Steps towards a Motivated Phonology

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Aim

- To stress the importance of:

  a) the phonological content of constructions.

  b) explaining that phonological content

  -based on theory-external principles

  -in an integrated framework referred to here as Motivated Phonology

Outline

1. Introduction

2. Explanation in phonology

3. Factors motivating phonology and examples

4. Conclusion

1. Introduction

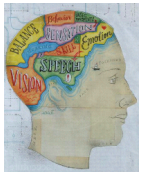
Is phonology relevant in the study of constructions?

Language view as point of departure

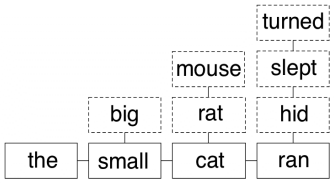
a) a network of units emerging out of communicative and interactional language use (**Emergentism**, CAS > cognitive linguistics)

vs.

b) a set of innate UG-style specification of parameters/ constraints (Modularism > generative linguistics)



c) a system of disembodied linguistic signs (Systemicism > structuralist linguistics)



In the emergentist view, **language is…**

a) Embodied (i.e. *grounded* in general-domain *cognitive processes* and *bodily experience*)

b) Situated (i.e. *embedded* in a social and cultural *environment of shared experience & practices*)

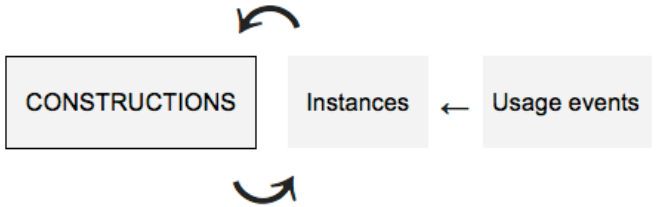
c) Usage-based (i.e. *built, used*, and *updated* in countless communicative interactions in *language use* in context).

In the emergentist view, **language comprises**…

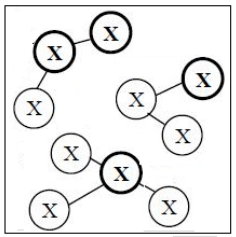
A repository of constructions or symbolic units

(Goldberg 1995; Langacker 1987).

a) Learned and constantly updated through language use.



b) Related in a network by general cognitive processes (e.g. categorization, analogy, schematization).



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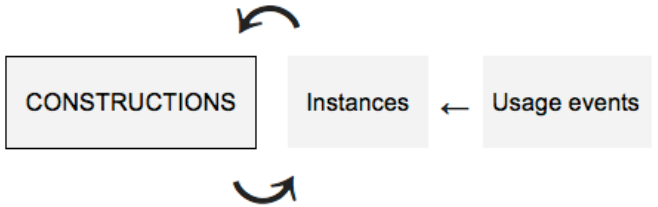

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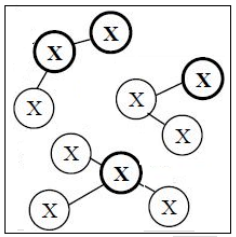

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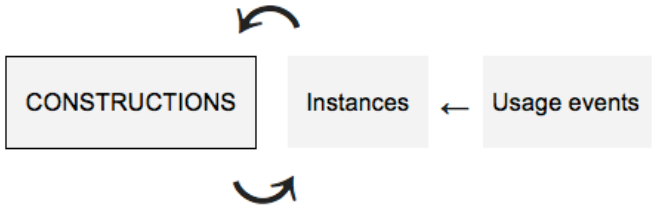

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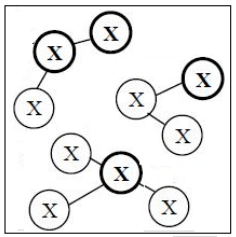

c) varying in their degree of schematicity from very specific to very abstract schemas.

abstract	$\|_{,}\boldsymbol{\sigma}\sigma_{V}\|'\boldsymbol{\sigma}\sigma_{Vs}\|$	
⇑		
mid-level	$\|_{,}\boldsymbol{\sigma}\sigma_{a}\|'\boldsymbol{\sigma}\sigma_{as}\|$	$\|_{,}\boldsymbol{\sigma}\sigma_{e}\|'\boldsymbol{\sigma}\sigma_{os}\|$
⇑		
low-level	[ˌmata'moskas]	[ˌkumple'aɲos]
	[ˌsaka'puntas]	[ˌrompe'teʧos]
	'flay spray'	'birthday'
	'pencil sharpener'	'ceiling-breaker'

e.g. Spanish exocentric V+N compound constructions (cf. Tuggy 2003)

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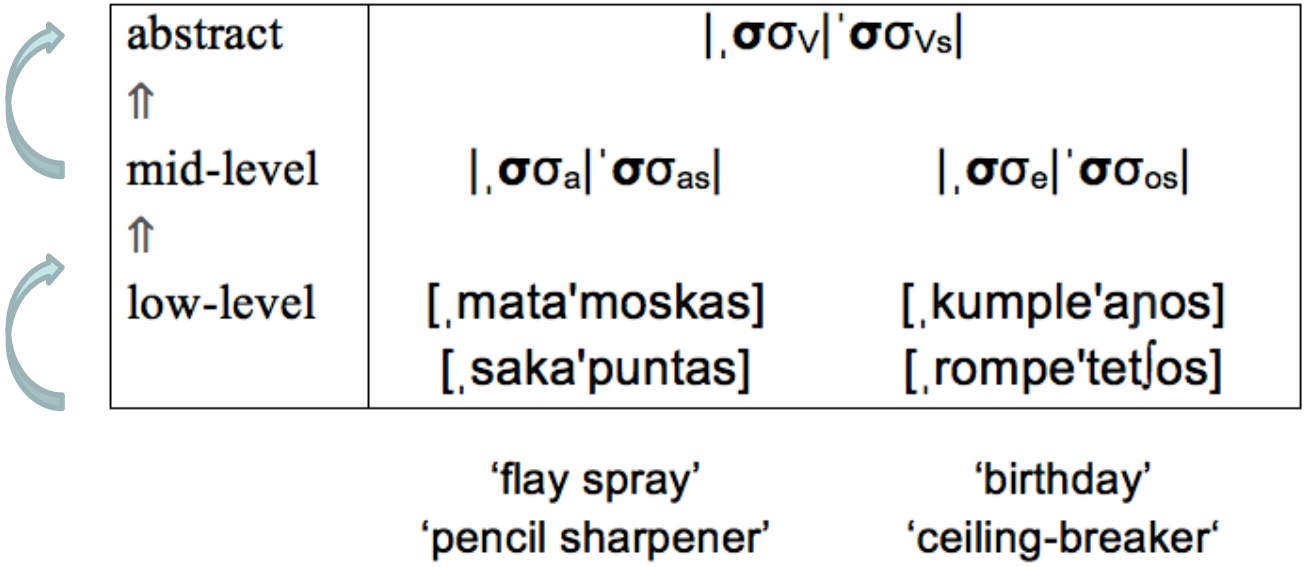
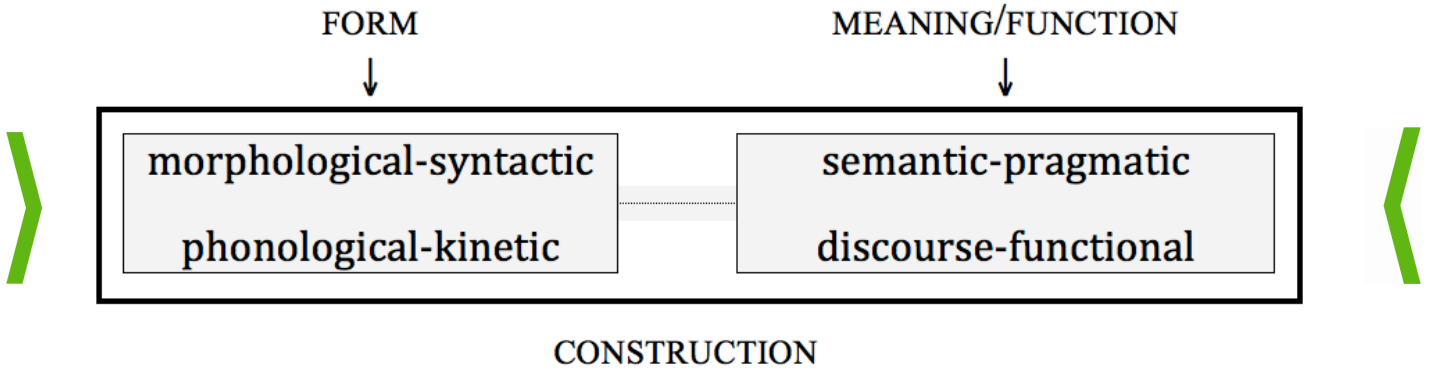


e.g. Spanish exocentric V+N compound constructions (cf. Tuggy 2003)

d) linking a formal aspect and a meaning/function aspect

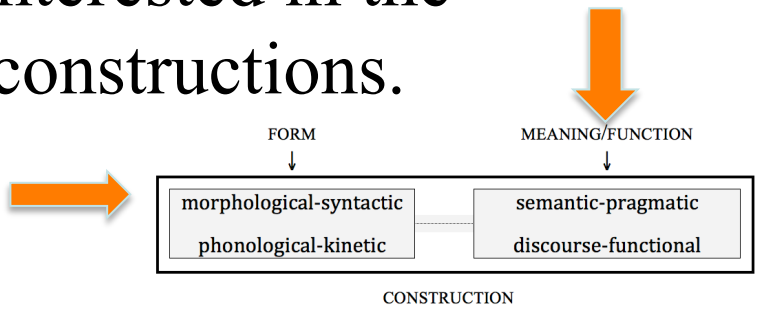


Form and meaning/function comprise all elements from traditional linguistic levels (Goldberg 1995).

Form also comprises a kinetic component (Steen & Turner 2013; Ziem 2017)

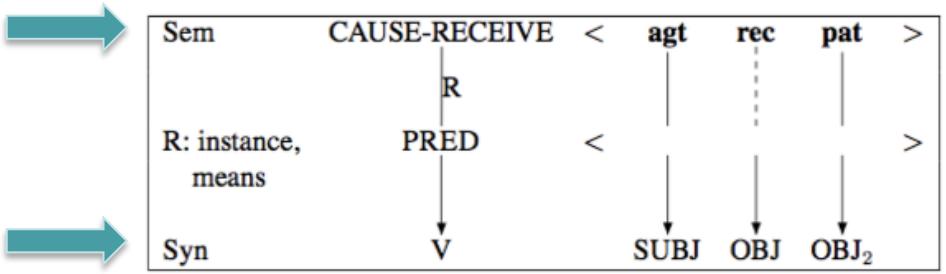
The neglect of phonological content

- Most cognitive linguists are interested in the meaning/function content of constructions.



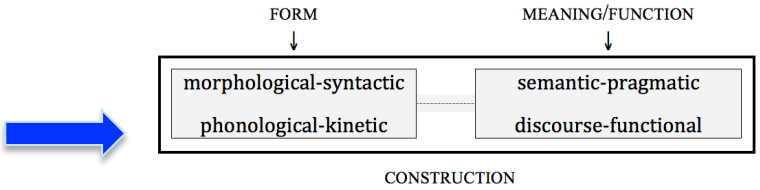
- They may be interested in the formal content in terms of its morphological and/or syntactic structure.

e.g. The ditransitive construction (Goldberg 1995)



The neglect of phonological content

- Yet the kinetic and phonological content of constructions is often neglected.



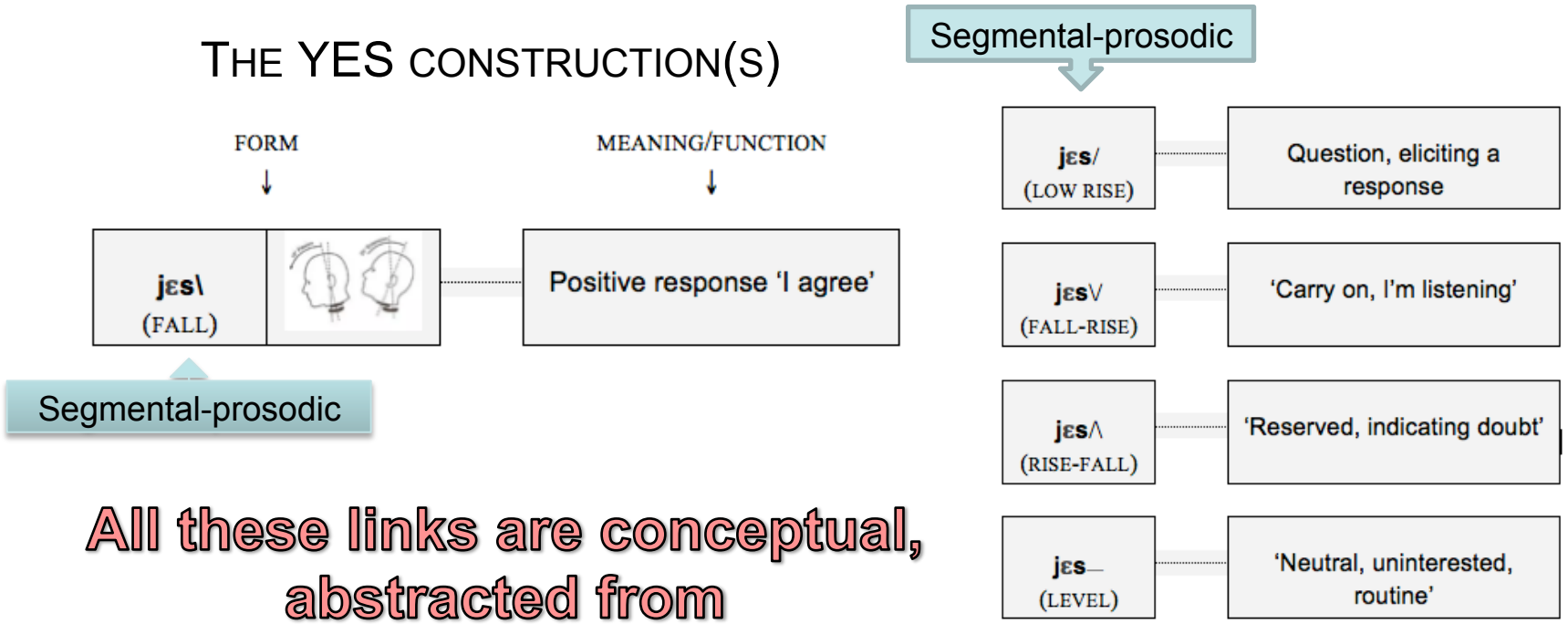
- Growing interest in gestures given the current focus on multimodal communication (e.g. Cienki 2016).

English *yes*  (cf. Greek ναι /ne/ 'no')

conventionalized

The neglect of phonological content

- Phonological content should raise the same interest since it's also conceptual (Mompean 2014; Nathan 2008).



All these links are conceptual, abstracted from communicative usage events

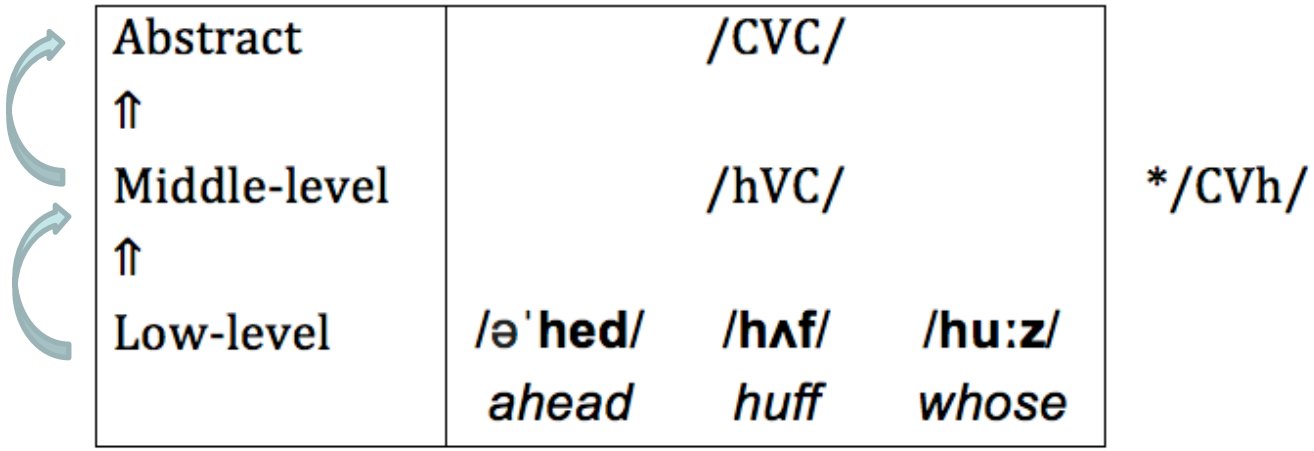
2. Explanation in phonology

What can we do with the phonology of constructions?

Working with phonological content

a) We can *describe* it (e.g. Langacker 1987; Taylor 2002).

E.g. syllable templates and phonotactic constraints in English



Working with the phonologial content

b) We can try to *explain* it (but… how?)

b1) theory-dependent principles (formalists)

UG-style….

…underlying forms/phonological rules (e.g. Chomsky & Halle 1968)

…Optimality Theory constraints (e.g. Prince & Smolensky 2004)

b2) theory-independent principles (functionalists)

…cognitive processes such as categorization (Nathan 1986)

…speech production/perception factors (Blevins 2004)

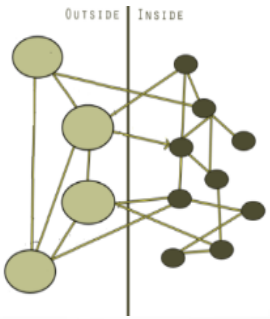
…frequency of use (Bybee 2001)

…social-communicative factors (Nagy 2013)

Some assumptions

1. **Phonological content** is substantively shaped by, grounded in, **'motivated'** by **theory-independent factors**.

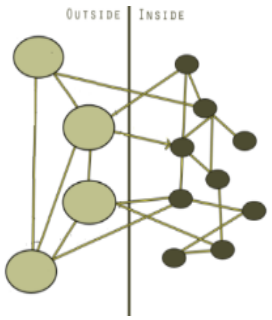
> "…that a complex cognitive-behavioral system such as language could somehow evolve independently of existing physical, physiological, psychological, and cultural constraints is implausible." (Diehl 1991, p. 130).



Some assumptions

2. **Phonological content** can be **explained by** reference to **such principles** (or an interplay of them).

> "…since the motivations for using and developing language are external to language structure, external explanations are more powerful than internal ones." (Heine 1997, p. 3)



Some assumptions

3. **It's possible to provide an explanatory, motivated account** of the phonology of constructions.

(cf. Panther & Radden 2011 for a similar view regarding motivation in morphology-syntax and semantics).

If so, we need to find out:

a) what factors motivate phonological content

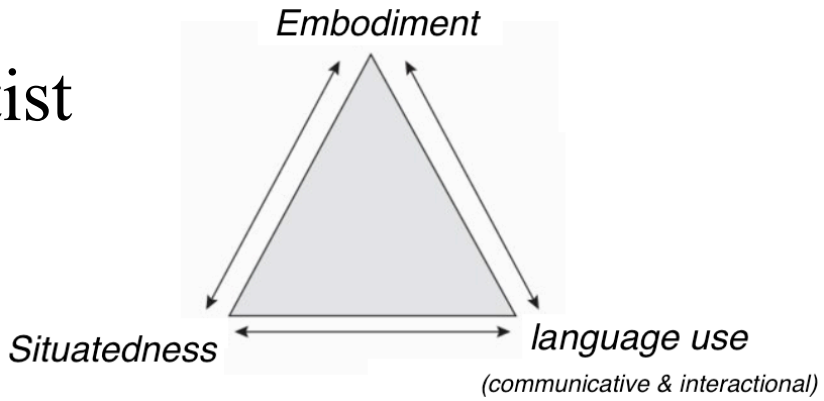
b) why, under what conditions, what's their weight?

3. Factors motivating phonology and examples

Factors related to principles of emergentism

- Reinvent the wheel? No, simply consider well-known theory-external principles in a unified framework.
- **Motivated Phonology** aims to do this.

- Principles related to the cornerstones of an emergentist view of language



III. Factors motivating phonology

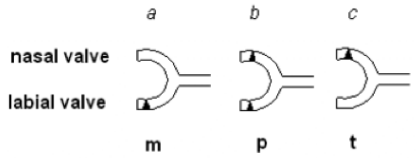
- Embodiment: the body and the mind
  - speech production and perception
  - cognitive processes

- Situatedness: the (perceived) world
  - society and culture
  - iconicity

- Language use (communicative and interactional)
  - frequency of use
  - communicative functions

a) Embodied (speech production/perception)

Articulatory: e.g. oral stop epenthesis (e.g. Ohala 1997)



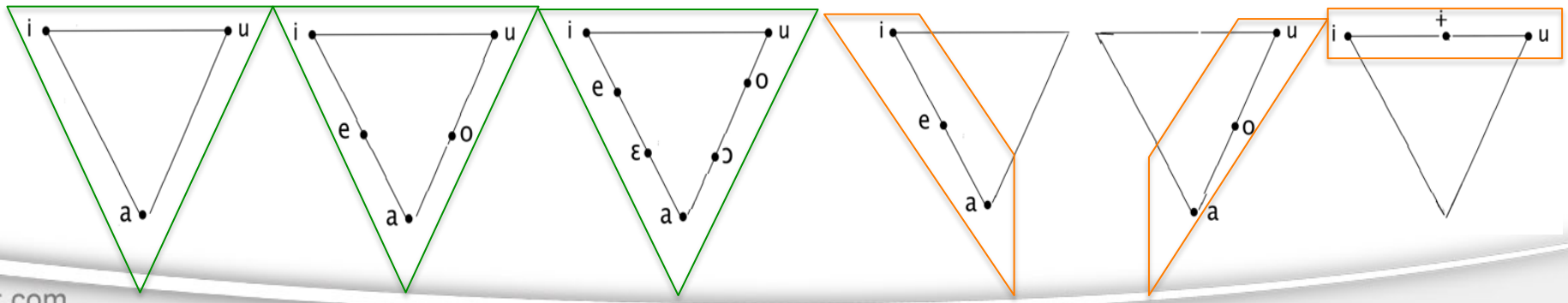
ModE *em**p**ty* from OE *æmtig*

In nasal-stop clusters, epenthetic stops result from a prolonged oral occlusion of the nasal stop, released with a vigorous burst before the following oral stop (cf. *dreamt* [drem^{p}t])

Perceptual: e.g. vowel dispersion (e.g. Liljencrants & Lindblom 1972)

Triangular vowel systems predominate in the world's languages. They maximise perceptual contrasts in the vowel space.

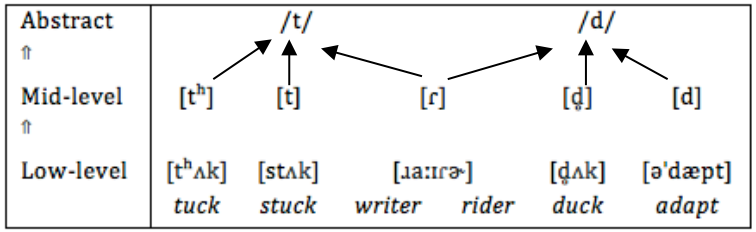
Unattested



a) Embodied (cognitive processes)

Categorization/schematization (e.g. Jaeger 1980; Mompean 2004).

Phonemes, syllables, phonological words… are abstractions over specific instances.



Analogy

Past forms of strong English verbs became regular by analogy with weak verbs (e.g. Bybee & Moder 1983).

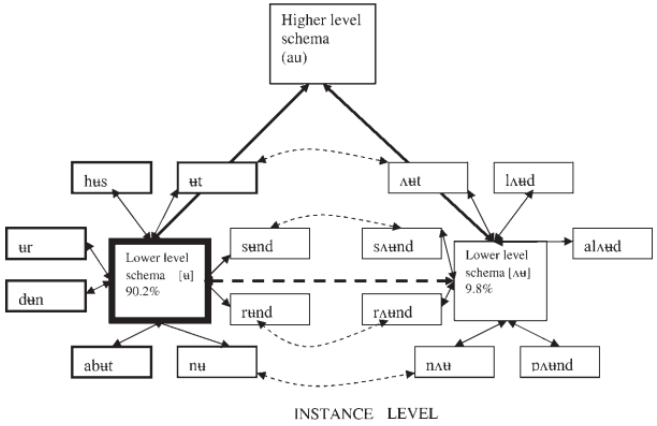
Weak verb pattern		Strong verb pattern
inf, pret. ('-ed'), part. ('-ed')		inf, pret. ('-o'), part. ('-en')
ModE *help helped helped*	⇦	OE *help, holp, holpen*

b) Situated (lectal, cultural)

Lectal factors

Lectal variants of vowels (e.g. local and standard) are also abstracted by language users.

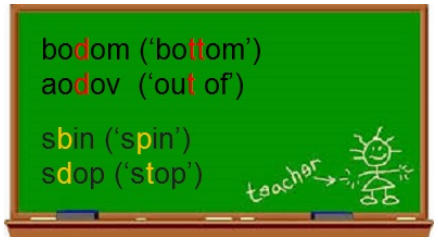
e.g. [ʉ ~ ʌʉ] in the OUT lexical set in Scottish English (e.g. Clark 2008)



[ʉ ~ ʌʉ] variation in the OUT lexical set

Cultural products and models

Literacy and spelling (e.g. Treiman, 1993)



e.g. English stops after /s/ (i.e. /sp, st, sk/) undergo a spelling-driven reanalysis after children learn to read/write (e.g. *sbin* > *spin*)

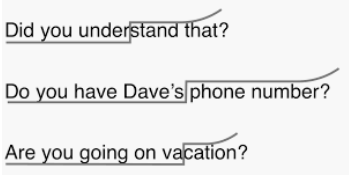
b) Situated (iconic, sound-symbolic)

Ideophones

Evoke vivid impressions of a sensory perception (Dingemanse 2012).

English *chop-chop* > 'something should be done *now* without delay'
Ngbaka *lobóto-lobóto* > 'large animals plodding through mud'

Pitch-size mappings



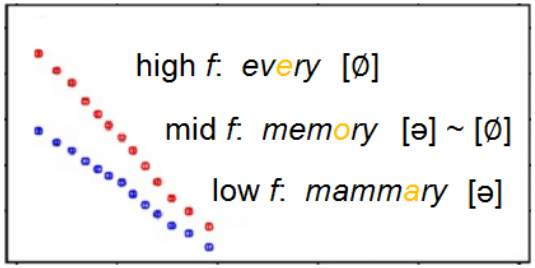
Association between higher pitch and polarity questions (Hirst & Di Cristo 1998), maybe related to a Frequency Code (Ohala 1983).

FC: biological tendency to link **high pitch** with **small vocal tract** (small, weak, non-assertive) and **low pitch** with a **large vocal tract** (big, strong, assertive).

c) Usage-based (frequency of use, communicative)

Lexical frequency:

Vowel reduction and schwa deletion (e.g. Bybee, 2001)



Trade-off btw. transmission accuracy & resource cost:

Morpho-syntactic level: Function words are destressed & phonologically reduced.

Lexical level: word-final positions, weaker than initial ones (e.g. final devoicing)

Word-initial	IPA	
Kasse	'**k**asɐ	'cash desk'
Gasse	'**g**asɐ	'lane'

Word-final	IPA	
weck	vɛ**k**	'wake up!'
Weg	vɛ**k**	'way'

(cf. *Wege* /'ve:gɐ/ 'ways')

/k/ vs. /g/ in German

d) Interplay of factors

- Expected to be the norm:

  e.g. /r/-sandhi in non-rhotic English

- Presence of /r/ between two heterosyllabic vowels (Vs).

$$V_{1[-high]} + V_2$$

more /mɔː/	*more and more*	/mɔːr‿əm ˈmɔː/
car /kɑː/	*the car is parked*	/ðə ˈkɑːr‿ɪz ˈpɑːkt/

- Highy variable; variability motivated by multiple factors.

- 2 subcases, based on spelling criteria

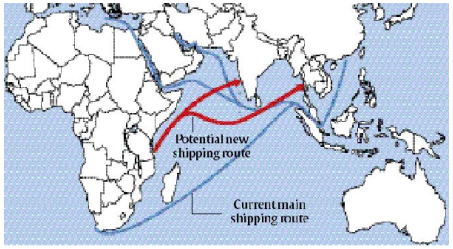
word-external

a) **Linking /r/**

with <r(e)> *he*[r]*e and there* *mo*[r]e *and more*

b) **Intrusive /r/**

no <r(e)> *Asia*[r] *and Africa* *I saw*[r] *it*



Speech production/perception

- **Stress pattern**: /r/-sandhi inhibited when the linked V_2 is stressed (e.g. Cox *et al*. 2014; Mompean & Gómez 2011; Pavlík 2016).

$^{+f}$ *a numbe*[r] *of* vs. $^{-f}$ *fo*[r] *other people*

Glottalization (creaky voice, glottal stops, drops in f0 and intensity) is common in word-initial onsetless syllables across languages as a perceptual prosodic boundary marker. Glottalization is greater if the word is pitch-accented (Pierrehumbert 1995).

When V_2 is stressed, /r/ is not used but glottalization is and pure hiatus is rare (Mompean & Gómez 2011).

Cognitive processes

- **Analogy**: intrusive /r/ arose in non-rhotic accents by analogy with linking /r/ (e.g. Sóskuthy 2013).

	Orthographic <r>		Non-orthographic <r>
	Linking /r/		Intrusive /r/
$V_{1[-high]} + V_2$			
[ˈɪə ɪ]	*he*[r]*e is*		*the idea*[r] *is*

Lectal and cultural factors

- **Prestige/social status**: linking /r/ is more frequent than intrusive /r/ (e.g. Mompean & Gómez 2011; Pavlík 2016).

Intrusive /r/ has some degree of stigmatization.

In view of the ICM (or folk linguistic model) among (linguistically naive) language users that:

> "if a sound is not represented in spelling it's wrong to pronounce it"

Speakers seem to deliberately avoid intrusive /r/ (but use i more often in high-frequent items such as *the idea*[r] *of*).

Usage-based factors

- **Collocability**: /r/-sandhi favoured by...

- the presence of collocations (Cox *et al*. 2014; Hay & Sudbury 2005)
- the lexical frequency of the collocation (Pavlík 2016)

a numbe[r] *of* *he*[r]*e in* *the*[r]*e are*

- the frequency of V_1+V_2 collocation (Mompean, unpublished)

$^{+f}$ /-ə ə-/ vs. $^{-f}$ /-ə$^{(')}$ʌ-/

e.g. *fo*[r] *a* e.g. *fo*[r] *other*

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- Yet it's probably insufficient to describe that content. Instead, we should explain its nature/characteristics.
- Theory-external explanations can be related to the features of language as an emergent system, that is, its embodied, situated, and usage-based character.
- **Motivated Phonology** can be understood as an attempt to integrate all these facets of in a unified framework

Thanks for listening

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