Two types of node-sprouting in Distributed Morphology: Evidence from Korean

Introduction This paper proposes to posit two types of node-sprouting: a morphological node-sprouting(MNS) and a prosodic node-sprouting(PNS). By examining the addressee honorific particle *-yo* in Korean, I argue for two types of *-yo*: sentence-final(SF) *-yo* as an agreement marker and sentence-medial(SM) *-yo* as a concord marker. As a consequence, the PF architecture in Distributed Morphology needs be modified.

Basic data The main function of *-yo* is to express honorification towards the addressee; (1/2) is felicitous if, e.g. uttered by a student to a professor, but not vice versa. One peculiar property of *-yo* is that it can occur not only sentence-finally (1), but also sentence-medially (2) provided that SF *-yo* is present. SM *-yo* can be attached to various types of elements within a sentence, including, but not limited to, *subject/object DPs*, <u>adverbial modifiers</u>, and **adverbial PPs**, and SM -yo's are entirely optional.

(1) Inho-ka   ecey   Seoul-eyse   yenghwa-lul   po-ass-e-**yo**.
     Inho-NOM   yesterday   Seoul-in   movie-ACC   see-PST-DECL.INT-**A(ddressee)H(onorific)**
     'Inho watched a movie in Seoul yesterday.'

(2) *Inho-ka*(**-yo**)   <u>ecey</u>(**-yo**)   **Seoul-eyse**(**-yo**) *yenghwa-lul*(**-yo**)   po-ass-e*(**-yo**).
     Inho-NOM-**AH**   yesterday-**AH**   Seoul-in-**AH**   movie-ACC-**AH**   see-PST-DECL.INT-**AH**
     'Inho watched a movie in Seoul yesterday.'

Prosodic analysis One strand of analysis of the distribution of *-yo* associates the possibility of hosting *-yo* to a syntactic constituent of a certain size (Kim 1983, Lee & Park 1991, Yoon 1994b). Lee & Park, for instance, draw a generalization from examples like (2) that a maximal category XP can host *-yo*. Contra such an approach, Y&D (2016) argue that the occurrences of *-yo* dovetails with a prosodic boundary. In (3), for instance, the syntactic status of the underlined parts remains unchanged; however, the SM *-yo* is allowed in (3b), but not in (3a). Noting the fact that all the instances of *-yo* are at the right edge of a prosodic constituent indicated by a closing paranthesis, Y&D propose that *-yo* can appear at the edge of a prosodic phrase. This prosodic constraint on *-yo* rules out (3a) because the SM *-yo* in (3a) is in the middle of a prosodic constituent.

(3) a.   *(Kuken)   (<u>ku salam   calmos-i-**yo**</u>   ani-i-e-yo).
           that.TOP   that person   mistake-NOM-**AH**   not-be-DECL.INT-**AH**
     b.   (Kuken)   (<u>ku salam   calmos-i-**yo**</u>)   (celtaylo   ani-i-e-yo).
           that.TOP   that person   mistake-NOM-**AH**   at.all   not-be-DECL.INT-**AH**
           'That isn't the man's mistake.'   Y&D 2016: (15/16)

         (4) below schematizes Y&D's analysis. Assuming a derivational approach to syntax-phonology mapping, Y&D propose that a syntactic output (4)a undergoes φ-formation (4)b and subsequently ι-formation (4)c. Following each prosodic derivation, the occurrences of *-yo* are evaluated by Y&D's prosodic constraint. Since all the *-yo* particles in (4) are placed at the edge of φ in (4)b and ι in (4)c, the derivation converges.

(4) a.   Syntax: X-***yo*** Y Z-***yo***

     b.   φ(accentual phrase)-formation: $_\varphi$(X-***yo***) $_\varphi$(Y) $_\varphi$(Z-***yo***)   ← Prosodic constraint

     c.   ι(intonational phrase)-formation: $_\iota$($_\varphi$(X-***yo***)) $_\iota$($_\varphi$(Y)) $_\varphi$(Z-***yo***))   ← Prosodic constraint

         Under Y&D's account, their prosodic constraint *single-handedly* determines the well-formedness of *-yo*: ill-formed cases (e.g., (3a)) are only filtered out by the prosodic constraint. Since the distribution of *-yo* is not constrained by other grammatical modules such as syntax, *-yo* be generated *anywhere* in syntax. Then, a non-trivial problem emerges: the syntax can generate the SM *-yo* without the SF *-yo* (5). (5) does not violate Y&D's prosodic constraint at any point in the derivation and is thus predicted to be grammatical. However, (5) is ungrammatical due to the lack of SF *-yo* (cf. (2)). This means that *-yo* placement need be properly governed to the effect that the occurrence of SM *-yo* is contingent on the presence of SF *-yo*, which Y&D's account does not capture.

(5) *$_\iota$($_\varphi$(X-***yo***)) $_\iota$($_\varphi$(Y)) $_\varphi$(Z))

Two types of -yo Despite their identical surface form, SF *-yo* and SM *-yo* exhibit four differences: (i) SF *-yo* is obligatory while SM *-yo* is optional; (ii) SF *-yo* is marked on verbs while SM *-yo* is marked on various parts of speech (e.g., DPs, PPs, adverbials, etc.); (iii) SF *-yo* is marked on the head while SM *-yo* on various syntactic constituents (specifiers, adjuncts, complements); (iv) SF *-yo* can be marked only once while SM *-yo* can be

marked multiple times. Interestingly, these differences exactly overlap with what Norris (2014) identifies as the differences between agreement and concord. Specifically, the properties of SF -*yo* are typical characteristics of agreement marker while SM -*yo* exhibit the properties of concord marker.

Proposal I propose a Distributed Morphology analysis: both SF -*yo* and SM -*yo* are post-syntactically added to the structure via node-sprouting but they differ in terms of timing and condition of node-sprouting. Let me first introduce the clausal structure in Korean and how node-sprouting works before presenting the analysis in detail. First, I adopt Portner et al.'s 2019 proposal that there is a cP layer on top of CP for the purpose of structurally encoding pragmatic information such as social relationship between interlocutors. I further assume that an honorific Addressee argument is introduced in Spec, cP. Second, I adopt Choi & Harley's node-sprouting operation. They propose to analyze subject honorification as a post-syntactic agreement phenomenon. Specifically, the subject honorific marker -*si* instantiates Hon^o, which sprouts on v^o at PF in the presence of a c-commanding honorific subject. This sprouting applies once per phase.

A node-sprouting analysis can be formulated for SF -*yo* by extending Choi & Harley's node-sprouting with the assumption of cP (6). The honorific Addressee argument in Spec, cP c-commands c^o and triggers AH^o-sprouting to c^o. The sprouted AH^o surfaces as -*yo*. In that (6) is triggered by an argument in the structure, (6) captures the idea that SF -yo is an agreement marker. I label (6) 'morphological node-sprouting' since (6) makes reference to the morphological structure transferred from syntax. (7) illustrates the application of the analysis to (1).

(6) $\quad c^o \rightarrow [c^o\ AH^o]$ / c-commanded by Addressee$_{[+ah]}$

(7) $[_{cP}$ **Addressee**$_{[+ah]}$ $[_{CP}$ Inho-ka ecey Seoul-eyse yenghwa-lul $t_{V^o}\ t_{v^o}\ t_{T^o}\ t_{C^o}]$ $[po_V$-$\emptyset_{v^o}$-ass_{T^o}-e_{C^o}-$[\textbf{c}^o\ \textbf{AH}^o]]$.

The occurrence of SM -*yo* also results from node-sprouting, which make reference to prosodic constituents, but not morphological structure. Building upon Y&D's idea that the distribution of -*yo* is prosodically controlled, I propose (8). (8) is optionally triggered by Pol^o, which has sprouted by the rule (6): this captures the dependent relationship between SM -*yo* and SF -*yo* and the concord-like behavior of SM -*yo*. The target for Pol^o sprouting for SM -*yo* is a prosodic unit, indicated by $((…)_\varphi)_\iota$, and thus -yo is only attached to a prosodic boundary position. (9) illustrates the application of (8) to (2).

(8) $\quad x^o \rightarrow [x^o\ AH^o]$ / $[… (([… \_\_])_\varphi)_\iota … AH^o]_{CP}$

(9) $[_{cP}$ Addressee$_{[+ah]}$ $[_{CP}$ $((\underline{\text{Inho-ka}})_\varphi)_\iota$ $((\underline{\text{ecey}})_\varphi)_\iota$ $((\underline{\text{Seoul-eyse}})_\varphi)_\iota$ $((\underline{\text{yenghwa-lul}})_\varphi)_\iota$ $t_{V^o}\ t_{v^o}\ t_{T^o}\ t_{C^o}]$ $[po_V$-$\emptyset_{v^o}$-ass_{T^o}-e_{C^o}-$[\textbf{c}^o\ \textbf{AH}^o]]$.

Consequences Some consequences follow from the current analysis. First, it correctly predicts that vocatives cannot host -*yo* (10). Though vocatives are always followed by a prosodic boundary, vocatives categorically resist -*yo*. Y&D's prosodic account fails to explain this fact. However, the ungrammaticality of (10) naturally follows from the current analysis since vocatives are overt addressee argument which lies outside the c-command domain of SF -*yo*.

(10) **Apeci(*-yo)**, Inho-ka(-yo) ecey(-yo) Seoul-eyse(-yo) yenghwa-lul(-yo) po-ass-e*(-yo).
  father-AH Inho-NOM-AH yesterday-AH Seoul-in-AH movie-ACC-AH see-PST-DECL.INT-AH

Second, the proposal correctly predicts that SM -yo can occur in the presence of the sentence-final particle *supnita*, which also expresses addressee honorification (10). Since (8) copies $AH^o_{[+ah]}$ node, rather than the phonological content -*yo* itself, we can account for the fact that SM -*yo* can be licensed by *supnita*. The fact that SM -*yo* cannot be replaced by -*supnita* corroborates the proposed morpho-syntactic copy operation (8).

(10) Inho-ka(-yo) ecey(-yo) Seoul-eyse(-yo) yenghwa-lul(-yo) po-ass-*(-supnita).
  Inho-NOM-**AH** yesterday-**AH** Seoul-in-**AH** movie-ACC-**AH** see-PST-DECL.FORMAL.**AH**
  'Inho watched a movie in Seoul yesterday.'

Lastly, since prosodic node-sprouting involves copying of morpho-syntactic feature triggered by an already-realized terminal node, but targets a prosodic unit after Vocabulary Insertion and prosodic domain formation, we need to assume that Vocabulary Insertion leaves the morpho-syntactic feature as they are, rather than replacement of the morpho-syntactic features with a phonological content (Embick 2015).

References **Portner, Paul, Miok Pak, & Raffaella Zanuttini. 2019.** The speaker-addressee relation at the syntax-semantics interface. *Language* 95: 1–36. **Yim, Changguk, & Yoshihito Dobashi. 2016.** A prosodic account of -*yo* attachment in Korean. *Journal of East Asian Linguistics* 25: 213–241.