntax creates hierarchical feature structures (BPS, no linear order).
- ▶ The phonological chunks associated with syntactic heads are assembled into a phonologically licit form.
- ▶ Principles relevant to phonological composition:

- (7) a. Phonological principles
- b. Mapping principles

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Latin *-que*

(8) *bonī puerī bonae-que puellae*
good boys good-and girls
'good boys and good girls'

- ▶ Embick & Noyer (2001) argue that *-que* attaches to the first MWd of its complement.

1 7 3 7

Latin *-que*

Note the following data (Embick & Noyer 2001: 576):

(9) a. *circum-que ea loca*
around-and those places
'and around those places'

b. *contrā-que lēgem*
against-and law
'and against the law'

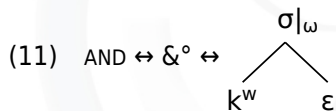
(10) a. *in rēbus-que*
in things-and
'and in things'

b. *dē prōvinciā-que*
from province-and
'and from the province'

-que attaches after the first PWd (Agbayani & Golston 2010).

Latin *-que*

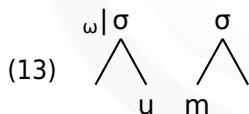
- ▶ Latin *-que* is a *prosodic* morpheme:



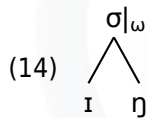
- ▶ The phonological form of *-que* specifies that it is a syllable that must appear at the right edge of a PWd.

Tagalog *-um-*

- (12) a. *aral - um·aral*
b. *sulat - s·um·ulat*
c. *gradwet - gr·um·adwet*



English *-ing*



1 7 3 7

Lexical Integrity

One difference between syntactic and morphological complex heads is *Lexical Integrity*:

- ▶ Subextraction of parts of words is not possible.
- ▶ Features of parts of words are not accessible to syntax.

Lexical Integrity

For example, a compound cannot be split up:

(15) *Tea_i, I have bought a t_i pot.

However, the same is true for certain phrases:

(16) *Blue_i, I have bought a t_i tea pot.

Lexical Integrity

Consider also the following data (Pereltsvaig 2008: 8, 10):

- (17) *Černogo_i ja rešila ne pokupat' [NP t_i xleba]!*
black I decided not to.buy bread
'I decided not to buy black bread.'
- (18) *V vagon_i ona xodila t_i-restoran obedat'.*
to carriage she went restaurant to.dine
'She used to go dine in a carriage restaurant.'

Lexical Integrity

Sometimes selectional restrictions of nonheads percolate up:

- (19) *verbouw-plannen* *aan het huis*
reconstruction-plans on the house
'reconstruction plans for the house'
- (20) ... *Benghazi, the grootste door opstandelingen tegen Gaddafi*
... Benghazi, the largest by revolters against Gaddafi
bestuurde stad
governed city
'... Benghazi, the largest city governed by opposition forces against Gaddafi'

Structural Correspondence Principle (SCP)

(21) Semantic units correspond to syntactic units, and vice versa.

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Structural Correspondence Principle (SCP)

- ▶ A strong, but violable principle of language: displacement violates it.
- ▶ At the same time, the SCP restricts displacement: an element that is displaced in syntax acts as a syntactic unit and must therefore be a semantic unit as well.

1 7 3 7

Correspondence mismatches

- ▶ When a complex syntactic unit corresponds to a simplex semantic unit, we expect the syntactic unit to become *opaque*.
- ▶ Hebrew compounds (Borer 1989, 2009) confirm this expectation:
 - ▶ Nonhead cannot be modified.
 - ▶ Nonhead cannot be coordinated.
 - ▶ Nonhead is not referential.
 - ▶ Meaning is nontransparent.
 - ▶ Pronominal reference to head or nonhead separately is not possible.

Lexical Integrity

- ▶ The SCP ensures that syntax and semantics match up.
- ▶ Input (and Linear) Correspondence do the same for syntax and phonology.
- ▶ Correspondence tendencies:
 - ▶ simplex semantic unit (concept) ↔ syntactic head.
 - ▶ syntactic head ↔ PWd (or syllable).

1 7 3 7

Morphology by itself

- ▶ Certain effects clearly cannot be attributed to syntax.
- ▶ N-pattern suppletion in Romance (Maiden 2004):

	sg	pl
1st	<i>siento</i>	<i>sentimos</i>
2nd	<i>sientes</i>	<i>sentís</i>
3rd	<i>siente</i>	<i>sienten</i>

- ▶ Forms may have purely “morphological” meanings (Aronoff 1994).

Morphology by itself

- ▶ However, “morphological” meaning is *not* about linking form with meaning.
- ▶ Morphological patterns arise as a result of:
 - ▶ (arbitrary) historical developments
 - ▶ general constraints on pattern matching and categorisation (e.g., Principle of Contrast, Carstairs-McCarthy 2004)

Morphology by itself

- ▶ In many languages, there is a general tendency for simplex semantic units to correspond to prosodic words.
- ▶ Although not specified by UG, this correspondence may become a strong factor in the I-grammar.
- ▶ This may lead to I-grammatical effects that only apply to the “word”.
- ▶ Generalisations in this domain are not directly constrained by UG; they may arbitrarily reference semantics, syntax and phonology.
- ▶ That is what we call “morphology”.

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