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Is free variation always free? Evidence from Greek, Italian, and Hebrew

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Aims

- ↳ to investigate at a cross-linguistic level the variable realization of certain phonological segments that seems to be motivated by register.
- ↳ to provide an account of this behavior by adopting a grammatical model capable of integrating pragmatic factors into the phonological processing.

1. Data

Cross-linguistically, words containing a marked structure in their underlying form may have **two alternative realizations**: one in which the underlying segments are realized faithfully, and one in which the emergence of the marked structure is avoided via a phonological process. Despite **both being grammatical**, the two variants **do not alternate freely**: the selection between them is heavily determined by **register**.

1.1. Greek

Marked clusters of voiceless obstruents with the same value for [continuant] are either realized faithfully or undergo *manner dissimilation* (1). Similarly, in the vowel sequence /iV/, hiatus may either remain unresolved or be recuperated by *glide formation* (2). In **everyday speech**, the **unmarked**, i.e. unfaithful, output is usually preferred, while the **faithful** one is predominantly associated with **formal** contexts.

- (1) a. /vaptisi/ ‘christening’ → [váptisi] ~ [váftisi]
b. /fθinos/ ‘cheap’ → [fθinós] ~ [ftinós]
- (2) a. /enðiaferon/ ‘interest’ → [enðiaféron] ~ [enðjaféron]
b. /xristianos/ ‘Christian’ → [xristianós] ~ [xristɕanós]

1.2. Hebrew

An obstruent preceding another obstruent with a different value for [voice] may either be realized faithfully or undergo *voice assimilation* (Boložky 1997: 290). Like in Greek, an informal context normally favors the latter scenario (Boložky 1997; Samokhina 2004; Dekel 2014).

- (3) a. /jisgor/ ‘he will close’ → [jisgór] ~ [jizgór]
b. /jɪdkór/ ‘he will stab’ → [jɪdkór] ~ [jitkór]

1.3. Italian

Dizionario di Pronuncia Italiana reports two alternative realizations for words containing an underlying /i/ next to another vowel (see also Krämer 2009: 88). However, the emergence of a full vowel [i] requires very careful and formal speech (van der Veer 2006: 74–75).

- (4) a. /av:iamento/ ‘start’ → [av:iaménto] ~ [av:jaménto]
 b. /diálogo/ ‘dialogue’ → [diálogo] ~ [djálogo]

Remarks

- ↳ The typical environments each variant appears in can be considered to represent specific spans across a **continuum of formality** (see e.g. Anastassiadi-Symeonidi & Fliatouras 2004):



Figure 1

- ↳ At the *informal* edge, the likelihood of the faithful variant to be preferred over the unmarked one is very low.
- ↳ As we move closer to the *formal* edge of the continuum, the grammatical system becomes more and more tolerant towards marked structures; this means that the faithful variant has an increased chance to be preferred.
- ↳ Register seems to impose restrictions on how “freely” a variant can be selected.

2. Proposal

We propose a grammatical model within the framework of *Noisy Harmonic Grammar* (Coetzee & Pater 2011; Coetzee & Kawahara 2013; Boersma & Pater 2016) that calculates the probability of a variant to be selected by taking into account the impact of **register**.

- ↳ Register is formalized as **noise** that affects the weight of the relevant **markedness** constraint (cf. Coetzee 2009; Coetzee & Kawahara 2013).
- ↳ (a) **Formal register**: positive noise that makes the constraint lighter.
 (b) **Informal register**: negative noise that makes the constraint heavier.

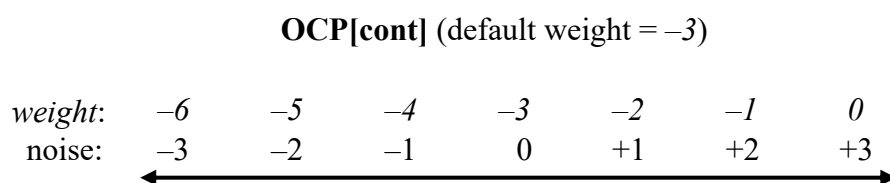


Figure 2

Exemplification

Focusing on Greek, let us take a closer look at how the model accounts for the data presented in (1a). The tableaux 1–3 illustrate the phonological computation of the **input** /vaptisi/ depending on how the noise value is modified:

Tableau 1: Neutral noise

	vaptisi	OCP[cont] –3	IDENT[cont] –2	<i>H</i>
	a. váptisi	–3	0	–3
☞	b. váftisi	0	–2	–2

- ↳ The output form *váptisi* violates the markedness constraint OCP[cont]; as a result, its total *harmony value* (*H*) is equal to –3. The output form *váftisi* yields a total violation of –2 due to not satisfying the faithfulness constraint IDENT[cont].
- ↳ *váftisi* > *váptisi*, which is translated into a relatively higher probability for the former to surface.

Tableau 2: Informal noise

	vaptisi	OCP[cont] –3 (–2)	IDENT[cont] –2	<i>H</i>
	a. váptisi	–5	0	–5
☞	b. váftisi	0	–2	–2

- ↳ **Negative** noise, i.e. informal register, is added to the weight of OCP[cont]: the weight of the constraint further increases, thus its role on the evaluation process is enhanced. This makes the selection of the marked output *váptisi* even less likely, since now it yields a greater violation (i.e., –5 instead of –3) of the –heavier– OCP[cont].

Tableau 3: Formal noise

	vaptisi	OCP[cont] –3 (+2)	IDENT[cont] –2	<i>H</i>
☞	a. váptisi	–1	0	–1
	b. váftisi	0	–2	–2

- ↳ In formal contexts, a **positive** noise +2 is applied to the markedness constraint OCP[cont], making it ‘lighter’: the output that contains the marked cluster [pt] now violates OCP[cont] at a lesser degree (i.e., –1 instead of –3).
- ↳ The total harmony of *váptisi* (–1) surpasses that of *váftisi* (–2); that is, *váptisi* has now a higher probability to surface.

The following graph visualizes the variation in the probability of the faithful output to be selected as the noise value increases or decreases:

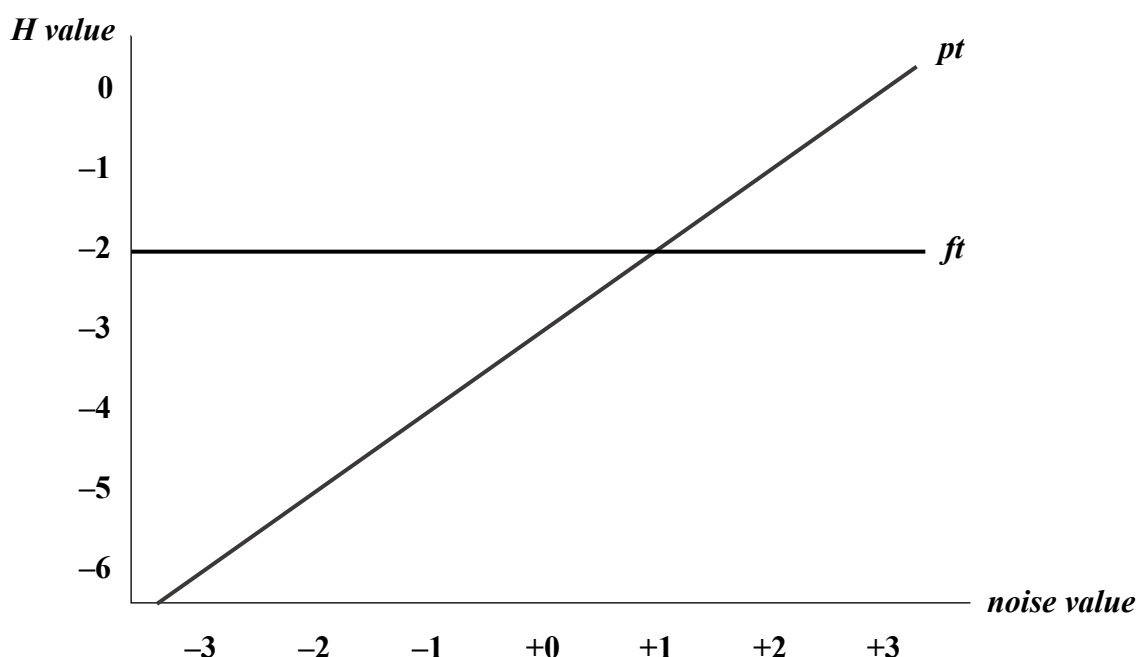


Figure 3

3. Discussion

Given the gradient continuum of formality posited above, we could assume that in everyday speech the noise value is **close to 0**; consequently, the points -1 and $+1$ on the continuum could be considered as the **borders** beyond which the register comes into play:

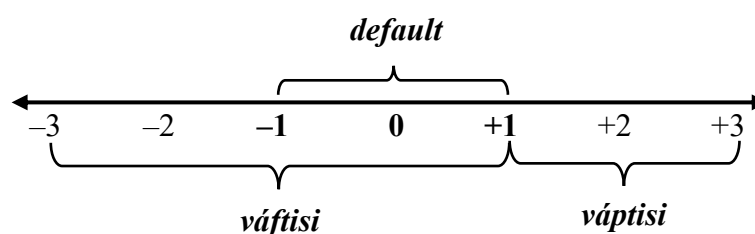


Figure 4

Based on this assumption, we can infer that the output form with the higher probability to surface within these limits can be considered the **default** one. For example, in Greek when the noise value ranges between -1 and $+1$, [váftisi] (H value = -2) is preferable over [váptisi] ($-4 < H$ value < -2).

Note that [váptisi] in Greek is not far from being within the range of default: it becomes equally harmonic to [váftisi] when a noise value of $+1$, i.e. the border value for formality, is applied. However, **cross-linguistically**, the point on the continuum above which the faithful output starts sounding acceptable may vary. For example, [av:iáménto] is possible in Italian only in cases of extremely formal and careful speech. Along the lines of the above analysis, we suggest that in this case **the weight values of the relevant constraints**, for example *VV and

IDENT[voc], **differ at a greater extent**; for instance *VV is assigned a weight of -5 instead of -3 and IDENT[voc] has -2 . This yields a difference of $|3|$ instead of $|1|$, which means that a **higher noise value**, i.e. $+4$, representing a context of higher formality, is required in order for the H value of the faithful output to surpass the H value of the unmarked one.

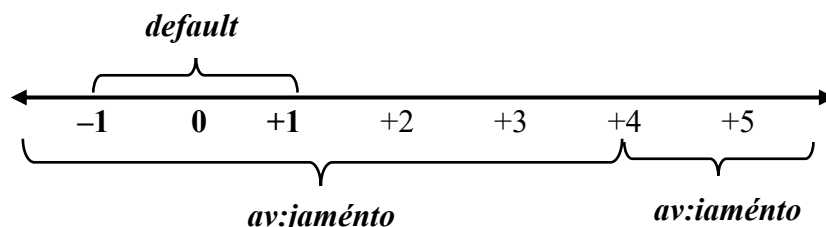


Figure 5

3. Conclusions

At an **empirical** level, the NHG model

- ↳ accounts for cases of **non-free variation** and explains why a variant may be **more or less probable to emerge** in a certain context.
- ↳ has **cross-linguistic** coverage.
- ↳ highlights the **phonological** motivation of the attested patterns.

At a **theoretical** level,

- ↳ it explains cases of non-free variation by integrating the **motive** that gives rise to it, i.e. **register**, into the phonological processing (cf. OT-based models with partially ranked constraints, Anttila 1997, 2000; stratified sets of constraints, Coetzee 2006).
- ↳ it postulates (a) a **single core grammar** (\rightarrow economical computational system) (cf. multiple rankings within OT-based models, e.g. Kiparsky 1994; van Oostendorp 1997; Orgun 1996; Inkelas 1998; Inkelas & Zoll 2007, a.o.), and (b) a **single underlying representation** (\rightarrow economical mental lexicon) (cf. stem-listing approaches, Booij 1997; Anastassiadi-Symeonidi & Fliatouras 2004; Ralli 2005, a.o.).
- ↳ it provides a better view of **gradient well-formedness** (see also Mitsiaki 2014), in the sense that one can measure the distance between many well-formed outputs instead of just rank them with each other (see e.g. Coetzee 2006), and it introduces a **gradient take on register as a continuum of formality** (see also Anastassiadi-Symeonidi & Fliatouras 2004).

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References

- Anastassiadi-Symeonidi, Anna & Assimakis Fliatouras. 2004. I dhiakrisi [LOGIO] ke [LAIKO] stin eliniki glosa. Orismos ke taksinomisi [The [LEARNED] and [COLLOQUIAL] distinction in Greek. Definition and classification]. In Georgia Katsimali, Alexis Kalokerinos, Elena Anagnostopoulou & Ioanna Kappa (eds.), *Proceedings of the 6th International Conference on Greek Linguistics*. University of Crete. Electronic publication. [<http://www.philology.uoc.gr/conferences/6thICGL/gr.htm>]

- Anttila, Arto. 1997. Deriving variation from grammar. In Frans Hinskens, Leo Wetzels, & Roeland van Hout (eds.), *Variation, Change and Phonological Theory*. 35–68. Amsterdam: John Benjamins.
- Anttila, Arto. 2000. Morphologically conditioned phonological alternations. ROA-425.
- Boersma, Paul & Joe Pater. 2016. Convergence properties of a gradual learning algorithm for Harmonic Grammar. In John McCarthy & Joe Pater (eds.), *Harmonic Grammar and Harmonic Serialism*. London: Equinox Press.
- Booij, Geert. 1997. Allomorphy and the autonomy of morphology. *Folia Linguistica* XXXI(1–2): 25–56.
- Bolozky, Shmuel. 1997. Israeli Hebrew phonology. In Alan S. Kaye & Peter D. Daniels (eds.), *Phonologies of Asia and Africa*. 287–311. Vol. 1. Winona Lake: Eisenbrauns.
- Coetzee, Andries W. 2006. Variation as accessing ‘non-optimal’ candidates. *Phonology* 23: 337–385.
- Coetzee, Andries W. 2009. An integrated grammatical/non-grammatical model of phonological variation. In Young-Se Kang, Jong-Yurl Yoon, Hyunkyung Yoo, Sze-Wing Tang, Yong-Soon Kang, Youngjun Jang, Chul Kim, Kyoung-Ae Kim, & Hye-Kyung Kang (eds.), *Current Issues in Linguistic Interfaces. Volume 2*. 267–294. Seoul: Hankookmunhwasa.
- Coetzee, Andries W. & Joe Pater. 2011. The place of variation in phonological theory. In John Goldsmith, Jason Riggle & Alan Yu (eds.), *The Handbook of Phonological Theory*. 401–431. Malden, MA: Blackwell.
- Coetzee, Andries W. & Shigeto Kawahara. 2013. Frequency biases in phonological variation. *Natural Language and Linguistic Theory* 31: 47–89.
- Dekel, Nurit. 2014. *Colloquial Israeli Hebrew: A Corpus-based Survey*. Berlin/Boston: Walter de Gruyter.
- Dizionario di Pronuncia Italiana*. [<http://www.dipionline.it/dizionario>]
- Inkelas, Sharon. 1998. The theoretical status of morphologically conditioned phonology: A case study from dominance. In Geert Booij & Jaap van Marle (eds.), *Yearbook of Morphology 1997*. 121–155. Amsterdam: Springer.
- Inkelas, Sharon & Cheryl Zoll. 2007. Is grammar dependence real? A comparison between cophonological and indexed constraint approaches to morphologically conditioned phonology. *Linguistics* 45(1): 133–171.
- Kiparsky, Paul. 1994. An OT perspective on phonological variation. Paper presented at *NWAV* 23, Stanford University.
- Krämer, Martin. 2009. *The Phonology of Italian*. Oxford: Oxford University Press.
- Mitsiaki, Maria. 2014. *Fonologiki Diavathmisi ton #CC tis Neas Elinikis: Gramatiki Mondelopiisi ke Didaktikes Efarmoges gia tin Eliniki os G2* [Phonological Gradience of #CC clusters: Grammatical Modelling and Applications in Teaching Greek as L2]. PhD thesis, Aristotle University of Thessaloniki.
- Orgun, Cemil Orhan. 1996. *Sign-Based Morphology and Phonology with Special attention to Optimality Theory*. PhD thesis, University of California.
- Ralli, Angela. 2005. *Morfologia* [Morphology]. Athens: Patakis.
- Samokhina, Natalya. 2004. OT account of regressive voicing assimilation in Modern Hebrew and Russian. *Arizona Working Papers in SLAT* 11: 81–92.
- van der Veer, Bart. 2006. *The Italian ‘Mobile Diphthongs’. A Test Case for Experimental Phonetics and Phonological Theory*. PhD thesis, Leiden.
- van Oostendorp, Marc. 1997. Style levels in conflict resolution. In Frans Hinskens, Roeland van Hout & Leo Wetzels (eds.), *Variation, Change and Phonological Theory*. 207–229. Amsterdam: John Benjamins.