

“Teeeeny” is better than “smaaall”: iconic lengthening and vowel quality

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Introduction

(1) I am normally rather patient. But if the talk is loooong, I'll leave before the end. (Schlenker 2016)

≠> if the talk is long, the speaker will leave before the end

=> if the talk is very long, the speaker will leave before the end.

(2) The bird flew up [high pitch] and down [low pitch] (Okrent 2002)

Mappable to dimensions of language like **duration** and **amplitude** (Fuchs et al 2019)

In Italian Sign Language adjectival scales can be iconically characterized in signing space

(Aristodemo and Geraci 2018)

Prima facie theory I: Intensification

Lengthening works like stress?

Theory I. Intensification: the length(“long”) < length(“looong”) is due exclusively to an intensification effect, similar to when “very” is repeated before an adjective to strengthen its meaning.

Tall communicates that its argument falls above a standard in a height scale (Kennedy 1999, 2007)

Prima facie theory I: intensification

(3) Bob is tall.

[Understood meaning: The man's height is greater than normal, e.g. above 74 inches.]

(Kennedy 2007, Bartsch & Vennemann 1972)

Systematic strengthening of the interpretation of gradable adjectives in both “small”-type and “large”-type adjectives.

|TALL| > |tall|

|SHORT| < |short|

Prima facie theory I: intensification

But:

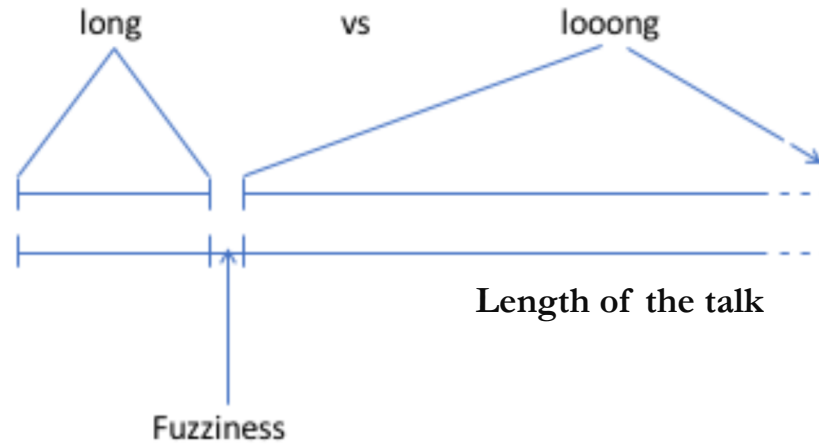
(4) a.?? The talk was shooort. (Schlenker 2016)

(4) b. The talk was SHORT.

Schlenker (2016): Intensification cannot explain the phenomenon

Prima facie theory II: 'pure' iconicity

Theory II. Iconicity and direct mapping



Prediction (correct, for now): lengthening is impossible for 'small'-type words

Prima facie theory II: ‘pure’ iconicity

(5) a. ENG That mouse is teeeny.

(5) b. ITA Quel topo è piiiccolo.

THAT MOUSE IS TEENY_LENGTHENED_STRESS_VOWEL.

Intensification of vowel symbolism?

In fact

(5) a. ENG That mouse is teeeny. vs (4) a.?? The talk was shooort. (Schlenker 2016)

“Looong” better than “thiick”

Both phenomena?

Asymmetry calls for a **mixed theory**

Hypotheses:

1] **'Pure' iconicity**

“Laaaarge”= very large

“Smaaaall”≠ very small

2] **Iconic intensification**

→ Back + 'large' (“Laaaarge”=very large)

→ Front + 'small' (“Teeeeny”=very teeny)

→ **Intensification of the sound symbolism**

Experiment background on lengthening and vowel symbolism

Prosodic lengthening:

infant directed speech: variation **duration, pitch and amplitude.** (Nygaard et al. 2009)

Reading of stories with **change in speed:** significant variation of the **duration** of vowels accordingly. (Perlman et al 2015)

First studies investigating *intentional* vowel lengthening: Fuchs et al 2018, 2019

10 antonym pairs in an English social media

→ ‘large’-type word occurred with higher frequency in all cases

A mixed theory?

Vowel symbolism: **Back vs Front vowels**

Thomson and Estes 2001: size of objects predicts vowel height in novel naming.

Behavioral translation : iconic mappings facilitate **classification** of similar words (Farmer et al 2006, Nygaard et al 2009), **learning** (Cuskley and Kirby, 2013)

A mixed theory?

	Back vowel	Front vowel
'large'-type	Pure iconicity + iconic intensification	Pure iconicity
'small'-type	∅	Iconic intensification

'large'-type × back vowel > 'large'-type × front vowel ≅ 'small'-type × front vowel > 'small'-type × back vowel

Pilots

Two pilots:

Acceptability judgements

1-7

Written sentences
(experiment 1)

Recorded sentences
(experiment 2)

N=15 for each experiment

Antonym pairs		
[+]	English transl.	[-]
Luuungo	long/short	Cooorto
Graaande	big/small	Piiiccolo
Graaasso	fat/skinny	Smiilzo
		Striminziito
		Maaagro
Meeega	mega/micro	Miicro
Giiiga		
Groosso	thick/thin	Sottiile
Lontaaano	far/close	Viciino
Laaargo	broad/narrow	Streeetto
Leeento	slow/fast	Sveelto
		Veloooce
Aaalto	high/low	Baaasso
Enoorme, Gigantroopico, Gigaaante	enormous/teeny	Picciino Piccoliino

Il suo intervento è stato luvuungo.

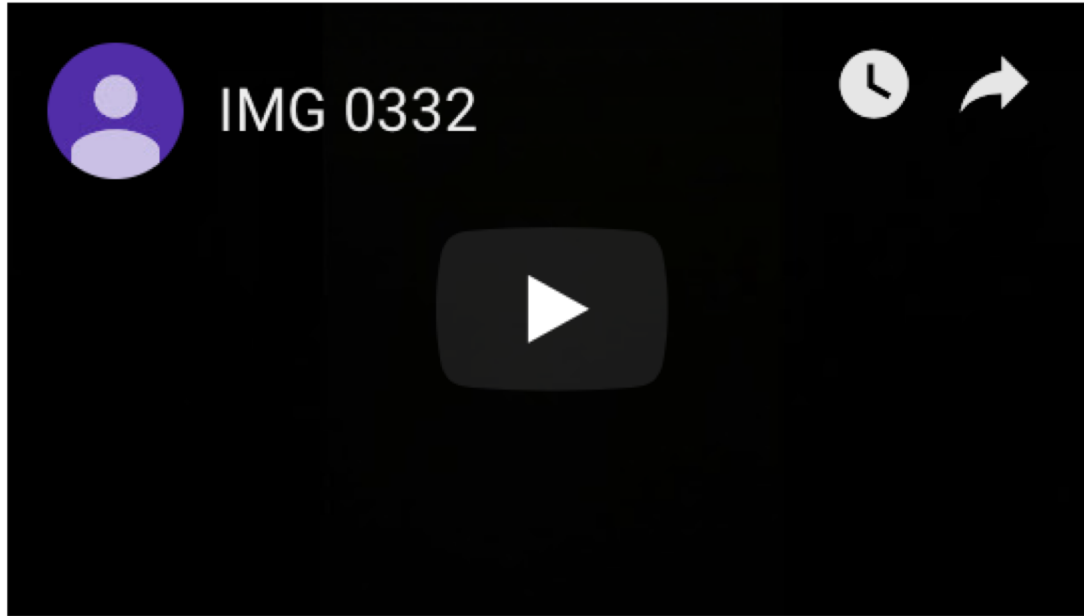
1 2 3 4 5 6 7

Completamente
inaccettabile



Completamente
accettabile

Registrazione#1



1

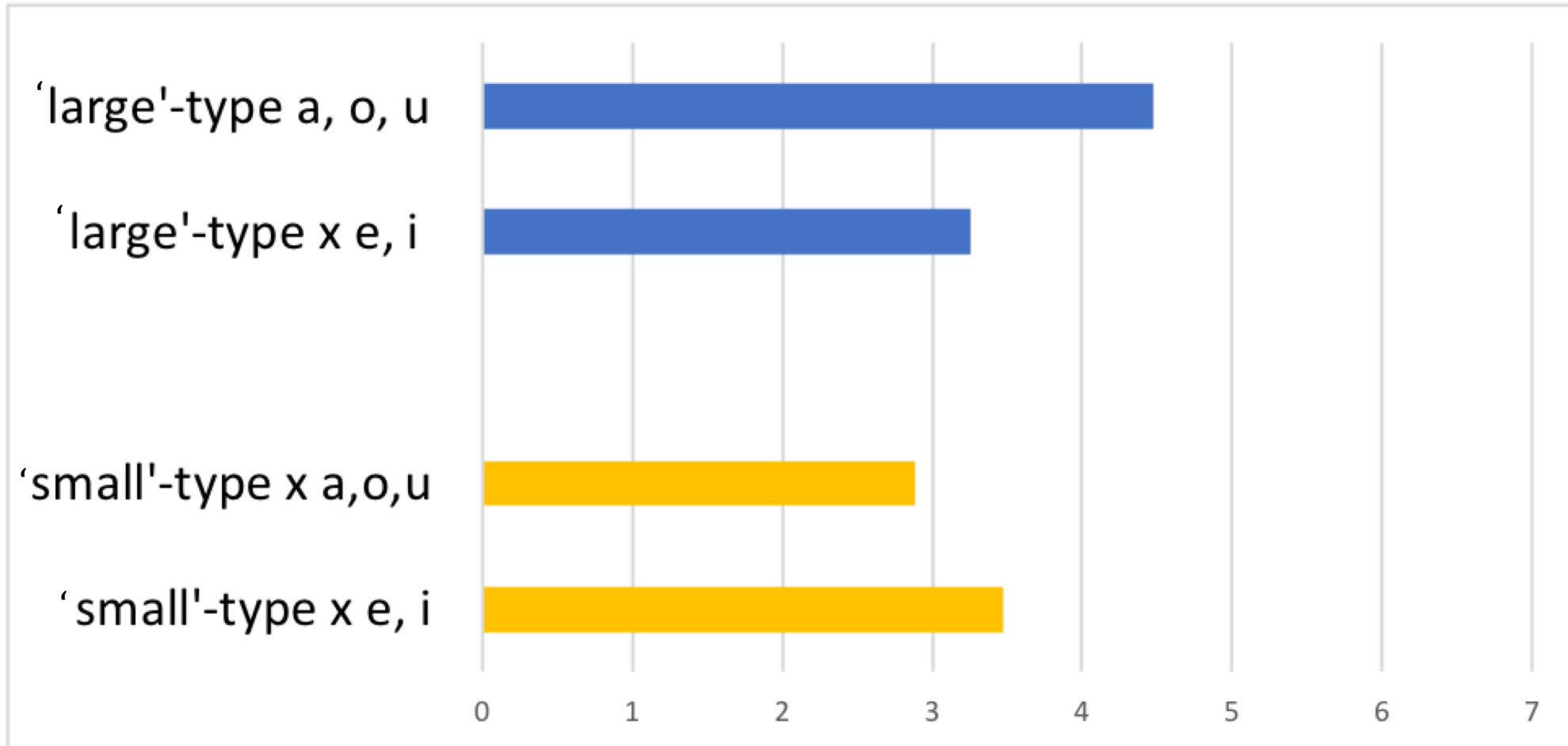
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completamente
accettabile

Written test



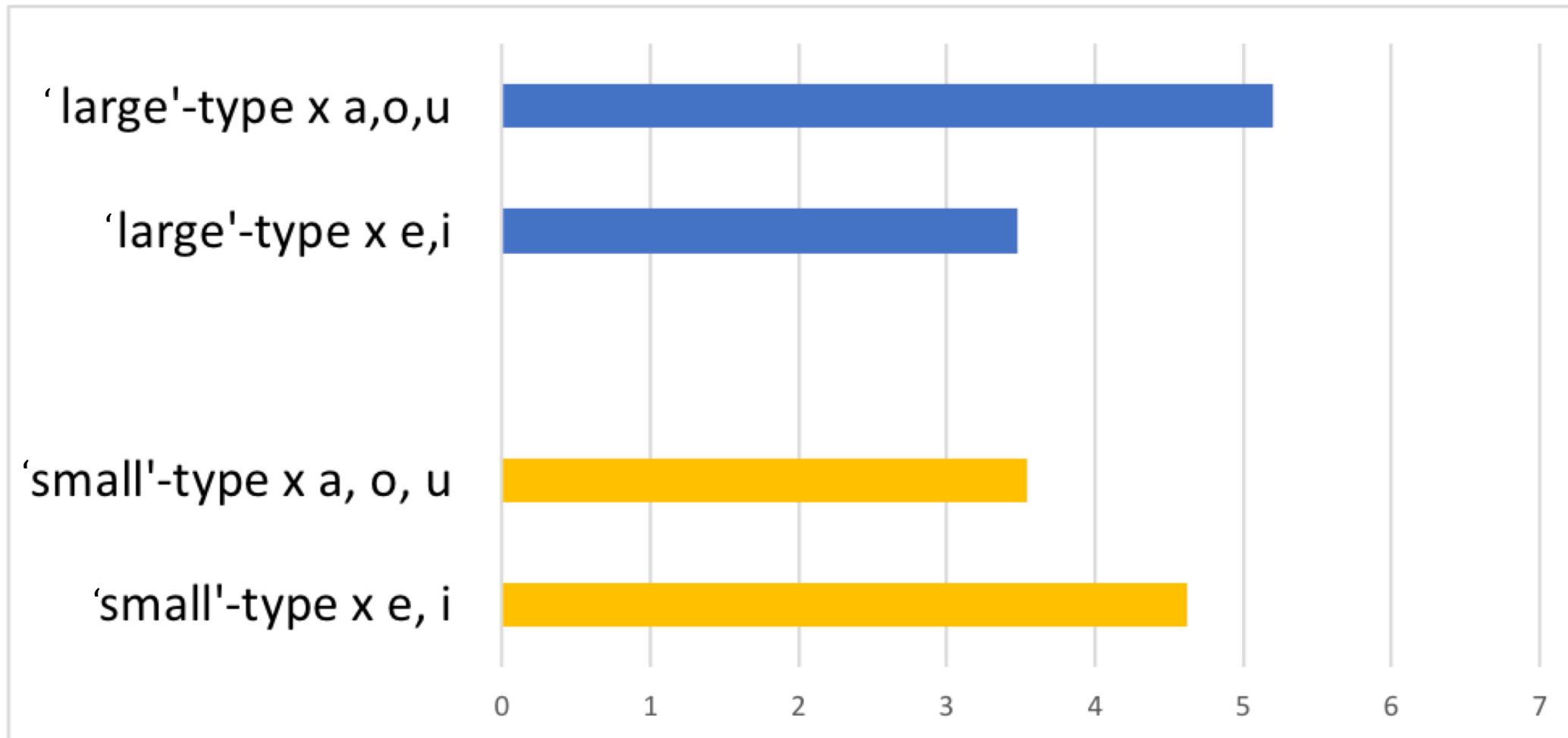
N=15

A mixed theory?

	Back vowel	Front vowel
'large'-type	Pure iconicity + iconic intensification	Pure iconicity <
'small'-type	∅ ∨	Iconic [∥] intensification

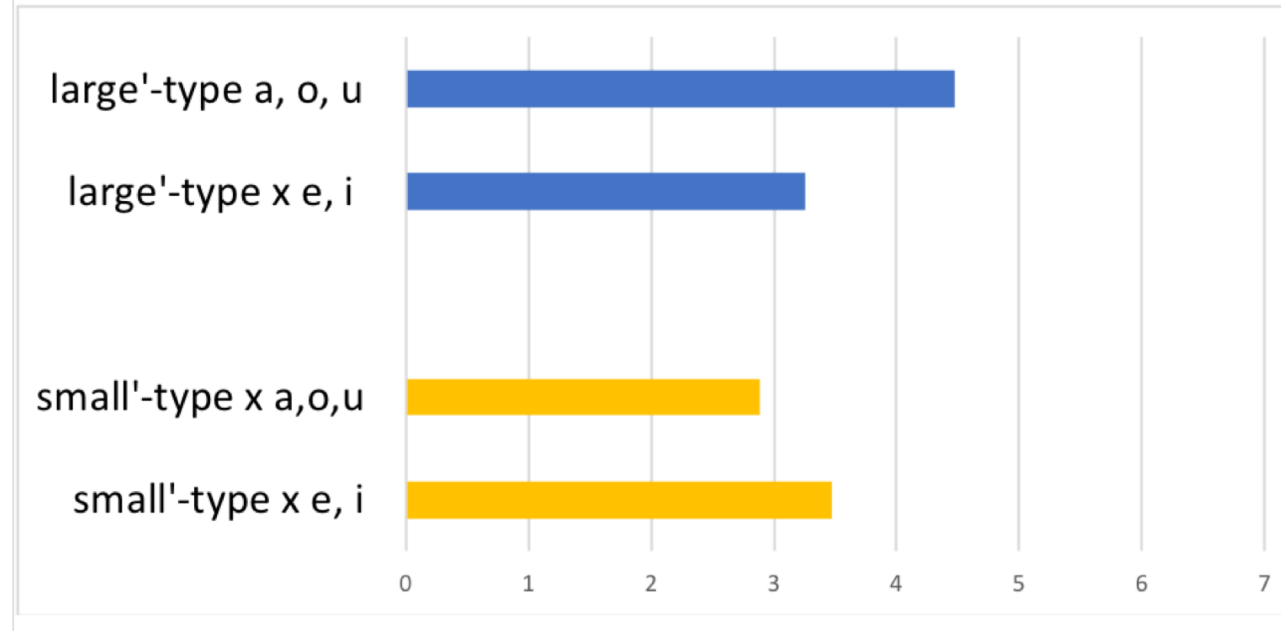
'large'-type × back vowel > 'large'-type × front vowel ≅ 'small'-type × front vowel > 'small'-type × back vowel

Spoken test

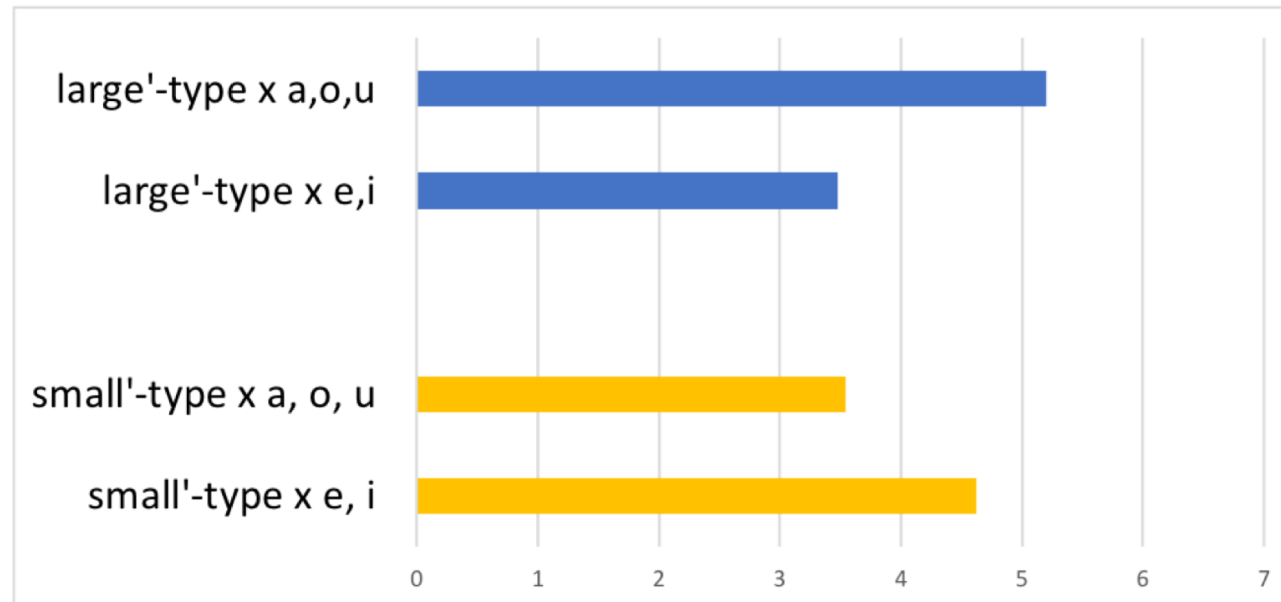


N=15

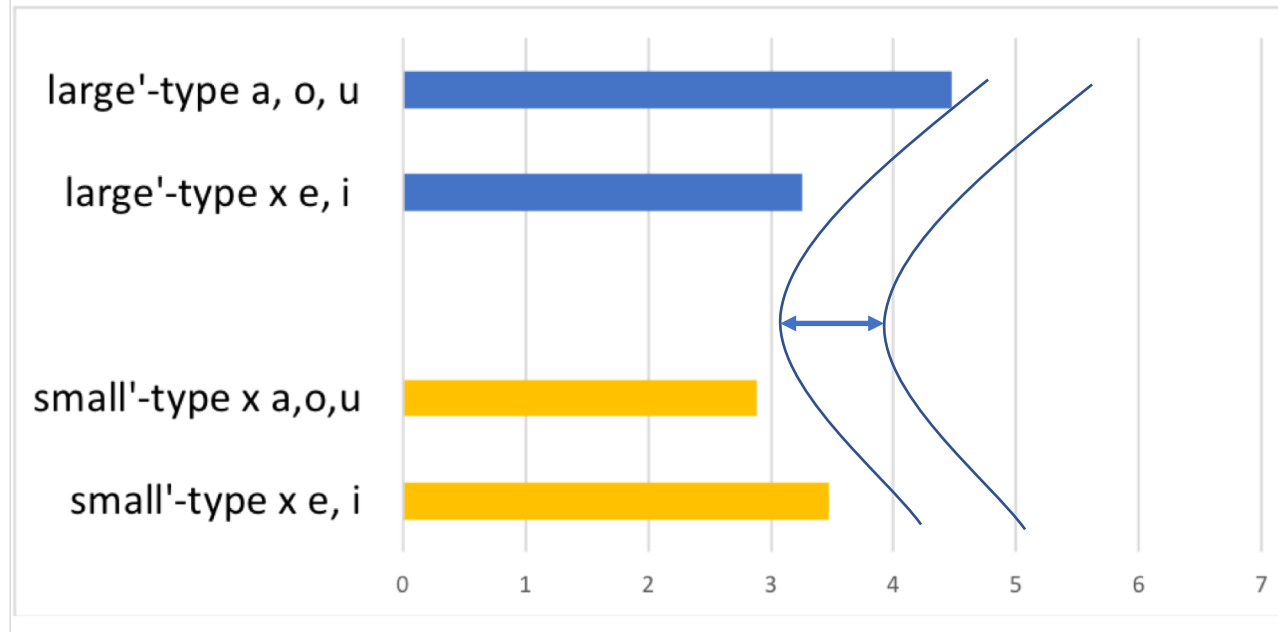
Written test



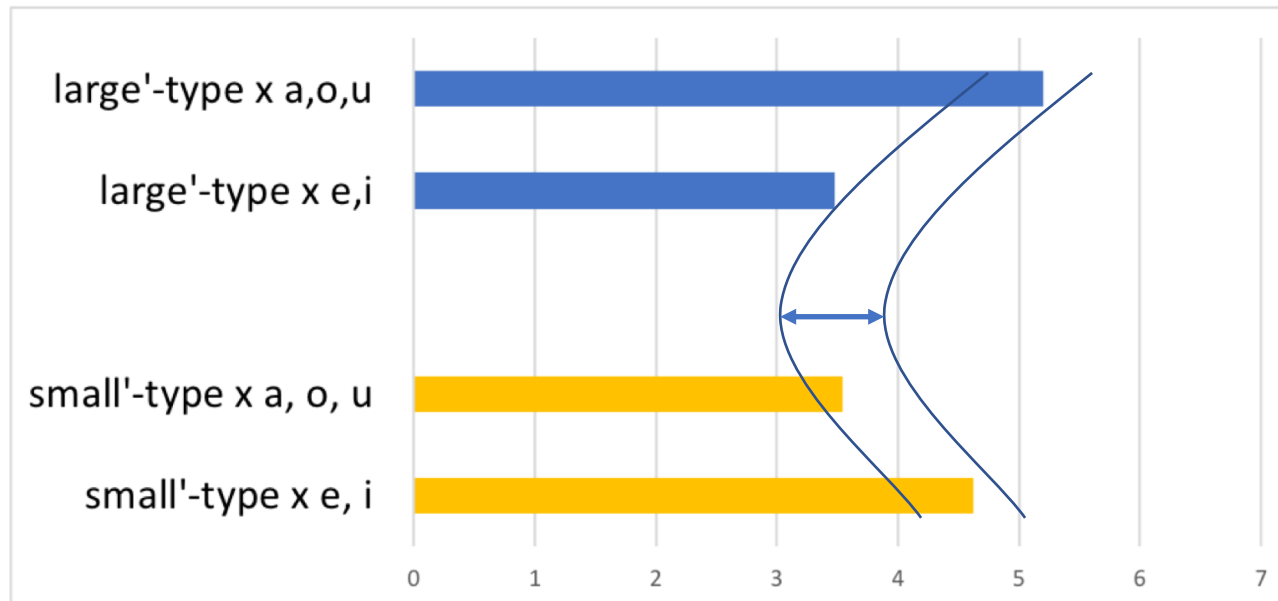
Spoken test

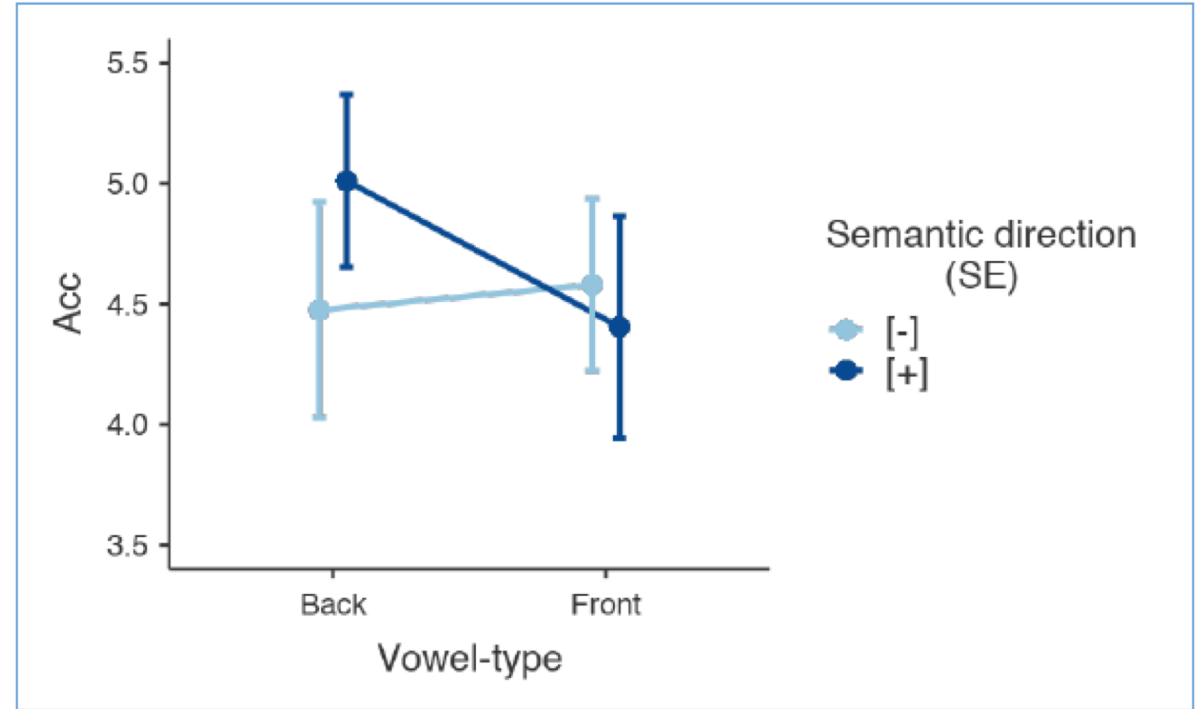
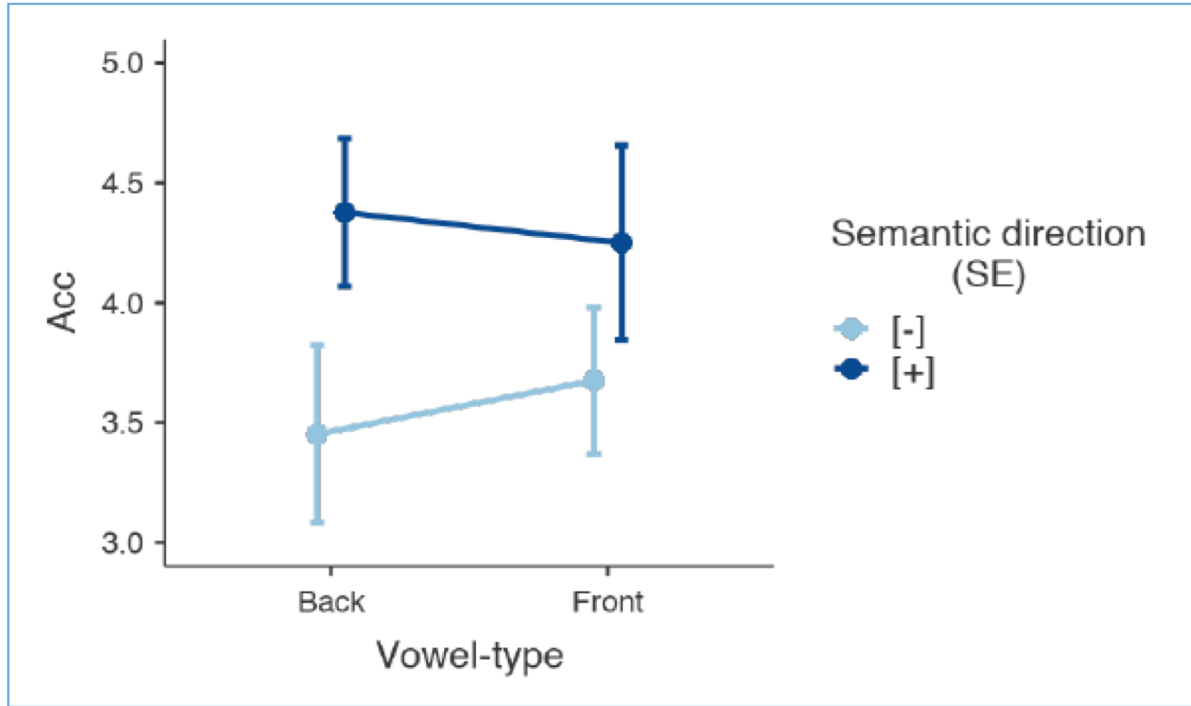


Written test



Spoken test





Both phenomena?

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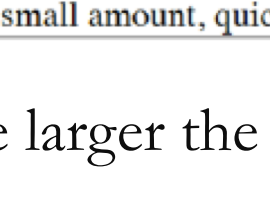
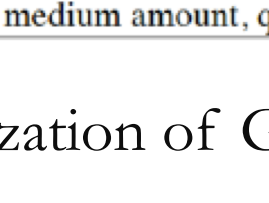
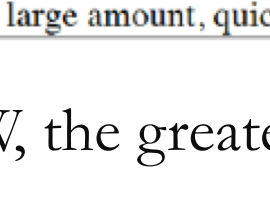
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→ Front + ‘small’ (“Teeeeny”=very teeny)

→ **Intensification of the sound symbolism**

1] 'pure' iconicity

Schlenker 2016: lengthening is an iconic enrichment (lacks separate time-slot)

	Narrow endpoints	Medium endpoints	Broad endpoints
Slow movement	small amount, slowly  	medium amount, slowly  	large amount, slowly  
Fast movement	small amount, quickly 	medium amount, quickly 	large amount, quickly 

Schlenker (2017) GROW «the larger the realization of GROW, the greater the growth; and similarly for speed»

Schlenker (2016) prosodic lengthening «the longer the word, the greater the length (size) of the relevant object.»

→ same criterion for iconicity of *structural preservation* as in Greenberg's pictorial semantics (2012)

an iconic representation is accurate if and only if this object has certain structural properties of the representation, i.e., there is a certain (ed.) isomorphic (i.e. structure-preserving) mapping from the object to the representation.

2] Vowel symbolism as iconic intensification

correspondence between articulatory gesture and meaning

||

the physiological representation underlying the production of the speech sound and meaning



Greenberg's structural criterion for iconicity applies :

the bodily movement producing the vowel preserves some structural properties of the object to which the word containing the vowel refers

Difference in productivity?

2] Vowel symbolism as iconic intensification

vowel length: arbitrary productiveness and a mapping onto a continuous scale

vowel quality: limited productivity and categorical perception: the categorization of allophones in the same phonemic categories.

→ mapping onto a discrete scale: for instance /i/ maps broadly onto small things, while /a/, /o/, and /u/ map onto big things.

2] Vowel symbolism as iconic intensification

Neither in English nor in Italian is vowel length meaning-relevant, while vowel quality is.

“Big” : vowel can be lengthened

But making the vowel more BACK just changes the word (“bag”)

Vowel quality: there *is* a continuous mapping similar to lengthening,
but it is made less productive by meaning-relevance

2] Vowel symbolism as iconic intensification

(7) a. **ITA** Ho davvero poca fame. Se il piatto è piccolo, non lo accetto, se è pìccolo, lo accetto.

HAVE-1SG REALLY LITTLE HUNGER. IF THE PLATE BE-3SG SMALL, NOT IT ACCEPT-1SG, IF BE-3SG **SMALL_CLOSED-[i]**, IT ACCEPT-1SG.

=> If the dish is small, I don't accept it, if it's very small, I accept it.

(7) b. **ROMAGNOLO** A n'io briša tropa fê; si 'e piat è znì, al mâgn briša, si l'è znî_closed_[i], a'l mâgn.

I HAVE-1SG NOT TOOMUCH HUNGER. IF THE PLATE BE-3SG SMALL, IT EAT-1SG NOT, IF IT BE-3SG **SMALL_CLOSED-[i]**, IT EAT-1SG.

⇒ If the dish is small, I don't accept it, if it's very small, I accept it.

(7) c. **FRA** Je n'ai pas trop faim; si le plat est petit, je ne le mangerai pas, s'il est pitit, je le mangerai.

I HAVE-1SG NOT TOO MUCH HUNGER. IF THE PLATE IS SMALL, I NOT IT EAT-1SG, IF IT BE-3SG **SMALL_[i]**, IT EAT1SG.

=> If the dish is small, I don't accept it, if it's very small, I accept it.

2] Vowel symbolism as iconic intensification

- Implications:
- 1) Traces of a productive mechanism similar to iconic lengthening
- 2) the set of possible iconic internal enrichments in spoken languages is bigger than previously thought. In other words, alongside vowel length (Schlenker 2016) and pitch (Schlenker 2016, Okrent 2002)
 - vowel quality, too, can modify the at-issue component of a clause.

Main claims

Prosodic lengthening cannot be explained by means of ‘pure’ iconicity
Nor by means of an intensification-based theory

Lengthening and sound symbolism do not feature two fundamentally different types of iconicity

In fact, they both satisfy Greenberg’s criterion for iconicity (structural preservation)

“Upstream” (prior and independently of matters of phonemic meaning-relevance) they are equally productive, but productivity of symbolism related to vowel quality is constrained by matters of meaning-relevance.

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