## On the interaction of extraction and argument marking in Asante Twi

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**Claim:** We provide novel data from Asante Twi (AT, Kwa) which show that its pattern of argument encoding under argument extraction is more complex than previously described (Saah 1994, Korsah 2017, Korsah & Murphy (KM) 2019): (a) One and the same type of extraction may result in both a gap or a resumptive pronoun (RP) (*pace* claims for AT that extraction of NP-arguments always leaves behind an RP); (b) the choice between RP/gap is determined by the referentiality of the extracted XP (novel observation). Thus, the choice between RP/gap is not only determined by extraction type (e.g. movement vs. topicalization) or the properties of the extraction site (inside an island or not), but also by the properties of the extractee. Moreover, AT exhibits a preference to use an RP over a gap if possible – a pattern that is in conflict with economy constraints such as AVOIDPRONOUN. We also reconsider the status of the subject marking morphemes and argue that not all of them are RPs (*pace* KM 2019), with consequences for the analysis of the (as we claim) *apparent* anti-agreement effect. We propose an analysis of the referentiality-driven RP/gap-choice that is based on a structural difference between ref./non-ref. XPs and partial copy deletion.

**Background:** KM (2019) provide a detailed study of  $\overline{A}$ -dependencies in AT and argue that  $\overline{A}$ -movement of nominal arguments always leaves behind an RP in syntax (its absence with (some) inanimate referents is convincingly argued to be a pure PF-effect). The extraction of non-nominal XPs, however, leaves behind true gaps. While for objects there is an overt/covert RP distinction with respect to the animacy of 3sg-extractees, they claim that two overt RPs indicate this distinction for subjects:  $\mathfrak{d} =$  animate subject RP,  $\varepsilon =$  inanimate subject RP.

**Novel observation:** Considering a wider range of data, the presence/form of an RP in  $\bar{A}$ -dependencies in AT is not conditioned by the category of the extractee; animacy does play a role, but the crucial factor is referentiality: Only referential XPs (that are animate) can be resumed by an RP. Non-referential (i.e. non-specific, generic, idiomatic, non-D-linked, quantified) ones leave a gap (even if they are animate). (1) and (2) illustrate the specificity effect with bare noun subjects and the effect of quantification under focus movement. *Crucial assumption* (defended below):  $\sigma$  is an RP;  $\varepsilon$  is an expletive that fills a syntactic gap at PF to fulfill the EPP:

- (1) >báá na >-/ε-fá-a fie nó akyi. woman FOC 3SG.HUM/3SG.NHUM-pass-PST house DEF back with RP >: 'It was a (specific) woman who passed behind the house.' specific indef. with gap +ε-Agr: 'It was some woman who passed behind the house.' non-spec. indef.
  (2) >báá biara na \*o/e-hú-u m-maamúwáá nó.
- woman every FOC 3SG.HUM/3.NHUM-see-PST PL-boy DEF 'It is every woman that saw the boys.'

This finding immediately explains (a) why KM's non-nominal XPs (PPs and VPs) leave gaps – they are non-referential (predicative) elements (no explanation in KM 2019), and (b) why NP- arguments that are parts of idioms and hence non-referential leave a gap instead of an RP. KM 2019 provide idiom examples but the obligatory gap there remains a puzzle (not addressed at all).

**Consequences:** <u>1.</u> Status of the subject marker: Recall that KM 2019 assume that there is always an RP left behind by subject extraction,  $\sigma$  or  $\varepsilon$  (while e.g. for Korsah 2017 both are agreement markers). Instead, we claim that  $\sigma$  is indeed a RP (cf. Saah 1994), while  $\varepsilon$  is not. In derivations with  $\varepsilon$  we have a gap in the syntax;  $\varepsilon$  is an expletive that is inserted at PF to fulfill the EPP (phonological EPP, see a.o. Landau 2007, Kandybowicz 2007, Salzmann et al. 2013). Since there is no EPP-requirement for objects, we see a gap/RP dichotomy for objects, but two different overt forms (RP/PF-expletive) for subjects. Thus, in complete parallelism with object extraction, extraction of non-referential subject leaves behind a gap in syntax in our approach. Evidence for the different status of the subject markers  $\sigma$  and  $\varepsilon$ : (i) Korsah 2017 shows that  $\varepsilon$  is default 3sg marker that does not co-vary in number with 3rd person subjects under extraction, just like expletives; it also occurs in impersonal constructions (Korsah 2017:110). (ii)  $\varepsilon$  is insensitive to the referentiality of its associate: under local extraction of a referential subject NP,  $\varepsilon$  can optionally

surface instead of  $\mathfrak{d}$  (see the discussion below); but  $\mathfrak{d}$  can only ever occur with referential subjects (a property of pronouns, Baker & Kramer 2014) and receives a pronominal interpretation in declaratives, indicating that *is* the subject pronoun in these cases (cf. Baker 2003). Summary of exponents in extraction sites: non-referential ones – gap for objects, PF-expletive (=syntactic gaps)  $\varepsilon$  for subjects; referential ones – overt RP for subjects ( $\mathfrak{d}$ ) and objects (*no*).

2. Optionality of  $\mathfrak{c}$  and  $\mathfrak{e}$ : Gaps and RPs are in complementary distribution in AT, with one exception: Under local subject extraction of referential NPs (e.g. 'It is Kofi who runs.'), there is optionality between  $\mathfrak{c}$  and  $\mathfrak{e}$ , whereas in any other context (long subject extraction or short/long object extraction of any XP) we find complementary distribution (Korsah 2017). This optionality with local subjects has been analysed as an anti-agreement effect (AAE, Korsah 2017, KM 2019) viz., as the use of a less specific exponent under subject extraction (assuming that  $\mathfrak{c}$  endes animacy, while  $\mathfrak{e}$  is underspecified for animacy), following the classic view of the AAE (a.o. Ouhalla 1993, Baier 2018). However, given that  $\mathfrak{c}$  and  $\mathfrak{e}$  are not the same kind of element (RP vs gap/PF-expletive), one cannot be a less specific version of the other – no matter which AAE-approach one adopts. Thus, the optionality under local subject extraction must have a different source.

2. Formation of  $\overline{A}$ -dependencies: In AT we see that *one and the same* extraction type, e.g. focus movement, can in principle leave behind a gap or an RP (depending on the referentiality of the extractee), supporting Postal's (1994) finding that the choice between gap/RP is not necessarily related to different extraction types. Moreover, apart from the gap/RP-optionality with local subject extraction mentioned above, AT has a preference for RPs over gaps: Whenever the conditions for the use of an RP are met, it has to be used, see the example with long subject extraction in (3) (the same holds for the extraction of referential objects):

(3) Kofi na me-nim sε \*ε/ɔ-káń-n kŕataá nó.
K. FOC 1SG-know COMP 3.NHUM/3SG.HUM-read-PST book DEF
'I know that KOFI read the book.' (Korsah 2017:120)

This is in conflict with the widely assumed Avoid Pronoun Principle and related constraints (Chomsky 1981, 1982, Montalbetti 1984) that take RPs to be a repair that only applies when gaps are blocked (gaps are more economical). Cross-linguistic variability in the gap vs. RP-preference shows that a parametric choice of preferences must be possible (see also Salzmann 2017).

Analysis: That referential XPs leave behind RPs while non-ref. ones leave behind gaps can be derived from two independently proposed ideas: (i) RPs spell-out the D-head of movement copies from which the NP-part has been deleted (= partial copy deletion, Landau 2006, van Urk 2018; cf. Postal 1969, Elbourne 2001). (ii) Ref. XPs are structurally bigger (DPs, Stowell 1991) than non-referential ones (no D-layer, NPs; cf. a.o. Higginbotham 1987, Rullmann & Beck 1998, Chierchia 1998, Lopez 2012). When partial copy deletion applies to a referent. copy [ $_{DP}$  D NP ], the remaining D-head is realized as an RP. When partial deletion applies to non-referential XPs  $[NP \dots]$ , nothing remains and we get a gap. If partial deletion leads to a gap in subject position, a violation of the phonological EPP-requirement is circumvented by adding an expletive ( $\varepsilon$ ) at PF (no such requirement holds for objects  $\rightarrow$  gap). Given the general preference for RPs over gaps in AT, partial copy deletion in the language seems to be obligatory and not motivated by PF-filters (unlike in other languages with partial copy deletion). Partial deletion applies to all copies but the highest one in the chain. In addition, full copy deletion (Nunes 2004) applies after partial deletion to all copies except for (a) the topmost one (fully pronounced) and (b) the highest A-position from which the argument takes an A-movement step (SpecTP for subjects, base position for objects – the positions in which we potentially find RPs). The application of full copy deletion explains why we only get one RP per chain in AT (not more than one). To account for the optionality between RP and gap/PF-expletive under local ref. subject extraction, partial copy deletion needs to make reference to an intermediate Ā-movement step. Any first Ā-step for objects (i.e. to SpecvP) and long-distance moved subjects (to SpecC in the embedded clasue) is intermediate, hence partial deletion applies and there is no optionality. For local subject extraction, the first Ā-step is also the final one; thus, partial deletion does not have to apply (though it still may), resulting in optionality.