

## **Prosody and analogy in variation and language change. Lexical diphthongisation in Catalan and Spanish.**

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Derivational and rule-based models in phonology resort to mechanisms such as addition, reordering and deletion of rules to explain variation and linguistic change. While these mechanisms can easily account for parametric variation among languages, they also contribute to view synchronic language systems as static linguistic stages and language change as a sudden shift from one linguistic stage to another. Most of the changes occurring in natural languages, though, involve gradual and non-radical modifications of linguistic features. From the perspective of constraint-based approaches such as OT (Prince & Smolensky, 1993), linguistic variation and change can be conceived as a gradual reranking of particular constraints that become increasingly prominent. This theory can easily capture, for example, the competition between a new developing tendency and antagonistic forces which tend to keep old linguistic identities; moreover, it also allows for the expression of variation within the data by resorting to differences between individual speakers in the establishment of analogical relationships between lexical items.

The paper shows that the gradual process of glide formation in rising sonority sequences in Catalan can be accounted for in a very intuitive way in terms of a correspondence-based OT analysis (McCarthy & Prince, 1994, 1995, Benua, 1995). The tendency to diphthongize in this language can be regarded as an intricate process closely guided by prosodic and analogical conditions, i.e., by forces which optimize prosodic structure and by forces which tend to keep identity relations in morphologically and even nonmorphologically related words. A prosodic/identity constraint analysis allows us to capture the interplay between both prosodic and analogical pressures together with the variation found in the data: a few differences in the ranking of prosodic and identity constraints can explain the variation found in diphthong/hiatus distributions in two varieties of Catalan, and, concomitantly, account for the direction that change has taken in this language. Moreover, the more advanced stage of diphthongisation in Spanish displays can be accounted for by similar sets of constraints.

Up until recently Catalan has shown a systematic tendency to pronounce in hiatus all lexical sequences of vocoids of rising sonority such as *mi.ol*, *pi.a.no*, *vi.o.lí*, *co.mi.at*, *cla.ri.a.na*. Conversely, sequences of falling sonority (e.g. *fei.na*, *boi.ra*, *mai.na.da*) are most often pronounced in diphthongs. While an early tendency to diphthongize had been noted in certain sequences (e.g. *in.gè.nua*, *his.tò.ria*, *com.pren.sió*, *e.le.va.ció*), nowadays there exists an ever stronger trend to pronounce as diphthongs sequences traditionally pronounced as hiatus (Fabra 1912, Oliva 1977, Recasens 1991, Bonet & Lloret 1998). We claim that the main factor guiding the tendency to either diphthongize or form hiatus in Catalan is the prosodic configuration of the word. The results of a questionnaire with 357 common words and 20 nonsense words administered to 25 speakers of Central Catalan show that antidiphthong contexts include potential monosyllabic words (e.g., *ti.ó*, *mi.ol*), monosyllabic roots (*di.a.na*, *du.a.na*) or initial monosyllabic feet at the left of the stress (*di.a.de.ma*, *vi.o.lí*). In contrast to that, diphthong-favoring contexts include potential words ending in trochaic feet (*his.tò.ria*, *in.gè.nua*) and word-internal sequences in unstressed position (*va.rie.tat*, *pa.trio.tis.me*). In other contexts data show a clear dialectal contrast: while innovative varieties diphthongize stressed syllables in words such as *cla.ria.na*, *ca.mió*, data from older generations and conservative varieties of Central Catalan show a weaker tendency to diphthongize in the same contexts.

Within OT, these trends can be accounted for by an interplay of the following prosodic constraints: a force which universally favors glide formation in syllables with initial vowels (ONSET) competes with faithfulness input-output (IDENT-IO) (*va.ria.bi.li.tat*, *his.tò.ria*). Moreover, bisyllabic minimality in roots (ROOT-BIN) competes with STRESS-TO-WEIGHT which expresses the tendency of stressed syllables to attract

segmental material (*ti.ó, du.a.na / mo.nia.to, ju.li.ol*). Finally, ALIGN-LEFT expresses the tendency to maintain a bisyllabic foot in initial position at the left of the stress (*di.a.de.ma, ci.a.nur*). The situation found in conservative varieties of Central Catalan is answered for by a minor change in the ranking of constraints, i.e., by setting STRESS-TO-WEIGHT one step lower in the hierarchy below ALIGN LEFT (*mo.ni.a.to, ju.li.ol*).

The hiatus/diphthong distribution exhibits another type of microvariation, variation across speakers. It is not surprising to find idiolectal variation in language change situations. As Kiparsky (1995) notes, "sound change can be assumed to originate through synchronic variation in the production, perception and acquisition of language, from where it is internalised by language learners as part of their phonological system". How can grammars account for idiolectal variability? Intuitively, idiolectal variation in the case at hand responds to the difference between analogical relationships each speaker establishes between different lexical items. We will adopt Itô & Mester's instantiation (1997) of this idea within Correspondence Theory: each speaker is able to set up a series of idiosyncratic correspondence relations between different lexical items which become active in the evaluation process. In the paper we discuss how segmental and morphological identity constraints (Kenstowicz, 1996) play a role in the selection of the analogical relationships in Catalan. Thus, the data at hand show that some lexical idiosyncratic marking is needed to explain idiolectal variation, but at the same time some identity patterns emerge introducing new regularities in the system.

The significance of the data presented here is made manifest when we observe the behavior of Spanish with regard to diphthongisation. Spanish displays a more advanced stage of diphthongisation and, interestingly, still shows some of the anti-diphthong restrictions Catalan presents. Despite its well-known anti-hiatus tendency, Spanish favors hiatus in sequences of rising sonority in word-initial position (*pi.a.no, di.a.na*) and in certain analogical cases (Hualde, 1999). The Spanish situation displays important similarities with the innovative Catalan variety, showing that microvariation and macrovariation are not substantially different. In sum, a CT/OT analysis of diphthongisation provides us with a unified view of the hiatus/diphthong synchronic and diachronic distribution found in Catalan and concomitantly may shed some light on a plausible general view of the recent evolution of this phenomenon in the Romance region.

## References

- Benua, L. (1995) "Identity effects in morphological truncation". *Papers in Optimality Theory. University of Massachusetts. Occasional papers in Linguistics*, 18, ed. by Beckman *et al.* Amherst, MA: Graduate Linguistics Student Association, pp. 77-136.
- Bonet, E. & Lloret, M.R. (1998) *Fonologia catalana*. Barcelona: Ariel.
- Fabra, P. (1912) *Gramàtica de la llengua catalana*. Barcelona: Edicions AQUA, 1982.
- Hualde, J.I. (1999) "Patterns in the lexicon: hiatus with unstressed high vowels in Spanish". *Advances in Hispanic Linguistics*, vol I, ed. by J. Gutiérrez-Rexach & F. Martínez-Gil. Somerville: Cascadia Press, pp. 182-198.
- Itô, J. & A. Mester (1997) "Correspondence and compositionality: the Ga-Gyo variation in Japanese phonology". *Derivations and constraints in Phonology*, ed. by I. Roca. Oxford: Clarendon Press, pp. 419-462.
- Kenstowicz, M. (1996) "Base-Identity and Uniform Exponence: Alternatives to Cyclicity". *Current trends in Phonology: Models and Methods*, ed. by Durant, J. & B. Lacks. University of Salford: European Studies Research Institute, pp. 363-393.
- Kiparsky, P. (1995) "The phonological basis of sound change". *The Handbook of Phonological Theory*, ed. by J. Goldsmith. Oxford: Blackwell, pp. 640-670.
- McCarthy, J. & A. Prince (1994) "The emergence of the unmarked". Ms. University of Massachusetts, Amherst and Rutgers University.
- McCarthy, J. & A. Prince (1995) "Faithfulness and reduplicative identity". *Papers in Optimality Theory. University of Massachusetts. Occasional papers in Linguistics*, 18, ed. by Beckman *et al.* Amherst, MA: Graduate Linguistics Student Association, pp. 249-384.
- Prince, A. & P. Smolensky (1993) "Optimality Theory: Constraint interaction in Generative Grammar". Ms. Rutgers University and University of Colorado at Boulder.
- Oliva S. (1977) "Dos aspectes del ritme en el català modern". *Els Marges*, 9, pp.89-96.
- Recasens, D. (1991) *Fonètica descriptiva del català*. Barcelona: Institut d'Estudis Catalans.