Gestalts, impostors and semi-affixes:
Boundary issues between phonology and morphology

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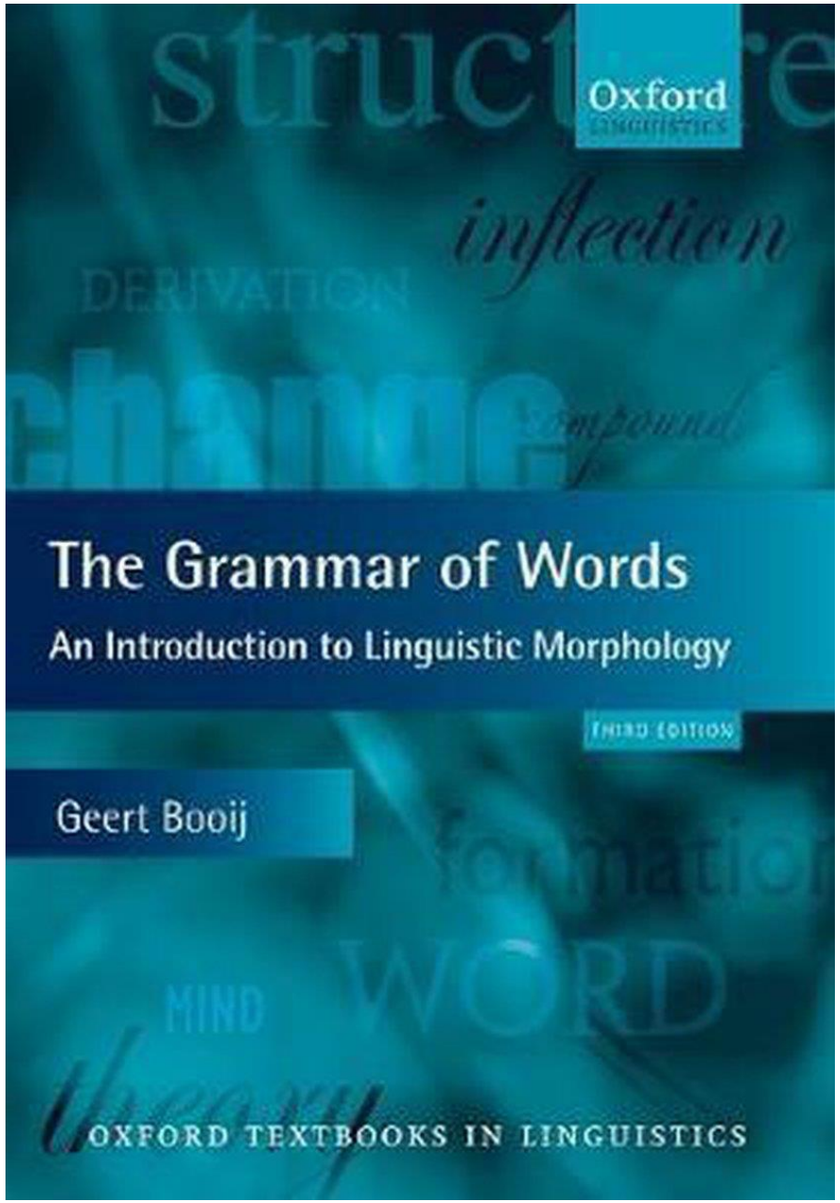
Where is morphology?

- “Morphology is the study of words” (Anderson 2015: 12)

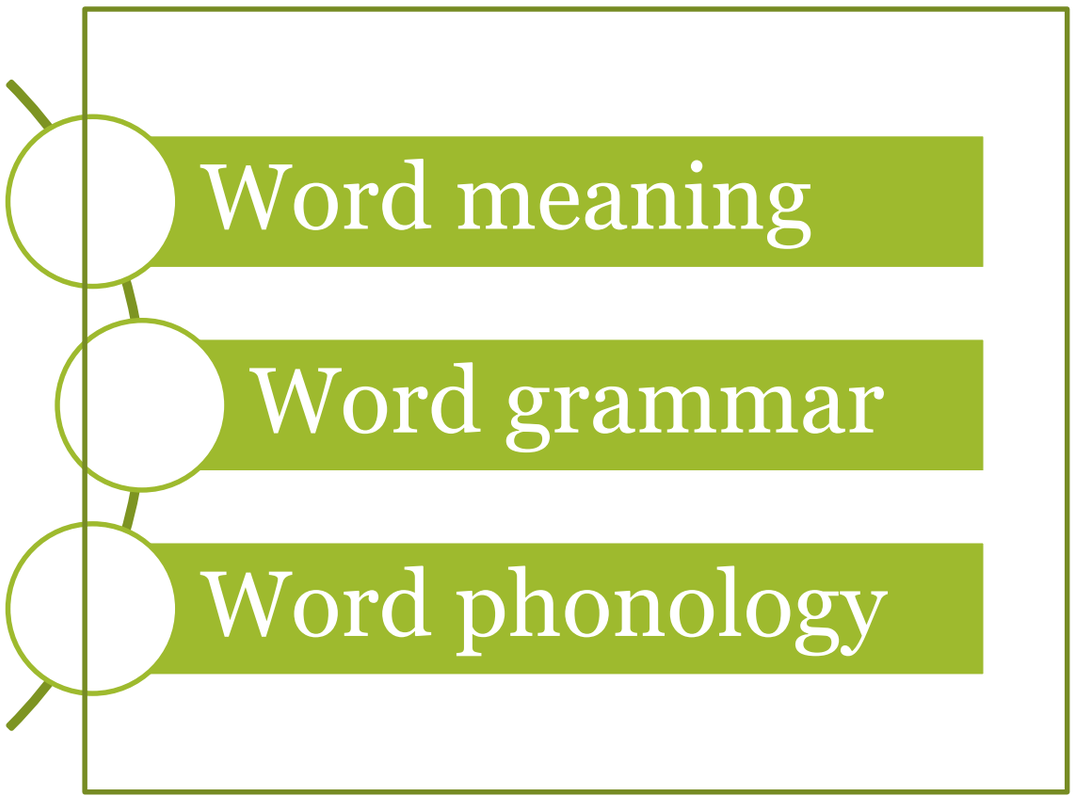


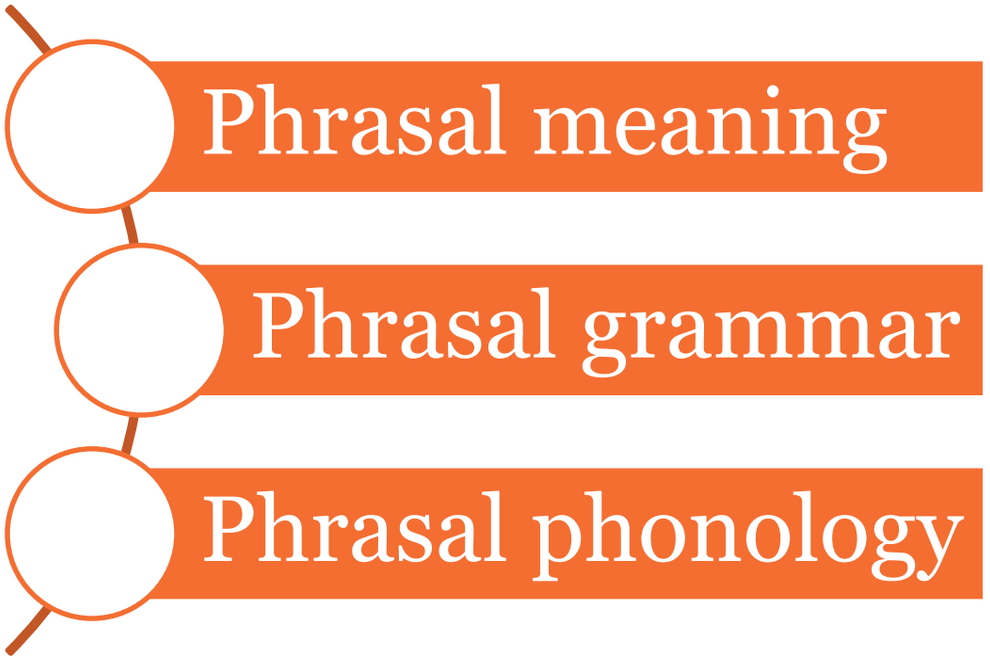
Where is morphology?

- Word meaning
- Word grammar
- Word phonology

- Phrasal meaning
- Phrasal grammar
- Phrasal phonology

Where is morphology?





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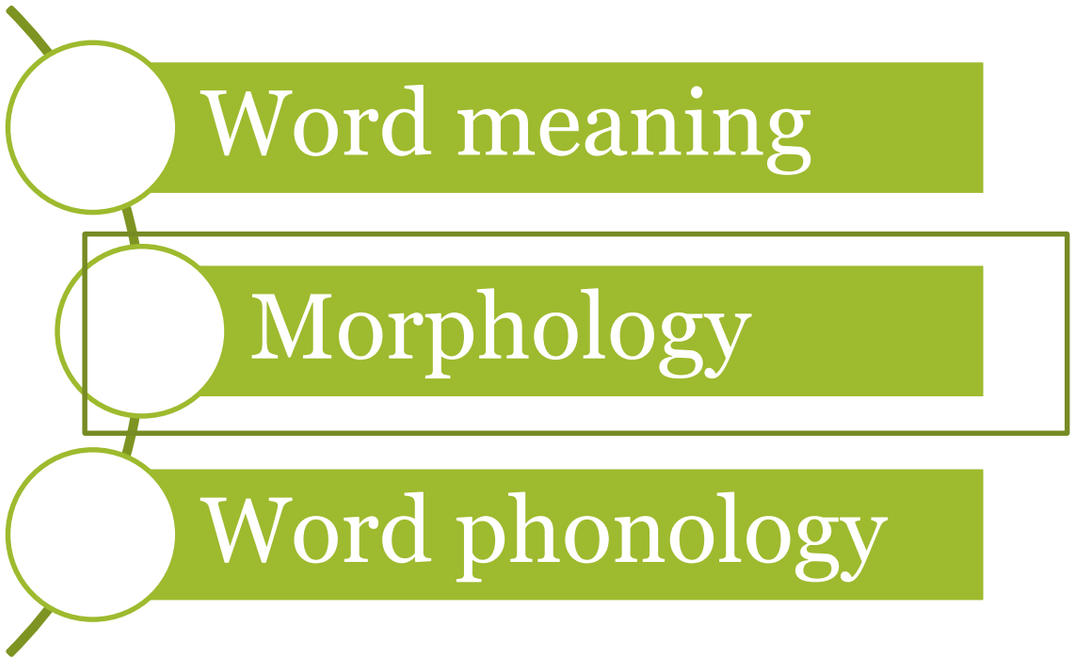

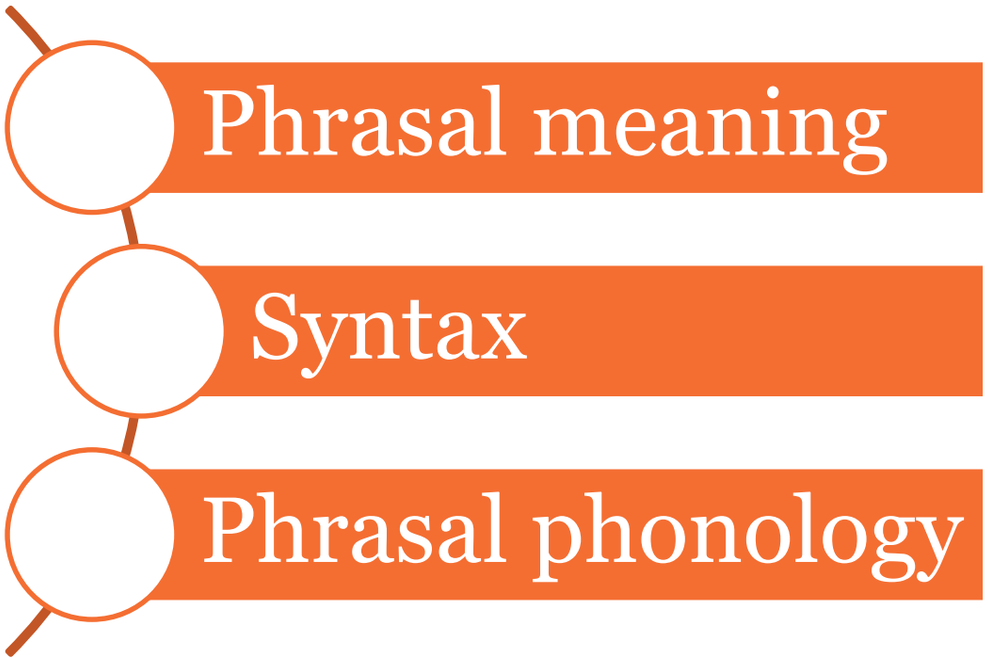

Where is morphology?

Semantics:	PLURAL (WORD)
Morphology:	N; pl
Phonology:	/wə:dz/

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Morphology:		N	pl
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This talk

- How do we distinguish …

Semantics

Morphology

Phonology

This talk

... from ...

Semantics

Morphology

Phonology

This talk

- What distinguishes *-er* in *nicer* or *painter* from *-er* in *feather*, *slender* or *bother*?

- Helpful perspectives:

  - Broader consideration of ‘marginal’ morphology
  - The language user
  - Relationality in the mental lexicon

Getting closer

Mapping out the problem

Getting closer

- Hockett (1958) “duality of patterning”, Martinet (1964) “double articulation” of language:

  morphology is meaningful

  phonology is not

Getting closer

- Hockett (1958) “duality of patterning”, Martinet (1964) “double articulation” of language:

  morphology is meaningful

  phonology is not

Semantics	Semantics
Morphology	Morphology
Phonology	Phonology
transpositions	phonaesthemes
(Spencer 1999, 2013)	(Kwon & Round 2015)

Getting closer

- Sign languages: meaningful phonology (Napoli 2019: 596 ff.)

- ASL: side of forehead = cognition (THINK, KNOW, IMAGINE, IDEA, DREAM, …)

THINK

KNOW

DREAM

https://www.handspeak.com

Getting closer

- The status of an element is decided in the mind of the language user

- Experimental studies on processing of

  - true suffixes: *hunt-er*
  - pseudo-suffixes: *corn-er*
  - non-suffixal segments: *turn-ip, drag-on, cash-ew* (Beyersmann et al. 2016)

- True suffixes and pseudo-suffixes: can yield same effects in masked priming
- Pseudo-suffixes are regularly parsed out of complex words in early stages of visual processing

Getting closer

- Andrews & Lo (2013): individual differences correlate with reading skills:

Greater tendency to identify pseudo-suffixes

Getting closer

- Hay (2001):

immortal (112-53) *immoral* (94-143)

- Higher relative frequency of base > higher complexity rating
- Awareness of morphological structure is frequency-dependent and hence gradient (Hay & Baayen 2005)

Getting closer

- Grammar can be inconsistent, too

- Dutch *-er* ~ *-ster* *kapp-er* ~ *kap-ster* ‘hairdresser’

  Ideally with verbal base

  Not with non-affixal *er*:

  herder-in ’herdswoman’, *tijger-in, dokter-es*

  But: *zang-er-es* ‘female singer’, *dicht-er-es* ‘poetess’

Getting closer

- Morphological theory should accommodate the systematic difference between phonology and morphology
- … as well as the cases of uncertainty

Cases

Questionable morphology

Cases

1) Cranberry morphs

• Cranberry morphs: *werewolf, mermaid, twilight, cobweb, lukewarm, iceberg*

• Bound stems: *ugly, unkempt, reckless, ruthless, plumber, carpenter*

> Unique stem-like elements, no independent meaning, occur with bona fide compound members or affixs

Cases

2) Affixes of unclear status

- Hapax or rare affixes: *laughter, bombard, heroine, comparison, bishopric, hatred, knowledge, velveteen*

  German: *faul-enz-en* ‘be lazy’ < *faul* ‘lazy’

> Unique elements, occur with a bona fide stem

- Kinship *-er*: *mother, father, brother, sister, daughter*

  German: *Vetter* ‘cousin’, *Schwager* ‘brother in law’, *Geschwister* ‘sibling’

> No lexical stems, but: neat semantic class; all nouns

Cases

- English [X *-id*]$_A$ ~ [X *-or*]$_N$

candid – candor
fervid – fervor
horrid – horror
languid – languor
(possibly) *stupid – stupor*

splendid – splendor
pallid – pallor (pale?)
squalid – squalor
torpid – torpor
(possibly) *liquid – liquor*

> No lexical stems, but small family of paradigmatic pairs

Cases

• English [X *-ish*]$_V$: *abolish, accomplish, admonish, astonish*

> No lexical stems, but ~40 instances

• German [X (-)*e*]$_N$

Tief-e ‘depth’, *Sprach-e* ‘language, speech’

Zeh(e), Eck(e), Typ(e), Quell(e), Rohr/Röhre, Spalt(e), Trupp(e)

Flasche ‘bottle, *Birne* ‘pear’, *Blume* ‘flower’

> “morphologischer Rest” (morphological residue, Eisenberg 2013: 209), also *Scheinaffix, Quasiaffix, Pseudoaffix*

Cases

• Phonaesthemes: *twist, twirl, tweak, twill, tweed, twiddle*, … <tw-> 'twisting'

> a lot in common with morphological elements, but come with a non-recurring residue (Kwon & Round 2015)

• Large numbers: *m-illion, b-illion, tr-illion*, *z-illion*, …

> First part non-recurring, second part no meaning, yet: neat semantic group and some analogical extensions: *godzillion, kajillion*

Cases

3) Borderline cases:

Stem-building elements: OHG *lemb-ir-um* ‘lamb-?-DAT.PL’

“Extenders”: *sign-at-ure, appli-c-able, aroma-t-ic*, … (Bauer, Lieber, Plag 2013: 181)

Linking elements: *Geburt-s-tag* ‘birthday’

> No meaning, questionable status

Integration

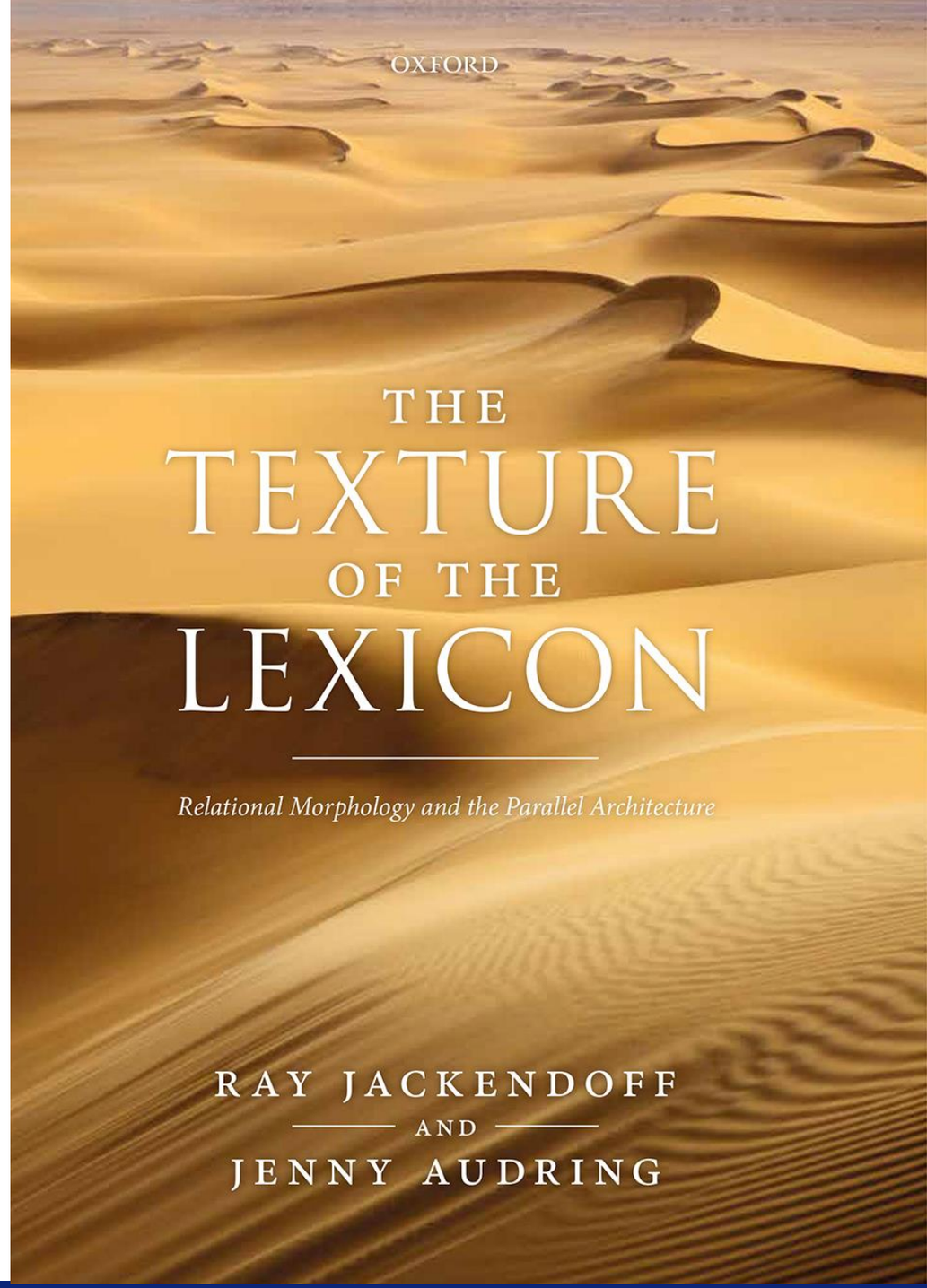
How to accommodate these phenomena into a model of morphology?

Relational Morphology

Sister theory of “Construction Morphology” (Booij 2010)

Lexicon-grammar continuum: declarative templates (“schemas”) replace procedural rules

Central role for lexical storage and lexical relations



Relations

Semantics:	PLURAL (WORD)
Morphology:	N; pl
Phonology:	/wə:dz/

interface link

Interface links encode associated structure within a lexical item

Relations

Semantics:	PLURAL (WORD)	VERBOSE
Morphology:	N; pl	N aff
Phonology:	/wə:dz/	/wə:di/

relational link

Relational links encode same structure across lexical items

Types of uncertainty

- Unique or rare element
  - Hapax affix — *laugh-ter*
  - Non-lexical stem, incidental — *were-wolf*
  - Non-lexical stem, systematic — *abol-ish*, *admon-ish*
- No meaning — *Geburt-s-tag*

But sometimes:

- Correlation with syntactic category — *father*, *sister*, …
- Paradigmatic pairs or families — $[X\ \textit{-id}]_A \sim [X\ \textit{-or}]_N$

Relations

- Unique or rare affix: *laughter*

Semantics:	ACT/SOUND OF (LAUGH)
Morphology:	$[\text{V aff?}]_{N}$
Phonology:	/lɑːftə/

- Interface linkage in principle possible
- But: no relational linking partners for potential affix

Relations

- Non-lexical, unique or rare stem: *werewolf*

Semantics:	PERSON TRANSFORMING INTO WOLF
Morphology:	$[? \ N]_N$
Phonology:	/wɛːwʊlf/

- Interface linkage compromised
- No relational links to same element as lexical item

Relations

- Non-lexical, unique or rare stem: *abolish*

Semantics:	ABOLISH
Morphology:	$[?\ \text{aff}]_V$
Phonology:	/əbɒlɪʃ/

- Interface linkage in principle possible for suffix, compromised for stem
- Relational linking partners for suffix, none for stem

Relations

- Non-lexical, unique or rare stem: *abolish*

Semantics:	ABOLISH	X
Morphology:	[? aff]$_V$	[? aff]$_V$
Phonology:	/əbɒlɪʃ/	/…/

- Interface linkage in principle possible for suffix, compromised for stem
- Relational linking partners for suffix, none for stem

Relations

- No meaning: *Geburt-s-tag*

Semantics:	BIRTHDAY
Morphology:	$[N\text{-}?\text{-}N]_N$
Phonology:	/gəbʊətstaːk/

- Interface linkage: linking-*s* unconnected to semantics
- But: relational linkage intact, common element

Relations

- Special case 1: *father*

Semantics:	FATHER
Morphology:	[? aff?]$_N$
Phonology:	/fɑːðə/

- Some interface linkage possible: output category N
- Some relational linking partners for potential suffix (but none for stem), parallel links in semantics (kinship terms)

Relations

- Special case 2: [X *-id*]$_A$ ~ [X *-or*]$_N$

candid – candor *splendid – splendor*

- Interface linkage OK for suffix, compromised for stem
- One relational linking partner for stem

- Also: systematic relational pairing of stems > relational link between schemas ("second-order schema", Booij & Masini 2015)

Relations

- Intermediate conclusion:

  Questionable morphology: incomplete interfacial and/or relational linkage for one or all potential segments

Relations

• Hypotheses:

a) Canonical morphological structure involves full interfacial and relational linkage

b) Source of variety: recognition of linkage by individual speaker

c) Higher connectivity is advantageous:

better integration into the lexicon, probably processing advantages


TO PROTEST FB
AND TWITTER
CENSORSHIP, WE SHOULD
ALL BOYCOTT THEM
AND GIRLCOTT THEM
imgflip.com

Morphologization

What looks like morphology behaves like morphology

Morphologization

- 'Stepdaughters': *carpent-er, plumb-er*

Often arise in loanword integration

English > Swahili	*ki-plefiti* 'roundabout' (Corbett 1991: 72)
Japanese > Italian	*jud-o, sum-o, aikid-o* (Masini p.c.)
Swedish plurals	*pizz-or, paell-or, tortill-or*
	papp-or, buddh-or, ayatoll-or (Höder p.c.)

Morphologization

- ‘Stepdaughters’: psychological reality

De Smet (2016): greater tendency to use *-less*, *-ish* or *-ful* formations correlates with greater tendency to use root-based forms like *ruthless*, *garish* or *wistful*

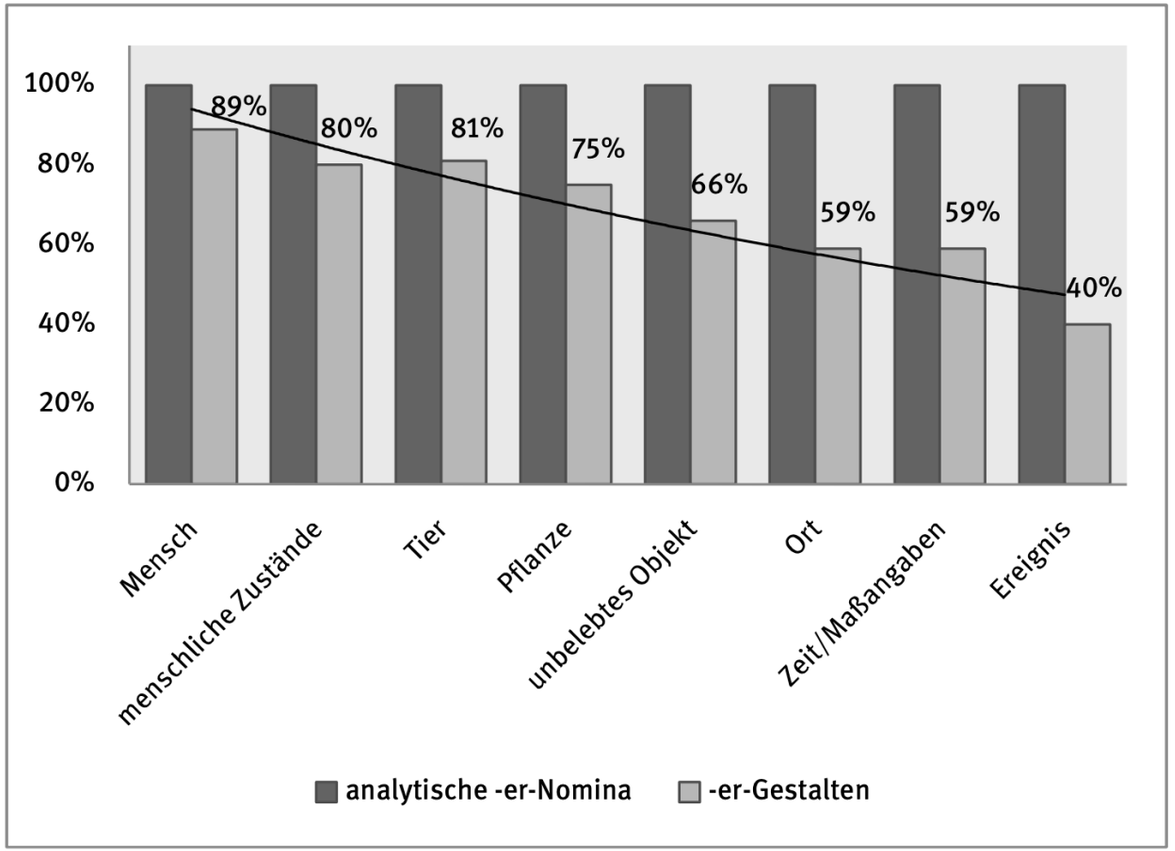
> easier access to the group might also mean easier access to the ‘step’members

Morphologization

- ‘Stepdaughters’: psychological reality

  Köpcke & Panther (2016: 95)

  -er-“Gestalten” more likely to be M with more prototypical semantics



Morphologization

- Output schemas: opportunistic realization of target form

Dutch irregular verbs

Knooihuizen & Strik (2014): nonce formation of strong verbs

- conform to frequent ablaut class (/ɛɪ–e–e/)

- or contain/o/!

Dutch derogatory terms *lullo, alto, positivo* but also *aso, homo, provo* (Hamans 2021)

English toponymic stems: *Balto-, Celto-, Helveto-, Afro* but also *Euro-, Saxo-, Tagalo-, Lebano-*

Conclusions

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Conclusions

- Recognition of morphological structure depends on connectivity in the lexicon

- Canonical morphological structure has full relational and interfacial connectivity
- Defective connectivity yields questionable morphology

- Morphologization: extra connectivity added, phonological *gestalts* joining a morphological pattern

Conclusions

- Systematic division between phonological and morphological structure
- Flexible attribution by the language user as the source of variation

Merci beaucoup

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Convergence

- German: Masculine and neuter nouns in <er> take zero plural

  Sprech-er ‘speaker’

  Messer ‘knife’

- Dutch: Plural forms should end in a trochee*

  won-ing-en ‘apartments’

  koning-en ‘kings’

  haring-en ‘herring’, *paling-en* ‘eel’, *wijting-en* ‘whiting’**

*Booij (2002), **Booij p.c.

Convergence

Verbal ***-el/-er***	Nominal ***-el/-er***
betteln 'beg'	*löffeln* 'spoon'
spötteln 'tease'	*fiedeln* 'fiddle'
tröpfeln 'drip'	*krümeln* 'crumble'
zittern 'shiver'	*hämmern* 'hammer'
labern 'blather'	*pfeffern* 'throw about'
kleckern 'spill'	*splittern* 'splinter'

Convergence

Verbal ***-el/-er***	Nominal ***-el/-er***
betteln 'beg' (iterative)	*löffeln* 'spoon'
spötteln 'tease' (low intensity, playful)	*fiedeln* 'fiddle'
tröpfeln 'drip' (small pieces)	*krümeln* 'crumble'
zittern 'shiver' (iterative)	*hämmern* 'hammer'
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