Class IV: Case Study – Indefinites in Hausa and Ga (and Wolof)

In this class, we will see that the landscape of indefinites is richer in many West African languages, many of which have two (Hausa, Akan) or even three (Ga, Wolof) ways of expressing indefiniteness, where the different indefinite markers differ in interpretation. We will look at the INDEF-system of Hausa specifically, and argue that Hausa makes use of Generalised Quantifiers (for DPs with INDEF determiners) and the compositional mode of Restriction (for bare NPs), respectively. In the latter part of the class, we will look at the three-partite INDEF-system of Ga (Kwa), where two of the three forms have been argued to code choice functions by Renans (2018).

1. Case Study I: Hausa -- The Interpretation of Hausa Indefinites

- **Central Observations:**

i. Hausa has two kinds of indefinites: **bare NPs vs wani-DPs**

- **bare NPs** take obligatory narrow scope relative to negation, modals, conditionals = bare plural/mass NPs in English
- **wani-DPs** can take (exceptional) wide or narrow scope

ii. **wani-DPs** are preferably used as antecedents for discourse anaphors: (quasi-)referential

iii. Exceptional wide scope of **wani-DPs** is not derived via QR
⇒ Choice function or Singleton GQ-interpretation

iv. Bare NP-status of narrow scope indefinites suggests interpretation in terms of RESTRICT

1.1 Two kinds of indefinite expressions in Hausa (Zimmermann 2008)

Hausa indefinites may be bare NPs, or else they occur introduced by the determiner element wani / *wata / wa(d'an)su,* which agrees with the head noun in number/gender and is typically translated as 'some (other), a certain (m./ f./ pl.)' (Zimmermann 2008)

(27) bare NPs: vs. (28) wani-DPs:

a. mùtûm '(a) man'
b. mace 'woman'
c. mutàanee 'people'

a. wani mùtûm 'some man'
b. wata màcè 'some woman'
c. wa(d'an)su mutàanee 'some men/some people'

⇒ **Both kinds of expressions are genuine indefinite expressions since they satisfy standard tests for indefiniteness (Matthewson 1999):**

i. They occur in existential sentences:

(29) Àkwai **(wani) mùtûm** à cikin gàrii
there.is WANI man.sg at inside town
'There is a (some) man in town.'

ii. They introduce new discourse referents:

(30) a. Wannàn tàatsuunìyaa-r **(wata) yaarinyàà** cee. Suuna-n-ta Hàwwa
this story-of WANI girl COP name-of-her Hawwa
'This is a story about a (some) girl. Her name is Hawwa.'

b. **wasu** sun tafi, **wasu** sun dawo.
WANI 3PL.PFV leave WANI 3PL.PFV return.
'Some left and some (others) returned.'

iii. They neither entail nor presuppose uniqueness.

(31) a. Muusaa yaa ga **(wata) yaarinyàà.**
Musa 3SG.M.PFV see WANI girl
NOT: 'Musa saw the (contextually) unique girl.'

b. #wata raanà taa fiitoo.
WANI sun 3SG.F.PFV rise
#'Another sun went up.'

iv. They are licit antecedents for sluicing:

(32) John ya karanta **(wani) littafi**, amma ban san ko wanne ba ne.
John 3SG.M.PFV read WANI book but neg-1SG know Q which NEG COP
'John has read a (certain) book, but I don't know which.'

⇒ **The two kinds differ regarding the licensing of discourse anaphora:**

Both types of indefinites can introduce discourse referents, but there is a strong preference for using *wani*-DPs as antecedents for pronominal anaphora (Jaggar 1988).

(33) **wata raanaa**, wad'ansu 'ya-m birnii nàa zàune, ...
some day somePL children-of town PROG sitting
'One day, some city folk were sitting around.'

'[…] its essence is that it conveys new information, introduces a new character into a story […] if this new thing is felt to be sufficiently important to the story, e.g. you are going to hear more about it, then *wani/wata/wad'ansu* is generally put in front of it." [Jaggar 1988: 46, quoting from Parsons, .n.d.]

⇒ Unlike bare NPs, wani-NPs typically trigger the creation of a new (cognitive) file (Jaggar 1988:51) where information can be stored.

- **Differences in scope-taking behavior:**

⇒ **wani-DPs can WIDE SCOPE over modals, negation, conditionals, bare NPs can't:**

i. Wide scope over modals and negation: only with wani-DPs

(34) a. Audù yanàà sô yà aùri **yaarinyàà** 'yar Dàuraa. **bare NP**
Audu 3sg.m-prog want 3sg.m marry girl daughter-of D.
*'There is some girl from Daura that Audu wants to marry.'

b. Audù yanàà sô yà aùri **wata yaarinyàà** 'yar Dàuraa. **wani-DP**
Audu 3sg.m-prog want 3sg.m marry WANI girl daughter-of D.
'There is some girl from Daura that Audu wants to marry.'

(35) CONTEXT: Audu bought a lot of fish, but ... (wide scope context)

a. # Audu ba-i sayi **kifi** ba **bare NP**
Audu neg-3sg.m buy fish neg

i. # 'Audu didn't buy any fish.' [Comment: "This is contradictory!"]
ii. *'Audu didn't buy a certain fish.' (not available)

b. Audu ba-i sayi wani kifi ba **wani-DP**
Audu neg-3sg.m buy WANI fish neg
'Audu didn't buy a certain fish'
[Comment: "This sentence can mean either 'Audu didn't buy any fish' or 'Audu didn't buy a certain fish'. Here is has the second meaning, but in isolation one would think it has the first meaning."]

ii. Exceptional wide scope over conditionals: only with wani-DPs

(36) CONTEXT: Many people will come to the meeting, but… (wide scope context)

a. # Idan **mutum** ya zo taro-n, Musa zai yi farin ciki sosai.
if man 3sg.m come meeting-DET Musa fut-3sg do happy very
#'If a person comes to the meeting, Musa will be particularly happy'
[Comment: "If any person comes, Musa will be happy"]

b. Idan **wani mutum** ya zo taro-n, Musa zai yi farin ciki sosai.
if WANI man 3sg.m come meeting-det Musa fut-3sg do happy very
'If some person comes to the meeting, Musa will be particularly happy.'
[Comment: "Regardless of whether many people come! It is a special person."]

(37) a. # In **mutum** ya yi aiki mai kyau sai ya samu lada, ***bare NP**
if man 3sg.m do work good then 3sg.m get praise

amma idan **mutum** ya yi aiki mai kyau, ba wanda zai kula da shi.
but if man 3sg.m do work good neg one-rel fut-3sg.m notice him

'#If a man does a good job, he is praised, if a man does a good job, noone will notice.'
[Comment: "The context is strange because *mutum* means "a human being", or "mankind" here, …" "No, this cannot have the meaning that there are two different men who both did a good job."]

b. In **wani mutum** ya yi aiki mai kyau sai ya samu lada, wani-DP
if WANI man 3sg.m do work good then 3sg.m get praise

amma idan **wani mutum** ya yi aiki mai kyau, ba wanda zai kula da shi.
but if WANI man 3sg.m do work good neg one-rel fut-3sg.m notice 3sg

'If some man does a good job, he will be praised, but if some other man does a good job nobody will notice.'
[Comment: "This is okay when referring to two specific men."]

iii. Both indefinite-types can take scope under negative/intensional operators!

(38) Audù yanàà sô yà aùri **(wata) yaarinyàà** 'yar Dàuraa. (**modal**)
Audu 3sg.m-prog want 3sg.m marry WANI girl daughter-of D.
'Audu wants to marry some Daura girl or other.' (**unspecific**)

(39) CONTEXT: Musa couldn't find any girl from Daura that he liked, so… (**negation**)

a. Musa ba-i auri **yarinya 'yar Daura ba**. **bare NP**
Musa neg-3sg.m marry girl daughter-of D. neg
'Musa didn't marry any girl from Daura.'
[Comment: "This is a denial: "Musa never married any girl from Daura".]

b. Musa ba-i auri wata yarinya ‘yar Daura ba. **wani-DP**
Musa neg-3sg.m marry WANI girl daughter-of D. neg
‘Musa didn’t marry any girl from Daura.’
[Comment: “This means the same thing as the previous sentence.”]

(40) CONTEXT: Mary doesn’t know if there are any elders, but ... (**conditional**)

a. Idan dattijo ya zo, Mary za ta yi farin ciki. bare NP
if elder 3sg.m come, Mary fut 3sg.f do happy
‘If any elder comes, Mary will be happy’

b. Idan wani dattijo ya zo, Mary za ta yi farin ciki. wani-DP
if WANI elder 3sg.m come, Mary fut 3sg.f do happy
‘If any elder comes, Mary will be happy.’
[Comment: “Dattijo doesn’t specify any particular elder.”]

1.2 Data summary & Analysis

Hausa has two kinds of indefinite expressions with different scope-taking behavior:

	Conditionals	negation	modal
Bare NP	**narrow**	**narrow**	**narrow**
wani-DP	**narrow/wide**	**narrow/wide**	**narrow/wide**

i. The obligatory narrow (in situ) scope of bare NPs points to a non-quantificational analysis: bare NPs are NPs denoting into type <et>. They are interpreted with the compositional mechanism of RESTRICTION! See above

ii. The fact that *wani-DPs* can take narrow, wide and exceptional wide scope could either point towards an analysis of such DPs as denoting choice functions with the possibility of narrow existential closure (see Reinhart 1997); or else as denoting GQs that sometimes come with a singleton restriction ⇒ exceptional scope

⇒ Ideally, one would treat *wani-DPs* as lexically unambiguous.

⇒ Given that there may be conceptual problem with choice functions under existential closure (Schwarz 2001, 2011, Chierchia 2001), cf. §1.3, and since *wani-DPs* resemble bona fide universal GQs in their morpho-syntactic make-up, we opt for a GQ-analysis:

- Complex wani-NPs show the structural properties of universal GQ-quantifiers (koo+wh) [Zimmermann 2008]:

- indefinite marker occurs in the same prenominal slot: Q NP
- indefinite marker shows gender and number agreement with noun

(41) a. koo-wàcè mootàa, b. koo-wànè ɗaalìbii
DISJ-whF car DISJ-whM student

cf. wata mootàa wani d’aalìbii

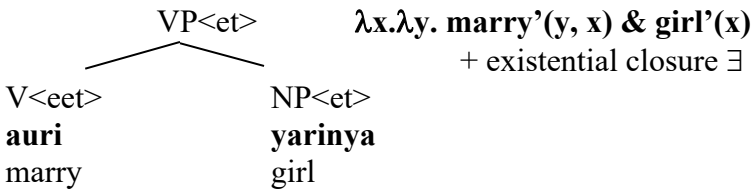
- Further evidence for the singleton GQ-analysis of *wani-DPs*: *wani* can combine with overt singleton-denoting restrictors: wani [NP+DEF] (Newman 2000):

(42) [wata [mootà-r]] taa b’aacì
wata car-DEF 3sg.PFV break.down
‘A specific (previously mentioned) car broke down.’

⇒ All *wani-DPs* are interpreted as run of the mill Generalized Quantifiers!

- Bare NPs are interpreted with RESTRICTION:

(43)



- **Overall picture:**

  The two indefinite forms in Hausa come with two different semantic interpretations:

i. wani-DPs: [Q [NP]] ; semantic type <et,t>, flexible scope
can be restricted by singleton NP-sets: exceptional scope

ii. Bare indefinite NPs are of semantic type <et> and combine with their syntactic sisters qua RESTRICT; fixed scope

1.3 Excursus: An empirical argument against a choice function analysis of wani-DPs

Chierchia (2001) and Schwarz (2001, 2011) show that analyses of *wani*-DPs as choice functions with wide scope existential closure make an incorrect prediction for English:

They incorrectly predict the following sentence in (C1) to be true in the given context since matrix ∃closure of f as in (C2a) comes out as equivalent to (C2b) in downward-entailing contexts:

(C1) Context: There were three students: Mary, Sue, and Joe. All of them wrote letters and sent some, but none of them sent all of them.

No student sent **a letter** that she had written.

(C2) a. $\exists f\,[\neg\exists x$ student $(x) \wedge$ sent$(x, f(\{y:$ letter she$_x$ had written$\})$
b. No student sent every letter that she had written.

(C1) comes out as true on the semantic construal in (C2a) because there is a way of choosing a function that maps, for each student, from the letters written by that student to a letter that was in fact not sent, e.g. f_{25} in (C3) (again borrowed from Renans 2018):

(C3)

Mary: $\{\underline{M1}, M2, M3\} \rightarrow$ M2
Sue: $\{\underline{S1}, \underline{S2}, S3\} \rightarrow$ S3
Joe: $\{\underline{J1}, J2, \underline{J3}\} \rightarrow$ J2

⇒ The facts appear to be the same for Hausa, as shown in (C4). (C4) is unacceptable in the given context even though it should come out as true on the construal in (C2a):

(C4) Context: I am married to Asabe and Hawwa. My mother likes Asabe, and my sister likes Hawwa, but none of my relatives like each of them.

#Ba dangi-n	da	yake	so	**wata yarinya**	da na aura.
NEG relative-LINKREL		3SG.M.IPFV like		WANI girl	REL 1SG marry

i. #‘No relative of mine likes any girl that I married.’ (ruled out by context)
ii. #‘There is a particular girl that none of my relatives likes.’ (ruled out by context)
iii. *‘No relative of mine likes **every girl** that I married.’ (**OK in context**)

Given that there also conceptual problems with Kratzer-style contextually bound choice functions, we contend that the singleton ∃-GQ-analysis may be the most adequate analysis for modelling the Hausa facts.

2. Wolof & Ga: Three indefinite forms

In addition to languages with two indefinite series, there are also West African languages with three types of indefinites: e.g., Wolof (Tamba et al. 2012) and **Ga** (Renans 2016b) .

2.1 **Wolof** (Tamba, Torrence, Zimmermann 2012)

Tamba et al. [2012] show that Wolof has three indefinite forms, raising the question of how these differ in semantic meaning and semantic behavior (scope)?

- meaning: $Q_{<et,t>}$, $NP_{<et>}$, CF
- scope: flexible, narrow, ???

(47) i. CL-enn NP
ii. u/a-CL NP
iii. Bare NP

i. CL-enn NP [Tamba et al. 2012:897]

(48) a. **b-enn** xaj
CL.SG-some dog
‘a/some dog’, ‘one dog’

b. y-enn yaj
CL.PL-some dog
‘some dogs’

ii. u/a-CL NP [Tamba et al. 2012:897]:

(49) **u/a-b** xaj
INDEF-CL.SG dog
‘a dog’

iii. Bare NPs [Tamba et al. 2012:897]:

(50) Gis-na-a xaj
see-FIN-1SG dog
‘I saw a dog (i.e. some dog or other)’

⇒ All three forms can give rise to unspecific and specific interpretations in episodic sentences …

(51) Xadi gis-na a-b/ b-enn / ∅ sàcc
Xadi see-FIN NDEF-CL CL- some thief
‘Xadi saw a thief’, ‘Xadi saw a certain thief’
… but otherwise the three forms differ in distribution, combinatory possibilities and semantic interpretation.

i. **Combinatorial differences: Plural and mass NPs**

- Bare NPs only have singular interpretations (no CL.PL):

(52) Awa jàpp-na sàcc
Awa catch-FIN thief
'Awa caught a thief.'
NOT: 'Awa caught some thieve**s**.'

- Overt INDEF-forms cannot combine with mass nouns:

(53) Jënd-na-a ∅ / *a-b / *b-enn ceeb
buy-FIN-1SG INDEF-CL/ CL-some rice
'I bought rice'

⇒ *a/u*-CL & CL-*enn* related to countability, atomicity

ii. **Distributional differences: Subjecthood**

- Bare NPs can function as the subject of generic sentences, whereas a/u-CL and CL-enn cannot.
- a/u-CL and CL-enn can function as the subject of episodic sentences, whereas bare NPs cannot.

⇒ Bare NPs have non-referential predicative meaning: <et>; (which can be shifted to a <e>-kind reading in generics; see Chierchia (1998).

iii. Interpretive differences: **Scope**

u/a-CL and CL-enn differ in scopal behavior:

i. CL-enn takes obligatory scope under NEG, but can scope over conditional operators!
ii. u/a-CL cannot take scope over conditional operators, but it can take scope over NEG!
iii. Bare NPs always take narrow scope (as expected)

(54) **Scope relative to NEG:**

a. Awa dóór-ul **a-b xale** NEG>∃, ∃>NEG
awa hit-NEG NDEF-CL child
'Awa did not hit any / a certain child'

b. Awa dóór-ul **b-enn xale** NEG> ∃ only
awa hit-NEG CL-some child
'Awa did not hit a single child'

c. Awa dóór-ul **xale** NEG> ∃
awa hit-NEG child
'Awa did not hit any child(ren)'

(55) **Scope relative to COND**

a. Su sama **a-m mbokk** gañ -u-ee, di-na-a donn-u kër
if my NDEF-CL relative hurt-REFL-PERF IMPERF-FIN-1SG inherit-REFL house
'If any relative of mine dies, I will inherit a house' **COND>∃**

b. Su sama **m-enn** **mbokk** gañ -u-ee, di-na-a donn-u kër
if my CL-some relative hurt-REFL-PERF IMPERF-FIN-1SG inherit-REFL house
'If any/ a certain relative of mine dies, I will inherit a house' **∃>COND, COND>∃**

- **Summary of findings:**

Whilst the analysis of bare NPs in Wolof as type <et> predicative expressions is straightforward and adequate, the different scope behavior of CL-enn and u/a-CL is puzzling: Neither of them seems to behave like a bona fide choice-function denoting or (singleton) GQ-denoting expression:

⇒ either analysis would predict possible wide scope from NEG- AND COND-environments without additional restrictions!

Another difference: **Only u/a-CL licit in existentials:**

(56) a. Am-na **a-y** **góór** ci arme b-i NDEF
exist-FIN NDEF-CL.PL man P army CL-DEF.PROX
'There are men in the army'

b.*Am-na **y-enn** / ∅ **góór** ci arme b-i NDEF
exist-FIN CL.PL-some man P army CL-DEF.PROX
intended: 'There are men in the army'

⇒ In the absence of further evidence I propose the following analysis for *CL-enn*:

CL-enn: **GQ**, with *enn* 'one' inducing atomicity restriction on NP-meaning (= a single = Spanish uno vs unos, Martí 2008)

structurally parallel to ∀quantifier CL-epp;

*with mass Ns (no atoms); *in EXISTs and GENs

⇒ Auxiliary Assumption: Q must be interpreted below NEG (depending on focus?). A parallel behavior is found with English *a single*:

(57) If a single relative of mine dies I will inherit a fortune. COND > ∃, ∃ > COND

(58) a. I didn't see a single child. only NEG > ∃ !

b. A SINGLE child I didn't see. ∃ > NEG

⇒ In the absence of further evidence, I propose the following analysis for *u/a*-CL:

u/a-CL: CF, with clausal ∃-binding of CF-variable

*with mass Ns and GENs; OK in EXISTs

Assumption: ∃-binding above or below NEG, but within the clause, viz. the conditional facts

- Future research: Compare *CL-enn* and *u/a-CL* to *a single* NPs in English

- Controlling for focus

- In environments that have shown to be problematic for choice function approaches with local ∃-binding [Chierchia 2001, Schwarz 2001]

2.2 Ga (Renans 2018)

Ga resembles Wolof in featuring three types of indefinites that differ in scope taking possibilities:

(59) Gbekɛ biihii lɛ fɛɛ na **looflo** **Ø/ko/kome.**
child boys DET all see bird INDF/INDF/INDF
'All the boys saw a bird.'

- **Scope:**

i. bare NPs, *ko*, and *kome* exhibit non-homogeneous scopal properties with respect to various operators, e.g., negation and quantifiers. **First, it turns out that whereas *ko* can take both wide and narrow scope with respect to negation, bare NPs can take only narrow scope, and *kome* only wide scope** (= Akan *bí*; see tomorrow); cf. (60ab)

(60) a. Context: Kofi bought a lot of fish, but (wide-scope context)

E-he-ko loo **ko/kome**
3SG-BUY-PFV.NEG fish INDEF/INDEF
'He didn't buy a certain fish.'

b. Context: Kofi went to the market yesterday. He bought vegetables, shoes, and toys but he didn't buy any fish. (narrow-scope context)

Kofi he-ko loo **ko/#kome.**
Kofi buy-PFV.NEG fish INDEF/INDEF
'Kofi didn't buy any fish.'

ii. **whereas *kome* can obtain both a constant and a covarying (= bound) interpretation with respect to quantifiers, bare NPs and *ko* can get only a covarying interpretation**:

(61) a. Context: There were four women in the library. It looked really funny because all of them were reading one book. (CONSTANT INTERPRETATION)

Yei lɛ fɛɛ kane wolo **#ko/kome.**
women DET every read book INDEF/INDEF
'Every woman read some book.'

b. Context: When I came to the library yesterday, four women were reading a book. Each of them was reading a different book. (COVARYING INTERPRETATION)

Yei lɛ fɛɛ kane wolo **ko/kome.**
women DET every read book INDEF/INDEF
'Every woman read some book.'

Table 1 Scopal properties of *ko* and *kome*

	Intermediate scope	Negation	Quantifiers
Ko	✓	Wide, narrow	Covarying
Kome	✓	Wide	Constant, covarying

Table from Renans (2018:408)

Q: If **NP-ko** and **NP-kome** were regular existential generalized quantifiers (with or w/o a singleton restriction à la Schwarzschild 2002), why would they behave differently relative to negation and quantification?

- **Analysis**; see Renans for details (2018):

Both ko and kome give rise to (exceptional) intermediate scope readings, a fact compatible with an analysis as choice functions:

(62) Context: Four linguists chose one linguistic problem to work on. Linguist 1 chose the syntax of Ga, linguist 2 chose the syntax of Akan, linguist 3 chose the phonology of Ewe, linguist 4 chose the morphology of Avatime. Linguists 1, 2, and 3, but not 4, read all the analyses solving the respective problem.

Otsiamii pii ekw susumi saji fɛɛ ni ye boa **sane kome/ko** naaboam.
linguist most have.looked analysis analysis every that help solve problem indf/indf solve
'Most linguist have looked at every analysis that solves some problem.'

i. *ko:* wide-scope indefinite denoting existentially bound skolemized choice functions whose parameter is bound by a higher quantificational NP;

(63) **(∃f)** [NEG [**(∃f)** [buy (Kofi, f_i(fish)]

wide OR narrow scope

ii. *kome*: free skolemized choice functions with the speaker or a higher quantificational NP as a parameter;

(64) [NEG [buy (Kofi, f_i(fish)]

iii. *bare NP*: bare indefinites.

⇒ The existential wide scope choice function analysis of *ko* receives support from the fact that Ga indefinite NPs with *ko* appear to give rise to a *not…every*-interpretation in Ga:

(65) a. No student sent **letter-*ko*** she wrote.

b. = No student sent **every letter** she wrote.

I.e., the reading that is unattested for English, German etc.

- Crucially, the three-way system in Ga works differently from the three-way system of Wolof already when it comes to scope relative to negation: both have bare NPs with narrow scope and one marked INDEF NP with variable scope properties; but the second marked INDEF form must take narrow scope in Wolof and wide scope in Ga…

	Scope above NEG	Scope below NEG
Wolof bare NP	NO	YES
Wolof *NDEF-CL NP*	YES	YES
Wolof *CL-enn NP*	**NO**	**YES**
Ga bare NP	NO	YES
Ga *NP ko*	YES	YES
Ga *NP kome*	**YES**	**NO**

Q: How much cross-linguistic variability is there in INDEF-systems in natural language?

Q: Why would there be so much variability and competition in the form inventoryof INDEF NPs/DPs; e.g., three different forms for encoding narrow scope in Wolof?

3. A comment on negative indefinites: Hausa and Ga

African languages do not typically feature European –style negative quantifiers/negative indefinites, such as *nothing, nobody, no NP*

⇒ Instead, the regular way of expressing negative universal quantification (¬∃ or ∀¬) is to have a bare NP under sentential negation:

(60) a. Audu **ba**-i sayi **kifi ba**
Audu neg-3sg.m buy fish neg
'Audu bought no fish' = 'Audu didn't buy fish.'

b. Audu **ba**-i sayi **doki** **ba**
Audu neg-3sg.m buy horse neg
'Audu bought no horse(s).'

⇒ According to many scholars (e.g. von Stechow & Penka 2001, Zeijlstra 2004), this is the underlying structural representation for n-words in European languages as well. N-words are negative concord words, which must be licensed by a (covert) c-commanding NEG-operator. The n-part of the n-word has no quantificational force of its own.

⇒ Evidence for this analysis: scope split with German modals (von Stechow and Penka 2001, Penka 2005):

(61) Peter muss nichts kaufen.
Peter must nothing buy
'Peter is not required to buy anything' **NEG > MUST > ∃**

- Ga differs from this general scheme in that universal negative quantification also seems to require doubling of the SG NP-core plus the particle *ko* (already familiar from the discussion of indefinites):

(62) Tom efɔɔ nine etsɛɛ naanyo ko naanyo.
Tom did-NEG "give hand to call" (invite) friend-sg. PRT- friend-sg.
Tom did not invite any friends.

(63) a. Moko-moko baa. b. mɛikomɛi baa.
person-person come-PAST-NEG. person-kome come-PAST-NEG

(64) Jeee moko moko kane wolo nyɛ.
NEG somebody-somebody read book yesterday
'Nobody read a book yesterday.'

Q: i. Why is reduplication required under sentential negation?

ii. Are such reduplicated words Negative Polarity Items and always restricted to negative environments?

iii. Does reduplication have a semantic reflex ⇒ GQ-formation?

Universal distributive quantifiers also involve reduplication in Ga: NP-fɛɛ-NP

⇒ **Nice topic for a project!**

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