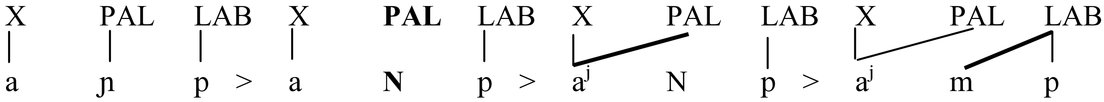
Split palatal nasals in Catalan: evidence for the *features as entities* approach within OT-CC

Francesc Torres-Tamarit
Centre de Lingüística Teòrica (Universitat Autònoma de Barcelona)

1. Opacity and OT-CC. Phonological opacity still remains one of the most significant problems for a global and parallel theory such as OT. In OT-CC [McCarthy 2007a] a derivational device is introduced: candidates are not output forms, but a chain of abstract intermediate representations that map the input onto the final output through small steps. These candidate chains must meet three requirements in order to be constructed by GEN: *fully faithful initial form* (the initial form in a candidate chain is a fully faithful parse of the input), *gradualness* (only one unfaithful mapping is permitted at each step in the derivation) and *harmonic improvement* (every unfaithful mapping improves harmony according to the language-particular hierarchy of CON). Thus, in this model GEN has access to EVAL in order to construct valid harmonically-improving candidate chains, which form now a finite set of GEN-generated candidates. In order to deal with opacity, OT-CC also introduces a new type of constraint forcing an explicit order of faithfulness violations between the forms of a candidate chain (PREC(A,B)) that is similar to rule ordering in rule-based phonology. **2. Hypothesis.** We will show that a case considered as opaque becomes transparent if we adopt OT-CC and the autosegmental conception of *features as entities* described in McCarthy 2007b without making reference to PREC(A,B) constraints. **3. Data.** In Majorcan Catalan there is a splitting process that applies to palatal nasals when they are followed by a consonant that gives rise to a diphthong and a nasal that is homorganic with the following consonant: (a) a[ɲ] 'year' ~ *a*[^{j}m.p]*assat* 'last year' [Mascaró 1986, Pons 2005]. But an opaque interaction arises in the following examples: (b) underlying /n##ɲ/ surfaces as [ɲ.ɲ] but (c) /ɲ##ɲ/ surfaces as [^{j}.ɲ] instead of to the more faithful [ɲ.ɲ] and (d) /n##c/ surfaces as [ɲ.c] whereas (e) /ɲ##c/ maps to [^{j}ɲ.c] instead of to the more faithful [ɲ.c]. The cases of underapplication of the splitting process illustrated in (b) and (d), in which an alveolar nasal is present in the underlying representation that undergoes Place assimilation but no splitting, are resolved in Pons 2005 within the framework of Comparative Markedness [McCarthy 2003]. The high ranking of old $_{O}$*ɲC, IDENT(nas) and IDENT(pal) above INTEGRITY is the responsible of choosing the candidate with the split nasal only in cases with underlying /ɲ/. A candidate such as [ɲ.ɲ] from /n##ɲ/ is the optimal one because does not violate $_{O}$*ɲC, but low-ranked new $_{N}$*ɲC. **4. Analysis.** In our analysis, we follow Mascaró 1986 by interpreting the splitting process as the result of two different phonological processes on autosegmental representations: deassociation and reassociation of autosegments of the PA-tier with the units of the skeleton. From our perspective, this idea is maintained if MAX is split into three more general constraints: MAX(place), NO-LINK and MAX(link). The first two constraints are taken from McCarthy 2007b, where assimilatory processes or deletion of coda consonants are analyzed as processes that involve two different unfaithful mappings: debuccalization, or loss of place feature specification of codas that involves a violation of MAX(place) in order to make better performance of high-ranked CODA-CONDITION (this explains the coda/onset asymmetry), and a violation of NO-LINK or MAX(segment). Split palatal nasals in Majorcan Catalan are also due to the high-ranking of CODA-CONDITION, which militates against Place nodes that are associated to codas. Thus, the mapping in (a) is obtained because CODA-CONDITION dominates MAX(link) and both HAVE-PLACE and HAVE-SEGMENT dominate NO-LINK (see figure 1). The mappings in (c) and (e) are parallel to (a). The "opaque" mappings of (b) and (d) are the optimal ones because the ALV autosegment of the PA-tier cannot be interpreted as a glide by the vowel. This is so because, following Mascaró 1986, only a PAL autosegment, but not an ALV, VEL or LAB one, can associate with the vowel preceding the nasal since PAL is the only Place autosegment that has exactly the same place properties as the glide j (see figure 2). In these cases, MAX(place), but not MAX(link), is the first unfaithful mapping of the chain.

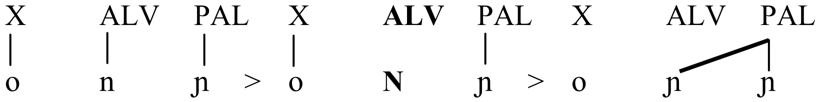
6. Appendix.

Figure 1: optimal harmonically-improving candidate chain with split palatal nasal (/ɲ##p/)



LUMs: MAX(place) NO-LINK(place) NO-LINK(place)

Figure 2: optimal harmonically-improving candidate chain with non-split palatal nasal (/n##ɲ/)



LUMs: MAX(place) NO-LINK(place)

Figure 3: tableau for /...ɲ##p.../ (***any** passat* 'last year')

aɲ##p...	CODA-COND	HAVE-PLACE	MAX(pl)& MAX(seg)	HAVE-SEG	MAX(pl)	MAX(seg)	MAX(link)	NO-LINK
☞aɲ.p, aN.p, aʲ_N.p, aʲm.p <MAX(link), NO-LINK@1, NO-LINK@2>							*	**
aɲ.p, aN.p, aʲ_N.p, aʲ_.p <MAX(link), NO-LINK, MAX(seg)>						*!	*	*
aɲ.p, aN.p, am.p <MAX(place), NO-LINK>					*!			*
aɲ.p, aN.p, am.p <MAX(link), NO-LINK>				*!			*	*
aɲ.p, aN.p, a_.p <MAX(link), MAX(seg)>				*!		*	*	
aɲ.p, aN.p, a_.p <MAX(place), MAX(seg)>			*!		*	*		
aɲ.p, aN.p, aʲ_N.p <MAX(link), NO-LINK>		*!					*	*
aɲ.p, aN.p <MAX(place)>		*!			*			
aɲ.p, aN.p <MAX(link)>		*!		*			*	
aɲ.p <Ø>	*!							

7. References: MASCARÓ, Joan (1986). Compensatory diphthongization in Majorcan Catalan. In *Studies in compensatory lengthening*, L. Wetzels; E. Sezer (eds.). Dordrecht: Foris. MCCARTHY, John J. (2003). Comparative markedness. University of Massachusetts, Amherst. [Ms.] [Available on Rutgers Optimality Archive -489]. MCCARTHY, John J. (2007a). *Hidden Generalizations: Phonological Opacity in Optimality Theory*. London: Equinox Publishing. MCCARTHY, John J. (2007b). Slouching towards optimality: Coda reduction in OT-CC. In Phonological Society of Japan (ed.) *Phonological Studies 10*. Tokyo: Kaitakusha. 89-104. [Available on Rutgers Optimality Archive -878.]. PONS, Clàudia (2005). Preconsonantal palatal segments. In: *Prosodies. With Special Reference to Iberian Languages. Phonetics and Phonology Series*. 287-314, S. Frota; M. Vigário; M. J. Freitas (ed.). Berlin; New York: Mouton de Gruyter.