

## Anaphora in the African Languages - Questionnaire

NSF grant BCS-0303447: Principal Investigator - Ken Safir, Rutgers University

### PART 1 General information

**1.1 Language:** In this section you are asked to identify your language or dialect (the subject language) and the information we ask of you will help make this identification more precise. We will fill in the Ethnologue code if you do not know it.

1. Name of the language: **Ga**
2. Ethnologue code (if you know it): **gaa**
3. Dialect and/or area: **Ga is spoken mainly in the capital city, Accra and immediate surrounding areas.**
4. What is the information you are providing based on? We assume all our participants are relying on their own judgments, but if you answer (b) in addition to (a), please explain with an attached note.
  - (a) My own judgements (  )
  - (b) Judgements by one or more consultants (  )

**1.2 Identify yourself:** In order to make full use of the information you provide, some information about your linguistic background is necessary. If you wish, your name and contact information will be excluded from the public version of this database. However, if you are a fellow linguist we encourage you to make this information available; this will make it possible to properly acknowledge your role in creating this database, and will also (if you wish) allow other linguists interested in this language to contact you.

Please provide the following information about yourself (the person completing the survey).

1. Name: **Akua Agyei-Owusu**
- 2a. Your address: **2210 Land Street Pearland, TX 77584**
- 2b. E-mail address, if you have one: **aaa8@rice.edu**
3. Do you want the database to reveal your name and contact information?  
(You still must fill out a consent form, however you answer this question.)
  - (  ) I am willing to be identified
  - (  ) I wish to remain anonymous
4. Your level of training in linguistics (circle accordingly).
  - (  ) Post Ph. D.
  - (  ) Ph.D or M.A. student
  - (  ) Undergraduate linguistics
    - (  ) some courses
    - (  ) linguistics major
    - (  ) Training in related discipline
    - (  ) philology
    - (  ) language pedagogy
    - (  ) other (please specify)
  - (  ) related discipline (please specify)
  - (  ) no linguistic training

5. If you are a linguist, please indicate the extent of your exposure to the following subfields. Also specify the broad school (e.g., GB or LFG syntax) if appropriate. Your background might be relevant to your choice of terminology in morphological and syntactic descriptions, etc.

school – functional/typological linguistics

Scale: little or none / some / intimately familiar.

- (a) Syntax: intimately familiar
- (b) Typological linguistics: some
- (c) Formal semantics: little
- (d) Pragmatics or discourse analysis: intimately familiar
- (e) Other relevant subfield:

6. Your language biography

- a. What language(s) did your parents speak at home? **Father – Akan, English Mother – Ga, English**
- b. What language(s) do/did your parents speak natively? **Father – Akan Mother – Ga**
- c. What language (languages) did you receive school instruction in? **English**
- d. How old were you when you learned the subject language? **It was my first language**
- e. Do you speak an identifiable subdialect of this language? **No. Ga is more or less homogeneous.** What is it called?
- f. Do you speak other dialects of the same language? **No.** Which ones?

**1.3 Additional Consultants:** If you are relying on the intuitions of additional language consultants (secondary informants), please collect the same information about those you consult, if that is possible. Your secondary informants will be anonymous participants (with all of their personal information confidential) unless they also complete a consent form and choose to be identified.

**1.4 References:** If it is convenient for you to do so, please inform us of any descriptive grammar or other references that you believe would be useful for us to know about which would assist us in putting the anaphora data in the context of a broader understanding of the grammar of your language. If you have a bibliography of work of this kind that you can inform us of or make available to us, that would be enormously helpful.

**IMPORTANT NOTE:** In order for us to use your questionnaire at all, we must have from you a signed copy of the consent form that we provide to you which insures (a) that you have had the opportunity to evaluate any risk or disadvantage to you in choosing to participate in this study, and (b) that you have made an informed decision on whether or not you want your role in our project to be publically known. If you choose to remain an anonymous participant, all of the personal information your report to us will remain confidential.

### Abbreviations

1	first person
2	second person
3	third person
AG	agentive
ANI	animate
COMP	complementizer
DISTR	distributive
DP	discourse particle
FOC	focus particle
FUT	future
HAB	habitual
IMP	imperative
IMPERS	impersonal
INAN	inanimate
INTENS	intensifier
QP	question particle
OBJ	object

PERF	perfect
PERF	perfective
PL	plural
PROG	progressive
PST	past
SJV	subjunctive
SG	singular

Anaphora in the African Languages - BCS-0303447

## PART 2 An inventory of reflexive and reciprocal strategies

In this section, we compile an inventory of strategies for coreference in your language. At this point we are only attempting to get a brief overview of the strategies and so we only want from you a few exemplars of each strategy. The properties of each strategy will be investigated in more detail in the following sections.

By the end of this section you should have a small number of sentences, each of which uses a different way to express a reflexive relationship. For English, for example, we might get John saw himself, and John washes as two forms of the reflexive strategy (where the second is more lexically restricted) and one form for the reciprocal strategy The children like each other.

Pay special attention to parts of a strategy that appear to be optional. In such cases you should list two strategies, one with and one without the "optional" element.

For example, Javanese has two reflexive constructions, awak+pronoun+dewe and awak+pronoun. It would be incorrect to treat them as a single construction in which dewe is optional: on close inspection the two forms turn out to have very different properties. Hence, any "optional" elements in your language should be studied under the assumption that we are dealing with different strategies.

### 2.1 Coreference in a single clause

2.1.1 "Primary" reflexive strategy - Translate the following example to your language, and indicate the element (if any) that expresses the reflexive relationship. If the verb see is somehow unusual in your language, use a more typical transitive verb instead.

A1) John saw himself.

John	na	ehe
John	see	3SG-body
John saw himself.		

Comment 1: I would name this strategy the pronoun-*he* strategy or Strategy A. The element that expresses the reflexive relationship is the possessive NP made up of the pronominal possessor and the possessum *he* 'body'. The possessive pronoun is obligatory and is coreferential with the subject of the construction. Without it the construction is ungrammatical.

A1i) \*John na he  
 John na he  
 John see body  
 John saw body.

Comment 2: In Ga, the possessive pronoun takes the same form as the subject pronoun.

Comment 3: Here, and throughout the questionnaire, *he* is glossed 'body'. In some instances, though, it may be more appropriate to gloss it as 'self' as it refers to a more abstract sense of the self rather than to the physical being.

2.1.2 Is there another way, or are there other ways, to express coreference in.

No, there are no other ways to express coreference in A1.

2.1.3 Other verb types - Some languages use a special reflexive strategy with certain verbs, especially "commonly reflexive" verbs of grooming such as "wash", "shave", "bathe", "dress", etc.

Do any of the following (or any other verbs you can think of) involve a strategy that you have not listed already? If so, give an example now and label it with a new name (or letter).

- A2a) John washes himself.
- b) Mary cut herself. [accidentally]
- c) John is ashamed of himself.
- d) John destroyed himself.
- e) We hate ourselves.
- f) They praise themselves

Comment: The NULL OBJECT strategy (Strategy B) exists in Ga. But so far I can only think of one verb it applies to – *ju* ‘wash/bathe’.

A2a) John ju  
 John ju  
 John bathe  
 John bathed himself/John washed.

The pronoun-*he* strategy can also be used for A2a)

A2ai) John ju ehe  
 John ju e-he  
 John bathe 3SG-body  
 John bathed himself/washed himself.

Comment 4 – For A2e) and A2f) the pronoun-*he* strategy is modified to some extent to yield what I would name the “object pronoun + intensifier + pronoun-*he* strategy” or simply Strategy C. This strategy ensures that the reflexive meaning alone is obtained. This is because for A2e) and A2f) use of the pronoun-*he* strategy alone results in ambiguity between a reflexive and a reciprocal meaning.

A2e) wɔnyɛɔ wɔdiɛntɛ wɔhe  
 wɔ-nyɛ-ɔ wɔ-diɛntɛ wɔ-he  
 1PL-hate-HAB 1PL-INTENS 1PL-body  
 We hate ourselves.

Comment 5: The intensifier *diɛntɛ* is somewhat functionally akin to emphatic pronouns in English. In Ga, just as in English, it follows a full noun or pronoun.

A2ei) Midɛntɛɛ misumɔɔ yɛle  
 mi-diɛntɛ-e mi-sumɔɔ yɛle  
 1SG-INTENS-DEF 1SG-like.NEG yam  
 I, myself, do not like yams.

Comment 6: As mentioned earlier, the use of Strategy C is necessary to specify the reflexive meaning conveyed by the corresponding English sentence in A2e). Without it and with the use of only the pronoun-*he* strategy the sentence would be ambiguous between a reflexive and a reciprocal meaning. This is always the case when there is a plural subject.

A2eii) wɔnyɛɔ wɔhe  
 wɔ-nyɛ-ɔ wɔ-he  
 1PL-hate-HAB 1PL-body  
 We hate ourselves/We hate each other.

A2f) amɛtsɔtɛ amɛdiɛntɛ amɛhe  
 amɛ-tsɔtɛ amɛ-diɛntɛ amɛ-he  
 3PL-pinch 3PL-INTENS 3PL-body

They pinched themselves.

A2f) ametsotse amεhe  
amε-tsotse            amε-he  
3PL-pinch            3PL-body  
They pinched themselves/They pinched each other.

A2c) is expressed idiomatically and does not involve reflexivization.

A2c) John hiε egbo  
John    hiε        e-gbo  
John    face        PERF-die  
John is ashamed of himself. (Lit: John's face has died)

A2b) employs the pronoun-*he* strategy

A2b) Mεεle fo ehe  
Mεεle    fo            e-he  
Mary    cut            3SG-body  
Mary cut herself.

A2d) Does not involve reflexivization

2.1.4 Obliques and other argument types - In the preceding examples, the coindexed arguments were subject and object. Many languages use a different coreference strategy for oblique arguments. Does yours?

- A3a) John spoke to Mary.  
b) John spoke about himself. (subject/PP argument)  
c) John told Mary about himself. (same, with intervening NP)  
d) Bill told us about ourselves. (object/argument)  
e) Mary gave the children themselves. (ind.object/object)  
f) Mary saw a book behind her. (subject/locative)  
g) John bought the book for himself. (benefactive)

A3a) No reflexive reading in Ga

A3b) John wie ehe sane  
John    wie        e-he            sane  
John    speak    3SG-body        story  
John spoke about himself/John spoke about somebody else.

A3c) John gba Mεεle ehe sane  
John    gba        Mεεle    e-he            sane  
John    narrate    Mary    3SG-body        story  
John told Mary about himself/John told Mary about herself/John told Mary about somebody else.

Comment 6: Strategy A (pronoun-*he*) is used for A3b) and A3c), but here pronoun + *he* is itself the possessor in a possessive noun phrase. The possessum is *sane* 'story'. When pronoun + *he* occurs as the possessor it may result in ambiguity. *e* 'his/her' could refer to either John or Mary or somebody else. This can be disambiguated by using the object pronoun + intensifier strategy introduced earlier.

A3bi) John wie lediɛntse ehe sane  
John    wie        lε-diɛntse            e-he            sane

John speak 3SGOBJANI-INTENS 3SG-body story  
 John spoke about himself.

A3ci) John gba Meele ledientse ehe sane

John gba Meele le-dientse e-he sane  
 John narrate Mary 3SGOBJANI-INTENS 3SG-body story  
 John told Mary about himself.

A3d) Bill gba wə wəhe sane

Bill gba wə wə-he sane  
 Bill narrate 1PL 1PL-body story  
 Bill told us about ourselves.

A3e) & A3f) No reflexive reading in Ga

A3g) Strategy A

Comment 8: I cannot think of any obliques, partly because Ga has no prepositions or postpositions. Instead of prepositions or postpositions Ga has relational nouns, mostly body part nouns that occur as the possessum in a possessive NP and which indicate the location of an entity in relation to the possessor.

KS: Please give us some examples, that correspond to “the men told mary about each other/themselves”, “the men placed the bricks behind/near/in front of/next to themselves (i.e., to indicate that they owned them)”, and “The men brought dates for/to each other/themselves.” Please use plurals and tell me if the possibility of having reflexive/reciprocal ambiguity is the same throughout.

A) Hiie gba Meele amehe sane

hii-ε gba Meele ame-he sane  
 men-DEF narrate Mary 3PL-body story  
 The men told Mary about themselves.

Comment: A) cannot have reciprocal meaning. It is ambiguous. It could mean ai) “The men told Mary about themselves” where “themselves” refers to the men as one collective unit. Perhaps they were telling stories about their days as members of an army unit and each soldier is contributing to the narrative. Or it could mean aii) that each man individually told Mary some story about their own life, so that in the end Mary heard as many different stories as there are men.

It could also mean that b) the men collectively told Mary stories about another group of people, say, another army unit, with each man contributing to the one narrative.

If we want only the ai) and aii) meanings we would have to use strategy C.

B) Hiie gba Meele amedientse amehe sane

hii-ε gba Meele ame-dientse ame-he sane  
 men-DEF narrate Mary 3PL-INTENS 3PL-body story  
 The men told Mary about themselves.

It is difficult to come up with a simple sentence to mean “The men told Mary stories about each other” where each man tells a story about another man in the group. The best I can come up with are the following three sentences:

C) Mə fεε mə wie mə fεε mə he sane etsə Meele

Mə fεε mə wie mə fεε mə he sane e-tsə Meele  
 person all person talk person all person body story 3SG-show Mary  
 Everybody talked about his friend to Mary.

D) Mə fεε mə ye enaanyo he ηsheku ketsə Meele

mə fεε mə ye e-naanyo he ηsheku ke-tsə Meele  
 person all person eat 3PL-friend body gossip take-show Mary  
 Everybody gossiped about their friend to Mary.

E) Mə fεε mə gba enaanyo he sane ketsə Meele

mɔ	fɛɛ	mɔ	gba	e-naanyo	he	sane	ke-tsɔɔ	Mɛɛle
person	all	person	narrate	3SG-friend	body	story	take-show	Mary

Everyone told stories about his friend to Mary.

F) Hiie ke blɔksɛ ma amemasei  
 hii-ɛ                    ke            blɔks-ɛ                    ma            amɛ-masei  
 men-DEF                take        blocks-DEF                put            3PL-side  
 The men put the blocks next to them/themselves.

G) Hiie ke blɔksɛ ma amesɛɛ  
 hii-ɛ                    ke            blɔks-ɛ                    ma            amɛ-sɛɛ  
 men-DEF                take        blocks-DEF                put            3PL-back  
 The men put the blocks behind them/themselves.

H) Hiie ke blɔksɛ ma amɛhie  
 hii-ɛ                    ke            blɔks-ɛ                    ma            amɛ-hie  
 men-DEF                take        blocks-DEF                put            3PL-face  
 The men put the blocks in front of them.

Comment: F) to H) cannot have reciprocal meaning. They can each have two interpretations: either the men put the blocks next to/behind/in front of where they as a group were located OR they put the blocks next to/in front of/behind some other group of people.

In order to obtain a reciprocal meaning you will have to say something like I) or Ii):

I) Mɔ fɛɛ mɔ wole blɔks keyama enaanyo masei/hie/sɛɛ  
 mɔ        fɛɛ        mɔ        wo-le    blɔks    ke-ya-ma                    e-naanyo                    masei/hie/sɛɛ  
 person   all        person   carry-PL   blocks   take-go-put                    3SG-friend                    side/face/back  
 Everybody picked up blocks and placed them by their friend.

Ii) Nuɔ fɛɛ nuɔ wo blɔks keyama enaanyo masei/hie/sɛɛ  
 nuɔ        fɛɛ        nuɔ        wo        blɔks    ke-ya-ma                    e-naanyo                    masei/hie/sɛɛ  
 man      all        man      carry    blocks   take-go-put                    3SG-friend                    side/face/back  
 Every man picked up blocks and placed them by their friend.

J) Hiie hehei akutui amɛhamɔ amɛhe  
 hii-ɛ                    hɛ-hɛ-i                    akutui-i                    amɛ-ha-mɔ                    amɛ-he  
 men-DEF                buy-buy-DISTRIB    orange-PL                    3PL-give-PL                    3PL-body  
 The men bought oranges for each other/The men bought oranges for themselves.

Ji) Hiie hehei akutui amɛhamɔ amɛdiɛntse amɛhe  
 hii-ɛ                    hɛ-hɛ-i                    akutui-i                    amɛ-ha-mɔ                    amɛ-diɛntse                    amɛ-he  
 men-DEF                buy-buy-PL                    orange-PL                    3PL-give                    3PL-INTENS                    3PL-body  
 The men bought oranges for themselves.

Also consider things like experiencer-subject verbs, non-nominative subjects, etc., which have unusual argument structures in many languages. Some verb meanings you might try:

- A4a) Etta likes herself.
- b) Etta scares herself.
- c) Etta worries herself.

A4) No new strategy. Strategy A employed.

2.1.5 Person and number - Some languages use different strategies depending on person or number. For example, in Dutch, the special reflexive pronoun zich used with certain verbs is only used in the third person; first and second person coreference for these verbs is expressed with ordinary pronouns (pronouns that do not normally have to have an antecedent), which should therefore be considered a distinct local coreference strategy.

Consider the preceding sentences with first and second person subjects, and also with plurals. Also check for differences between full NPs, overt third person pronouns, and null subjects/objects (if your language allows them). Some of you may speak a language that distinguishes singulars, plurals and duals, and if so, please check for the dual reading. Do any of these allow the use of a strategy we have not yet seen? If so, name each new strategy and give an example here.

- A5a) I saw myself.  
 b) You cut yourself [accidentally].  
 c) We will wash ourselves.  
 d) You must help yourselves.

KS: Please translate these.

A5) No new strategy. Strategy A employed.

A5a) Mina mihe  
 mi-na mi-he  
 1SG-see 1SG-body  
 I saw myself.

b) Ofo ohe  
 o-fo o-he  
 2SG-cut 2SG-body  
 You cut yourself.

c) Wɔbaaju wɔhe  
 wɔ-baa-ju wɔ-he  
 1PL-FUT-bathe 1PL-body  
 We will wash ourselves. (absurd to have a group of people bathing each other but the reciprocal meaning is possible here)

d) Esa ni nyewa nyehe  
 e-sa ni nye-wa nye-he  
 3SG-fit that 2PL-help 2PL-body  
 You must help each other/ You must help yourselves.

2.1.6 Strategies for other clausemate environments - If there are any additional reflexive strategies known to you (from grammars, or from your linguistic knowledge), list them now. Name each new strategy with a short name or label, and give one example.

Take a few minutes to consider other variations on the sentence types which might involve a special strategy. Some possibilities:

- (a) Is there any strategy which is only possible with some special aspectual class of a verb? Some examples:

- A6a) Peter knows himself.  
 b) Peter (habitually) criticizes himself.  
 c) Peter is likely to praise himself.

KS: Please translate these.

A6) No new strategy.

A6a) Oko le ehe  
 Oko le e-he  
 Oko know 3SG-body  
 Oko knows himself.

b) Oko jεɔ ehe (daa)  
 Oko jε-ɔ e-he (daa)  
 Oko insult-HAB 3SG-body (everyday)  
 Oko insults himself (everyday).

- c) Miheo miyeo ake Oko baajie ledientse eyi  
 mi-he-o mi-ye-o ake Oko baa-jie le-dientse e-yi  
 1SG-buy-HAB 1SG-eat-HAB that Oko FUT-remove 3SGOBJ-INTENS 3SG-head  
 I believe that Oko will praise himself.

(b) Do quantificational constructions involve a separate strategy?

- A7a) Every boy looked at himself.  
 b) All the women described John to themselves.  
 c) Every teacher introduced himself to Bob.  
 d) Some children only help themselves.

A7a) Nuu fee nuu kwe ehe  
 nuu fee nuu kwe e-he  
 man all man look 3SG-body  
 Every man looked at himself.

b) Yeie fee kadi John ketsoo amedientse amehe  
 yei-e fee kadi John ke-tsoo ame-dientse ame-he  
 women-DEF all describe John take-show 3PL-INTENS 3PL-body  
 All the women described John to themselves

c) Tsoolo fee tsoolo ke ehe yatsoo Bob  
 tsoolo fee tsoolo ke e-he ya-tsoo Bob  
 teacher all teacher take 3SG-body go-show Bob  
 Every teacher introduced himself to Bob.

d) Gbekebiie ekomei waa ame kome too amehe  
 gbekebiie-ε ekomei wa-a ame kome too ame-he  
 children-DEF some help-HAB 3PL one only 3PL-body  
 Some children only help themselves.

KS: Please translate these.

A7) No new strategy.

(c) If your language has a system of grammaticized honorifics, do some types of honorific allow a strategy that has not been listed yet? The Yoruba example below allows several plural interpretations, as given below, but it can also mean "He (honorific) saw himself", although it is not otherwise singular.

A8) Wón rí ara won.  
 they see body them  
 "They saw themselves." or "They saw each other." or "They saw their bodies."

Comment 9: Ga has no honorifics.

(d) The above were all tensed main clauses. Experiment with placing both coreferring arguments in various types of subordinate clauses, as your language allows.

- A9a) Sol says that Alice loves herself.  
 b) Sol required that Alice praise herself.  
 c) Sol thought Alice should praise herself.  
 d) Sol asked Alice to praise herself.  
 e) Sol wants to praise himself.  
 f) Sol expects Alice to praise herself.  
 g) Sol heard Alice praising herself.

- A9a) Sol kɛɛ Alice sumɔɔ ehe  
 Sol kɛɛ Alice sumɔ-ɔ e-he  
 Sol say Alice love-HAB 3SG-boby  
 Sol says Alice loves herself.
- b) Sol fa Alice ake ejie ledieɲtse eyi  
 Sol fa Alice ake e-jie lɛ-dieɲtse e-yi  
 Sol command Alice that 3SG-remove 3SGOBJ-INTENS 3SG-hair  
 Sol commanded Alice to praise herself.
- c) Sol jweɲ ake esa ni Alice ajie ledieɲtse eyi  
 Sol jweɲ ake e-sa ni Alice a-jie lɛ-dieɲtse e-yi  
 Sol think that 2SG-fit that Alice SUBJ-remove 3SGOBJ-INTENS 3SG-hair  
 Sol thought that Alice should praise herself.

d) If the verb *bi* ‘ask’ is used the sentence will have to include a direct question quote. Literally: *Sol asked Alice, “Will you praise yourself?”* OR *Sol asked Alice whether she could praise herself*”. d) is best translated with *kɛɛ* ‘tell’

- d) Sol kɛɛ Alice ake ejie ledieɲtse eyi  
 Sol kɛɛ Alice ake é-jie lɛ-dieɲtse e-yi  
 Sol tell Alice that 3SGSUBJ-remove 3SGOBJ-INTENS 3SG-hair  
 Sol told Alice that she should praise herself.

- e) Sol ηtao ni ejie ledieɲtse eyi  
 Sol η-tao ni e-jie lɛ-dieɲtse e-yi  
 Sol PROG-want that 3SG-remove 3SGOBJ-INTENS 3SG-hair  
 Sol wants to praise himself.

f) Cannot think of a word meaning “expect”. The closest translation will be e) directly above

- g) Sol nu ni Alice ηjie ledieɲtse eyi  
 Sol nu ni Alice η-jie lɛ-dieɲtse e-yi  
 Sol hear that Alice PROG-remove 3SGOBJ-INTENS 3SG-hair  
 Sol heard Alice praising herself.

KS: Please translate these anyway, even though it says not to bother. We have changed that instruction in the more recent version of the questionnaire.

A9) No new strategy.

## 2.2 Ordinary (potentially independent) pronouns

2.2.1 First, show that the pronouns can be independent by using them in a sentence where they do not have an antecedent. In the paradigms below, for example, the first sentence provides a context, and, for A10a,b the pronoun appears in the second sentence without an antecedent in that sentence, but referring to Abraham. The same test is made with first and second person pronouns in (A10c). If it is more convenient for you to construct your own sentences, feel free to do so.

- A10a) I spoke with Abraham yesterday. He saw Lela.  
 b) Where is Abraham? I saw him in the market.  
 c) We saw you. Did you see me/us?

A10a) Mike Oko wie nye. Ena Aku  
 Mi-ke Oko wie nye. E-na Aku OK  
 1SG-take Oko talk yesterday 3SG-see Aku  
 I spoke with Oko yesterday. He saw Aku.

A10b) Nɛgbɛ Oko yɔɔ? Mina lɛ yɛ jara-a nɔ  
 Nɛgbɛ Oko yɔɔ? Mi-na lɛ yɛ jara-a nɔ OK  
 where Oko be.at.HAB 1SG-see him at market-DEF on  
 Where is Oko? I saw him at the market.

A10c) Wɔna bo. Ona wɔ lo?  
 Wɔ-na bo. o-na wɔ lo OK  
 1PL-see 2SGOBJ 2SG-see 1PL QP  
 We saw you. Did you see us?

Comment 10: Ga has no agreement markers. It is a writing convention to write the subject pronominal and the following verb as one word.

KS: Do you mean by this that the pronoun is pronounced as a separate word or that it is not pronounced at all? What is the evidence that it is a separate word? Is it possible to insert anything between the subject pronoun and the verb, an adverb, for example?

AA: Sorry this wasn't clear. The pronoun is always pronounced. When the subject of the sentence consists of only a pronoun then this pronoun must immediately be followed by a verb (plus the verb's prefixes if any). Adverbs cannot intervene. Some determiners can intervene but when they do the pronoun is immediately repeated and followed directly by the verb.

Example: Wɔtee shia  
 wɔ-tee shia  
 1PL-go home  
 We went home.

Wɔ fɛɛ wɔtee shia  
 Wɔ fɛɛ wɔ-tee shia  
 1PL all 1PL-go home  
 We all went home.

\*Wɔ fɛɛ tee shia  
 Wɔ fɛɛ tee shia  
 1PL all go home  
 We all went home.

Of course when the pronoun is a possessor in a larger NP, it will be immediately followed by the possessed noun (and the noun's modifiers if any).

Wɔnibii fɛɛfɛjie fɛɛ laaje  
 wɔ-nibii fɛɛfɛ-ji-e fɛɛ laaje  
 1PL-things beautiful-PL-DEF all get.lost  
 All our beautiful things got lost.

2.2.2 If your language has more than one type of pronouns (e.g., null, clitic and non-clitic pronouns, strong, or stressable pronouns, etc.), list each type with examples.

### Pronouns in Ga

	Subject	Object	Possessive
1SG	mi	mi	mi
2SG	o	bo	o
3SG animate	e	le	e
3SG inanimate	e	∅/le	e
1PL	wɔ	wɔ	wɔ
2PL	nye	nye	nye
3PLanimate	ame	ame	ame
3PL inanimate	ame	∅/ame	ame

**Comment 10: Possessive pronouns take the same form as subject pronouns. Ga has no indirect objects and hence no indirect object pronouns.**

2.2.3 Null arguments - If your language allows argument drop (null pronouns, or pro-drop) as a pronominalization strategy in simple (single clause) sentences, then name it here as an additional pronominalization option. This kind of argument drop does not have to be interpreted as reflexive (as in the case of English John washed), but rather it is the sort of argument drop that could be used where there is not necessarily an antecedent in the sentence, but the interpretation is like that of an independent pronoun. Provide an examples for each grammatical function that can be dropped. In Japanese, for example, null arguments are possible for both subject and object arguments, but none of the examples in (A10e-f) are possible in English. If your language allows the pronouns to drop for any of these grammatical functions (subject, object, prepositional object), but the range of pronominal interpretations is limited, please comment. (If agreement plays a role with respect to when a pronoun can be missing, please say so, even though your answer to this may overlap with your answer to 2.2.2.)

A10d) Ate fish. (meaning *he/she/they/it/we/you/I ate fish*)

e) Hal hit (meaning *Hal hit him/her/them/it/us/you/me*)

f) Hal talked to (meaning *Hal talked to him/her/them/it/us/you/me*)

If your language does not allow null arguments, then just translate these sentences, star them, and move on.

A10di) Mina  
Mi-na  
1SG-see  
I saw. (meaning I saw it e.g. car)

A10dii) \*Mina le  
Mi-na le  
1SG-see 3SGOBJANI  
I saw it. (i.e. a car)

A10d) \*ye loo  
ye loo  
eat fish  
Ate fish.

A10e) \*Oko yi  
Oko yi  
Oko hit  
Oko hit.

A10f) \*Oko kewie

Oko ke-wie  
Oko take-speak  
Oko talked to. (meaning Oko talked to him/her/me/us/you/it/them/)

Comment 12: A10f) is acceptable in the context where Oko needed some object in order to aid him talk, like a microphone. In this instance the sentence would be translated “Oko talked with it” or “Oko used it to talk”. Since ‘microphone’ is inanimate its object pronoun is null. In the context of talking A10f) cannot be grammatical even if Oko were talking to the wall, since talking is by definition an ability reserved for only animate entities (normally humans but also animals in stories).

Comment 13: Null pronouns are used only for third person inanimate objects.

KS: Tell me if this summary is accurate: “There is no pro-drop of animate subjects in Ga, either in subject position or in object position

YES, i.e. agree

but the pronoun for inanimate things is null

Only for inanimate objects in certain constructions though, not inanimate subjects. Inanimate subject pronouns are always realised.

Thus pronouns corresponding to inanimates have no phonology wherever they would occur

NO, i.e disagree, they are realized for subjects and in some constructions for object as well.

but there is no distinction between grammatical functions that determines when a pronoun can be dropped.

I haven’t yet figured out all the constructions in which the inanimate object pronoun is obligatorily dropped. For now, it can be said that they are obligatorily dropped in serial verb constructions.

Example (SVC): Oko ke ma shikpɔŋ  
Oko ke ma shikpɔŋ  
Oko take put ground  
Oko put (it e.g. the chair) on the ground.

\*Oko ke le ma shikpɔŋ  
Oko ke le ma shikpɔŋ  
Oko take 3SGOBJ put ground  
Oko put it (e.g. the chair) on the ground.

It appears also that it CANNOT be dropped in imperatives.

Sha le ojogbaŋŋ  
sha le ojogbaŋŋ  
scrub 3SGOBJ well  
Scrub it (e.g. pan) well.

\*Sha ojogbaŋŋ  
sha ojogbaŋŋ  
scrub well  
Scrub (it e.g. pan) well.

If this is correct, could we correctly add the possessive pronoun to this generalization?

I’ve added a third column to the table above for possessive pronouns.

#### 2.2.4 The use of otherwise independent pronouns for clausemate anaphora

Even if your language has a special strategy for local anaphora, as English does (e.g., the use of pronoun-*self*), we still need to

know whether or not a simple pronoun, a pronoun that could be used in contexts like those in (A10a-c), could also be used to form a reflexive reading.

- A10g) Ali praised him.
- h) Ali liked him.
- i) Ali saw him
- j) Ali talked to him
- k) Ali sent a book to him.
- l) Ali helped him
- m) Ali surprised him
- n) Ali bought a book for him
- o) Ali read a book about him
- p) Ali found a book near him

A10h)    Oko sumɔɔ le  
          Oko<sub>i</sub>    sumɔ-ɔ                    lɛ<sub>\*ij</sub>  
          Oko    like-HAB                3SGOBJANI  
          Oko likes him/her.

A10i)    Oko na le  
          Oko<sub>i</sub>    na                    lɛ<sub>\*ij</sub>  
          Oko    see                 3SGOBJANI  
          Oko saw him/her.

A10j)    Oko ke le wie  
          Oko<sub>i</sub>    ke                lɛ<sub>\*ij</sub>                    wie  
          Oko    take            3SGOBJANI            talk  
          Oko talked to him/her.

A10k)    Oko maje le wolo  
          Oko<sub>i</sub>    maje            lɛ<sub>\*ij</sub>                    wolo  
          Oko    send            3SGOBJANI            book  
          Oko sent him/her a book.

A10l)    Oko wa le  
          Oko<sub>i</sub>    wa                    lɛ<sub>\*ij</sub>  
          Oko    help             3SGOBJANI  
          Oko helped him/her.

A10n)    Oko he wolo eha le  
          Oko<sub>i</sub>    he            wolo    e-ha                    lɛ<sub>\*ij</sub>  
          Oko    buy            book    3SG-give                3SGOBJANI  
          Oko bought a book for him/her.

A10o)    Oko kane wolo ko ni kɔɔ ehe  
          Oko<sub>i</sub>    kane        wolo    ko        ni        kɔ-ɔ                    e<sub>ij</sub>-he  
          Oko    read        book    INDEF REL    concern-HAB        3SG-body  
          Oko read a book about him/her. OR Oko read a book concerning him/her.

A10p)    Oko na wolo ko ka emasei

Okoi na wolo ko ka eij-masei  
 Oko find book INDEF lie 3SG-side  
 Oko found a book near him/Oko found a book lying by his/her side.

A10pi) Oko na wolo ko ka lediejtse emasei  
 Okoi na wolo ko ka leij-masei eij-masei  
 Oko find book INDEF lie 3SGOBJANI-INTENS 3SG-side  
 Okoi found a book near himi/Oko found a book lying by hisi side.

### 2.3 Reciprocal Readings

2.3.1 If you have already listed a reflexive strategy that can also have reciprocal meaning, provide an example here with a reciprocal translation.

2.3.1 Oko ke Aku sumo amehe  
 Oko ke Aku sumo ame-he  
 Oko and Aku like-HAB 3PL-body  
 Oko and Aku like each other.

2.3.2 As a means of assessing what sorts of reciprocal strategies your language contains, consider these typical sorts of reciprocal sentences in English.

- A11a) The women see each other.
- b) The boys washed each other.
- c) The men combed each other's hair.
- d) They argued with each other.
- e) The boys kicked each other.
- f) They hate each other.

A11g) Amehbe  
 Ameh-be  
 3PL-PROG-quarrel  
 They are quarrelling. (meaning they are quarrelling with each other)

A11a) Yeiε na amehe  
 Yei-ε na ame-he  
 women-DEF see 3PL-body  
 The women saw each other/The women saw themselves.

A11f) Ameh nyeh amehe  
 Ameh-nyeh ame-he  
 3PL-hate-HAB 3PL-body  
 They hate each other/They hate themselves.

Comment 14: A11g) gives an example of the argument drop strategy, which is limited to only a few verbs. Otherwise the main strategy for reciprocals is the same as the main strategy for reflexives i.e Strategy A, except that for reciprocals the pronoun is always a plural one.

KS: You note that the emphatic strategy disambiguates between reflexive and reciprocal interpretations, but you do not mention any strategy that disambiguates to insure a reciprocal strategy. Is there one? In French, for example, where *se* with a plural subject is ambiguous between reflexive and reciprocal, it is possible to add *l'un l'autre* ('the one the other').

No, there isn't.

2.3.3 Oblique arguments - Continue looking for new reciprocal strategies by translating sentences like those in (A12), which involve reciprocals embedded in prepositional phrases. If your language has prepositions and these examples do not translate as having reciprocals embedded in prepositional phrases, then please provide examples from your language that do.

- A12a) The men introduced Bill to each other.  
 b) The travelers spoke to each other.  
 c) The priests heard stories about each other.  
 d) They left presents in front of each other.

**Comment 15: Ga has no prepositions or postpositions (see comment 8).**

**KS: Please translate these sentences as naturally as possible so we can see what strategy is employed to get these meanings.**

A12a) Hiiε jie Bill shishi etsɔɔ amεfεε  
 Hii-ε jie Bill shishi e-tsɔɔ amε-fεε  
 men-DEF remove Bill bottom 3SG-show 3PL-all  
 The men introduced Bill to everybody.

A12a) was very difficult for me to translate. I asked two other native speakers and the above sentence is what they agreed was the best translation.

b) Gbεfaloie gba sane  
 gbεfa-lɔ-i-ε gba sane  
 traveler-AG-PL-DEF narrate story  
 The travelers chatted.

c) Osɔfoie nu saji ni mei ewie kεkɔ amenanemei osɔfoi ahe  
 osɔfo-i-ε nu sa-ji ni mei e-wie ke-kɔ amε-nane-mei  
 preist-PL-DEF hear story-PL which people PERF-speak take-pick 3PL-friend-PL  
 osɔfo-i a-he  
 priest-PL PL-body  
 The priests heard stories that people had told concerning their fellow priests.

d) Mɔfεεmɔ ke nikee yama enaanyo hie  
 mɔ-fεε-mɔ ke nikee ya-ma e-naanyo hie  
 person-all-person take gift go-put 3SG-friend face  
 Everybody put a gift in front of his friend. (“friend” here is used in a general sense to mean “another person” or “fellow human being”)

2.3.4 Other persons and numbers, etc. If another, so-far unknown strategy is used in some persons or numbers, or special aspectual classes etc., name it here.

- A13a) We saw each other.  
 b) You(pl.) must help each other.  
 c) We will wash ourselves.  
 d) They always criticize each other.  
 e) Many boys kicked each other.

**A13) No new strategy.**

2.3.5 Other clause types, and other strategies: Briefly consider various types of reciprocal embedded clauses; if a new coreference strategy can be used with some of them, name it here. Also consider if there may be a reciprocal strategy not identified by the preceding questions. Use the following sentences as models, but if there is nothing new to be found this way, do not bother to translate them and move on.

- A14a) Sol says that the girls love each other.  
 b) Sol required that the girls praise each other.  
 c) Sol thought the girls should praise each other.  
 d) Sol asked the girls to praise each other.  
 e) The girls want to praise each other.  
 f) Sol expects the girls to praise each other.  
 g) Sol heard the girls praising each other.

KS: In spite of the instruction, I think it would be useful to have translations of these sentences (they will form useful contrasts for a later paradigm), so please translate them.

A14) No new strategy.

A9a) Sol kɛɛ gbekeyeiɛ sumɔ amɛhe  
 Sol kɛɛ gbekeyei-ɛ sumɔ-ɔ amɛ-he  
 Sol say girls-DEF love-HAB 3PL-body  
 Sol says the girls love each other.

Comment: A9a) above is ambiguous between a reciprocal and reflexive meaning.

b) Sol fa gbekeyeiɛ ake amɛjie amɛnanɛmɛiɛ ayi  
 Sol fa gbekeyei-ɛ ake amɛ-jjie amɛ-nanɛ-mɛi-ɛ a-yi  
 Sol command girls-DEF that 3PL-remove 3PL-friend-PL-DEF PL-hair  
 Sol commanded the girls to praise their fellow friends.

c) Sol jwɛɲ ake esa ni gbekeyeiɛ ajie amɛnanɛmɛiɛ ayi  
 Sol jwɛɲ ake e-sa ni gbekeyei-ɛ a-jjie amɛ-nanɛ-mɛi-ɛ a-yi  
 Sol think that 3SG-fit that girls-DEF SUBJ-remove 3PL-friend-PL-DEF PL-hair  
 Sol thought that the girls should praise their fellow friends.

d) Sol kɛɛ gbekeyeiɛ ake amɛjie amɛnanɛmɛi ayi  
 Sol kɛɛ gbekeyei-ɛ ake amɛ-jjie amɛ-nanɛ-mɛi-ɛ a-yi  
 Sol tell girls-DEF that 3PLSUBJ-remove 3PL-friend-PL-DEF PL-hair  
 Sol told the girls that they should praise their fellow friends.

e) Gbekeyeiɛ ŋtao ni amɛjie amɛnanɛmɛiɛ ayi  
 gbekeyei-ɛ ŋ-tao ni amɛ-jjie amɛ-nanɛ-mɛi-ɛ a-yi  
 girls-DEF PROG-want that 3PLSUBJ-remove 3PL-friend-PL-DEF PL-hair  
 The girls want to praise their fellow friends.

f) Cannot think of a word meaning “expect”. The closest translation will be e) directly above

g) Sol nu ni gbekeyeiɛ ŋjie amɛnanɛmɛiɛ ayi  
 Sol nu ni gbekeyei-ɛ ŋ-jjie amɛ-nanɛ-mɛi-ɛ a-yi  
 Sol hear that girls-DEF PROG-remove 3PL-friend-PL-DEF PL-hair  
 Sol heard the girls praising their fellow friends.

## 2.4 Other types of local coreference

2.4.1 Possessives, alienable and inalienable - Please translate these sentences and provide the best gloss that you can. Is one of the strategies described above used?

A15a) Paul lost his shoes.

- b) Paul raised his hand. (e.g., in class)
- c) Paul cut his hand. (e.g., accidentally)
- d) Paul examined his hand.
- e) Paul twisted his ankle (or 'stubbed his toe')

A15a) Oko laajeeshuu  
 Oko laaje e-shuu  
 Oko lost 3SG-shoes  
 Oko lost his shoes.

A15b) Oko wo enine nɔ  
 Oko wo e-nine nɔ  
 Oko lift 3SG-hand top  
 Oko raised his hand.

A15c) Oko fo enine  
 Oko fo e-nine  
 Oko cut 3SG-hand  
 Oko cut his hand.

A15d) Oko kwe enine  
 Oko kwe e-nine  
 Oko look 3SG-hand  
 Oko looked at his hand i.e. examined his hand.

A15) Oko pila enane wao  
 Oko pila e-nane wao  
 Oko hurt 3SG-foot finger  
 Oko hurt his toe.

Comment 16: No new strategy is used in 2.4.1.

2.4.2 Reflexives and reciprocals in nominals - Some languages use a different affix or form to establish a reflexive relationship inside of a nominal. Identify any strategies that can apply to nouns rather than verbs. (Other possibilities: self-destruction, self-help, etc.)

A16) Andrew's self-confidence annoyed Mary.

A17a) Andrew's introduction of himself impressed the teacher.

- b) Andrew's evaluation of himself was too critical.
- c) Their instructions to each other were not clear.
- d) Their evaluations of each other were too generous.

A16ai) Andrew hepupumɔ wo Meele mli la  
 Andrew he-pupu-mɔ-ɔ wo Meele mli la  
 Andrew body-arrogant-NOM-DEF put Mary inside fire  
 Andrew's arrogance annoyed Mary.

A16aii) Andrew henilee gbaa enaa  
 Andrew he-nilee gbaa e-naa  
 Andrew body-knowledge bother 3SG-mouth  
 Andrew's conscience bothers him/Andrew has a guilty conscience.

Comment 17: *he* in A16ai) and A16aii) may be more appropriately translated as 'self'.

KS: How productive is this use of *he* as a compound forming a reflexive reading? Is the meaning predictable or is it always a bit of an idiom?

2.4.3 Something we haven't thought of? - Please bring to our attention any other sort of local coconstrual between arguments of a predicate that you think is relevant.

2.4.4 It would be useful to us if you could provide a list of the different strategies so we are both clear as to which ones you distinguish. This you may revise on the basis of new ones you come across in filling out the form, if there are any.

## List of Strategies

- Strategy A/ pronoun-*he* strategy for reflexives/reciprocals  
for both reciprocal and reflexive reading only  
when pronoun is plural
- Strategy B/ argument drop strategy/ null object strategy for both reflexives and reciprocals
- Strategy C/ object pronoun + intensifier + pronoun-*he* strategy for reflexives only
- Simple pronoun – Usually restricted to non-coargument antecedents. Not reciprocal (confirm?). Yes

### Part 3 General details about the strategies

#### 3.1 Marking

##### 3.1.1

##### Part 3

#### Strategy A (pronoun-*he* strategy)

##### 3.1 Marking

Strategy A – This strategy involves a special nominal which appears where an NP object would

Strategy B – This strategy involves dropping an argument

Strategy C – This strategy also involves a special nominal in object position preceded by an object pronoun and intensifier.

##### 3.2.1 Productivity

Strategy A – This strategy is extremely productive. I cannot think of a single transitive verb for which it cannot be used.

Strategy B – unproductive. Only used for *ju* ‘bathe’.

Strategy C – extremely productive

##### 3.2.2 *Is the use of this strategy lexically restricted to certain verb classes, or is it unrestricted (applies across all verb classes)?*

Strategy A – has no exceptions

Strategy B – very restricted. Can only be used with one verb

Strategy C – has no exceptions

##### 3.3.1 *How marked or natural is this strategy?*

All the strategies are unmarked. They are completely natural.

##### 3.3.2 *Is special intonation or emphasis necessary?*

No, special intonation or emphasis is not required for any of the strategies.

##### 3.3.3 *Is a particular discourse context (e.g., contradicting) necessary?*

No, no special discourse context necessary for Strategy A and B. Strategy C, however is often used when the action denoted by the verb is one that normally affects another entity, rather than the agent. This strategy therefore is used by the speaker to signal that the agent is carrying out an action on himself rather than on another entity, which would be the normal case.

It is also used for disambiguation when the subject is plural. It imparts only a reflexive interpretation on the sentence.

##### 3.4.1 *Does the reflexive element, in its entirety, have a stateable lexical translation?*

Yes, it is translated as ‘my/your/his/her body/self’. The forms translated as ‘our/your(pl)/their bodies/selves’ have both reflexive and reciprocal meaning.

##### 3.4.2 *If the term used as a reflexive or reciprocal can be used for a non-reflexive/non-reciprocal meaning, is it an ordinary noun that can be possessed by other pronouns?*

Yes, *he* 'body/self' is an ordinary noun and can be possessed by any NP, even inanimate ones. The way it is used suggests its meaning has been bleached, it does not usually refer to the physical being (the preferred term for that being *gbomɔ tso*, literally 'human being tree/stick'). As mentioned before the word now has a more abstract meaning such as 'outer covering' or when pertaining to humans 'a sense of self'. Examples:

- 3.4.2 i) Ohe ye fɛo  
 o-he ye fɛo  
 2SG-body be beauty  
 You are beautiful.
- ii) Gbeeɛ he ŋkpokpo  
 gbee-ɛ he ŋ-kpokpo  
 dog-DEF body PROG-shake  
 The dog is shivering.
- iii) Ataleɛ he ewo muji  
 atale-ɛ he e-wo muji  
 dress-DEF body 3SG-put dirt  
 The dress is dirty.
- iv) Oko ŋfɔ enibii ahe  
 Oko ŋ-fɔ e-nibii a-he  
 Oko PROG-was 3SG-things 3PL-body  
 Oko is washing his things/Oko is doing his laundry.
- v) Ehe nyajeɔ le  
 e<sub>i</sub>-he nyaje-ɔ le<sub>i</sub>  
 3SG-body disgust-HAB her/him  
 S/he is easily disgusted.
- vi) \*Ehe nyajeɔ ehe  
 e-he nyaje-ɔ e-he  
 3SG-body disgust-HAB 3SG-body  
 S/he is easily disgusted.
- vii) Ehe ye mlila  
 e-he ye mlila  
 3SG-body be anger  
 S/he is irritating, annoying.

Comment 17: As you can see from the above examples *he* must always occur as the possessum in a possessive NP, even when it does not convey reflexive meaning. *he* also occurs as a complement in what are commonly called "inherent complement verbs (ICVs)". These are verbs which consist of the verb and an NP complement which is obligatory. An example is *fɔ he* 'wash/clean'. See 3.4.2 iv) above. In order to convey the meaning of 'wash' these two words must always be used together. *fɔ* when used by itself means 'give birth'. Even in ICVs *he* must occur in a possessive NP. As example vi) above shows. KS: I am not sure what the contrast between (v) and (vi) shows. Why is *ehe* in (vi) bad if it is a complement? It would appear that POSS.PRN-BODY acts as a pronoun in v., but it does not induce a principle B effect, yet (vi) is bad. Later on you note that Strategy A can act like a pronoun in subject position, but it does not seem to explain the difference between (v) and (vi). Any thoughts/clarifications?

I included vi) to show that POSS.PRN-BODY cannot at the same time be subject and object. While it may seem to make more sense (based on the fact that *ehe* in subject position acts like a pronoun) to have *ehe* as the object, this is not the case. As you pointed out v) is grammatical yet it violates Principle B. I guess a better contrast would have been viii) below which obeys Principle B but is ungrammatical.

- viii) \*Enyajeɔ ehe  
 e-nyaje-ɔ e-he  
 3SG-disgust 3SG-body  
 S/he is easily disgusted.

I must add that such constructions that violate Principle B are marked and only occur with a limited number of verbs. Other

examples are:

ix)	Ehe ηtiti le		
	e <sub>i</sub> -he	η-titi	le <sub>i</sub> / <sub>j</sub>
	3SG-body	PROG-itch	him/her
	S/he is itching.		

Probably the reason why v) and ix) do not trigger Principle B effects is that *ehe* in these constructions retains a more literal sense than when it is used reflexively.

3.4.3 If the reflexive element has clear syntactic and part-of-speech sub-structure (e.g., head and modifiers, determiners, possessives) show it here.

*he* must always be possessed. Its pronominal possessor must agree with the antecedent in terms of number and gender.

### 3.5 The agreement paradigm

#### Strategy A

3.5.1 Give the morphological paradigm of each reflexive strategy. Be sure to vary all features that could cause the form of the reflexive to vary, even if some feature is only relevant in combination with a single combination of other feature values (e.g., include gender even if it is only relevant in nominative uses of the reflexive).

mihe	'myself'	wøhe	'ourselves'
ohe	'yourself'	nyøhe	'yourselves'
ehe	'himself/herself'	amehe	'themselves'

Comment 18: *he* cannot be pluralized (\*wø-he-i: 1PL-body-PL). All the possessors are identical in form to subject pronominals. The reflexive only occurs in objective case, never subjective. If any of the reflexive forms above occur as a subject in a sentence then it is not being used reflexively, rather it is a simple genitive NP (as in examples 3.4.2 i) and vi)).

#### Strategy C

midieŋtse mihe	'myself'	wødieŋtse wøhe	'ourselves'
bodieŋtse ohe	'yourself'	nyedieŋtse nyøhe	'yourselves'
ledieŋtse ehe	'himself/herself'	amedieŋtse amehe	'themselves'

3.5.2 For each morphological feature, what determines its value? (For example, agreement with the antecedent, or agreement, in the case of possessives in some languages, with the possessed N.)

The pronominal possessor of *he* must agree with the antecedent in number and gender.

### 3.6 Interaction with verb morphology - Incompatibilities

#### Strategy A

3.6.1 Tense, Mood, Aspect

Tense, mood and aspect do not affect the manifestation of Strategy A or B or C.

B3a)	Gina juø ehe		
	Gina ju-ø	e-he	
	Gina bathe-HAB	3SG-body	
	Gina washes herself.		
b)	Gina eju ehe		
	Gina e-ju	e-he	
	Gina PERF-bathe	3SG-body	

Gina has washed herself.

- b) Gina ŋju ehe  
Gina ŋ-ju e-he  
Gina PROG-wash 3SG-body  
Gina is washing herself.
- c) Esa ni Gina aju ehe  
e-sa ni Gina a-ju e-he  
3SG-fit COMP Gina SJV-wash3SG-body  
Gina should wash herself.

#### Strategy B

- B3a) Gina juo  
Gina ju-o  
Gina bathe-HAB  
Gina washes herself.
- b) Gina eju  
Gina e-ju  
Gina PERF-bathe  
Gina has washed herself.

- b) Gina ŋju  
Gina ŋ-ju  
Gina PROG-wash  
Gina is washing herself.
- c) Esa ni Gina aju  
e-sa ni Gina a-ju  
3SG-fit COMP Gina SJV-wash  
Gina should wash herself.

#### Strategy C

- B3a) Gina juo ledieŋtse ehe  
Gina ju-o le-dieŋtse e-he  
Gina bathe-HAB 3SGOBJ-INTENS 3SG-body  
Gina washes herself.
- b) Gina eju ledieŋtse ehe  
Gina e-ju le-dieŋtse e-he  
Gina PERF-bathe 3SG-INTENS 3SG-body  
Gina has washed herself.
- b) Gina ŋju ledieŋtse ehe  
Gina ŋ-ju le-dieŋtse e-he  
Gina PROG-wash 3SGOBJ-INTENS 3SG-body  
Gina is washing herself.
- c) Esa ni Gina aju ledieŋtse ehe  
e-sa ni Gina a-ju le-dieŋtse e-he  
3SG-fit COMP Gina SJV-wash3SGOBJ-INTENS 3SG-body  
Gina should wash herself.

Comment 19: To save time and space I shall not translate sentences for strategy C. This is because Strategy C is possible wherever Strategy A is. Strategy C simply involves prefacing Strategy A with the object pronoun appropriate for the person and number of the coreferenced entity and the intensifier *diɛŋtsɛ*.

### 3.6.2 Grammatical Function (GF) changing

In Ga causativity is expressed periphrastically by the verb *ha* 'make (lit: give)'. Example:

- 3.6.2 a) 

Oko	ha	Ama	gbee	shi
Oko	make	Ama	fall	ground

 Oko made Ama fall down.

However, the causee cannot be the reflexive NP made up of pronoun + *he*.

- b) \*

Oko	ha	e-he	gbee	shi
Oko	make	3SG-body	fall	ground

 Oko made himself fall down.

or object pronoun + pronoun-he

- c) \*

Oko	ha	le-diɛŋtsɛ e-he	gbee	shi	
Oko	make	3SG-INTENS	3SG-body	fall	ground

 Oko made himself fall down.

Comment 20: Note that sentence b) above is ungrammatical for any meaning. So it cannot mean that Oko made someone else fall. This is possibly due to restrictions on long-distance coreference.

KS: Would 3.6.2b be good if you were to use a simple pronoun (i.e., without *he*)? Yes

- i) 

Oko	ha	egbee	shi
Oko	ha	e-gbee	shi
Oko	give	3SG-fall	ground

 Oko made him fall down.

3.6.3 If you are aware of operations or morphemes that cannot co-occur with this strategy, then list them here, providing an example and a brief statement of what the incompatible morphemes or constructions are.

There are no operations or morphemes I am aware of that any of the strategies are incompatible with.

### 3.7 Uses that are not quite coreference

Ga uses the pronoun-*he* strategy in ways that do not have a reflexive interpretation. It is usually used when some attribute is being assigned to an entity. In such cases it can occur as the subject in a predicate nominal construction:

- 3.7i) 

Ohe	yɛ	fɛo
o-he	yɛ	fɛo
2SG-body	be	beauty

 You are beautiful.
- ii) 

Ehe	yɛ	gbeyei
e-he	yɛ	gbeyei
3SG-body	be	fear

 She is wonderful/fearful.

It may also occur as the head in an NP containing an adjectival modifier. Adjectives in this construction type tend to be negative and so the construction is mainly utilized for insults:

- iii) Kwɛmɔ ehe mujimuji  
 kwe-mɔ e-he muji-muji  
 look-IMP 3SG-body dirty-dirty  
 Look at his dirty self!
- iv) Shi biɛ kɛ ohe gbeyeigbeyeie  
 shi biɛ kɛ o-he gbeyeigbeyeie-ɛ  
 leave here with 2SG-body ugly-ugly-DEF  
 Get out of here with your ugly self!

Comment 21: In 3.7iv) above *ohe* does not have a reflexive interpretation but it still has an anaphoric interpretation since the pronoun *o* has coreference with the implied but unrealized second person subject.

KS: I suspect this is more like concord agreement, but to say so would require some assumptions about copulas that are not directly relevant here.

Pronoun-*he* may also occur simply as a subject or object in a sentence, without any reflexive meaning.

- v) Ohe ewo muji  
 o-he e-wo muji  
 2SG-body 3SG-put dirt  
 You are dirty (appearance).
- vi) Ake mama ha ehe  
 a-ke mama ha e-he  
 3PL.UNSPEC-take cloth cover 3SG-body  
 S/he was covered with a piece of cloth/ 'They' covered him/her with a piece of cloth.

NOTE: These non-coreference uses of Strategy A are not applicable to Strategy C. Strategy C has no non-coreferent uses:

- 3.7ia) \*Bodientse ohe ye feo  
 bo-dientse o-he ye feo  
 you-INTENS 2SG-body be beauty  
 You are beautiful.
- iiia) \*Ledientse ehe ye gbeyeie  
 le-dientse e-he ye gbeyeie  
 3SGOBJ-INTENS 3SG-body be fear  
 She is wonderful/fearful.
- iiia) \*Kwemɔ ledientse ehe mujimuji  
 kwe-mɔ le-dientse e-he muji-muji  
 look-IMP 3SGOBJ-INTENS 3SG-body dirty-dirty  
 Look at his dirty self!
- iva) \*Shi biɛ kɛ bodientse ohe gbeyeigbeyeie  
 shi biɛ kɛ bo-dientse o-he gbeyeigbeyeie-ɛ  
 leave here with 2SG-INTENS 2SG-body ugly-ugly-DEF  
 Get out of here with your ugly self!
- via) \*Ake mama ha ledientse ehe  
 a-ke mama ha le-dientse e-he  
 3PL.UNSPEC-take cloth cover 3SGOBJ-INTENS 3SG-body  
 S/he was covered with a piece of cloth/ 'They' covered him/her with a piece of cloth.

3.7.1 Ga has some inherent complement verbs for which the obligatory complement is *he*. Examples are *fo he* 'wash/clean', *shwa he* 'regret', *ja he* 'rest', *su he* 'coil up'

3.7.1 i) Eshwa ehe  
 e-shwa e-he  
 3SG-regret 3SG-body  
 S/he regretted (his/her actions).

ii) Adole joo ehe  
 Adole joo e-he  
 Adole rest 3SG-body  
 Adole rested.

iii) Adole esu ehe ye saa mli  
 Adole e-su e-he ye saa mli  
 Adole PERF-coil 3SG-body be.located bed inside  
 Adole is coiled up in bed.

### 3.7.2 Emphatic or intensifier

B1ci) John kpe loo ledientse  
 John kpe loo le-dientse  
 John chew fish him-INTENS  
 John ate fish himself.

ii) John dientse kpe loo  
 John dientse kpe loo  
 John INTENS chew fish  
 John ate fish himself.

Comment 22: B1ci) and B1cii) will have the C) interpretation i.e. that John ate the fish all by himself, no one helped him.

di) John dientse-e ekpe loo  
 John dientse-e e-kpe loo  
 John INTENS-TOP 3SG-chew fish  
 John himself ate fish/Even John ate fish.

Comment 23: Bdi) will have the D) interpretation i.e. that contrary to expectation, John ate fish. John in Bdi) is topicalized.

### 3.7.3 Middle

None of the strategies are used for middle.

### 3.7.4 Distributive, sociative etc.

No such use for any of the strategies

3.7.5 Deictic use If the current strategy involves a nominal form (e.g., English himself) Can this form be used when the antecedent is physically present or otherwise prominent, but has not been mentioned (such that X does not refer to Bill or Mary)?

No, it cannot.

B5a) Oko e-naaa ehe  
 Oko<sub>i</sub> e-naaa ehe<sub>i/\*j</sub>-he  
 Oko PERF-see.NEG 3SG-body  
 Oko did not see himself.

b) Meele sumoo ehe lo  
 Meele<sub>i</sub> sumoo ehe<sub>i/\*j</sub>-he lo  
 Mary like-HAB 3SG-body QP

Does Mary like herself?

- c) \*Ehe tee skul nye  
e-he                    tee        skul        nye  
3SG-body            go.pst    school    yesterday  
Herself/Himself went to school yesterday.

Can this form be used to refer to one of the participants in the conversation who is not otherwise mentioned in that sentence?

No, it cannot.

- B6a) Bill jε ehe  
Bill<sub>i</sub>    jε        e<sub>i/\*j</sub>-he  
Bill    insult    3SG-body  
Bill insulted himself.

- b) \*Mεi pii sumɔɔ loo shi ehe sumɔ  
mei    pii        sumɔɔ    loo        shi        e-he                    sumɔ-ɔ  
people    many    like.NEG fish        but        3SG-body                like-HAB  
Many people do not like fish but he likes them.

Can the form in question be used in a sense like that of English generic one (which is not evenly acceptable for English speakers in non-subject environments). Or is there a meaning that means "arbitrary person".

No, none of the reflexive strategies is used in this way.

### 3.7.6 Focus

None of the strategies are used to mark focus

- B15) Namɔ (ni) okwaafoie na  
Namɔ    (ni)        okwaafo-i-ε        na  
who    FOC        farmer-PL-DEF    see  
Who did the farmers see?

Ame na le  
ame    na        le  
3PL    see        him  
They saw him.

Le (ni) ame na  
le        (ni)        ame        na  
him    FOC    3PL        see  
It is him they saw.

- B16) Okwaafoie enaaa Mary. Le (ni) ame na  
okwaafo-i-ε        e-naaa                    Meele.    le        (ni)        ame        na  
farmer-PL-DEF    PERF-see.NEG    Mary.    him        FOC        3PL        see  
The farmers did not see Mary. It is him they saw.

Comment 22: The focus particle *ni* is optional. I personally tend to leave it out more often than not. However when it is not realised its low tone remains and combines with the high tone of the preceding syllable to form a falling tone on that syllable.

### 3.8 Proxy readings

B8a) Oko kwe ehe ye ashwishwɛɛ mli  
 Oko<sub>i</sub> kwe e<sub>i</sub>-he ye ashwishwɛ-ɛ mli  
 Oko look 3SG-body be.at mirror-DEF inside  
 Oko looked at himself in the mirror.

aii) Oko kwe shiue ni ashɔ ni eje lɛ pɛpɛpɛɛ  
 Oko kwe shiu-ɛ ni a-shɔ ni e-je lɛ pɛpɛpɛ-ɛ  
 Oko look statue COMP 3PLUNSPEC COMP 3SG-resemble 3SGOBJ-DEF exactly-DEF  
 Oko looked at the statue that had been made to look exactly like him.

b) \*Oko kaneko ehe ye Fante mli  
 Oko kane-ko e-he ye Fante mli  
 Oko read-NEG 3SG-body be.at Fante inside  
 Oko hasn't read himself in Fante.

Comment 23: In B8b) I do not think *ehe* can stand for 'Oko's writings'. As it stands this sentence can only refer to a situation where Oko had writings scribbled all over his body in Fante (a language) and he had, at the time of the utterance, not read those writings. Even that scenario may produce an unacceptable sentence for many speakers.

B9a) \*Oko ju ehe ojogbanɲ, koni ekafite sue (*ehe*= some clay statue of Oko)  
 Oko ju e-he ojogbanɲ koni e-ka-fite su-ɛ  
 Oko bathed 3SG-body well so.that 3SG-NEG-ruin clay-DEF  
 Intended: Oko bathed himself well, so as not to damage the clay.

Comment 24: *ehe* in B9a) cannot refer to some moulded figure, it MUST refer to Oko. Even when it does refer to Oko the purpose clause referring to not ruining the clay makes the sentence very odd (though still grammatical) and therefore unacceptable. If you want to talk about Oko washing/bathing a statue of himself then the object of *ju he* should be *shiu* 'statue'

ai) Oko ju shiue ni ashɔ ni eje lɛ pɛpɛpɛɛ he ojogbanɲ...  
 Oko ju shiu-ɛ ni a-shɔ ni e-je lɛ pɛpɛpɛ-ɛ he ojogbanɲ..  
 Oko bathe statue-DEF REL 3PLIMPERS-mould so.that 3SG-resemble him exactly-DEF body carefully  
 Oko washed the statue that looks exactly like him carefully....

b) \*Oko ju ojogbanɲ koni ekafite sue (where Oko bathed some clay statue of himself)  
 Oko ju ojogbanɲ koni e-ka-fite su-ɛ  
 Oko bathed well so.that 3SG-NEG-ruin clay-DEF  
 Intended: Oko bathed himself well, so as not to damage the clay.

Comment 25: B9b) above can only mean that Oko bathed himself. This is the null object strategy. It can only have a reflexive interpretation.

c) \*Yooɛ saa ehe blɛoo koni ekafite sue (where the woman dressed up a statue of herself)  
 yoo-ɛ saa e-he blɛoo koni e-ka-fite su-ɛ  
 woman fix 3SG-body slowly so.that 3SG-NEG-ruin clay-DEF  
 Intended: The woman dressed herself carefully so as not to destroy the clay (where herself= the statue).

d) \* Yooɛ saa blɛoo koni ekafite sue (bad for any meaning)

yoo-ε saa blεoo koni e-ka-fite su-ε  
 woman fix slowly so.that 3SG-NEG-ruin clay-DEF  
 Intended: The woman dressed carefully so as not to destroy the clay

Comment 26: B9d) above is ungrammatical for any meaning because the verb for ‘get dressed’ is an ICV made up of *saa* ‘fix’ + *he* ‘body’. Without the complement *he* the verb does not mean to ‘get dressed’

e) \*Oko na ehe ye ple-ε mli (where Oko is looking at an actor playing him)  
 Oko na e-he ye ple-ε mli  
 Oko see 3SG-body be.at play-DEF inside  
 Intended: Oko saw himself in the play (where Oko sees the actor playing him)

B10a) \*Arama keε esumɔ ni mei akane le ye Fante mli. (where le = Arama’s writings)  
 Arama keε ee-sumɔ ni mei a-kane le ye Fante mli  
 Arama say 3SGPROG-like COMP people PL-read her be.at Fante inside  
 Arama says she wants people to read her in Fante.

b) \*Oko jweŋ ake ehe ye feo (where it is a statue of Oko that is handsome)  
 Oko jweŋ ake e-he ye feo  
 Oko think that 3SG-body be handsome  
 Oko thinks he is handsome.

B11) Like the examples above, proxy readings are not possible for these either.

### 3.9 Ellipsis

3.9 a) Oko sumɔ ehe fe Arama (more than he likes Arama)  
 Oko sumɔ-ɔ e-he fe Arama  
 Oko like-HAB 3SG-body surpass Arama  
 Oko likes himself more than Arama.

Comment 26: For 3.9a) only the reading i) is possible, where Oko likes himself more than he likes Arama.

KS: Please for a sentence like 3.9.a with a plural subject and then tell me whether or not this can have a reciprocal reading (e.g. they like each other more than they do Arama).

i) Oko ke Aku sumɔ amehe fe Arama (more than he likes Arama)  
 Oko ke Nii sumɔ-ɔ ame-he fe Arama  
 Oko and Nii like-HAB 3SG-body surpass Arama  
 Oko and Aku like each other more than Arama/Oko and Aku like themselves more than Arama.

The reciprocal meaning is possible, as is the reflexive.

## Part 4 – Exploration of syntactic domains

### 4.1 Clausemate coconstrual

#### 4.1.1 Verb class restrictions

4.1.1.1 Canonical transitives - Can this strategy be used with ordinary transitive verbs, such as the verb meaning "see"? Give some examples, including the following.

Yes, Strategy A and C can.

- C1a)    Oko na ehe  
           Oko     na        e-he  
           Oko     see     3SG-body  
           Oko saw himself.
- b)       Yeie kadi amehe  
           Yei-ε                kadi     ame-he  
           women-DEF        describe 3PL-body  
           The women described themselves.
- ci)       Nye buutubuutui nyehe  
           nye     buutu-buutu-i                nye-he  
           2PL     kick-kick-DISTRIB        2PL-body  
           You (more than two people) kicked each other.  
           \*You kicked yourselves.
- cii)       Nye buutu nyehe  
           nye     buutu    nye-he  
           2PL     kick     2PL-body  
           You (just two people) kicked each other.  
           ?You kicked yourselves.
- ciii)       Nye buutu nye-dieɲtse nyehe  
           nye     buutu    nye-dieɲtse        nye-he  
           2PL     kick     2PL-INTENS        2PL-body  
           You (two or more) kicked yourselves.
- civ)       \*Nye buutubuutui nyedieɲtse nyehe  
           nye     buutu-buutu-i                nye-dieɲtse        nye-he  
           2PL     kick-kick-DISTRIB        2PL-INTENS        2PL-body  
           You (more than two people) kicked yourselves.

Comment 27: The distributive suffix *-i* is used to indicate that an action was carried out by multiple agents individually on multiple patients. Therefore the agent of a verb that is marked DISTRIB must necessarily be plural. When the distributive is used the agents cannot be the same as the patients, hence the ungrammaticality of the reflexive interpretation for ci) and also civ). Normally a sentence of the form PRONOUN(PL) + VERB + PRONOUN-*he* will result in ambiguity between a reflexive and a reciprocal interpretation. However, for cii) the reflexive interpretation sounds odd to me, perhaps only because of the semantic oddity of kicking your own self. As ciii) shows the use of the intensifier *dieɲtse* disambiguates between reflexive and reciprocal and imparts a reflexive meaning alone to the utterance.

The distributive is used mainly for dynamic verbs or active verbs. Hence cv) below is ungrammatical because the verb *na* 'see' is stative or inactive.

- cv)       \*Nye nanai nyehe  
           nye     na-na-i                nye-he  
           2PL     see-see-DISTRIB        2PL-body  
           You saw each other.
- cvi)       Nye na nyehe  
           nye     na        nye-he

2PL see 2PL-body  
You saw each other/You saw yourselves.

- d) Aku jε ehe  
Aku jε e-he  
Aku insult 3SG-body  
Aku insulted herself.

Comment 27: Strategy C (object pronoun + INTENS + pronoun *he*) can be used with all canonical transitives (see C2e below) except those that occur in the distributive (See 4.1.1.1 C1civ) above). As mentioned earlier Strategy B (null object strategy) can only be used with the verb *ju* ‘bathe’.

- C1e) Oko na lɛdiɲtɛ ehe  
Oko na lɛ-diɲtɛ e-he  
Oko see 3SGOBJ-INTENS 3SG-body  
Oko saw himself (himself and nobody else).

#### 4.1.1.2 Commonly reflexive predicates

- C3a) Aku ju ehe  
Aku ju e-he  
Aku bathe 3SG-body  
Aku bathed herself.

- bi) Aku ku eyitswei  
Aku kũ e-yitswei  
Aku cut 3SG-yitswei  
Aku<sub>i</sub> cut her<sub>i</sub> hair.

- bii) \*Aku<sub>i</sub> ku e<sub>j</sub>he yitswei  
Aku<sub>i</sub> kũ e<sub>j</sub>-he yitswei  
Aku cut 3SG-body hair  
Aku<sub>i</sub> cut her<sub>j</sub> hair.

- biii) Aku<sub>i</sub> ku e<sub>j</sub>he yitswei  
Aku<sub>i</sub> kũ e<sub>j</sub>-he yitswei  
Aku cut 3SG-body hair  
Aku<sub>i</sub> cut her<sub>j</sub> hair.

Comment: Appropriate for the scenario where Aku cuts her dog’s hair. The possessor of *he* ‘body’ in this context must be an entity with all over body hair, such as a furry animal).

- c) Gbekeyoo-ε fo ehe  
gbekeyoo-ε fo e-he  
girl-DEF cut 3SG-body  
The girl cut herself.

Strategy C (object pronoun + INTENS + pronoun-*he*) can also be used with verbs of grooming etc.

C3e) Aku ju lɛdiɛntɛ ehe

Aku ju lɛ-diɛntɛ e-he  
Aku bathe 3SGOBJ-INTENS 3SG-body  
Aku bathed herself.

f) Aku ku lɛdiɛntɛ eyitswei

Aku kũ lɛ-diɛntɛ e-yitswei  
Aku cut 3SGOBJ-INTENS 3SG-yitswei  
Aku cut her own hair.

e) Aku<sub>i</sub> ku lɛdiɛntɛ e<sub>i</sub>he yitswei

Aku<sub>i</sub> kũ lɛ-diɛntɛ e<sub>i</sub>-he yitswei  
Aku cut 3SGOBJ-INTENS 3SG-body hair  
Aku<sub>i</sub> cut her<sub>i</sub> hair.

#### 4.1.1.3 Psychological predicates

C4ai) Oko nyɛɔ ehe

Oko nyɛ-ɔ e-he  
Oko hate-HAB 3SG-body  
Oko hates himself.

aii) Oko sheɔ ehe gbeyei

Oko she-ɔ e-he gbeyei  
Oko ?-HAB 3SG-body fear  
Oko fears himself.

**Comment 28:** The verb meaning ‘fear(v.)’ in Ga is the ICV *she gbeyei*. The first element in the ICV, *she*, has no meaning outside of this ICV, hence the absence of a gloss for it.

bi) Cannot be rendered with a reflexive

Oko hiɛ egbo  
Oko hiɛ e-gbo  
Oko face PERF-die  
Oko is ashamed (of himself).

bii) \*Oko hiɛ egbo ehe

Oko hiɛ e-gbo e-he  
Oko face PERF-die 3SG-body  
Oko is ashamed (of himself).

ci) Oko ŋhao yɛ nitsumɔɔ ni enaaaa he

Oko ŋ-hao yɛ nitsumɔɔ ni e-naaa-a he  
Oko PROG-worry be.located work-DEF REL 3SG-get.NEG-DEF body

Oko is worrying about the fact that he is not finding a job.

cii) \*Oko ηhao ye (ledieηtse) ehe

Oko ηhao ye (le-dieηtse) e-he  
Oko PROG-worry be.located (3SGOBJ-INTENS) 3SG-body  
Oko is worrying about himself.

d) Does not really have a Ga equivalent. Closest in meaning does not use a reflexive.

e) Oko gbaa ehe naa

Oko gba-a e-he naa  
Oko split-HAB 3SG-body mouth  
Oko bothers himself.

Comment 29: All the predicates for which the pronoun-*he* strategy (Strategy A) can be used can also be rendered with the object pronoun + intensifier + pronoun-*he* strategy (Strategy C) except where there is a distributive verb as in 4.1.1.1 C1). In the same vein, all the predicates which do not allow use of Strategy A also do not allow use of Strategy C.

4.1.1.4 Creation and destruction predicates

C5a) Cannot be rendered with a reflexive.

b) \*Tsoneie ma amehe

tsone-i-ε ma ame-he  
machine-PL-DEF build 3PL-body  
The machines built themselves.

c) \*Ataleε kpe ehe

atale-ε kpe e-he  
dress-DEF sew 3SG-body  
The dress sewed itself.

d) Gbomɔ adesa e-bɔɔɔ ehe

gbomɔ adesa e-bɔɔɔ e-he  
Human human 3SG-create.NEG 3SG-body  
Man did not create himself.

e) Oko gbe ehe

Oko gbe e-he  
Oko kill 3SG-body  
Oko killed himself.

Comment 30: Verbs of creation cannot have inanimate subjects, hence the unacceptability of C5b) and C5c).

KS: How would you render the meanings of a-c)?

5b) and 5c) are very difficult to translate because their semantic content is so odd. i) below may help:

i) Fɔfɔi ebɔɔɔ amehe, Nyɔηmɔ ni bɔ ame

fɔfɔi e-bɔɔɔ amɛ-he, Nyɔŋmɔ ni bɔ amɛ  
 flowers 3SG-create.NEG 3PL-body, God FOC create them  
 Flowers don't create themselves, God creates them.

5a) Yeie gbegbei amɛdiɛntse amɛhe  
 yei-ɛ gbe-gbe-i amɛ-diɛntse amɛ-he  
 women-DEF kill-kill-DISTRIB 3PL-INTENS 3PL-body  
 The women killed themselves.

#### 4.1.1.5 Verbs of representation

C6a) Does not involve a reflexive.

b) Aku wie eha ehe  
 Aku wie e-ha e-he  
 Aku speak 3SG-give 3SG-body  
 Aku spoke for herself.

#### 4.1.2 Argument position pairings

4.1.2.1 Subject-indirect object - The preceding questions asked mostly about subject-object coreference. Can this strategy be used to express coreference between a subject and an indirect object? Choose verbs that have an indirect object in your language.

**Comment 31: Ga does not have the grammatical relation of indirect object. In the following sentences pronoun-*he* is direct object**

C7a) Adoley ke nikeeɛ ha ehe  
 Adoley ke nikee-e ha e-he  
 Adoley take gift-DEF give 3SG-body  
 Adoley gave the gift to herself.

b) John ke shiaa tsɔɔ ehe  
 John ke shia-a tsɔɔ e-he  
 John take house-DEF show 3SG-body  
 John showed the house to himself.

C8a) Adoley ha ehe nikee  
 Adole ha e-he nikee  
 Adole give 3SG-body gift  
 Adoley gave herself a gift.

b) Oko ke ehe tsɔɔ gbekebiie  
 Oko ke e-he tsɔɔ gbekebiie-e  
 Oko take 3SG-body show children-DEF  
 Oko showed himself to the children.

bii) \*Oko tsɔɔ gbekebiie ehe

Oko    tsoo    gbekebii-e    e-he  
 Oko    show    children-DEF    3SG-body  
 Oko showed himself to the children.

Comment 32: In C8a) the theme NP *nikee* ‘gift’ cannot be definite. This makes the sentence unacceptable. The definite theme NP can only occur in an SVC as in C7a).

4.1.2.2 Oblique arguments - Give some examples with oblique arguments, in whatever forms your language allows. Choose verbs that take oblique arguments in your language and if your language has morphological case, look for arguments that are not in the normal case for objects (e.g., not in the Accusative). For example, in German, the verb *helfen* meaning “to help” takes an object that is casemarked Dative even though the objects of *hit* and *see* would be casemarked Accusative. If your language does not have overt Case, then focus on the indirect objects of ditransitive verbs (e.g., in English, *Alice* in *Dan gave Alice a book* is the indirect object of a transitive verb) and prepositional objects, but be sure to consider these sorts of argument types whether your language has casemarking or not.

C9d)    Aku eɲmala nibii ye ehe  
 Aku    e-ɲmala            nibii    ye        e-he  
 Aku    PERF-write        things   on        3SG-body  
 Aku has tattooed herself.

KS: Please try this with a plural subject and say whether or not the reciprocal reading is possible as it is elsewhere.

i)        Aku ke Oko eɲmalaɲmalai nibii ye amehe  
 Aku    ke        Oko    e-ɲmala-ɲmala-i            nibii    ye        ame-he  
 Aku    and        Oko    PERF-write-write-DISTRIB    things   on        3PL-body  
 Aku and Oko have tattooed themselves.

Comment 33: C9a) to e) are not rendered in Ga with obliques. The paucity of prepositions in Ga means there are very few obliques. The other Ga preposition - *ke* ‘with’ is used with instrumentals. It is however difficult to use the reflexive as an instrumental.

e)        \*Aku tsi mi ke ehe  
 Aku    tsi        mi        ke        e-he  
 Aku    push    me        with    3SG-body  
 Aku pushed me with herself.

4.1.2.3 Subject-adjunct - Provide some examples of coreference between a subject and an adjunct, e.g., a locative PP. If appropriate translations are not prepositional objects, try to construct appropriate examples.

C10a)    Aku na onufu ye esee  
 Aku<sub>i</sub>    na        onufu    ye        e<sub>ij</sub>-see  
 Aku    see        snake    at        3SG-back  
 Aku saw a snake behind her (Aku). (Could also be “Aku saw a snake behind sb else”)

b)        Aku fo ye saneε he  
 Aku    fo        ye        sane-ε            he  
 Aku    cry        at        matter-DEF        body  
 Aku cried because of the matter.

KS: What is *he* adding here?

I honestly don’t know. But it’s ungrammatical without it. It seems idiomatic to me. Here are some other examples:

- ii) Eejwɛŋ gbekebiie ahe  
 ee-jwɛŋ            gbekebiie-e            a-he  
 3SGPROG-think    children-DEF            3PL-body  
 S/he's thinking about the children
- iii) Eejwɛŋ kaaa he  
 ee-jwɛŋ            kaa-a            he  
 3SGPROG-think    test-DEF    3PL-body  
 S/he's thinking about the test.
- iv) Amɛŋple seiɛ he  
 amɛ-ŋ-ple            sei-ɛ            he  
 3PL-PROG-fight    chair-DEF            body  
 They are fighting for the chair.
- v) Aku ŋlete eniyeniie he  
 Aku    ŋ-lete            e-niyenii-e            he  
 Aku    PROG-be.sparing    3SG-food-DEF            body  
 Aku is being very sparing with her food.

4.1.2.4 Ditransitives and double complements- Can the strategy be used to indicate coreference between the two non-subject arguments of a verb?.

- C11a) Aku ke Oko tsɔɔ ehe  
 Aku    ke            Oko    tsɔɔ    e-he  
 Aku    take        Oko    show    3SG-body  
 Aku showed Oko to himself.
- aii) \*Aku tsɔɔ Oko ehe  
 Aku    tsɔɔ        Oko    e-he  
 Aku    show        Oko    3SG-body  
 Aku showed Oko to himself.
- b) Oko ke ehe tsɔɔ gbekebiie  
 Oko    ke            e-he            tsɔɔ            gbekebiie-e  
 Oko    take        3SG-body            show            children-DEF  
 Oko showed himself to the children.
- bii) \*Oko tsɔɔ gbekebiie ehe  
 Oko    tsɔɔ        gbekebiie-e            e-he  
 Oko    show        children-DEF            3SG-body  
 Oko showed himself to the children.
- ci) Oko ke ehe ha Aku  
 Oko    ke            e-he            ha            Aku  
 Oko    take        3SG-body give            Akua  
 Oko gave himself to Aku
- cii) \*Oko ha Aku ehe  
 Oko    ha            Aku    e-he  
 Oko    give        Aku    3SG-body  
 Oko gave Aku himself.

d) \*Oko ha ehe Aku  
 Oko ha e-he Aku  
 Oko give 3SG-body Aku  
 Oko gave Aku himself.

e) Does not involve a double complement

f) Aku ke gbekebiie tsootsɔɔ amehe  
 Aku ke gbekebiie-ε tsɔɔ-tsɔɔ ame-he  
 Aku take children-DEF show-show 3PL-body  
 Aku introduced the children to each other.

KS: Imagine a situation where someone leaves a basket full of kittens on his doorstep. He gives some of them away, but he gives the black puppy to himself. Presumably this would give a frame like C11ci, *Oko ke* the black puppy *ha e-he*. Please give the appropriate sentence with judgment.

i) Oko ke gbee bi diŋe ha ehe  
 Oko ke gbee bi diŋ-ε ha e-he  
 Oko take dog child black-DEF give 3SG-body  
 Oko gave himself the black puppy.

ii) Oko ha ehe gbee bi diŋe  
 Oko ha e-he gbee bi diŋ-ε  
 Oko give 3SG-body dog child black-DEF  
 Oko gave himself the black puppy.

4.1.2.5 Two internal arguments or adjuncts - Consider coreference between two arguments of adjunct NPs in the same clause, neither of which is a subject and neither of which is a direct object.

Ga has no such construction.

4.1.2.6 Clausemate noncoarguments

Possessives - Give examples based on the following sentences, and/or by constructing analogous examples from reflexive sentences from the previous sections. For each of (C13) and (C14), X = Nick.

C13a) Oko tswa emami  
 Oko<sub>i</sub> tswa e<sub>ij</sub>-mami  
 Oko call 3SG-mother  
 Oko called his mother

b) Oko shwa eyitwei  
 Oko<sub>i</sub> shwa e<sub>ij</sub>-yitswɛi  
 Oko comb 3SG-hair  
 Oko combed his hair.

c) Oko ke enitsumɔ onukpaa wie  
 Oko<sub>i</sub> ke e<sub>ij</sub>-nitsumɔ onukpa-a wie  
 Oko take 3SG-work elder-DEF talk  
 Oko spoke with his boss.

d) Oko ke ewolɔɛ fɔ okpɔɔɔ no  
 Oko<sub>i</sub> ke e<sub>ij</sub>-wolo-ε fɔ okpɔɔɔ no  
 Oko take 3SG-book-DEF put table-DEF top  
 Oko put his book on the table.

e) Maṅtsee ha Oko nikee ye eklowaa mli  
 maṅtse<sub>i</sub>-ε ha Oko<sub>j</sub> nikee ye e<sub>ij/k</sub>-klowa-a mli  
 king-DEF give Oko gift in 3SG-village-DEF inside  
 The king gave Oko a gift in his village.

f) Gbekebiie fɔ Oko hie  
 gbekebiie-ε fɔ Oko hie  
 children-DEF wash Oko face  
 The children washed Oko's face.

C14a) Oko papa sumɔ le  
 Oko<sub>i</sub> papa sumɔ-ɔ le<sub>ij/k</sub>  
 Oko father like-HAB 3SGOBJ  
 Oko's father likes him.

KS: Is this possible with Strategy A or C?

No, not possible with either.

i) Oko papa sumɔ ehe  
 [Oko<sub>i</sub> papa]<sub>j</sub> sumɔ-ɔ e<sub>j/\*i/\*k</sub>-he  
 Oko father like-HAB 3SG-body  
 Oko's father likes himself.

ii) Oko papa sumɔ ledientse ehe  
 [Oko<sub>i</sub> papa]<sub>j</sub> sumɔ-ɔ le-dientse e<sub>j/\*i/\*k</sub>-he  
 Oko father like-HAB 3SGONJ-INTENS 3SG-body  
 Oko's father likes himself.

b) Oko shihaaa gbee le shi  
 Oko<sub>i</sub> shihaa-a gbee le<sub>i</sub> shi  
 Oko impatience-DEF fall 3SGOBJ ground  
 Oko's impatience brought him down.

KS: Is this possible with Strategy A or C?

Not possible with Strategy A but possible with Strategy C

i) \*Oko shihaaa gbee ehe shi  
 Oko shihaa-DEF gbee e-he shi  
 Oko impatience fall 3SG-body ground  
 Oko's impatience brought him down.

ii) Oko shihaaa gbee ledientse shi  
 Oko<sub>i</sub> shihaa-a gbee le-dientse shi  
 Oko impatience-DEF fall 3SGOBJ-INTENS ground  
 Oko's impatience brought him down.

c) Oko mami hɔɔ eblee  
 [Oko<sub>i</sub> mami]<sub>j</sub> hɔɔ e<sub>ij</sub>-lɔle-ε  
 Oko mother sell 3SG-car-DEF  
 Oko's mother sold his car.

Please provide translations and judgments for the following examples where the plural pronoun is coconstrued with the boys or

the politicians.

X20a) Gbekebii hiiε na amediεntse amεhe mfoniri

gbekebii	hii-ε	na	ame-diεntse	ame-he	mfoniri-i
children	boys-DEF	see	3PL-INTENS	3PL-body	picture-PL

The boys saw pictures of themselves.

b) A similar construction does not exist for Ga. The Ga translation must involve a subordinate clause.

Aku gba gbekebii hiiε sane-ε ni kɔ amediεntse amε-he mfoniriε

Aku	gba	gbekebii	hii-ε	sane-ε	ni	kɔ	ame-diεntse	ame-he	mfoniri-ε
Aku	narrate	children	males-DEF	matter-DEF	that	concern-HAB	3PL-INTENS	3PL-body	picture-PL

Aku told the boys the story that concerns the pictures of them.

c) Amralofoiε to yiη ake amεbaaje amεhe

amralo-fo-i-ε	to	yiη	ake	amε-baa-jε-jε-i	ame-he
government-AG-PL-DEF	arrange	mind	that	3PL-FUT-insult-insult-DISTR	3PL-body

The politicians planned to attack/insult each other.

KS: Does Ga have infinitives? No

d) Ga does not have a constructional equivalent for this. Best translation:

Amralofoiε kwa tamɔ nɔ ni aaje amε shi amε nɔηη amεjεɔ amεhe

amralo-fo-i-ε	kwa	tamɔ	nɔ	ni	a-a-jε	ame	shi	ame	nɔηη
government-AG-PL-DEF	pretend	like	thing	REL	3PLIMPER-PROG-insult	3PL	but	3PL	certainly

amε-jε-ɔ amε-he  
3PL-insult-HAB 3PL-body

The politicians pretended (made it seem like) they were being insulted but it was actually they who were attacking themselves.

4.1.2.7 Demoted arguments - Refer back to the range of grammatical function-changing operations (such as passive, antipassive, applicative, possessor ascension, dative alternation) that you considered for section 3.6 (if you did that). For each one, construct some representative non-reflexive examples. Then apply each coreference strategy to various pairs of arguments and report their grammaticality status. It might be easier to go back to 3.6 to do what is asked there once you have done this section.

Causative non-reflexive

a) Aku ha Oko ye nii

Aku	ha	Oko	ye	nii
Aku	make	Oko	eat	thing

Aku made Oko eat.

b) Miha gbekeε fo

mi-ha	gbeke-ε	fo
1SG-make	child-DEF	cry

I made the child cry.

Causative reflexive

c) \*Aku ha ehe ye nii

Aku	ha	e-he	ye	nii
Aku	make	2SG-body	eat	thing

Aku made herself eat.

di) \*Miha mihe fo

mi-ha	mi-he	fo
1SG-make	1SG-body	cry

I made myself cry.

- dii) \*Miha mihe fo  
mi-ha mi-he fo  
1SG-make 1SG-body cry  
I made myself cry.

KS: Are di) and dii) supposed to be different? No, sorry...typo.

Applicative (benefactive) non-reflexive

- e) Aku he niyenii eha mi  
Aku he niyenii e-ha mi  
Aku buy food 3SG-give me  
Aku bought food for me.

Applicative (instrumental) non-reflexive

- f) Aku fo blodoe ke kakla  
Aku fo blodo-ε ke kakla  
Aku cut bread-DEF with knife  
Aku cut the bread with a knife.

Applicative reflexive

- g) Aku he niyenii eha ehe  
Aku he niyenii e-ha e-he  
Aku buy food 3SG-give 3SG-body  
Aku bought food for herself

- h) \*Aku tsi mi ke ehe  
Aku tsi mi ke e-he  
Aku push me with 3SG-body  
Aku pushed me with herself. (Bad in English too?)

Example: (C15a-c) have been passivized. If your language has passive, construct reflexive and non-reflexive versions of each one as above. For English, the by-phrases in (C15a,b) are not interpretable as "alone" (see 3.6) and are not generally regarded as acceptable with by herself.

C15a) Not applicable, because Ga does not have passive voice.

### 4.1.3 Properties of antecedents

4.1.3.1 Pronouns, person and number - Consider all possible person/number combinations for the subject of the following sentence.

- C16a) Mina mihe  
Mi-na mi-he  
1SG-see 1SG-body  
I saw myself.
- b) Ona ohe  
o-na o-he  
2SG-see 2SG-body  
You saw yourself.
- c) Wɔna wɔhe  
wɔ-na wɔ-he  
1PL-see 1PL-body  
We saw ourselves/We saw each other.

d) Amɛ na amɛhe  
 amɛ-na amɛ-he  
 3PL-see 3PL-body  
 They saw themselves/They saw each other.

e) Nyɛ na nyɛhe  
 nyɛ na nyɛ-he  
 2PL see 2PL-body  
 You saw yourselves.

Repeat with the following sentences, or other suitable examples from section 4.1.1.

C17a) Mi ju-ɔ mihe  
 mi-ju-ɔ mi-he  
 1SG-wash-HAB 1SG-body  
 I wash myself.

b) Minyɛɔ mihe  
 mi-nyɛ-ɔ mi-he  
 1SG-hate-HAB 1SG-body  
 I hate myself.

ci) Migba Oko lediɛntɛ ehe sane  
 mi-gba Oko lɛ-diɛntɛ e-he sane  
 1SG-narrate Oko 3SGOBJ-INTENS 3SG-body matter  
 I told Oko a matter about himself/I told Oko about himself.

cii) ?\*Migba Oko ehe sane  
 mi-gba Oko<sub>i</sub> e<sub>ij</sub>-he sane  
 1SG-narrate Oko 3SG-body matter  
 I told Oko a matter about himself/I told Oko about himself.

Comment 34: cii) is not good because of its ambiguity. Speakers will more often than not avoid this ambiguity by using a proper name as the possessor of *he* 'body' in place of the pronoun. If the possessor of *he* is coreferential with the subject then ci) is used with the appropriate pronominals.

KS: It is atypical to say a sentence is unacceptable because it is ambiguous. Suppose the speaker knows that his listener knows what happened,, e.g. "After I learned that Oko was actually adopted, I was unsure if he should know, but now I have decided. I will tell Oko about himself." Would *ehe* be ok then? Or is it still \*?

No, it will still be \* - ungrammatical.

di) Mina onufu yɛ mimasei  
 mi-na onufu yɛ mi-masei  
 1SG-see snake be.at 1SG-side  
 I saw a snake near me.

dii) Mina onufu yɛ mihe  
 mi-na onufu yɛ mi-he  
 1SG-see snake be.at 1SG-body  
 I saw a snake on my body/skin.

COMMENT: d) is more likely to be uttered if the snake is actually part of the person's skin, e.g. as a tattoo.

e) Passive not possible

f) Mitswa mimami  
 mi-tswa mi-mami  
 1SG-call 1SG-mother  
 I called my mother.

gi) Mipapa sumo-o misane  
 mi-papa sumo-o mi-sane  
 1SG-father like-HAB 1SG-matter  
 My father likes me.

gii) \*Mipapa sumo-o mihe sane  
 mi-papa sumo-o mi-he sane  
 1SG-father like-HAB 1SG-body matter  
 My father likes me.

4.1.3.2 Animacy or humanity- If animacy plays a role in choice of strategy or if a strategy is restricted to human (or metaphorically human) entities, please give examples showing both success and failure of the strategy in a way that illustrates the difference.

C18a) Onufue gbe ehe  
 onufu-e gbe e-he  
 snake kill 3SG-body  
 The snake killed itself.

b) Onufue gbe ledientse ehe  
 onufu-e gbe le-dientse e-he  
 snake kill 3SGOBJ-INTENS 3SG-body  
 The snake killed itself.

c) \*Tsonee fiteo ehe  
 tsone-e fite-o e-he  
 machine destroy-HAB 3SG-body  
 The machine destroys itself.

d) \*Tsonee fiteo ledientse ehe  
 tsone-e fite-o le-dientse e-he  
 machine destroy-HAB 3SGOBJ-INTENS 3SG-body  
 The machine destroys itself.

Comment 35: It seems both Strategies A and C are restricted to animates. Since Strategy B can only be applied to one verb – an active verb – it also applies only to animates.

4.1.3.3 Pronoun types - If your language has more than one class of subject pronouns (e.g., clitic and non-clitic), repeat the tests of the previous section for each type. Also repeat for null pronouns, if applicable.

Not applicable.

4.1.3.4 Quantifiers - Provide judgements for the following sentences, where X is a pronoun corresponding to the subject successfully, or X is the anaphoric (reflexive) strategy that achieves a reflexive (coconstrued) reading.

C19a) Yoo fee yoo na ehe  
 yoo fee yoo na e-he  
 woman all woman see 3SG-body  
 Every woman saw herself.

- b) Gbeke fεε gbeke ju (ehe)  
 gbeke fεε gbeke ju (e-he)  
 child all child wash (3SG-body)  
 Every child washed (himself).
- c) Nikaselɔ fεε nikaselɔ nyεɔ ehe  
 ni-kase-lɔ fεε ni-kase-lɔ nyε-ɔ e-he  
 thing-study-AG all thing-study-AG hate-HAB 3SG-body  
 Every student hates himself.
- d) Gbeke fεε gbeke na onufu ye emasei  
 gbeke fεε gbeke na onufu ye e-masei  
 child all child see snake be.at 3SG-side  
 Every child saw a snake near himself.
- e) Gbeke fεε gbeke tswa emami  
 gbeke fεε gbeke tswa e-mami  
 child all child telephone 3SG-mother  
 Every child telephoned his mother.
- dii) Gbeke fεε gbeke papa sumɔɔ ehe  
 gbeke fεε gbeke papa sumɔ-ɔ e-he  
 child all child father like-HAB 3SG-body  
 Every child's father likes himself.

Repeat, replacing the quantifier "Every N" with "No N", and if any quantified antecedents behave differently from these, please provide the same paradigm.

- C19a) Yoo ko kwraa enaaa ehe  
 yoo ko kwraa e-naaa e-he  
 woman INDEF at.all PERF-see.NEG body  
 No woman saw herself.
- b) Gbeke ko kwraa ejuuu ehe  
 gbeke ko kwraa e-juuu e-he  
 child INDEF at.all PERF-wash.NEG 3SG-body  
 No child washed himself.
- c) Nikaselɔ ko kwraa enyεεε ehe  
 ni-kase-lɔ ko kwraa e-nyεεε e-he  
 thing-learn-AG INDEF at.all PERF-hate.NEG 3SG-body  
 No student hates herself.
- d) Gbeke ko kwraa enaaa onufu ye emasei  
 gbeke ko kwraa e-naaa onufu ye e-masei  
 child INDEF at.all PERF-see.NEG snake be.at 3SG-side  
 No child saw a snake near himself.
- e) Gbeke ko kwraa etswaaa emami  
 gbeke ko kwraa e-tswaaa e-mami  
 child INDEF at.all PERF-telephone.NEG 3SG-mother  
 No child telephoned his mother.
- f) Gbeke ko be ni epapa sumɔɔ e-he

gbeke	ko	be	ni	e-papa	sumo-o	e-he
child	INDEF	exist.NEG	REL	3SG-father	like-HAB	3SG-body

There is no child whose father likes himself.

4.1.3.5 Questioned antecedents - As in (C19), X is coreferent with the wh-word in all of the following (if C20e is possible in your language). If your language leaves question words in situ, translate accordingly, and if your language allows both in situ and fronted questions, then provide examples of both possibilities and judgments for each of the coreference strategies.

C20a) Namɔ na ehe

Namɔ	na	e-he
who	see	3SG-body

Who saw himself?

b) Namɔ ju ehe

namɔ	ju	e-he
who	wash	3SG-body

Who washed himself?

c) Namɔ na onufu ye emasei

namɔ	na	onufu	ye	e-masei
who	see	snake	be.at	3SG-side

Who saw a snake near himself?

d) Namɔ tswa (le-dieŋtse) emami

namɔ	tswa	(le-dieŋtse)	e-mami
who	telephone	(3SGOBJ-INTENS)	3SG-mother

Who telephoned his own mother?

e) Namɔ papa sumoo ehe

namɔ	papa	sumoo	le
who	father	like-HAB	3SGOBJ

Whose father likes him?

4.1.3.6 Reverse binding - In the following examples, the full NP ('antecedent') appears in the lower (prototypically, object) position.

C21a) \*Ehe na Oko

e-he	na	Oko
3SG-body	see	Oko

Himself saw Oko.

b) \*Wɔhe na wɔ

wɔ-he	na	wɔ
1PL-body	see	wɔ

Ourselves saw Oko.

c) \*Ehe na onufu ye Oko see

e-he	na	onufu	ye	Oko	see
3SG-body	see	snake	be.at	Oko	back

Himself saw a snake behind Oko

e) \*Ate ke ehe wie Oko sane

Ate <sub>i</sub>	ke	e <sub>j</sub> -he	wie	Oko <sub>j</sub>	sane
------------------	----	--------------------	-----	------------------	------

Ate take 3SG-body talk Oko matter  
 Ate spoke to himself about Oko.

f) \*Ate gba ehe Oko sane  
 Ate<sub>i</sub> gba e<sub>j</sub>-he Oko<sub>j</sub> sane  
 Ate narrate 3SG-body Oko matter  
 Ate told himself about Oko.

g) Passive not possible

h) Passive not possible

If the current strategy permits a possessive position to be coreferent with its antecedent, please indicate if an anaphor or a pronoun is possible in the position of X, which should correspond to George in all of these examples.

C22a) Etswa Oko mami  
 e\*<sub>ij</sub>-tswa Oko<sub>i</sub> mami  
 3SG-telephone Oko mother  
 He (Oko) called Oko's mother.

b) Emami ηtao ni ewa Oko  
 e\*<sub>ij</sub>-mami η-tao ni e-wa Oko<sub>i</sub>  
 3SG-mother PROG-want that 3SG-help Oko  
 His (Oko's) mother wants to help Oko.

c) Emami gba Oko naa  
 e\*<sub>ij</sub>-mami gba Oko<sub>i</sub> naa  
 3SG-mother break Oko mouth  
 His mother worried Oko.

d) Mary gba emami Oko he sane  
 Mary<sub>j</sub> gba e\*<sub>ij</sub>-mami Oko<sub>i</sub> he sane  
 Mary narrate 3SG-mother Oko body matter  
 Mary told his (Oko's) mother about Oko.

e) \*Emami mfoniri gbee Oko nɔ  
 e\*<sub>ij</sub>-mami mfoniri gbee Oko<sub>i</sub> nɔ  
 3SG-mother picture fall Oko top  
 The picture of his mother fell on Oko.

f) Emami mfoniriε ha Oko hiε mε  
 e\*<sub>ij</sub>-mami mfoniri-ε ha Oko<sub>i</sub> hiε mε  
 3SG-mother picture-DEF make Oko face wait  
 The picture of his mother pleased Oko.

Please let us know if word order in your language is fluid enough to scramble arguments in such a way that the linear order between X and its antecedent could change.

This can be done by focus:

Oko ni emami sumɔɔ  
 Oko ni e-mami sumɔ-ɔ  
 Oko FOC 3SG-mother like-HAB

It is Oko that his mother loves.

#### 4.1.4 Some matters of interpretation

4.1.4.1 Distribution, reflexivity and reciprocity - Select and translate a simple example illustrating the using a clausemate coreference strategy successfully, such as (C23).

C23) The women help X.

C23) Yeie waa amehe  
yei-ε                      wa-a                      ame-he  
women-DEF              help-HAB                      3PL-body  
The women help themselves.

Which of the following meanings can this example have? Say which it can have and which it can't have. We will say that if the form in place of X permits at least (C24a) or (C24f) as a reading, then the form in question permits a reciprocal interpretation.

**Comment 36: Sentence C23) can mean C24a) , c), d) or e). It cannot mean C24 b). f) is also possible but I'm not sure.**

- C24a) Each woman helps all (or almost all) of the women, excluding herself.
- b) Each woman helps all of the women, including herself.
- c) Each woman helps at least some of the other women.
- d) Each woman helps herself.
- e) The women together as a group help the women together as a group.
- f) Each woman helps one of the women other than herself, such that all of the women are helped by one of the others.

Translate each of the following examples, which are compatible with collective action, and state their possible interpretations as above.

C25a) Does not involve a reflexive

b) Does not involve a reflexive

ci) Yeie sha amehe mfoniri

yei-ε                      sha                      ame-he                      mfoniri  
women-DEF              photograph                      3PL-body                      photo  
The women photographed themselves/ The women photographed each other.

cii) Yeie sha amedientse amehe mfoniri

yei-ε                      sha                      ame-dientse                      ame-he                      mfoniri  
women-DEF              photograph                      3PL-INTENS                      3PL-body                      photo  
The women photographed themselves/ The women photographed each other.

**Comment 37: C25ci) and ii) above have the interpretation that each woman photographed herself. They could also mean each woman took a photograph of at least one other woman excluding from herself.**

In light of these observations, which of the local coreference strategies in your language permit only reciprocal readings, which ones permit only reflexive readings, and which ones permit both?

**Comment 38: Both Strategy A – the pronoun-*he* strategy and Strategy C – the object pronoun + INTENS + pronoun-*he* strategy allow the two readings of reflexive and reciprocal. A sentence which uses one of these strategies will be ambiguous only if the subject is plural. Until now I have maintained that Strategy C disambiguates between the reflexive and reciprocal and renders a sentence only reflexive. This seems not to be the case when the subject is viewed as one group made up of several individuals. In such cases one may use strategy C and still end up with a reciprocal reading. Use of strategy C when the subject is a group implies that the action was carried out by the members of the group on each rather than on the members of another group. **KS: Suppose the subject it is a conjunction like *Oho and Aku*, can Strategy C still be used for a reciprocal reading?****

4.1.4.2 Reciprocal readings - Complete this section only if your strategy allows a reciprocal reading (i.e., permits a reading like those in (C24a) or (C24f). If the strategy is ambiguous, make sure to use verbs that allow the reciprocal interpretation.

- C26ai) Wɔ ke wɔhe kpe  
 wɔ ke wɔ-he kpe  
 1PL take 1PL-body meet  
 We met (each other).
- aii) ?Wɔ ke wɔdiɛntɛ wɔhe kpe  
 wɔ ke wɔ-diɛntɛ wɔ-he kpe  
 1PL take 1PL-INTENS 1PL-body meet  
 We met (each other).
- bi) Wɔ na wɔhe  
 wɔ na wɔ-he  
 1PL see 1PL-body  
 We saw ourselves/We saw each other.
- bii) Wɔ na wɔdiɛntɛ wɔhe  
 wɔ na wɔ-diɛntɛ wɔ-he  
 1PL see 1PL-INTENS 1PL-body  
 We saw ourselves.
- c) Nye ke nyehɛ nɔ  
 nye ke nyɛ-he nɔ  
 2PL take 2PL-body fight  
 You (pl) fought (each other).
- cii) ?Nye ke nyɛdiɛntɛ nyehɛ nɔ  
 nyɛ ke nyɛ-diɛntɛ nyɛ-he nɔ  
 2PL take 2PL-INTENS 2PL-body fight  
 You (pl) fought (each other).
- d) Amɛ ke amehɛ wie  
 amɛ ke amɛ-he wie  
 3PL take 3PL-body speak  
 They spoke (to each other).
- dii) Amɛ ke amɛdiɛntɛ amehɛ wie  
 amɛ ke amɛ-diɛntɛ amɛ-he wie  
 3PL take 3PL-INTENS 3PL-body speak  
 They spoke (to each other).
- ei) Wɔ yi wɔhe  
 wɔ yi wɔ-he  
 1PL hit 1PL-body  
 We hit ourselves/We hit each other.
- eii) Wɔ yi wɔdiɛntɛ wɔhe  
 wɔ yi wɔ-diɛntɛ wɔ-he  
 1PL hit 1PL-INTENS 1PL-body  
 We hit ourselves.

Comment 39: The pronoun *-he* strategy can be used with all the verbs. Normally, and as I mentioned in the previous comment, whenever this strategy is used with a plural subject there is ambiguity between the reflexive and reciprocal reading. This is not the case, however with the verbs *kpe* ‘meet’ and *nɔ* ‘fight’. When this strategy is used with these verbs only the reciprocal reading

is obtained. This is due to the semantics of the verbs: meeting and fighting must necessarily involve two distinct participants. For this same reason the object pronoun + INTENS + pronoun-*he* strategy which usually imparts only reflexive meaning in the sentences it occurs in is rendered quite useless with these two verbs. That is to say when it occurs in sentences with either *kpe* 'meet' or *no* 'fight', the sentence cannot have a reflexive meaning. Therefore sentences such as C26a(ii) and C26c(ii) are very odd but marginally acceptable in the right scenarios e.g. in the proxy type of scenarios where the entities denoted by the subject could have been meeting or fighting with actors that are playing them in a play. Even that is too much of a stretch for me, but others may find it acceptable.

b) Does the strategy allow the constructions where X is understood to be a reciprocal which has a plural antecedent consisting of John and Bill (i.e., it would be understood as "John and Bill saw each other"). Are both "see" and "meet" possible in (C27), or is only one sort of verb acceptable?

C27a) \*John na ehe ke Bill  
 John na e-he ke Bill  
 John see 3SG-body with Bill  
 John and Bill saw each other.

Comment 40: This does not work with *kpe* 'meet' either.

c) Is there any difference in the range of interpretations permitted for (C28a) as opposed to (C28b), or any difference in reciprocal strategies that support these interpretations? If so, tell us what you think the problem is and provide pairs like these for subsequent tests in this section (and let us know if male/female gender pairings introduce any complications).

C28a) Oko ke Aku je amehe  
 Oko ke Aku je ame-he  
 Oko and Aku insult 3PL-body  
 Oko and Aku insulted each other/Oko and Aku insulted themselves.

b) Yeie je amehe  
 yei-ε je ame-he  
 women-DEF insult 3PL-body  
 The women insulted each other/The women insulted themselves.

Comment 41: No, there is no difference. Changing gender does not affect anything.

d) Can the strategy express reciprocity between a subject and an indirect object?

Ga has no indirect object relation. Most of what will be expressed by the indirect object relation is expressed in Ga through verb serialization.

C29a) Oko ke Aku ke amehe wie  
 Oko ke Aku ke ame-he wie  
 Oko and Aku take 3PL-body speak  
 Oko and Aku spoke to each other.

b) Oko ke Aku ke amehe kpe  
 Oko ke Aku ke ame-he kpe  
 Oko and Aku take 3PL-body meet  
 Oko and Aku met.

c) Oko ke Aku ke woloε ha amehe  
 Oko ke Aku ke wolo-ε ha ame-he  
 Oko and Aku take book-DEF give 3PL-body  
 Oko and Aku gave the book to each other.

e) Long-distance reciprocal readings - For any of the strategies that permit a reciprocal reading, can the following sentence be translated to mean "Bill thinks he likes Mary, and Mary thinks she likes Bill"?

Yes.

C30) Efeə Bill ke Mary ake ame suməə amehe  
 E-fe-ə Bill ke Mary ake ame-sumə-ə ame-he  
 3SG-do-HAB Bill and Mary COMP 3PL-like-HAB 3PL-body  
 Bill and Mary think that they like each other i.e. Bill thinks he likes Mary and Mary thinks she likes Bill

#### 4.1.4.3 Sociative readings

Please translate these sentences, more than one way, if possible. Please be sure to let us know if any of the reciprocal or reflexive strategies can be used to achieve these readings.

C31a) Adujie fee shi shi kome  
 adu-ji-e fee shi shi kome  
 monkey-PL-DEF all leave time one  
 The monkeys left together/The monkeys left at the same time.

b) Adujie fee ta shi amekpe loo  
 adu-ji-e fee ta shi amekpe loo  
 monkey-PL-DEF all sit ground 3PL-chew fish  
 The monkeys all sat down to eat fish.

Comment: None of the reflexive/reciprocal strategies can be used to achieve the above meanings.

#### 4.1.4.4 Antipassive readings

C32a) Nakai jataa kəə mə  
 nakai jata-a kəə mə  
 that lion-DEF bite-HAB person  
 That lion bites people.

b) Amralofoie woə mei məŋ  
 amralo-fo-i-e wo-ə mei məŋ  
 government-AG-PL-DEF put-HAB people prison  
 The government arrests people.

c) Bill jeə mei  
 Bill je-ə mei  
 Bill insult-HAB people  
 Bill insults people.

## 4.2 Cross-clausal binding

### 4.2.1 Coreference relations across typical tensed clausal complement

4.2.1.1 Tensed complement, long distance relations, anaphor in situ - Please provide translations for all of these sentences where X is Jack.

D1a) Oko kee ake ele nii  
 Oko kee ake e-le nii  
 Oko say that 3SG-know thing  
 Oko said that he is smart.

b) Oko le ake Ate suməə le  
 Oko le ake Ate sumə-ə le  
 Oko know that Ate like-HAB 3SGOBJ  
 Oko knows that Ate likes him.

c) Oko le ake Aku kee ele nii

Oko le ake Aku<sub>i</sub> kee e<sub>i</sub>-le nii  
 Oko know that Aku say 3SG-know thing  
 Oko knows that Aku says he is smart.

d) Oko jweŋ ake Aku le ake Ama sumɔɔ le  
 Oko<sub>i</sub> jweŋ ake Aku le ake Ama sumɔɔ le<sub>i</sub>  
 Oko think that Aku know that Ama like-HAB 3SGOBJ  
 Oko thinks that Aku knows that Ama likes him.

e) Oko jweŋ ake Aku le ake esumɔɔ Ajele  
 Oko jweŋ ake Aku le ake e-sumɔɔ Ajele  
 Oko think that Aku know that 3SG-like-HAB Ajele  
 Oko thinks that Aku knows that he likes Ajeley.

f) Naa kee Oko ake Aku sumɔɔ le  
 Naa kee Oko<sub>i</sub> ake Aku sumɔɔ le<sub>i</sub>  
 Naa tell Oko that Aku like-HAB 3SGOBJ  
 Naa told Oko that Aku likes him.

g) Naa kee Oko ake esumɔɔ Ama  
 Naa kee Oko<sub>i</sub> ake e<sub>i</sub>-sumɔɔ Ama  
 Naa tell Oko that 3SG-like-HAB Ama  
 Naa told Oko that he likes Ama.

If any of the above examples, or any analogous examples you provide, are grammatical using a particular coreference strategy, we consider this strategy to be a long-distance coreference strategy.

D2a) Jack kple nɔ ake Mary sumɔɔ le  
 Jack<sub>i</sub> kple nɔ ake Mary sumɔɔ le<sub>i</sub>  
 Jack agree top COMP Mary like-HAB 3SGOBJ  
 Jack admitted that Mary likes him.

b) Jack<sub>i</sub> na ake Mary sumɔɔ le<sub>i</sub>  
 Jack na ake Mary sumɔɔ le  
 Jack see COMP Mary like-HAB 3SGOBJ  
 Jack suspected that Mary likes him.

Please also test adjuncts, such as those in (D3), where X = Jeff.

- D3a) Jeff complained about Mary when Ella blamed X  
 b) Jeff returned home when/before/after X became tired.  
 c) When/before/after Mary wrote to X, Jeff returned home.  
 d) Jeff left without Mary seeing X.  
 e) Mary condemned Jeff without meeting X.

D3a) Oko ye nsheku ye Aku he beni Naa shi lee  
 Oko ye nsheku ye Aku he be ni Naa shi le-ε  
 Oko eat gossip be.at Aku body time REL Naa leave 3SGOBJ-DEF  
 Oko gossiped about Aku when Naa left him.

b) Oko ku esee etee shia dani ehe ye  
 Oko ku e-see e-tee shia dani e-he ye  
 Oko break 3SG-back 3SG-go.PST home before 3SG-body eat  
 Oko returned home before he got sick.

ci) Ni Aku ηma le woloe ni Oko ku esee eba shia  
 ni Aku ηma le<sub>\*i/j</sub> wolo-ε ni Oko<sub>i</sub> ku e-seε e-ba shia  
 when Aku write 3SGOBJ letter-DEF and Oko break 3SG-back 3SG-come home  
 When Aku wrote him the letter Oko returned home.

cii) Ni Aku ηma le<sub>i</sub> woloe ni e<sub>i</sub>ku esee eba shia  
 ni Aku ηma le<sub>i</sub> wolo-ε ni e<sub>i</sub>-ku e-seε e-ba shia  
 when Aku write 3SGOBJ letter-DEF and 3SG-break 3SG-back 3SG-come home  
 When Aku wrote him the letter he returned home.

e) Aku bu Oko fɔ kwraa ni eke le ekpeko po  
 Aku bu Oko fɔ kwraa ni e-ke le e-kpe-ko po  
 Aku declare Oko guilt completely when 3SG-take 3SGOBJ PERF-meet-NEG even  
 Aku condemned Oko when she had not even met him.

**Comment 42:** The sentences in D3) will not work with reciprocals, just as they do not work with reflexives. Note that D3b) does not contain a reflexive. The expression for ‘get sick’ is *he ye* (lit: body eat). So *Aku he ye* means ‘Aku got sick’ (lit: Aku’s body ate). Change in person and/or number does not affect the pattern.

4.2.1.2 Climbing from tensed complements - This test applies particularly to reflexives in close association with a verb, either as affixes or clitic pronouns, but there are some languages where a form of focus movement can place a more an argument-marked anaphor in a higher clause.

This is not applicable to Ga

**4.2.2 Long distance relations and the variety of clausal embedding types**

Consider what a list of major clause embedding types in your language would include. In English, it would include, besides tensed complements like those in the last subsection, infinitives, bare infinitives, gerunds, subjunctives (a lexically restricted class) and small clauses, each of which are illustrated in brackets in (X12).

- X12a) I hope [to leave]
- I hope [for Bill to leave]
- I expect [Bill to be unpleasant]
- I persuaded Bill [to leave]
- b) I made [Bill leave]
- c) I saw [someone leaving]
- d) I require [that he speak softly]
- e) I consider [Bill unpleasant]

In this subsection, we want you to construct sentences along the lines of those presented for tensed clauses above adjusting for the different complement clause types allowed in your language (which may be radically fewer than those in English, or may involve types of complementation not found in English). Then test each clausal type for the success or failure of each coreference strategy.

D4a) Oko keε Ate ake eke ehie afɔ enɔ  
 Oko keε Ate ake e-ke e-hie a-fɔ e-nɔ  
 Oko tell Ate COMP 3SG-take 3SG-face SJV-put 3SG-top  
 Oko told Ate to trust him.

b) Oko keε Ate ake eke woloe aha le  
 Oko keε Ate ake e-ke wolo-ε a-ha le  
 Oko tell Ate COMP 3SG-take book-DEF SJV-give 3SGOBJ  
 Oko told Ate to give the book to him.

c) Oko keε Ate ake eke le awie

Oko kɛɛ Ate ake e-ke le a-wie  
 Oko tell Ate COMP 3SG-take 3SGOBJ SJV-speak  
 Oko told Ate to talk to him.

d) Oko kɛɛ Ate ake ewie ehe sane

Oko<sub>i</sub> kɛɛ Ate<sub>j</sub> ake é-wie e<sub>ij</sub>-he sane  
 Oko tell Ate COMP 3SG.SJV-speak 3SG-body matter  
 Oko told Ate to talk about him/Oko told Ate to talk about himself.

dii) Oko kɛɛ Ate ake ewie lediɛntɛ ehe sane

Oko<sub>i</sub> kɛɛ Ate<sub>j</sub> ake é-wie le-diɛntɛ e<sub>\*ij</sub>-he sane  
 Oko tell Ate COMP 3SG.SJV-speak 3SGOBJ-INTENS 3SG-body matter  
 Oko told Ate to talk about himself.

e) Nomlie Oko ye hienokamɔ ake Ate ke ehie baafɔ enɔ

nomli-ɛ Oko<sub>i</sub> ye hienokamɔ ake Ate<sub>j</sub> ke e<sub>j</sub>-hie baa-fɔ e<sub>i</sub>-nɔ  
 then-DEF Oko have hope COMP Ate take 3SG-face FUT-put 3SG-top  
 Oko was hopeful that Ate would trust him/Oko expected Ate to trust him.

If infinitives in your language permit lexical subjects, either by exceptional Casemarking, as in (D5), or by a more general strategy (in English tied to the complementizer for) as in (D6), please also provide examples of this type.

**D5 Not applicable to Ga**

If the coreferent nominal can be a possessive, provide also examples like the following:

D7a) b) d) Oko ye hienokamɔ ake Ate baayi enyemie

Oko<sub>i</sub> ye hienokamɔ ake Ate<sub>j</sub> baa-yi e<sub>ij</sub>-nyemi-ɛ  
 Oko have hope COMP Ate FUT-beat 3SG-brother-DEF  
 Oko hopes that Ate will beat his brother/Oko expects Ate to beat his brother.

c) Oko ye hienokamɔ ake enyemie baayi le

Oko<sub>i</sub> ye hienokamɔ ake e<sub>i</sub>-nyemi-ɛ baa-yi le<sub>i</sub>  
 Oko have hope COMP 3SG-brother-DEF FUT-beat 3SGOBJ  
 Oko expects his brother to beat him.

Now try all of these "Edgar" sentences with climbing, such that the X argument is raised into the matrix clause. If this is not possible at all, just say so and set the issue aside, but if it is possible for some sentence types and not others, please provide examples for each Edgar sentence. Such sentences might look something like (D5c,d) and (D6c,d), if they are possible at all (and abstracting away from VO/OV word order, etc.)

**D5) Not applicable to Ga**

If your language permits small clauses, such as English John considers Mary intelligent, where intelligent is thus predicated of Mary, then try the following tests, where X = Tom.

**D8) Not applicable to Ga**

Remember to test all strategies, reciprocal and reflexive, for all of the clause types you provide evidence for. Be alert to differences in the person of the antecedent, but save your evidence about such cases for section 4.4. Finally, provide paradigms like the Jack, Edgar or Jeff paradigms for any form of embedding that we have not discussed up to now.

Note: If your language permits verb serialization, special issues may arise for some of the questions we have been raising. If this is the case, please let us know that verb serialization is possible in your language and alert us to any sorts of patterns that you think we might be interested in. We will address these issues in follow up research.

### 4.2.3 Backwards anaphora

If your language permits sentential subjects like those in D9, please indicate if coreference succeeds where X is a pronoun or anaphor coconstructed with Oliver. Your language may not have a verb like *implicate*, but if so, try a verb that seems close, if possible. If your language does not permit clauses to be subjects without head nouns, then try something like “the fact that X was late upset Oliver.” *English permits the independent pronouns strategy to be used for such cases, but not all speakers like every example.*

D9a) Sɛɛ ni ekpɛ ha Oko mli fu  
 sɛɛ-ɛ ni e\*<sub>ij</sub>-kpe-ɛ ha Oko<sub>i</sub> mli fu  
 back-DEF REL 3SG-meet-DEF make Oko inside swell  
 The fact that he was late upset Oko.

b), c) Sɛɛ ni ekpɛ ha ajwɛj akɛ Oko eye fɔ  
 sɛɛ-ɛ ni e\*<sub>ij</sub>-kpe-ɛ ha a-jwɛj akɛ Oko<sub>i</sub> e-ye fɔ  
 back-DEF REL 3SG-meet-DEF make 3PLIMP-think COMP Oko PERF-eat guilt  
 The fact that he was late made people think Oko was guilty.

**Comment 43:** The Ga expression for ‘to be late’ is *kpe sɛɛ* (lit: meet back). When nominalised it becomes *sɛɛkpeɛ* ‘lateness’ (lit: back meeting). D9a), c) are unacceptable to me if the pronominal subject of *kpe sɛɛ* and Oko are coreferential. It will be unacceptable if the proper name preceded the pronominal.

The Ga expression for ‘to be late’ is *kpe sɛɛ* (lit: meet back). When nominalised it becomes *sɛɛkpeɛ* ‘lateness’ (lit: back meeting).

- D9a) That X was late upset Oliver.
- b) That X was late suggested that Oliver was guilty.
- c) That X was late made Oliver look guilty.
- d) That X was late implicated Oliver.

### Section 4.3 Principle C-type effects

For all of these examples, give judgments that indicate whether or not it is possible in normal discourse circumstances for the pronoun to be either Malik or the boy.

- E1a) Eje Malik  
 e\*<sub>ij</sub>-je Malik<sub>i</sub>  
 3SG-insult Malik  
 He insulted Malik.
- b) Ekɛɛ Mariam je Malik  
 e\*<sub>ij</sub>-kɛɛ Mariam je Malik<sub>i</sub>  
 3SG-say Mariam insult Malik  
 He said Mariam insulted Malik.
- c) Eje gbekenuuɛ  
 e\*<sub>ij</sub>-je gbekenuu-ɛ<sub>i</sub>  
 3SG-insult boy-DEF  
 He insulted the boy.
- d) Ekɛɛ Mariam je gbekenuuɛ  
 e\*<sub>ij</sub>-kɛɛ Mariam je gbekenuu-ɛ<sub>i</sub>  
 3SG-say Mariam insult boy-DEF  
 He said Mariam insulted the boy.

**Comment 43:** In none of these sentences E1a)-d) can the pronominal be interpreted as coreferential with Malik or *gbekenuuɛ* ‘the boy’.

- E2a) Emami je Malik  
 e<sub>\*ij</sub>-mami je Malik<sub>i</sub>  
 3SG-mother insult Malik  
 His mother insulted Malik.
- b) Emami kee Mariam je Malik  
 e<sub>\*ij</sub>-mami kee Mariam je Malik<sub>i</sub>  
 3SG-mother say Mariam insult Malik  
 His mother said Mariam insulted Malik.

Comment 44: For all E2 and E3 it is not possible that the pronominal is coreferential with either Malik or *gbekenuuε* ‘the boy’

- c) His mother criticized the boy.  
 d) His mother said Mariam criticized the boy.  
 E3a) The man who he liked criticized Malik  
 b) The man who he liked criticized the boy.  
 c) The man who liked him criticized the boy.

Now consider whether or not, in place of the pronoun, the name Malik could work as the antecedent for either Malik or the boy could work as the antecedent for the boy in the following sentences, again, paying attention to whether special discourse circumstances must be appealed to make the sentence sound natural (e.g., in English, (E4a) would sound natural if preceded by “Everyone criticized Malik. Bill criticized Malik, Mary did, and even Malik criticized Malik”, but this is one example of what I mean by a special discourse circumstance).

E4, E5, E6. This is not possible

- E4a) Malik criticized Malik.  
 b) Malik said Mariam criticized Malik.  
 c) The boy criticized the boy.  
 d) The boy said Mariam criticized the boy.  
 E5a) Malik’s mother criticized Malik.  
 b) Malik’s mother said Mariam criticized Malik.  
 c) The boy’s mother criticized the boy.  
 d) The boy’s mother said Mariam criticized the boy.  
 E6a) The man who Malik liked criticized Malik  
 b) The man who the boy liked criticized the boy.  
 c) The man who liked the boy criticized the boy.

E7, E8, E9. This is not possible

Now consider whether the boy = Malik for the following examples

- E7a) The boy criticized Malik.  
 b) The boy said Mariam criticized Malik.  
 c) Malik criticized the boy.  
 d) Malik said Mariam criticized the boy.  
 E8a) The boy’s mother criticized Malik.  
 b) The boy’s mother said Mariam criticized Malik.  
 c) Malik’s mother criticized the boy.  
 d) Malik’s mother said Mariam criticized the boy.  
 E9a) The man who the boy liked criticized Malik  
 b) The man who Malik liked criticized the boy.  
 c) The man who liked Malik criticized the boy.  
 d) The man who liked the boy criticized Malik

E7, E8, E9. These are not possible

#### 4.4 More on long distance anaphor strategies

4.4.1 Position of the antecedent - Long-distance coreference is often constrained in ways that local coreference is not (especially: subject-orientation). Which possible syntactic positions can be occupied by a long-distance antecedent of the current strategy? Construct examples and give judgments where X = Zeke.. In English, the independent pronoun strategy is all that works

for these (i.e., where X= he or him). If your language is like English, then the reflexive form does not work in the position of X where X=Zeke. If your language does not use the simple independent pronoun, but another form, be sure to show not only the form that works, but the one that doesn't.

Comment 45: Ga is very much like English in this respect.

D11a) Larry kεε Zeke ake Mike sumwaw le

Larry <sub>i</sub>	kεε	Zeke <sub>j</sub>	ake	Mike <sub>k</sub>	sumwaw	le <sub>i/j/*k</sub>
Larry	tell	Zeke	COMP	Mike	like-HAB	3SGOBJ

Larry told Zeke that Mike liked him.

b) Zeke kεε Larry ake Mike sumwaw le

Zeke <sub>i</sub>	kεε	Larry <sub>j</sub>	ake	Mike <sub>k</sub>	sumwaw	le <sub>i/j/*k</sub>
Zeke	tell	Larry	COMP	Mike	like.NEG	3SGOBJ

Zeke told Larry that Mike liked him.

c) Zeke kεε Larry ake esumwaw Mike

Zeke <sub>i</sub>	kεε	Larry <sub>j</sub>	ake	e <sub>i/j/*k</sub> -sumwaw	Mike <sub>k</sub>
Zeke	tell	Larry	COMP	3SG-like.NEG	Mike

Zeke told Larry that he didn't like Mike.

d) Larry kεε Zeke ake esumwaw Mike.

Larry <sub>i</sub>	kεε	Zeke <sub>j</sub>	ake	e <sub>i/j/*k</sub> -sumwaw	Mike <sub>k</sub>
Larry	tell	Zeke	COMP	3SG-like.NEG	Mike

Larry told Zeke that he didn't like Mike.

e) Larry le ake Zeke jweηa ake Mike sumwaw le

Larry <sub>i</sub>	le	ake	Zeke <sub>j</sub>	jweηa	ake	Mike <sub>k</sub>	sumwaw	le <sub>i/j/*k</sub>
Larry	know	COMP	Zeke	think-HAB	COMP	Mike	like.NEG	3SGOBJ

Larry knows that Zeke thinks that Mike doesn't like him.

f) Zeke le ake Larry jweηa ake Mike sumwaw le

Zeke <sub>i</sub>	le	ake	Larry <sub>j</sub>	jweηa	ake	Mike <sub>k</sub>	sumwaw	le <sub>i/j/*k</sub>
Zeke	know	COMP	Larry	think-HAB	COMP	Mike	like.NEG	3SGOBJ

Zeke knows that Larry thinks that Mike doesn't like him.

D12a) Zeke mami jweηa ake Mike sumwaw le

[Zeke <sub>j</sub> mami] <sub>i</sub>	jweηa	ake	Mike <sub>k</sub>	sumwaw	le <sub>i/*j/*k</sub>	
Zeke	mother	think-HAB	COMP	Mike	like.NEG	3SGOBJ

Zeke's mother thinks that Mike does not like her.

b) Zeke mami jweηa ake esumwaw Mike

[Zeke <sub>j</sub> mami] <sub>i</sub>	jweηa	ake	e <sub>i/j/*k</sub> -sumwaw	Mike <sub>k</sub>	
Zeke	mother	think-HAB	COMP	3SG-like.NEG	Mike

Zeke's mother thinks that she does not like Mike/Zeke's mother thinks that he does not like Mike.

- c) Zeke jweŋɔ ake Mike sumɔɔ le  
 Zeke<sub>i</sub> jweŋɔ ake Mike<sub>j</sub> sumɔɔ le<sub>i/\*j</sub>  
 Zeke think-HAB COMP Mike like.NEG 3SGOBJ  
 Zeke thinks that Mike doesn't like him.
- d) Zeke woloε ni eŋmaa keε ake Mike sumɔɔ le  
 Zeke<sub>i</sub> wolo-ε ni e-ŋma-a keε ake Mike<sub>j</sub> sumɔɔ le<sub>i/\*j</sub>  
 Zeke letter-DEF REL 3SG-write-DEF tell COMP Mike like.NEG 3SGOBJ  
 Zeke's letter that he wrote said that Mike did not like him.
- e) Zeke nu ake Mary sumɔɔ le  
 Zeke<sub>i</sub> nu ake Mary<sub>j</sub> sumɔɔ le<sub>i/\*j</sub>  
 Zeke hear COMP Mary like.NEG 3SGOBJ  
 Zeke heard that Mary didn't like him.
- f) Not applicable

D13a) Zeke keε nomliε esaa ehe  
 Zeke<sub>i</sub> keε nomli-ε e<sub>i</sub>-saa e<sub>i</sub>-he  
 Zeke say then-DEF 3SGPERF-dress 3SG-body  
 Zeke said he had dressed himself.

b) Zeke keε nomliε epila ehe  
 Zeke<sub>i</sub> keε nomli-ε e<sub>i</sub>-pila e<sub>i</sub>-he  
 Zeke say then-DEF 3SGPERF-wound 3SG-body  
 Zeke said he had wounded himself.

c) Zeke keε ekadi ehe wolo  
 Zeke<sub>i</sub> keε nomli-ε e<sub>i</sub>-kadi e<sub>i</sub>-he wolo  
 Zeke say then-DEF 3SGPERF-mark 3SG-body paper  
 Zeke said he had tattooed himself.

Consider potential antecedents in other non-subject syntactic positions, as allowed by your language (e.g., in English, John related to Bill that Mary had slandered him where Bill = him).

#### 4.4.2 Antecedent properties

4.4.2.1 Person - Please replace Zeke in the Zeke paradigm of 4.4.1 with first and second person pronouns, and report the results. Even if most of the examples pattern exactly as third person cases do, please be careful to include sentences corresponding to (D13) in the Zeke paradigm.

First Person

D11a) Larry keε mi ake Mike sumɔɔ mi  
 Larry keε mi ake Mike sumɔɔ mi  
 Larry tell me COMP Mike like-HAB me  
 Larry told me that Mike liked me.

b) Mikεε Larry ake Mike sumဝဝဝ le  
 mi-keε Larry ake Mike sumဝဝဝ mi  
 1SG-tell Larry COMP Mike like.NEG me  
 I told Larry that Mike liked me.

c) Mikεε Larry ake misumဝဝဝ Mike  
 mi-keε Larry ake mi-sumဝဝဝ Mike  
 1SG-tell Larry COMP 1SG-like.NEG Mike  
 I told Larry that I didn't like Mike.

d) Larry keε mi ake misumဝဝဝ Mike.  
 Larry<sub>i</sub> keε mi ake mi-sumဝဝဝ Mike  
 Larry tell me COMP 1SG-like.NEG Mike  
 Larry told me that I didn't like Mike.

e) Larry le ake mijweηဝ ake Mike sumဝဝဝ mi  
 Larry<sub>i</sub> le ake mi-jweη-ဝ ake Mike sumဝဝဝ mi  
 Larry know COMP 1SG-think-HAB COMP Mike like.NEG me  
 Larry knows that I think that Mike doesn't like me.

f) Mile ake Larry jweηဝ ake Mike sumဝဝဝ mi  
 Mi-le ake Larry<sub>j</sub> jweη-ဝ ake Mike sumဝဝဝ mi  
 1SG-know COMP Larry think-HAB COMP Mike like.NEG me  
 I know that Larry thinks that Mike doesn't like me.

D12a) Mimami jweηဝ ake Mike sumဝဝဝ mi  
 mi-mami jweη-ဝ ake Mike sumဝဝဝ mi  
 1SGmother think-HAB COMP Mike like.NEG me  
 My mother thinks that Mike does not like me.

b) Mimami jweηဝ ake misumဝဝဝ Mike  
 mi-mami jweη-ဝ ake mi-sumဝဝဝ Mike  
 1SG-mother think-HAB COMP 1SG-like.NEG Mike  
 My mother thinks that I do not like Mike.

c) Mijweηဝ ake Mike sumဝဝဝ mi  
 mi-jweη-ဝ ake Mike sumဝဝဝ mi  
 1SG-think-HAB COMP Mike like.NEG me  
 I think that Mike doesn't like me.

d) Miwoloε ni miηmaa tsဝဝ ake Mike sumဝဝဝ mi  
 mi-wolo-ε ni mi-ηma-a tsဝဝ ake Mike sumဝဝဝ mi  
 1S-letter-DEF REL 1SG-write-DEF show COMP Mike like.NEG me  
 My letter that I wrote said that Mike did not like me.

e) Minu ake Mary sumဝဝဝ mi  
 mi-nu ake Mary sumဝဝဝ mi

1S-hear COMP Mary like.NEG me  
 I heard that Mary didn't like me.

f) Not applicable

D13a) Mikee nomlie misaa mihe  
 mi-kee nomli-ε mi-saa mi-he  
 1SG-say then-DEF3SGPERF-dress 1SG-body  
 I said I had dressed myself.

b) Mikee nomlie mipila mihe  
 mi-kee nomli-ε mi-pila mi-he  
 1S-say then-DEF1SGPERF-wound 1SG-body  
 I said I had wounded myself.

c) Mikee mikadi mihe wolo  
 Mi-kee nomli-ε mi-kadi mi-he wolo  
 1SGsay then-DEF1SGPERF-mark 1SG-body paper  
 I said I had tattooed myself.

Second Person

D11a) Larry kee bo ake Mike sumဝဝ bo  
 Larry kee bo ake Mike sumဝ-ဝ bo  
 Larry tell you COMP Mike like-HAB you  
 Larry told you that Mike liked you.

b) Okee Larry ake Mike sumဝဝ bo  
 o-kee Larry ake Mike sumဝဝ bo  
 2SG-tell Larry COMP Mike like.NEG you  
 You told Larry that Mike did not like you.

c) Okee Larry ake osumဝဝ Mike  
 o-kee Larry ake o-sumဝဝ Mike  
 2SG-tell Larry COMP 2SG-like.NEG Mike  
 You told Larry that you didn't like Mike.

d) Larry kee bo ake osumဝဝ Mike.  
 Larry<sub>i</sub> kee bo ake o-sumဝဝ Mike  
 Larry tell you COMP 2SG-like.NEG Mike  
 Larry told you that you didn't like Mike.

e) Larry le ake ojweηဝ ake Mike sumဝဝ bo  
 Larry<sub>i</sub> le ake o-jweη-ဝ ake Mike sumဝဝ bo  
 Larry know COMP 2SG-think-HAB COMP Mike like.NEG you  
 Larry knows that you think that Mike doesn't like you.

f) Ole ake Larry jweḡo ake Mike sumḡḡ bo  
 o-le ake Larry jweḡ-ḡ ake Mike sumḡḡ bo  
 2SG-know COMP Larry think-HAB COMP Mike like.NEG you  
 You know that Larry thinks that Mike doesn't like you.

D12a) Omami jweḡo ake Mike sumḡḡ bo  
 o-mami jweḡ-ḡ ake Mike sumḡḡ bo  
 2SG-mother think-HAB COMP Mike like.NEG you  
 Your mother thinks that Mike does not like you.

b) Omami jweḡo ake osumḡḡ Mike  
 o-mami jweḡ-ḡ ake o-sumḡḡ Mike  
 2SG-mother think-HAB COMP 2SG-like.NEG Mike  
 Your mother thinks that you do not like Mike.

c) Ojweḡo ake Mike sumḡḡ bo  
 o-jweḡ-ḡ ake Mike sumḡḡ bo  
 2SG-think-HAB COMP Mike like.NEG you  
 I think that Mike doesn't like me.

d) Owoloε ni oḡmaa tsḡḡ ake Mike sumḡḡ bo  
 o-wolo-ε ni o-ḡma-a tsḡḡ ake Mike sumḡḡ bo  
 2SG-letter-DEF REL 2SG-write-DEF show COMP Mike like.NEG you  
 Your letter that you wrote said that Mike did not like you.

e) Onu ake Mary sumḡḡ bo  
 o-nu ake Mary sumḡḡ bo  
 2SG-hear COMP Mary like.NEG you  
 You heard that Mary didn't like you.

f) Not applicable

D13a) Okeε nomliε osaa ohe  
 o-keε nomli-ε o-saa o-he  
 2SG-say then-DEF 2SGPERF-dress 2SG-body  
 You said you had dressed myself.

b) Okeε nomliε opila ohe  
 o-keε nomli-ε o-pila o-he  
 2SG-say then-DEF 2SGPERF-wound 2SG-body  
 You said you had wounded myself.

c) Okeε okadi ohe wolo  
 o-keε nomli-ε o-kadi o-he wolo  
 2SG-say then-DEF 2SGPERF-mark 2SG-body paper  
 You said you had tattooed yourself.

4.4.2.2 Quantified antecedents - Review the examples in the Jack, Zeke and Edgar paradigms, replacing these names with "every child" and "no child" or "many children"..

**Comment:** There are no differences.

Every child

- a) Gbeke fεε gbeke kεε ele nii  
 gbeke fεε gbeke kεε e-le nii  
 child all child say 3SG-know thing  
 Every child says he is smart.
- b) Gbeke fεε gbeke kεε Ate ake eke le awie  
 Gbeke fεε gbeke kεε Ate ake e-ke le a-wie  
 child all child tell Ate COMP 3SGSJV-take 3SGOBJ SJV-speak  
 Every child told Ate to talk to him.
- c) Gbeke fεε gbeke kεε nomliε opila ohe  
 gbeke fεε gbeke kεε nomli-ε e-pila e-he  
 child all child say then-DEF 3SGPERF-wound 3SG-body  
 Every child said he had wounded himself.

No child

- a) Gbeke ko kwraa ekeεε ele nii  
 gbeke ko kwraa e-keεε e-le nii  
 child INDEF at.all 3SG-say.NEG 3SG-know thing  
 No child says he is smart.
- b) Gbeke ko kwraa ekeε Ate ake eke le awie  
 Gbeke ko kwraa e-keεε Ate ake e-ke le a-wie  
 child INDEF at.all 3SG-tell.NEG Ate COMP 3SG-take 3SGOBJ SJV-speak  
 No child told Ate to talk to him.
- c) Gbeke ko kwraa ekeε ake nomliε epila ehe  
 gbeke ko kwraa e-keεε ake nomli-ε e-pila e-he  
 child INDEF at.all 3SG-say.NEG COMP then-DEF 3SGPERF-wound 3SG-body  
 No child said that he had injured himself.

Note: Try overt and null pronouns as the coreferent NP if your language has both.

**Comment 46:** Ga only has null pronouns for inanimate objects. The reflexive KS: Something missing here?

Sorry, I can't remember what I was going to say.

4.4.2.3 Split antecedents - Sometimes coreference is permitted when the antecedents for the anaphor or pronoun are separate arguments. Please provide examples that correspond to those in the Ozzie (male) and Harriet (female) paradigm. In all cases, X = Ozzie and Harriet (together). For example, in English, (D14d) would be "Ozzie told Harriet that Bill dislikes *them*," where them would be Ozzie and Harriet.

D14a) \*Ozzie wie Harriet he etsɔɔ ame. (Where ame = Ozzie and Harriet)

Ozzie wie Harriet he e-tsɔɔ ame  
 Ozzie talk Harriet body 3SG-show them  
 Ozzie talked about Harriet to them.

bi) ?\*Ozzie wie amehe etsɔɔ Harriet. (Where ame = Ozzie and Harriet)

Ozzie wie ame-he e-tsɔɔ Harriet  
 Ozzie talk 3PL-body 3SG-show Harriet  
 Ozzie talked about them to Harriet.

bii) ?\*Ozzie wie amediɛŋtse amɛhe etsɔɔ Harriet. (Where amɛ = Ozzie and Harriet. This is slightly better than bi) though)

Ozzie wie amɛ-diɛŋtse amɛ-he e-tsɔɔ Harriet  
 Ozzie talk 3PL-INTENS 3PL-body 3SG-show Harriet  
 Ozzie talked about them to Harriet.

c) Ozzie kɛɛ Harriet ake amɛshi. (Where amɛ = Ozzie and Harriet)

Ozzie kɛɛ Harriet ake amɛ-shi  
 Ozzie tell Harriet COMP 3PLSJV-leave  
 Ozzie told Harriet that they should leave.

d) Ozzie kɛɛ Harriet ake Bill sumɔɔɔ amɛ. (Where amɛ = Ozzie and Harriet)

Ozzie kɛɛ Harriet ake Bill sumɔɔɔ amɛ  
 Ozzie tell Harriet COMP Bill like.NEG them  
 Ozzie told Harriet that Bill dislikes them.

e) Ozzie kɛɛ Harriet jwɛŋɔ ake Bill sumɔɔɔ amɛ. (Where amɛ = Ozzie and Harriet)

Ozzie kɛɛ Harriet jwɛŋ-ɔ ake Bill sumɔɔɔ amɛ  
 Ozzie say Harriet think-HAB COMP Bill like.NEG amɛ  
 Ozzie said that Harriet thinks that Bill doesn't like them.

4.4.2.4 Discourse antecedents - Sometimes, LDA strategies do not have to have antecedents in the same sentence if the discourse connections between sentences is strong. Please translate the following scenarios using only the acceptable strategies that permit the corresponding English pronouns all to refer to Mark. Then give please tell us which strategies do not work, providing a translation and gloss, if it is significantly different from your acceptable translations of (D15) and (D16). Suppose that in the following scenarios we are being told what was going on in Mark's mind.

D15) Nomliɛ Mark ŋshe gbeyei ake noko baafɛe ebi lɛɛ. Efee lɛ hiɛshishwiemɔ ake enyɛɛɛ ekura ewekunyo kome nɛɛ ni esumɔɔ fɛ fɛɛ. Te enyemimeie baana lɛ tɛɛ?

Nomli-ɛ Mark ŋ-she gbeyei ake noko baa-fee e-bi-lɛ-ɛ.  
 then-DEF Mark PROG-? fear COMP something FUT-do 3SG-son-DEF-DEF

E-fee lɛ hiɛshishwiemɔ ake e-nyɛɛɛ e-kura e-weku-nyo  
 3SG-do 3SGOBJ shame COMP 3SG-can.NEG 3SG-protect 3SG-family-person

kome nɛɛ ni e-sumɔɔ-ɔ fe fɛɛ. Te e-nyemi-mei baa-na  
 one this REL 3SG-love-HAB pass all how 3SG-sibling-PL FUT-see  
 lɛ tɛɛ  
 3SG how

Mark feared that something bad will happen to his son. He was ashamed that he could not protect this one relative of his that he loved the most. What would his siblings think of him?

D16) Mark daaŋ fɛɛ gbo beni ena efoniriɛ yɛ adafitswaa woloɛ mli. Eɛɛdamɔloɪ fɛɛ baakpoo lɛ. Te ebaafɛe tɛɛ egba emami sane nɛɛ?

Mark daa-ŋ fɛɛ gbo beni e-na e-phoniri-ɛ yɛ adafitswaa wolo-ɛ  
 Mark mouth-inside all die when 3SG-see 3SG-picture-DEF be.at news paper-DEF

mli. E-ɛɛdamɔlo-ɪ fɛɛ baa-kpoo lɛ. Te e-baa-fee tɛɛ

inside. 3SG-supporter-PL all FUT-abandon 3SGOBJ How 3SG-FUT-do how

e-gba e-mami sane nee  
 3SGSJV-narrate 3SG-mother matter this

Mark was shocked when he saw his picture in the newspaper. All of his supporters would abandon him. How would he tell his mother this story?

The following scenario concerns what Morris is reporting to us about Mark, where all of the English pronouns are understood as referring to Mark, not to Morris. Please translate using any (or every) strategy for coreference with Mark that works (including the independent pronoun strategy). Then give please tell us which strategies do not work, providing a translation and gloss, if it is significantly different from your acceptable translations of (D17). If your language permits null subjects understood as pronouns, don't forget to consider that strategy.

D17) Morris kee nomlie nakai gbi lee ehiii ehaaa Mark kwraa. Kleŋkleŋe, Morris kee le ake aju etsone. Ni agbene hu esa ni ewo tagzi keya nitsumo. Nomlie Morris jweŋ ake emli baafu.

Morris	kee	nomli-ε	nakai	gbi	le-ε	e-hiii	e-haaa	Mark		
Morris	say	then-DEF	that	day	DEF-DEF	3SG-good.NEG	3SG-give.NEG	Mark		
kwraa.	Kleŋkleŋ-ε	Morris	kee	le	ake	a-ju	e-tsone.	Ni	agbene	hu
at.all	first-DEF	Morris	tell	3SGOBJ	COMP	3PLIMPERS-steal	3SG-car	and	in.addition	also
e-sa	ni	e-wo	tagzi	ke-ya	nitsumo.	Nomli-ε	Morris	jweŋ	ake	e-mli
3SG-fit	COMP	3SG-carry	taxi	take-go	work	then-DEF	Morris	think	COMP	3SG-inside
baa-fu										
FUT-swell										

Morris said that that day was not good at all for Mark. First, Morris told him that his car had been stolen. Then he had to take a taxi to work. Morris thought he might be angry.

Now suppose that Mark has recently been in the news and he is the topic of our conversation. Speakers A and B use pronouns to refer to him. Please translate using the strategy or strategies in your language that permit coreference with Mark. Once again, please tell us which strategies do not work, providing a translation and gloss, if it is significantly different from your acceptable translations of (D18).

D18) A: Kwemɔ, naa Mark!  
 B: Ehe ye feo e  
 A: Mibasumɔŋ ni mike le ahi shi moŋ. Yeie fee nyie esee  
 B: Agbene hu ejieɔ ehe yi tso

A: Kwemɔ, naa Mark  
 look, here Mark  
 Look, there's Mark!

B: E-he ye feo e  
 3SG-body have beauty DM  
 He's so handsome.

A: Mi-ba-sumɔ-ŋ ni mi-ke le a-hi shi moŋ. Yeie-ε fee  
 1SG-come-like-NEG COMP 1SG-take 3SGOBJ SJV-live ground though. women-DEF all  
 ŋ-nyie e-see

PROG-walk      3SG-back

I wouldn't want to be married to him though. All the women are chasing him.

B:      Agbene              hu              e-jie-ɔ              e-he              yi              tso  
in.addition              also              3SG-remove-HAB 3SG-body              hair              too.much  
Also, he praises himself too much.

#### 4.4.3 Blocking Effects

The agreement features of nominals intervening between an anaphor and its antecedent can sometimes affect the grammaticality of coconstrual in some languages.

4.4.3.1 Features of intervening subjects - The following examples test for an intervening subject that is mismatched for person, gender, or number. In each case in (D19), X = Larry, unless designated otherwise. If the only successful strategy permitted here is the independent pronoun strategy, then please indicate this.

D19b) Larry jweŋɔ ake mibuɔ le

Larry    jweŋɔ              ake    mi-buɔ              le  
Larry    think-HAB          COMP 1SG-respect          3SGOBJ  
Larry thinks that I respect him.

e) Hiie jweŋɔ ake gbekebii hiie buɔ ame

hii-ε              jweŋɔ              ake    gbekebii hii-ε    bu-ɔ              ame<sub>i</sub>  
men-DEF          think-HAB          COMP child-PL male    respect-HAB          them  
The men think that the boys respect them.

**Comment 47: The only strategy possible in D19) is the independent pronoun strategy.**

Same tests, with the intervening subject in an intermediate clause:

**Comment 48: For D20) as well the only possible strategy is the independent pronoun strategy.**

4.4.3.2 Positions of the intervener - The above interveners were subjects (the most common case). We now look for interveners in other positions.

The following examples rely only on person mismatches (where X = Walter). If you also found number or gender mismatches above, give some examples. Once again, if all of these examples are only acceptable with the independent pronoun strategy, then just say so and provide translations.

D21a) Walter jweŋɔ ake Bill kee Harry ake Dave buɔ le

Walter    jweŋɔ              ake    Bill    kee    Harry    ake    Dave    bu-ɔ              le  
Walter    think-HAB          COMP Bill    tell    Harry    COMP    Dave    respect-HAB          3SGOBJ  
Walter thinks that Bill told Harry that Dave respects him.

b) Walter jweŋɔ ake Bill kee mi ake Dave buɔ le

Walter    jweŋɔ              ake    Bill    kee    mi    ake    Dave    bu-ɔ              le  
Walter    think-HAB          COMP Bill    tell    me    COMP    Dave    respect-HAB          3SGOBJ  
Walter thinks that Bill told Harry that Dave respects him.

c) Walter kee mi ake Dave buɔ le

Walter    kee    mi    ake    Dave    bu-ɔ              le  
Walter    tell    me    COMP    Dave    respect-HAB          3SGOBJ  
Walter thinks that Bill told Harry that Dave respects him.

d) Walter kee Dave ha mi wolo ko ni koo ehe

Walter<sub>i</sub>    kee    Dave<sub>j</sub>    ha    mi    wolo    ko    ni    koo    e<sub>ij</sub>-he  
Walter    say    Dave    give    me    book    INDEF REL    concern 3SG-body  
Walter said that Dave gave me a book about him.

#### 4.4.4 Islands

Do syntactic islands affect the acceptability of the current strategy? For all the examples in this section, Ira = X. As in 4.3, if the independent pronoun strategy is all that works, please say so, translate, and move on, but if more than one strategy works, please let us know which ones do. Also, if your language permits more than one type of pronoun, be sure to test both kinds (including null arguments interpreted pronominally).

- D22a) Ewoo Ira mli la ake Mary nyeo le  
 e-wo-ɔ Ira mli la ake Mary nyɛ-ɔ le  
 3SG-put-HAB Ira inside fire COMP Mary hate-HAB 3SGOBJ  
 It irritates Ira that Mary hates her.
- b) Ira buo nuue ni sumoo lee  
 Ira bu-ɔ nuu-e ni sumo-ɔ le-ɛ  
 Ira respect-HAB man-DEF REL like-HAB 3SGOBJ-DEF  
 Ira respects the man who likes her.
- c) Ira kee nuue ni sumoo lee le nii  
 Ira kee nuu-e ni sumo-ɔ le-ɛ le nii  
 Ira say man-DEF REL like-HAB 3SGOBJ-DEF know thing  
 Ira said that the man who likes her is intelligent.
- d) Ira bi keji Bill na le lo  
 Ira bi keji Bill na le lo  
 Ira ask if Bill see 3SGOBJ QP  
 Ira asked whether Bill saw her.
- e) Ira bi bei ni Bill na mi  
 Ira bi bei ni Bill na le  
 Ira ask time REL Bill see 3SGOBJ  
 Ira asked when Bill saw her.
- f) Nomlie Ira le ake George nyie esee  
 nomli-e Ira le ake George η-nyie e-see  
 then-DEF Ira know.NEG COMP George PROG-walk 3SG-back  
 Ira did not know that George was following her.
- g) Ira kee Mary he ye feo ni eke le baahi shi  
 Ira<sub>i</sub> kee Mary<sub>j</sub> he ye feo ni e<sub>j</sub>-ke le<sub>i</sub> baa-hi shi  
 Ira say Mary body have beauty and 3SG-take 3SGOBJ FUT-live ground  
 Ira said that Mary was pretty and that she would marry X.

#### 4.4.5 De se reading

Sometimes an interpretation of identity with an antecedent is tinged by a different meaning distinction. There is a famous ambiguity in D23 depending on whether or not the subject of believe is aware that he is referring to himself. The distinction is between two readings where his=Oedipus, that is, we are not interested, for these cases, in readings where his is not Oedipus. Now imagine that Oedipus thinks his step-mother (Step) is his biological mother - he just calls her "mother", because Step is the only mother he has ever known. Now let us suppose that Oedipus is the only one in town who is unaware who his biological mother (Bio) is, perhaps because Bio is a notorious person of whom polite people do not normally speak. People in town, in spite of what they know, generally refer to Step as Oedipus' mother, since no one wants to bring up the subject of Bio. Then Bio, long out of town, makes a surprise visit to the town to see Oedipus, whom she finds scowling in his front yard, angry at Step because she has punished him.. Bio spends some time with Oedipus, as others watch suspiciously, but Bio does not tell Oedipus who she is. Oedipus thinks Bio is nice. Then someone says D23a or D23b.

D23a) *Oedipus* thinks/says *his* mother is nice.

b) *Oedipus* thinks/says *his* mother is mean.

Now his in both examples is to be coconstrued with *Oedipus*, but his mother in (23a) refers to *Bio*, whom he does not know is his mother, while (D23b) refers to *Step*, who is the only one *Oedipus* thinks is his mother (though others know otherwise), and *Oedipus* is angry at her just now. In some languages, a different morphological form, a different pronoun for example, is used to distinguish the two readings. If your language is like English, then there is no morphological distinction between the pronouns in (D23a,b). Just say so and move on.

Comment 49: Ga has no such distinction.