

Recursivity and the Definition of MATCH in Italian Syntax-Prosody

Early work on Italian prosody assumed the Strict Layering Hypothesis, which prohibited recursion of prosodic categories (Nespor & Vogel 1986, Ghini 1993), and subsequent work has continued to assume that Italian lacks prosodic recursion (Samek-Lodovici 2017). I revisit three Italian processes argued to apply within the phonological phrase (φ): Word-Final Vowel Deletion / *Troncamento* (VD; *maggiore sicurezza* \rightarrow *maggior_ sicurezza*; Meinschaefer 2005), Stress Retraction (SR; *le città nórdiche* \rightarrow *le cítta nórdiche*), and Final Lengthening (FL; *l'entrata alla fiera* \rightarrow *l'entrata alla fieera*; Nespor and Vogel 1986, Ghini 1993). I show that VD is sensitive to smaller domains than FL and SR, motivating the existence of recursive φ . I then argue that Match Theory (Selkirk 2011) is capable of deriving the correct outputs if and only if MATCH constraints are defined to see only XPs with a phonologically overt head (e.g. Truckenbrodt 1999).

In N+PP sequences like (1), VD optionally applies on the head N *sapore*. Meinschaefer (2005) argues for two prosodic structures: VD applies in (1b) when there is no right φ edge after *sapore* but is blocked by a φ boundary in (1c). If FL applied in the same domain, FL would be optional on the head N in these structures. Instead, FL only applies to the second N *mandorle*, as in (2b); FL on the head N results in a marked structure in (2c) (Ghini 1993). The two processes diverge in distribution, suggesting they apply in different domains. Function words (D, P) (assumed to be proclitics, following Ghini (1993)) are omitted from the schematization.

- | | | | |
|-----|------------------------|---|---|
| (1) | a. Syntax | TP[rimane DP[il NP[sapore PP[di DP[cioccolata]]]]] | TP[V DP[N PP[N]]] |
| | b. φ -Phrasing | φ (rimane) φ (il sapor_ di cioccolata) | φ (V) φ (N N) |
| | c. φ -Phrasing | φ (rimane) φ (il sapore) φ (di cioccolata) | φ (V) φ (N) φ (N) |
| | d. Gloss | ‘The taste of chocolate persists’ | |
| | | | |
| (2) | a. | TP[ho VP[assaggiato DP[il NP[pollo PP[colle NP[mandorle]]]]]]] | TP[V DP[N PP[N]]] |
| | b. | φ (ho assaggi <u>aa</u> to) φ (il pollo colle <u>ma</u> andorle) | φ (V) φ (N N) |
| | c. | ? φ (ho assaggi <u>aa</u> to) φ (il <u>pool</u> lo) φ (colle <u>ma</u> andorle) | ? φ (V) φ (N) φ (N) |
| | d. | ‘I have tasted the chicken with almonds’ | |

The processes similarly diverge in N+Adj sequences. In (3), N followed by Adj optionally undergoes VD, so NP[NP[N] AP[Adj]] is mapped onto φ (N Adj), as in (3b), or φ (N) φ (Adj), as in (3c). As shown in (4), FL can only apply to the second member of a N+Adj sequence; φ (N Adj) is the only licit parse (Ghini 1993, Dehé & Samek-Lodovici 2009). The same holds of Adj + N sequences: VD optionally applies to the adjective, while FL never does.

- | | | | |
|-----|----|--|---------------------------------|
| (3) | a. | PP[sul NP[NP[mare] AP[azzurro]]] | NP[NP[N] AP[Adj]] |
| | b. | φ (sul mar_ azzurro) | φ (N Adj) |
| | c. | φ (sul mare) φ (azzurro) | φ (N) φ (Adj) |
| | d. | ‘on the blue sea’ | |
| | | | |
| (4) | a. | TP[ho VP[mangiato DP[dei NP[NP[pasticcini] AP[ripieni]]]]] | NP[NP[N] AP[Adj]] |
| | b. | φ (ho mangia <u>aa</u> to) φ (dei pasticcini ripie <u>ee</u> ni) | φ (N Adj) |
| | c. | ? φ (ho mangia <u>aa</u> to) φ (dei pasticci <u>ii</u> ni) φ (ripi <u>ee</u> ni) | ? φ (N) φ (Adj) |
| | d. | ‘I ate some filled donuts’ | |

To explain this divergence, I appeal to recursive φ and prosodic subcategories (Ito & Mester 2013): VD is sensitive to all φ , while SR and FL are sensitive to Maximal φ , those φ which are not

dominated by any other φ . Thus, the structure $TP[V_{DP}[N_{PP}[N]]]$ optionally maps to either (i) $\varphi_{Max}(V) \varphi_{Max}(N \varphi(N))$ or (ii) $\varphi_{Max}(V) \varphi_{Max}(\varphi(N) \varphi(N))$. VD takes place in (i) but not (ii) depending on the presence of a right φ boundary after the first N. In both cases, the first N is never final in a φ^{Max} , and we correctly predict that FL never applies to the first N.

This mapping is achieved via interaction of MATCH and prosodic markedness constraints, as shown in (5). Both Candidates A and B are allowed via variable ranking of MATCH- φ and STRONG START (see Myrberg's 2013 implementation). Candidate A fares better on MATCH- φ , which penalizes φ that lack an XP correspondent, while B is favored by STRONG START, which penalizes structures in which the first of two sister nodes is lower on the prosodic hierarchy, e.g. $\varphi(\omega \varphi)$ (Elfner 2012). The perfectly matched C is ruled out by BINMAX, which penalizes structures in which a φ dominates more than two prosodic words. D shows that MATCHXP must also be ranked high to prevent the V from phrasing with the first N.

(5)	$TP[V_{DP}[N_{PP}[N]]]$	BINMAX	MATCHXP	MATCH- φ	STRONG START
a.	$\varphi_1(V) \varphi_2(N \varphi_3(N))$		*TP	* φ_1	*
b.	$\varphi_1(V) \varphi_2(\varphi_3(N) \varphi_4(N))$		*TP	* φ_1 * φ_3	
c.	$\varphi_1(V \varphi_2(N \varphi_3(N)))$	* $\varphi_1!$			**
d.	$\varphi_1(V N) \varphi_2(N)$		*TP*DP!	* φ_1	

Extending the analysis, Match Theory can derive the correct outputs, but only if MATCH **only sees XPs with phonologically overt heads**. This is necessary to explain the prosody of ditransitives (6) and Subj + V sequences (7). In (6), SR takes place between the V *darò* and the NP *libri*, indicating they phrase together (6b). If MATCHXP sees all XPs, we incorrectly predict that the NP and PP phrase together to the exclusion of V (6c), as the VP will be matched (Larson 1988). The new definition of MATCH avoids this outcome: since VP is headed by a trace, it is ignored by MATCHXP, and NP and PP may phrase separately. Subj + V sequences tell a similar story. SR does not occur in (7), so Subj and V must phrase separately even though both are dominated by FP. Only the new definition of MATCH, which ignores FP due to its silent head, predicts this outcome.

- (6) a. $TP[\text{darò}_j VP[\text{NP}[\text{libri}] t_j PP[\text{a Gianni}]]]$ (7) a. $FP[\text{DP}[\text{Papà}] TP[\text{mangia}]]$
 b. $\varphi_{Max}(\underline{\text{dàro}} \underline{\text{libri}}) \varphi_{Max}(\text{a Gianni})$ b. $\varphi_{Max}(\underline{\text{Papà}}) \varphi_{Max}(\underline{\text{mángia}})$
 c. $*\varphi_{Max}(\underline{\text{darò}}) \varphi_{Max}(\underline{\text{libri}} \text{ a Gianni})$ c. $*\varphi_{Max}(\underline{\text{Pápa}} \underline{\text{mángia}})$
 ‘I will give books to Gianni’ ‘Daddy is eating’

This definition of MATCH is not unprecedented: Truckenbrodt (1999) argues that XPs headed by empty categories are invisible to Align and Wrap constraints. However, this MATCH is a departure from Elfner (2012), who argues based on data from Irish that MATCH is sensitive to **all** XPs that dominate a unique terminal string. Like Elfner, I still allow XPs with functional heads to be matched, as long as that head is phonologically overt. Future research is needed to see whether the proposed definition of MATCH is universal or language-particular. While implementation of MATCH may vary across languages, Italian is yet another language that deploys recursive φ .

Dehé, N. & V. Samek-Lodovici. 2009. *Natural Language & Linguistic Theory*. Elfner, E. 2012. Doctoral dissertation. Ghini, M. 1993. *Toronto Working Papers in Linguistics*. Ito, J. & A. Mester. 2013. *Lingua*. Larson, R. 1988. *Linguistic Inquiry*. Meinschaefer, J. 2005. *Arbeitspapier Nr. 118*. Myrberg, S. 2013. *Phonology*. Nespor, M. & I. Vogel. 1986. *Prosodic Phonology*. Selkirk, E. 2011. *The Handbook of Phonological Theory*. Truckenbrodt, H. 1999. *Linguistic Inquiry*. Samek-Lodovici, V. 2017. *Romance Languages and Linguistic Theory*.