Recycling Arguments in Radical Pro-drop Languages

Synopsis: In this paper, I first provide novel data on radical pro-drop from Chinese, Korean, Mongolian, and Turkish (CKMT, hereafter), showing that null arguments in CKMT should be derivable via ellipsis in light of extractability. Then, I show that CKMT null arguments exhibit an overt/covert extraction asymmetry out of them, which I claim is an argument for LF-recycling (cf. Fortin 2007, Chung, Ladusaw, & McCloskey 2006, 2011).

Overt Extraction: It has been standardly assumed that null arguments in CKMT can be derived via either pro or ellipsis (cf. Li 2014 for Chinese, Kim 1999 for Korean, Takahashi 2007 for Mongolian, and Şener & Takahashi 2010 for Turkish). E.g., the null object in Turkish (1b) is analyzed as in (1c-i) under the pro strategy and is analyzed as in (1c-ii) under the ellipsis analysis.

1) (a) Ahmet-Ø [VP üç öğrenci]-yi azarla-di. (Lit.) ‘Ahmet scolded of three students.’
   (b) Ayşe-Ø de ΔVP azarla-di.
   (c) i) Ahmet NOM three student-ACC scold-PST ‘Ahmet scolded of three students.’
       (Lit.) ‘Ahmet also scolded ΔDP.’
(ii) Ayşe NOM also scold-PST ‘Ayşe also of three students’ scolded

However, there is a difference between typical cases of ellipsis and null arguments in CKMT: the former, e.g., VP-ellipsis, allows overt extraction out of its domain as in (2a), while the latter does not as in Turkish (3b), like proforms, e.g. Null Complement Anaphora (NCA) (2b).

2) (a) Which films1 did he refuse to [VP see t1], and which films2 did he agree to ΔVP?
   b) *Which films1 did he refuse to [see t1], and which films2 did he agree ΔNCA?

3) (a) Mavi araba-sını-ı Ahmet-Ø [CP Mete-nin t1 yakadığın]-ı dün düşün-dü.
   (Lit.) ‘The blue car, yesterday, Ahmet thought CF Mete washed it.’
   (b) *Kırmızı arabası mı-2 pro ΔCP bugün düşün-dü.
   (Lit.) ‘The red car, today, he thought ΔCP.’

In the second conjunct of (2a) and (2b), which films has been extracted out of the VP-ellipsis site and the NCA site, respectively, and only the former is acceptable. With (3a) as its antecedent, Turkish (3b), where kırmızı araba-sını-ı ‘red car’ has undergone long-distance scrambling out of the null CP, is ungrammatical (note that CPs are independently droppable in Turkish). The impossibility of overt extraction out of CKMT null arguments is not restricted to long-distance scrambling: it also holds for other types of overt movement, e.g. ECM/Raising-to-Object (RtO).

Covert Extraction: Although it has been shown that CKMT null arguments disallow overt extraction out of them, they allow covert extraction, i.e. extraction that does not affect word order, out of them. The contrast in (4a) and (4b) shows that null operator (Op) movement is allowed out of a VP-ellipsis domain, whereas it is not out of a NCA domain. Interesting for us here is that with (5a) as its antecedent, (5b), where Op is extracted out of the null CP, is grammatical, which indicates that Op-movement, unlike overt movement, is allowed out of null arguments in Turkish. (note that comparative deletion in Turkish exhibits subjacency effects, which indicates that movement is involved in the construction).

4) (a) I always eat anything [Op that he does ΔVP].
   b) *I always eat anything [Op that he volunteers ΔNCA].

5) (a) Can-Ø [Op1 Ali-nin [CP Mete-nin t1 okudüğün]-u sandığın-dan]
   more book-ACC read-PRES
   ‘Can reads more books [Op1 than Ali thinks [CP that Mete read t1]].’
   Hasan-NOM TOP Ahmet-GEN think-ABL more book-ACC read-PRES
   (Lit.) ‘Hasan reads more books [Op2 than Ahmet thinks ΔCP].’

Another type of covert movement, i.e. movement that does not affect word order, QR, is also allowed out of null arguments, as in Turkish (7).

6) (a) Some boy [VP admires every teacher], and some girl does ΔVP too.
(b) Some doctor volunteered to visit every patient, and some nurse also volunteered ΔNCA.

[(6a) = inverse scope OK; (6b) = *inverse scope]
   ten year before Ali-nom Aysê-abl at-least three baby-acc pretty declare-neg-pst
   ‘10 years ago, Ali did not declare [CP that, more than Aysê, at least three babies are pretty].’
   b. Geçen yıl Ahmet-Ø de ΔCP ilan et-me-di.
      last year Ahmet-nom also declare-neg-pst
      (Lit.) ‘Last year, Ahmet did not declare ΔCP, either.’ [NEG » AT LEAST 3; AT LEAST 3 » NEG]
   It has been standardly assumed that the quantified ECMed subject in (7a), i.e. en az üç bebeğ-i ‘at
   least 3 babies,’ is located within the embedded clause: the embedded adverb Aysê-den ‘than Aysê’
   precedes the subject in question (see Şener 2008 for more arguments for this effect). Interesting
   for us here is that with (7a) as its antecedent, (7b) allows the quantified ECMed subject in question
   within the null CP to scope over the matrix negation. Given the standard assumption that strong
   quantifiers such as at least X are not choice-functional (cf. Reinhart 1997), the availability of
   the inverse scope in (7b) indicates that QR is possible out of a Turkish null CP, supporting the idea
   that Turkish null arguments is derivable via ellipsis because QR is allowed out of a VP-ellipsis
   site as in (6a), whereas it is disallowed out of proforms, e.g. a NCA site, as in (6b).

Cross-linguistic Data: The overt/covert extraction asymmetry is widely obtained in the radical
pro-drop languages where null arguments are claimed to be derivable via ellipsis, as shown below.

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<tr>
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<th>Overt Movement</th>
<th>Silent Movement</th>
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<tr>
<td></td>
<td>Scrambling/Topicalization</td>
<td>RtO/Superraising</td>
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<tr>
<td>Chinese</td>
<td>✗ (by Li 2014)</td>
<td>✗</td>
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<tr>
<td>Korean</td>
<td>✗ (by Saito and An 2010)</td>
<td>✗</td>
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<tr>
<td>Mongolian</td>
<td>✗</td>
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<td>Turkish</td>
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Korean and Mongolian disallow long-distance scrambling and RtO out of null arguments, but
they allow the relevant instances of covert extraction. As for Chinese, we can see that overt
extraction is uniformly disallowed out of null arguments with topicalization (cf. Li 2014) and
superraising (cf. Ura 1994) and that covert extraction is uniformly allowed out of them with Op-
movement and scope-shifting movement involved in A-not-A questions (Huang 1982).

LF-copying is a recycling operation of already spelled-out elements. Given that Spell-Out is an
operation which deprives syntactic objects of phonological features (cf. Nissembaum 2000), the
null argument in (1b) is derived as in (9).

(9) [TP Ahmet [VP [DP 3 student] [FF, SF] scold]] ... [TP Aysê also [VP [DP 3 student] [FF, SF] scold]]

After Spell-Out applies to the object in the antecedent, its Phonological Feature (PF) is deleted,
making LF-copying applicable to it. Given this, the overt/covert extraction asymmetry out of
CKMT null arguments falls into place. Specifically, the impossibility of overt extraction out of
them, e.g. (3b) and RtO, follows because the relevant null argument site lacks its PF: LF-copied
material always lacks its PF so no material within the LF-copy site can be pronounced outside of
it. By contrast, Op-movement and QR, neither of which is relevant to PF externalization, cf. (5b)
and (7b), should be possible since LF-copied material retain its Formal Feature (FF) and Semantic
Feature (SF): FF and SF are the only target for covert movement, so such movement is possible
out of LF-copied material, which explains the grammaticality of (5b) and the availability of the
inverse scope reading in (7b). Therefore, the overt/covert extraction asymmetry out of CKMT
null arguments follows once they are derived via LF-recycling, which in turn supports the
availability of the strategy in question in natural languages.

Consequences: First, that covert extraction is allowed out of CKMT null arguments provides
evidence that they cannot be uniformly pro since extraction is uniformly banned out of proforms
such as NCA, which is by assumption atomic without any internal structure. Second, natural
languages employ both PF-deletion and LF-copying, depending on the overt and/or covert
extractability: VP-ellipsis should be implemented via PF-deletion since overt extraction is
possible out of its domain, whereas ellipsis of CKMT null arguments via LF-copying since only
covert extraction is allowed out of them, adding a novel type of ellipsis to the ellipsis typology.