

From polarity to reduplication in Gã

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Abstract

There seems to be an intricate connection between reduplication of indefinite DPs and clausal negation in Gã; the reduplication is only permitted in the presence of negation. Thus, such reduplicated DPs can be construed as negative polarity items (NPIs). In this paper, I provide a detailed description of the facts about this phenomenon following what has been reported for NPIs elsewhere. I show that the patterns we observe exhibit typical properties of strong and strict NPIs. Subsequently, I propose how such indefinite DPs can be accounted for both in frameworks which see NPIs as resulting from a negatively-valued polarity feature e.g. Giannakidou (2000), and also frameworks which treat NPIs as resulting from NEG-raising, particularly Collins & Postal (2014).

1. Introduction

Negative polarity items (NPIs) are, simplifying somewhat, nominal and adverbial elements which are permitted only in contexts where there is some form of negation in a given structure. A well-known case of NPIs is the *any*-series in English, as exemplified in (1a), but also adverbial elements like *ever* in (1b), where omitting the negation will lead to ungrammaticality (NPIs are marked in italics).

- (1) a. John did*(n't) invite *anybody*.
- b. The residents did*(n't) *ever* report the incident to the police.

Every language is predicted to have NPIs (see Haspelmath 1997), and they have been extensively studied in many Indo-European languages. In this paper, I discuss NPIs in Gã, a Kwa language, spoken in Ghana. What makes NPIs in this language interesting is that the equivalents of the *any*-series in English are reduplicated indefinite DPs, as exemplified in (2). Thus, similar to the

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occurrence of *anybody* in (1a), the reduplication of *mɔko* in (2) is only permitted when there is negation in the sentence. No language is known to exhibit such a morphological strategy in the formation of NPIs (Dholuo being the only notable exception (3), as reported by Cable 2009).

- (2) Kwei tsé-*(éé) *mɔ-ko-mɔ-ko*.
 K. call-NEG person-INDEF-person-INDEF
 ‘Kwei didn’t call anybody.’
- (3) Ok achámo gi *mo(o) a-mor(o)-a*
 NEG I.eat thing some RED-some-RED
 ‘I didn’t eat anything.’ (Dhuluo; Cable 2009: 12)

The data from Gã suggest an interesting interplay between morphology, syntax, and semantics in the sense that the reduplication of the relevant DPs is only possible in the scope of negation, but it seems to respect syntactic constituency. In this paper, I try to address three key issues posed about NPIs by Ladusaw (1979), i.e. what is the licenser?, what is the licensee?, and what are the licensing conditions? I outline the facts about the morphological properties, and syntactic distribution of these NPIs, given what we know about NPIs in other languages. I then show how the data may be modeled in at least two existing frameworks that deal with NPIs: First, in frameworks which see NPIs as the result of a valued weak polarity feature on indefinites, for instance Giannakidou (2006), second, in frameworks which treat NPIs as resulting from *Classical NEG-raising*, specifically, the proposal by Collins & Postal (2014).

The remainder of the paper is structured as follows: Section 2 gives an overview of negation, and negative polarity contexts in Gã. In section 3, I detail out the morpho-syntactic distribution of NPIs of the type in (2). Section 4 gives the possible analyses, and section 5 gives the summary and conclusion.

2. Negation and negation-triggering contexts in Gã

Since negative polarity typically involves some kind of clausal negation, a general overview of how sentential negation works in Gã is in order. The first part of this section deals with this. The second part discusses various negation-triggering contexts in Gã.

2.1. Clausal negation

Clausal negation in Gã, just like many of its neighbours and languages such as Turkish (see e.g. Zeijlstra 2013: 797), is marked via affixation on a verbal element. In constructions where there is only one verbal element, negation is marked on the sole verb in the clause, as in (4). But in constructions where there is (what I will refer to as) an ‘auxiliary verb’, such as *nyɛ* in (5), the marking of negation is possible only on the auxiliary verb.

- (4) a. Kwei é-ná shía.
 K. PERF-get house
 ‘Kwei has got a house.’
 b. Kwei ná-ko shía.
 K. get-NEG.PERF house.
 ‘Kwei hasn’t gotten a house.’
- (5) a. Kwei é-nyé é-ná shía.
 K. PERF-able 3SG.NOM-get house
 ‘Kwei has been able to get a house.’
 b. Kwei nyé-ko é-ná(*ko) shía.
 K. able-NEG.PERF 3SG.NOM-get-neg.perf house
 ‘Kwei hasn’t been able to get a house.’

Cases like (5) are to be differentiated from constructions involving serial verbs, in which case negation is usually marked on all the verbs, as in (6).

- (6) a. Kwei é-ná shía é-hó.
 K. PERF-get house 3SG.NOM-sell
 ‘Kwei has gotten a house and sold it.’
 b. Kwei ná-ko shía é-hó-ko.
 K. get-NEG.PERF house 3SG.NOM-sell-NEG.PERF
 ‘Kwei hasn’t gotten a house and sold it.’

Whatever the distribution of negation marking may be, the morphology of the negation marker seems to interact with the tense, aspect, and mood (TAM) properties of the construction.¹ In (7), I present a general picture of the relevant affixes for marking negation in Gã, see Kropp Dakubu (2008: 96).

¹See Kropp Dakubu (2008) for a discussion of the morphological neutralization of the negation affix with respect to aorist, habitual, and progressive aspects.

(7) *Clausal negation affixes in Gã*

TAM	AFFIX	EXAMPLE	GLOSS
Aorist/Past	- <i>ǂǂ</i>	<i>ná-ǂǂ</i>	‘didn’t get’
Habitual	- <i>ǂǂ</i>	<i>ná-ǂǂ</i>	‘doesn’t get’
Progressive	- <i>ǂǂ</i>	<i>ná-ǂǂ</i>	‘isn’t getting’
Future	- <i>ŋ</i>	<i>ná-ŋ</i>	‘won’t get’
Perfective	- <i>ko</i>	<i>ná-ko</i>	‘hasn’t got’
Imperative	<i>kaá-</i>	<i>kaá-ná</i>	‘don’t get’
Subjunctive	<i>áká-</i>	<i>áká-ná</i>	‘shouldn’t get’

Given (7), I will propose in section 4.1.1 that T heads in Gã have a polarity feature, just like indefinite DPs.

2.2. Gã NPIs

Having given some background to clausal negation, the main licenser of NPIs cross-linguistically in Gã, we can now focus on NPIs proper. I will show that unlike English, as in (8), every context in which NPIs are permitted in Gã strictly requires the presence of an overt negation marking, and this is certainly the case for NPIs formed by reduplicating indefinite DPs which are otherwise equivalent to the *any*-series.

(8) We’ve barely seen *any snow* this winter.

2.2.1. *Reduplicated indefinite DPs as NPIs*

In Gã, any singular indefinite DP may be reduplicated to get the equivalent of ‘*any/no X*’ NPIs in English. In (9), I show that the strategy is as productive as the *any*-series in English. In what follows, I give evidence for the NPI status of the reduplicated forms.

(9) *Productivity of reduplicated NPIs in Gã*

BASE	GLOSS	RED	GLOSS
<i>mɔ ko</i>	'a person/someone'	<i>mɔko-mɔko</i>	'anybody/nobody'
<i>nɔ kó</i>	'a thing/something'	<i>nɔkó-nɔkó</i>	'anything/nothing'
<i>hé kó</i>	'a place/somewhere'	<i>hékó-hékó</i>	'anywhere/nowhere'
<i>bee ko</i>	'a time/some time'	<i>beeko-beeko</i>	'anytime/ no time'
<i>gbi ko</i>	'a day/some day'	<i>gbiko-gbiko</i>	'anyday/ no day'
<i>shía ko</i>	'a house/some house'	<i>shíako-shíako</i>	'any house / no house'

Indefinite DPs may occur as non-NPIs. In such contexts, the presence of negation in the clause is completely optional, as illustrated in (10a). However, the reduplication of such indefinite DPs is possible only when there is negation. Thus (10b) is ungrammatical without the negation, given that the indefinite DP is reduplicated.² So, while the presence of negation is optional for the occurrence of non-reduplicated indefinite DPs, negation is obligatory for their reduplicated counterparts. Clearly, this suggests that the reduplicated forms are licensed by negation, a property that they share with other NPIs in the language (as I will show in section 2.3), and indeed NPIs in other languages, hence the reference to forms like *shíako-shíako* in (10b) as NPIs in Gã.

- (10) a. Kwei ná-(áá) *shía ko*.
 K. get-NEG house INDEF
 'Kwei did(n't) get a house.'
- b. Kwei ná-*(áá) *shía ko shía ko*.
 K. get-NEG house INDEF house INDEF
 'Kwei didn't get any house(s).'

Another piece of evidence in support of the tight relationship between the reduplicated indefinite DPs and negation comes from the fact that definite DPs in the language cannot be reduplicated for the same effect, whether there is negation or not (11), i.e. negative polarity is blocked by definiteness. This behaviour may follow from the fact that across many languages, there is a close connection between negative polarity and indefiniteness (see Haspelmath 1997).

²For the sake of simplicity, I will henceforth represent parts of the reduplicated constituent as a unit i.e. a reduplicated *shía ko* will be *shíako-shíako*.

- (11) a. Kwei ná-(áá) *shía lé.*
 K. get-NEG.PST house DEF
 ‘Kwei did(n’t) get the house.’
 b. *Kwei ná-áá *shía lé shía lé.*
 K. get-NEG.PST house DEF house DEF

Yet another interesting property which supports this relationship is the fact that plural indefinite DPs do not permit the reduplication process, as in (12).

- (12) Kwei ná-áá *shía-i ko-mɛi* (**shía-i ko-mɛi*).
 K. get-NEG.PST house-PL INDEF-PL house-PL INDEF-PL
 ‘Kwei didn’t get any houses.’

Again this is consistent with what has been noted about NPIs elsewhere. In many languages, the NPI particle combines with an indefinite DP to mean something like *not even one* (see for instance Lahiri 1998). In this regard, one could postulate a similar connection between the numeral *é-kó* ‘one’ in Gã, and the indefinite determiner *ko*, as we have seen so far.

It is also important to mention that the reduplication mechanism obeys syntactic constituency; no part of the targeted indefinite DP may be left out in the reduplication process. This also holds for indefinite DPs with adjectival modifiers. For instance, in (13), neither the determiner, nor the adjective may be left out in the reduplicant.

- (13) a. *shía hee ko shía *(hee) ko*
 house new INDEF house new INDEF
 b. *shía hee ko shía hee *(ko)*
 house new INDEF house new INDEF
 ‘any new house’

However, there seems to be a size restriction on what may be reduplicated (see e.g. Müller this volume). For instance, it becomes increasingly ungrammatical when the NP complement of the indefinite head is modified by more than one adjective. This constraint accounts for examples like (14).

- (14) ?**shía hee fɛ́é fɛ́ó ko shía hee fɛ́é fɛ́ó ko*
 house new beautiful INDEF house new beautiful INDEF
 ‘any new beautiful house’

2.3. Other NPIs in Gã

Reduplication of indefinite DPs is not the only source of NPIs in Gã. The following illustrate a number of NPIs, which do not take the form of reduplicated indefinites. The first group, exemplified in (15) and (16), is comparable to one-word, and semi-negative adverbial expressions like *ever* in (1-c).

- (15) a. Kwei yó*(-óó) ju-ló lé kwrákwrá.
K. recognize-NEG steal-NML DEF at.all
'Kwei didn't ever recognize the thief.'
- b. Kwei yó*(-óó) ju-ló lé kəkəkə.
K. recognize-NEG steal-NML DEF at.all
'Kwei didn't recognize the thief at all.'
- c. Amε-fólɔ-i shí*(-íí) amε shéleŋ.
3PL.POSS-parent-PL leave-NEG 3PL shilling
'Their parents didn't leave them a dime.'
- d. Kwei yé*(-ko) ótsí yε maŋ néé mli péŋ.
K. spend-NEG.PERF one.week at town DEM inside ever
'Kwei has never spent a week in this town.'
- (16) a. Gbi-i été né, Kwei ná*(-ko) tsu.
day-PL three it.is K. get-NEG house
'It's been three days, Kwei has got no house.'
- b. Gbi-i été né ní Kwei ná*(-ko) tsu.
day-PL three it.is COMP K. get-NEG house
'It's already three days since Kwei got a house.'

For NPIs like (16), I draw attention to the significance of having either a pause (16a), or a complementizer, as in (16b), after the time adverbial as a trigger for a polarity.

The second group comprises templatic verb phrases whose environments seem to trigger negation.

- (17) a. Kwei é-ná*(-áá) bɔ ní e-fé-ɔ e-he po.
K. 3SG-see-NEG how 3SG--do 3SG-self even.
'Kwei didn't even know how to contain her excitement.'
- b. *(Kaa-)gba o-he naa ní o-tee
NEG.SG.IMP-hit 2SG-self mouth and 2SG-go.PST
'Don't bother yourself to go.'

- c. Kwei *sha*-(*)*(aa)* *gbaŋ* e-*wo*-(*)*(oo)* *amɛ-he*
 K. fart-NEG sound 3SG-put-NEG 3PL-self
 ‘Kwei didn’t care a hoot about them.’
- d. Kwei *na*-(*)*(aa)* *tsina-loo* *lɛ oɔ*.
 K. get-NEG cow-flesh DEF exclusive
 ‘Kwei really appreciated the beef.’
- e. *Maŋ-bii* *lɛ hwé*-(*)*(éé)* *yɛ kpa* *nɔ*.
 town-people DEF play-NEG at line top
 ‘The people are very serious-minded.’

3. Distribution of reduplicated NPIs

Despite the similarities between the *any*-series and the reduplicated indefinite DPs, there are a number of distributional properties that differentiate them. In this section, I discuss the relevant properties. I show that unlike the *any*-series, the reduplicated indefinite DPs cannot occur in downward entailing contexts other than negation. Furthermore, they can be used as subjects with the same morphology, require clause-mate negation, and show NEG-raising properties.

3.1. Downward entailment and reduplicated indefinite DPs

Since Ladusaw (1979), the key defining characteristic of NPIs has been that they tend to occur in so-called ‘downward entailing’ (DE) environments. By DE, Ladusaw makes specific reference to relations like those in (18), where there is an entailment relation between a less specific expression (e.g. *a bike*) and a more specific expression (e.g. *a red bike*), i.e. entailment from supersets to subsets, but not *vice versa*. Compare the example in (19), which is a non-downward entailing environment. Here, the entailment relation goes in the other direction from more specific to less specific expressions (subsets to supersets). These environments are termed *upward entailing*.

(18) *Downward Entailment*

- a. [i] Nobody owns a bike → [ii] Nobody owns a red bike.
 b. [i] Nobody owns a red bike → [ii] Nobody owns a bike.

(19) *Upward Entailment*

- a. [i] John owns a bike → [ii] John owns a red bike.
 b. [i] John owns a red bike → [ii] John owns a bike.

Ladusaw observed that negative polarity items seem to only be licensed in DE environments such as (18), and similar constructions in many other languages (20).

- (20) a. Nobody owns *anything*. (downward entailing)
 b. *John owns *anything*. (upward entailing)

Based on evidence like this, he proposed (21) as the licensing condition for NPIs, following which a number of syntactic and semantic contexts have been identified in the literature as being DE environments.

- (21) *Licensing condition for NPIs (cf. Ladusaw 1979)*
 α is a trigger for negative polarity items in its scope iff α is downward entailing.

NPIs such as the *any*-series and *ever* have been claimed to be weak NPIs, while others like *lift a finger* and *until next week* (22) have been said to be strong NPIs. These differ from so-called ‘weak NPIs’ in that they are only licensed in a narrower set of DE environments.

- (22) John can*(not) participate in the workshop *until next week*.

Recent works such as Giannakidou (1998), Zwarts (1998), Collins & Postal (2014) among others, have shown that the characterization of NPIs based on their (in)ability to occur in DE contexts is inadequate.³ They show that while some NPIs in some languages e.g. the *any*-series in English, and *bhii*-NPIs in Hindi (Lahiri 1998), behave strictly in accordance with this proposal, there are also other NPIs which are allowed in non-DE contexts. In this regard, I show that Gã reduplicated NPIs, just like Ewe (Collins et al. 2015) and Japanese (Hasegawa 1987), fall into the latter group of languages; they consistently fail all the DE tests that characterize their English counterparts as weak NPIs. Let us consider some examples for the various DE contexts that have been proposed. I illustrate these with the NPI *shíako-shíako*. Note that for each example, whereas the English equivalent with *any* is perfectly grammatical, Gã only permits the indefinite DP reading.

³Giannakidou (1998) shows that the inability of NPIs to occur in *non-veridical* is a superior criterion, as contexts such as conditionals and polar questions are not DE.

(23) *Polar questions*

Ani o-ná shiako(*-shiako) ?
 Q 2SG.NOM-get house.INDEF-house.INDEF
 ‘Did you get a/#any house?’

(24) *Surprise predicates*

E-feé mi naakpɛɛ áké o-ná shiako(*-shiako)
 3SG.NOM-do 1SG surprise COMP 2SG.NOM-get house.INDEF-RED
 ‘It surprised me that you got a/#any house.’

(25) *Before clauses*

Kwei hé shikpɔŋ lé dáni e-ná shiako(*-shiako).
 K. buy land DEF before 3SG.NOM-get house.INDEF-RED
 ‘Kwei bought the land before he got a/#any house.’

(26) *Restrictor of a universal quantifier*

- a. Mɔ-féé-mɔ ní ná shiako(*-shiako) lé je La.
 person-all-person REL get house.INDEF-RED CD be.from L.
 ‘Everybody who got a/#any house hailed from La.’
- b. Awulá-í ko-mɛi ní ba bíe ná shiako(*-shiako).
 lady-PL INDEF-PL REL come here get house.INDEF-RED
 ‘Some ladies who came here got a/*any house.’

(27) *Scope of ‘only’*

La-bíí pé ni ná shiako(*-shiako).
 L.-folks only FOC get house.INDEF-RED
 ‘Only La folks got a/#any house.’

(28) *Conditional clauses*

Ké jí o-ná shiako(*-shiako) lé, kéé-mó mí.
 if 2SG.NOM-get house.INDEF-RED CD tell-IMP 1SG
 ‘If you get a/#any house, tell me.’

Considering examples (23)–(28), we can conclude that Red-indefinite DPs in Gã are not weak NPIs; they are not licensed in most of the typical DE contexts for NPIs. Conversely, we can conclude that they are superstrong NPIs in the sense of Zwarts (1998), i.e. they are only licensed by negation (in antimorphic environments).

3.2. Strict NPIs

The body of literature on NPIs also makes a distinction between strict and non-strict NPIs. In its simplest sense, a strict NPI requires its negative element, i.e. the licenser, to be in its immediately local clause, and allows no intervening clausal boundary (29a). Non-strict NPIs such as *any*-DPs do not have this restriction (29b).

- (29) a. *John didn't say [_{CP} that Mary would leave *until tomorrow*]
 b. John didn't say [_{CP} that Mary saw *anyone*]

We see that NPIs in Gã do not behave like non-strict *any*-NPIs. In the following examples, for instance, while it is fine for the negation and the NPI to occur in separate clauses in the English equivalent (as in the translation), the Gã equivalent disallows this, as in (30a). We see this problem resolved in (30b) where both the NPI and the negation occur in the same minimal clause.

- (30) *Clause-mate negation*
- a. Kwei é-ké-éé [_{CP} ákε Dede ná *shíako*(*-*shíako*)]
 K. SBJ-say-NEG COMP D. get house.INDEF-RED
 'Kwei didn't say that Dede got a/#any house.'
- b. Kwei kéε [_{CP} ákε Dede ná-áá *shíako-shíako*]
 K. say COMP D. get-NEG house.INDEF-RED
 'Kwei said that Dede got no house.'

But as one might expect, so-called NEG-raising predicates like 'imagine', 'think', etc. permit the negation and the NPI to stay in different clauses, as in (31). This is not problematic for the evidence presented in (30a) given that the negation that is associated with a NEG-raising predicate is traditionally assumed to have originated in the same minimal clause as the predicate.

- (31) *NEG-raising*
- Dede sú-sú-úú [_{CP} áké Kwei ná *shíako-shíako*]
 D. imagine-NEG COMP K. get house.INDEF-RED
 'Dede didn't imagine that Kwei got any house.'

3.3. Subject-Object NPIs

Lastly, I would like to make a few remarks about the structural position where the reduplicated indefinite DPs can occur. As example (32) shows, it may occur in both subject and object positions without a change in morphology. In this respect, these Gã NPIs are again unlike their English counterparts. They are similar to NPIs in languages like Ewe and Hindi (Lahiri 1998). Thus it is possible to have reduplicated NPIs as subject and object of the same clause without a change in their form, as in (33).

(32) *Subject NPI*

Nuuko-nuuko bá-áa.
 man.INDEF-man.INDEF come-NEG
 ‘No man came.’

(33) *Mɔko-mɔko* ná-áá *nɔ́kó-nɔ́kó*.
 person.INDEF-RED get-NEG thing.INDEF-RED
 ‘Nobody got anything.’

3.4. Summary

To summarize this section, we have seen that NPIs in Gã, which are equivalent to the *any*-series in terms of meaning, have entirely different distributional and morphological properties. First, they are not licensed in DE contexts other than negation, and as such should be viewed as superstrong NPIs. Second, they are strict NPIs, because they require clause-mate negation. And third, they can occur in subject positions. In the next section, I propose how these NPIs may be derived.

4. How reduplicated indefinite DPs become NPIs

The vast literature on NPIs contains several proposals about how to account for the phenomenon. For instance, Progovac (1994) proposes a binding approach. In this section, I attempt to account for the Gã data following two main proposals in the literature about how NPIs are derived, i.e. the polarity feature valuation approach pursued by Giannakidou (2000, 2007), Dikken (2006), Merchant (2013), among others, and the NEG-Raising approach proposed by Collins & Postal (2014), following Postal (2000). The fundamental difference

between these two frameworks lies in the conception of what an NPI comprises. For instance, while the feature-based approaches see NPIs as indefinites, the NEG-raising approaches construe them as negative quantifiers. I first illustrate the basic machinery required for each approach and then proceed to show how it may be deployed to model the pattern that we observe for Gã.

4.1. NPI as a spellout of a valued polarity feature

Giannakidou (2000) proposes that NPIs should be viewed as elements with a polarity sensitivity requirement, and that in the case of strict NPIs, this requirement is fulfilled by a negation licenser. Appealing to a simplified version of this proposal adopted by Merchant (2013), the polarity interpretation of DPs depends on the valuation of an inherent unvalued *polarity* feature (which they bear). One crucial assumption here is that only indefinite DPs (D[*INDEF*]) have this feature, as in (34). Thus under this approach, NPIs are conceptualized as indefinite DPs, not as negative quantifiers. This straightforwardly rules out the fact that definite DPs are least susceptible to being interpreted as NPIs across many languages.

- (34) *Structure of indefinite DPs in Gã*
 DP [*INDEF*, *POL:□*]

The feature [*POL:□*] is essentially syntactic in nature, and it may be valued as positive or negative. The valuation is only possible via *Agree* by a *c*-commanding licenser head Σ , which is specified as negative (–) i.e. negation, or positive (+). When the DP in (34) is negatively valued, then it is interpreted as NPI, as in (35a). When it is positively valued, it is interpreted as a non-NPI, as in (35b).

- (35) a. John did*(n't) invite *anybody*.
 b. John did(n't) invite *somebody*.

For our purposes, I emphasize the morphological consequence of the valuation process, as put forward by Merchant (2013: 447), and summarized:

This approach assimilates, counter surface appearances, polarity items to other items that vary in their appearance: certain expressions have varying morphological realizations, depending on their syntactic environment. Which morphology is realized is determined by agreement with a valuer; *the allomorph is determined by the nature of the valuer.*

(Merchant 2013: 447, emphasis mine)

(36) *Spellout rules for any (cf. Merchant 2013: 442)*

- a. D: [INDEF, Infl[*POL*:+]] → *any*
- b. D: [INDEF, Infl[*POL*:−]] → *some*

Thus, it is the polarity value of indefinite DPs which differentiates NPIs like *anybody* from their non-NPI counterparts like *somebody* in the grammar, as (36) shows. I will claim that a similar mechanism obtains in Gã.

4.1.1. *A feature valuation approach to Gã NPIs*

The mechanism outlined above can be readily adapted to Gã. The idea of there being a polarity specified head in the structure may be plausible and independently motivated by the observation in (7), i.e. that the morphology of the negation in Gã also depends on the tense/aspect feature. Accordingly, I assume that T/Asp heads in Gã also bear this polarity feature, as exemplified for past tense in (37), and the other tense/aspect paradigms in (38).

(37) *Spellout rules for tense*

- a. T: [*PST*, *POL*:−] → -vv
- b. T: [*PST*, *POL*:+] → Ø

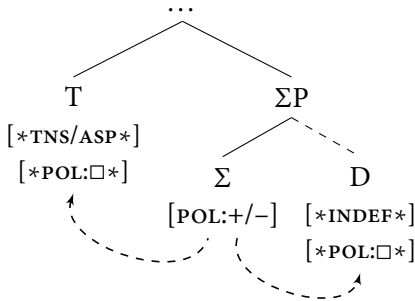
(38) *Spellout rules for tense/aspect (cf. (7))*

- a. T: [*FUT*, *POL*:−] → -íj
- b. Asp: [*HAB/PROG*, *POL*:−] → -vv
- c. Asp: [*IMP*, *POL*:−] → kaá-
- d. Asp: [*PERF*, *POL*:−] → -ko
- e. Asp: [*SBJNC*, *POL*:−] → áká-

Putting everything together, I postulate the structure in (39), where (still adopting Merchant's notation,) Σ is the polarity head that agrees and values

both the indefinite D, and the T heads. Note that the most important relationship in the structure is the one between Σ and D, i.e the former c-commands the latter. (I will not concern myself with the structural position of T heads in this paper.)

(39) *Structure of reduplicated NPIs:*

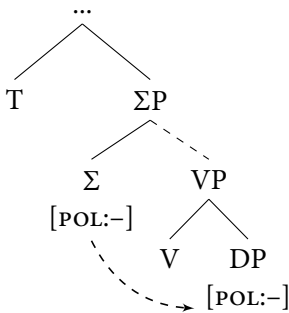
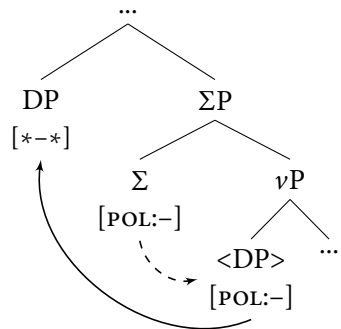


If this assumption about the featural composition of indefinite D heads in Gã is correct, then we are able to account for why definite DPs never receive NPI interpretation, (and be reduplicated for that matter). Their D heads lack this polarity-sensitive feature [$*POL:\square*$], as in (40). Thus they do not even have the option of being interpreted as NPIs or otherwise, to begin with.

(40) *Structure of definite DPs in Gã*

D: [$*DEF*$]

Now let us see how the structure in (39) can derive the NPIs in both object and subject positions. These are possible if we assume the structures in (41) and (42) respectively (where the dashed arrows indicate agreement and the direction of the copying of polarity features). For object NPIs, Σ straightforwardly establishes an Agree relation with the D head of the DP complement of V, and then values its polarity feature accordingly. For subject NPIs, as in (42), given that where it is spelled out shows the D head and Σ in a reverse c-command relation, we need to assume that the valuation takes place while the indefinite subject DP is still in Spec, ν P, as indicated with the dashed arrows in (42). The surface position thus follows standard spec, ν P to Spec, TP movement, as indicated with the solid arrow in (42)

(41) *Object NPIs*(42) *Subject NPIs*

The most crucial aspect of this account, which also derives the main difference between the form of NPIs in English and Gã, is the morphological realization of these valued features. Whereas a positively valued polarity feature results in a null realization (43a), I propose that a negatively valued indefinite D head in a Gã is realized as the reduplicative morpheme RED, that is as an instruction to make a full copy of the DP (43b).

(43) *Spellout rules for Gã indefinite DPs*

- a. [POL:+] → ∅
- b. [POL:-] → RED / ___ [INDEF]

Following standard approaches to reduplication in phonology (cf. McCarthy & Prince 1995), this RED morpheme is what leads to the reduplicated indefinite DP in negative contexts. The phonological constraints of the particular language regulate the form of reduplication (full reduplication in Gã) (44).

(44) RED-*shía ko* ⇒ *shía ko-shía ko*

4.2. Reduplicated NPIs as NEG-raising

In the framework of Collins & Postal (2014), NPIs are DPs with a modifying negative quantifier, not indefinite DPs. The main motivation comes from the equivalent interpretation of non-NPIs like *nobody*, and NPIs *anybody*, in contexts like (45a, b). Accordingly, they assume that both constructions must have a similar underlying structure, as in (46), where the negation (NEG) modifies the quantifier *some* in a DP headed by *body*.

- (45) a. I saw nobody.
 b. I didn't see *anybody*.

(46) [[NEG SOME]body]

The difference between (45a) and (45b) is thus accounted for by the assumption that in (45b), NEG raises higher, as in (47). This operation, known as NEG-raising, they assume, leads to the realization of *some* as *any*. I refer the interested reader to Collins & Postal (2014) for the details of this account. In what follows, I will outline a similar account based on the Gã data.

(47) I did NEG_i see [[<NEG_i> SOME]body]

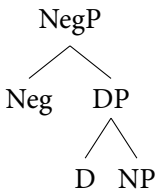
4.2.1. NEG-raising for Red-NPIs

In section 3.2, we saw that Gã shows some properties of NEG-raising. For instance we saw that although reduplicated NPIs are strict NPIs, they can occur in minimal clauses without negation if only there is a NEG-raising predicate involved. The relevant example is repeated in (48).

- (48) Dede súú-úú [CP áké Kwei ná *shía-ko* *shía-ko*]
 D. imagine-NEG COMP K. get house-INDEF house-INDEF
 'Dede didn't imagine that Kwei got any house.'

The data we have seen so far suggest that the reduplicated indefinite DP is permitted only in the context of negation, i.e. without negation, reduplication is *not* possible. If we cast this in terms of Collins & Postal's approach, this implies that negation is inherent in whichever mechanism it is that leads to the DP doubling. I interpret this to mean that such indefinite DPs are part of a structure headed by NEG, and accordingly assume the structure in (49). This structure is different from the base structure of their non-reduplicatable indefinite DPs, as represented in (50).

(49) NPI indefinite DPs:

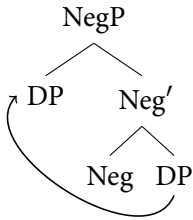


(50) Non-NPI indefinite DPs:

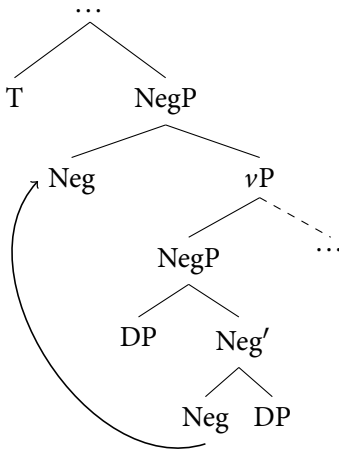


At this point, the three issues to address are first, how do we get two DPs from (49)? Second, how does NEG reach its surface position? And third, what becomes of the copies of the moved elements? One obvious solution to the the doubling problem is to assume that the presence of a NEG head triggers a copying of its DP complement, yielding the structure in (51). This could plausibly be derived as a kind of repair for illicit ‘antilocal’ movement from the complement to specifier position of the same phrase (see e.g. Grohmann & Nevins 2004, Barnickel & Hein this volume). Subsequently, NEG *raises* to the relevant higher functional head position, as in (52) for object NPIs, and (48), for subject NPIs.

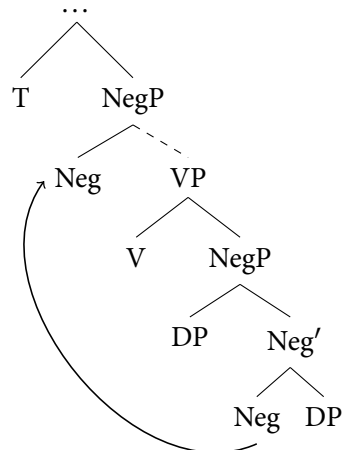
(51) *DP doubling in NEG-raising contexts:*



(52) *NEG-raising from subject:*



(53) *NEG-raising from object:*



Finally, regarding the copies problem, in the case of the raised NEG, only the higher copy gets pronounced. But for the copied DP, both copies are pronounced at spellout.

5. Summary and conclusion

To summarize the discussion so far, I have given a detailed description of the facts about NPIs in Gã. Particularly, I have shown that reduplicating indefinite DPs is the most productive way to form NPIs in this language. But while they may be comparable to the *any*-series in English in terms of their meaning, their distribution and morphology are quite different. Those of Gã are strong and strict NPIs, and they can occur in subject positions.

I have also tried to sketch an account of how the observed patterns may be captured in terms of polarity feature checking, and NEG-raising. With the former, I have shown that reduplicated indefinite DPs can be viewed as the result of a negatively valued polarity feature on D. For the latter, one could account for the indefinite DP doubling by assuming that the NEG head which is merged with indefinite DPs instantiates a copying of the DP. At spellout, both copies such indefinite DPs are pronounced.

This tentative account is not without problems. I will point out a few. First, regarding the feature valuation approach, the account faces a major challenge if the idea of phases (Chomsky 2001) is taken into consideration. For instance, assuming that the [$*\text{POL}:\square*$] on an object indefinite DP is merged in the spellout domain of νP which has been argued to be a phase, then that domain would be lost before its valuer Σ is merged. Another problem with this account could come from the agreement mechanism and locality constraints. Given that both subject and object indefinite DPs may bear [$*\text{POL}:\square*$], an agreement operation targeting a lower position might be impeded by an intervening one.

Second, with the NEG-raising approach it is not clear, why the system would conform to the Copy Theory of Movement (Nunes 2004), by deleting the lower copy of NEG in the chain so formed, but in the case of the indefinite DPs, both copies are spelled out at PF. However, it is possible to view this exceptional Spell-Out as the result of an antilocal movement step, as in the approach by Grohmann & Nevins (2004) and Barnickel & Hein (this volume), among others. Another challenge for this account will be how to model the morphological

connection between the form of NEG independent of NPIs. These are some issues that future work on this subject should address.

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