

# Anaphora in the African Languages Questionnaire Response for Berber

Version 2.1, April, 2010

## PART.1 GENERAL INFORMATION

### 1.1 Language:

1. Name of the language: *Berber*
2. Ethnologue code:
3. Dialect and/or area: *Guezenaya Tarifyt Berber spoken in the northern parts of Morocco. It is a variety of Tarifyt Berber*
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 judgments (*Yes* )
  - (b) Judgments by one or more consultants (*Yes* )

*NOTE: Since I am a linguist, I decided first to provide my own judgments and then cross-check them with non-linguists native speakers of my own Berber variety.*

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

1.Name: Mr. *Noureddine Elouazizi*

2a. Your address: *Simon Fraser University,  
Vancouver. BC  
Canada*

2b. E-mail address, if you have one: *elouazizin@gmail.com*

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.)  
( *Yes* ) I am willing to be identified  
( ) I wish to remain anonymous

4. Your level of training in linguistics (circle accordingly).  
( ) Post Ph. D.  
( *Yes* ) 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.

Scale: little or none / some / intimately familiar.

- (a) Syntax: *Intimately familiar with Generative syntax especially Minimalist program, Government and Binding*
- (b) Typological linguistics: *familiar*
- (c) Formal semantics: *familiar*
- (d) Pragmatics or discourse analysis: *familiarity*
- (e) Other relevant sub-field: *Intimately familiar with phonology and morphology*

6. Your language biography

- a. What language(s) did your parents speak at home ?  
*Only Berber (Tarifyt Berber)*
- b. What language(s) do/did your parents speak natively?  
*Tarifyt Berber*
- c. What language (languages) did you receive school instruction in?  
*Standard French and Standard Arabic in pre-university schooling and English at the university*
- d. How old were you when you learned the subject language?  
*I am a native of Berber. It is my first language*
- e. Do you speak an identifiable subdialect of this language? What is it called?  
*Yes, Guezenaya Tarifyt Berber*
- f. Do you speak other dialects of the same language? Which ones?  
*No*

NOTE: *I am attaching a file which provides and specifies a detailed list of descriptive grammar as well as generative references on Berber language, including the variety of Tarifyt that is the source of data I am providing as well as other varieties of Berber spoken in Morocco and elsewhere in north Africa.*

## **PART 2 AN INVENTORY OF REFLEXIVE AND RECIPROCAL STRATEGIES**

In this section, we are only attempting to get a brief overview of the 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.

*The equivalent of A1 in Berber is as in (1) below. This strategy, which is the equivalent of English primary reflexive strategy we name 'Head+CL<sub>PP</sub>' strategy for reflexives in Berber.*

(1)a. *Mohand i-zra ixef-ins*  
Mohand 3S.M-see.PERF head-of his  
'Mohand saw himself.' (SVO order)

b. *i-zra Mohand ixef-ins*  
3S.M-see.PERF Mohand head-of his/her  
'Mohand saw himself.' (VSO order)

*In this strategy, the pronoun varies and the head form stays constant. This is illustrated by (2) and (3) below*

(2) *Mohand δ Jamal zri-n ixefe-nsn*  
Mohand and Jamal see.PERF-3P.M head-of theirs  
'Mohand and Jamal saw themselves.'

(3) *Naima δ Samira zri-nt ixefe-nsnt*  
Naima and Samira see.PERF-3P.F head-of theirs  
'Naima and Samira saw themselves.'

*In Berber, unlike in Dutch, there is no second strategy for encoding the reflexive in the sense that the change of the verb does not require the use of another form of the reflexive.(4) below illustrates the point with the verb 'wash'.*

(4) *Mohand i-ssrir ixef-ins*  
Mohand 3S.M-wash.PERF head-of his/her  
'Mohand washed himself.'

**2.1.2** Is there another way, or ways, to express coreference in A1 (that is, with the verb see held constant)?

*The coreference expressed by the strategy of 'Head+CL<sub>PP</sub>' in Berber to encode the reflexives cannot be extended to encode a reciprocal reading as in German examples above. That is, the reading of (2) above is X and Y saw X and Y and NOT X saw Y and Y saw X.*

**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. For example, in English one can say John washes as well as John washes himself, both meaning "X washes X" where X = John, and that strategy might be called OBJECT-NUL. As noted above, a Dutch speaker might note that the ZICH strategy as well as the ZICHZELF strategy be used for verbs like wash.

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).

- A2
- a) John washes himself.
  - b) Mary cut herself. [accidentally]
  - c) John is ashamed of himself.
  - d) John destroyed himself.

e) We hate ourselves.

*The equivalent examples of (A2a-e) above mentioned verbs do not involve another strategy of coreference apart from the one I previously stated. Here, I just translate the verbs as suggested.*

A2a) John washes himself.

John *i-srrira* *ixef-ins*  
John 3S.M-wash.IMPERF head-of his  
'John washes himself.'

b) Mary cut herself. [accidentally]

Mary *θ-qes* *ixef-ins*  
Mary 3S.F-cut.PERF head-of his  
'Mary cut herself.'

c) John is ashamed of himself.

John *i-sðha* *zg ixef-ins*  
John 3S.M-shamed.PERF from head-of his  
'John is ashamed of himself.'

d) John destroyed himself.

John *i-sðoqs* *ixef-ins*  
John 3S.M-destroy.PERF head-of his  
'John destroyed/blew himself.'

e) We hate ourselves.

*n-fah* *ixef-nex*  
3P.M hate.IMPERF head-of ours  
'We hate ourselves.'

#### 2.1.4 Obliques and other argument types -

- A3
- a) 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)

*In the contexts of oblique arguments, prepositional arguments and prepositional adjuncts, Berber does not use any other distinct strategy of co-reference. Hence, the absence of the need to translate the examples in (3.a-g).*

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:

- A4
- a) Etta likes herself.
  - b) Etta scares herself.

*No distinct reflexive strategy emerges in the context of the experiences-subject verbs*

#### 2.1.5 Person and number -

*These syntactic contexts in Berber do not reveal the use of a distinct reflexive strategy, apart from the 'Head+CL<sub>PP</sub>' strategy documented above.*

**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.

Some possibilities:

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

Some examples:

- A6 a) Peter knows himself.  
b) Peter (habitually) criticizes himself.

*There is no special strategy used with special class of aspectual verbs*

(b) Do quantificational constructions involve a separate strategy?

- A7 a) 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.

*The same reflexive strategy is used with quantificational constructions.*

(c) If your language has a system of grammaticized honorifics, do some types of honorific allow a strategy that has not been listed yet?

*Berber does not have honorifics*

(d) The above were all tensed main clauses. Experiment with placing both corefering arguments in various types of subordinate clauses, as your language allows. For example, consider tensed complements, subjunctives, infinitivals, purpose clauses, or any other embedding construction your language provides. (But keep both coreferent arguments in the same clause). Only provide examples corresponding to the sentences in A9 if any translation reveals a new strategy (which you should name).

- A9 a) Sol says that Alice loves herself.  
b) Sol required that Alice praise herself.  
c) Sol thought Alice should praise herself.  
e) Sol asked Alice to praise herself.  
f) Sol wants to praise himself.  
g) Sol expects Alice to praise herself.  
h) Sol heard Alice praising herself.

*In Berber, no different reflexive strategy other than the ones mentioned above emerges in the context of the subordinate clauses in 9.a-g*

## **2.2 Ordinary (potentially independent) pronouns**

Even if pronouns are never used as reflexives, we want to apply the tests of this questionnaire to them as well, since knowing what is not possible is also useful to us. Please test them now in all the local environments, even if they fail, unless you have already named them as a strategy because they succeed in local coreference environments.

2.2.1 First, show that the pronouns can be independent by using them in a sentence where they do not have an antecedent.

A10

- a) I spoke with Abraham yesterday. He saw Lela.  
*siwr-x ag Abraham iðnat. i-zra Lela.*  
 Speak.PERF-1SM/F with Abraham yesterday. 3S.M see.PERF Lela  
 'I spoke with Abraham yesterday. He saw Lela.'
- b) Where is Abraham? I saw him in the market.  
*mani ka Abraham ? zri-x θ gi souk*  
 where X Abraham ? see.PERF-1S.M/F CL.ACC.3S.M in the market  
 'Where is Abraham? I saw him in the market.'
- c) We saw you. Did you see me/us?  
*n-zri f (ma) θ-zrið anex ?*  
 3.PL.M/F-see.PERF CL.ACC.2S.M. Q 3.S.M-see.PERF us  
 'We saw you. Did you see me/us?'

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

*Yes, Berber clitic and non-clitic pronouns. Object clitics are illustrated in table 1 and subject affixes are illustrated in table 2.*

**TABLE 1:** Paradigm of accusative-dative object clitics /full pronominal forms in GT Berber<sup>1</sup>

	Accusative clitics		Dative clitics		Full pronominal forms		
	X-Clitic	Gloss	X-Clitic	Gloss	Accusative	Dative	Gloss
1.sg.	X - ayi	me	X - ayi	to me	nʃʃ	inʃʃ	(to) me
2.sg.masc.	X - ʃ	you	X - aʃ	to you	ʃkk	iʃkk	(to) you
2.sg.femin.	X - ʃm	you	X - am	to you	ʃmm	iʃmm	(to) you
3.sg.masc.	X - t	Him/it	X - as	to him	ntta	intta	(to) him
3.sg.femin.	X - t	Her/it	X - as	to her	nttaθ	inttaθ	(to) her
1.pl.	X-anex	us	X-anex	to us	nʃin	inʃin	(to) us
2.pl.masc.	X - wn	you	X- awn	to you	kniw	ikniw	(to) you
2.pl.femin.	X - knt	you	X- aknt	to you	knint	iknint	(to) you
3.pl.masc.	X - n	them	X - asn	to them	nθin	inθin	(to)them
3.pl.femin.	X - nt	them	X - asnt	to them	nθint	inθint	(to)them

**TABLE 2:** Distribution of subject affixes<sup>2</sup>

	Subject markers distribution	Subject markers distribution with a Verb conjugated in perfective tense
1.sg. masc./femin.	X - x	wʃi- x
2.sg. masc./femin.	θ - X - ð	θ - wʃi- ð
3.sg.masc.	i - X	i - wʃa
3.sg.femin.	θ - X	θ - wʃa
1.pl.	n - X	n - wʃa
2.pl.masc.	θ - X - m	θ - wʃi-m
2.pl.femin.	θ - X - nt	θ - wʃi-nt
3.pl.masc.	X - n	wʃi-n

<sup>1</sup> The symbols used in this table reads as follows: X refers to a lexical or functional category that object clitics gets hosted to and - is a morpheme boundary between the hosting category and the object clitics.

<sup>2</sup> X is the verbal stem in GT Berber

3.pl.femin.	X - nt	wji-nt
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2.2.3 Null arguments - If your language allows argument drop (null pronouns, or pro-drop) as a pronominalization strategy, then name it here as an additional pronominalization option. This kind of argument drop that 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. Provide examples for each grammatical function that can be dropped. In Japanese, for example, null arguments are possible for both subject and object arguments. If your language does not allow null arguments, just say so and move on.

*Berber is described as a pro-drop language. The lexical subject can be dropped*

1. *Muhand i-fa aysum*  
 Muhand 3.S.M-eat.PERF meat<sub>ACC</sub>  
 'Mohand ate meat.'
2. *i-fa aysum*  
 3.S.M-eat.PERF meat<sub>ACC</sub>  
 '(He) ate meat.'

## 2.3 Reciprocal coreference

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.

*No, there is no reflexive strategy in Berber that has a reciprocal meaning.*

2.3.2 Assess the sorts of reciprocal strategies your language contains.

*The variety of Berber that I report on here makes use of two strategies to encode reciprocal co-reference. That is, in addition to making use of a reciprocal sentence marker equivalent to the English 'Each other', Guezenaya Tarifyt Berber also resorts to making use of a special affix '(t)m' to encode reciprocal co-reference. Yet, at times the use of the affix reciprocal marker is excluded with certain verbs as attested below. I will state two Examples of each, modeled on the English sentences below.*

A11a) The women see each other.

- 1.a *θimǧari-n zar-nt ayawya*  
 women-PL see.IMPERF-3PL.F each other  
 'The women see each other.'
- 1.b *t-m-zar-nt θimǧari-n*  
 RCM-IMPERF -see-3PL.F women-PL  
 'The women see each other on a regular basis.'
- 1.c *m-zar-nt θimǧari-n*  
 RCM-see.PERF-3PL.F women-PL  
 'The women saw each other on a regular basis.'
- 1.d *θimǧari-n m-zar-nt*  
 women-PL RCM-see.PERF-3PL.F

- ‘The women saw each other on a regular basis.’
- 1.e\* *m-zar-nt* *θimgari-n* *ayawya*  
RCM-see.PERF-3PL.F women-PL each other  
‘The women saw each other on a regular basis.’
- b) The boys washed each other.
- 1.a *ihandz-n* *srrir-n* *ayawya*  
boys-PL wash.PERF-3PL.F each other  
‘The boys washed each other.’
- 1.b\* *m-srrira-n* *ihandz-n*  
RCM-wash.PERF-3PL.F boys-PL  
‘The boys washed each other.’
- c) The men combed each other's hair.
- 1.a *aryaz-n* *mfð-n* *i* *w-ayawya*  
man-PL combed.PERF-3PL.F to CS-each other  
‘The men combed each other's hair.’
- 1.b *ms-mfað-n* *w-aryaz-n*  
RCM-comb.PERF-3PL.F CS- man-PL  
‘The men combed each other's hair.’
- d) They argued with each other.
- 1.a *meng-n* *ag* *w-ayawya*  
argue.PERF-3PL.F with CS-each other  
‘They argued with each other.’
- \*1.b *ms-eng-a-n* *ag* *w-ayawya*  
RCM-argue.PERF-3PL.F with CS- each other  
‘They argued with each other.’
- e) The boys kicked/hit each other.
- 1.a *ihandz-n* *wθi-n* *ayawya*  
boys-PL hit.PERF-3PL.F each other  
‘The boys hit each other.’
- 1.b *mr-wθa-n* *ihandz-n*  
RCM-hit.PERF-3PL.F boys-PL  
‘The boys hit each other.’
- f) They hate each other.
- 1.a *fah-n* *ayawya*  
hate.IMPERF-3PL.F each other  
‘They hate each other.’
- 1.b *t-ms-frah-n*  
IMPERF-RCM-hate -3PL.F  
‘They hate (keep hating )each other.’



g) They quarreled with each other's wives

- 1.a *m-mn̄g-n* *ag* *θm̄garin n* *w-ayawya*  
 RCM-quarrel.PERF-3PL.S with wives of CS-each other  
 'They quarreled with each other's wives.'

2.3.3 Oblique arguments - Continue looking for new reciprocal strategies with the following sentences:

A12a) The men talked to Bill about each other.

- 1.a *aryaz-n* *siwr-n* *ḡa* Bill *x* *w-ayawya*  
 men-PL talk.PERF-3.PL.M to Bill about CS-each other  
 'The men talked to Bill about each other.'
- 1.b!!! *m-sawar-n* *w-aryaz-n* *ḡa* Bill *x* *w-ayawya*  
 RCM-talk.PERF-3.PL.M CS-men-PL to Bill about CS-each other  
 'The men talked to Bill about each other.'
- 1.c\* *m-sawar-n* *w-aryaz-n* *ḡa* Bill  
 RCM-talk.PERF-3.PL.M CS-men-PL to Bill  
 'The men talked to Bill about each other.'
- 1.d *m-sawar-n* *w-aryaz-n*  
 RCM-talk.PERF-3.PL.M CS-men-PL  
 'The men talked to each other.'

b) The men spoke to each other.

- 2.a *aryaz-n* *siwr-n* *ḡa* *w-ayawya*  
 men-PL talk.PERF-3.PL.M to CS-each other  
 'The men talked to each other.'
- 2.b *m-sawar-n* *w-aryaz-n*  
 RCM-talk.PERF-3.PL.M CS-men-PL  
 'The men talked to each other.'

c) The men heard stories about each other.

- 3.a *aryaz-n* *sdz-n* *θhija* *x* *w-ayawya*  
 men-PL heard.PERF-3.PL.M to on/about CS-each other  
 'The men heard stories about each other.'
- 3.b\* *m-sdz-n* *w-aryaz-n*  
 RCM-heard.PERF-3.PL.M CS- men-PL  
 'The men heard stories about each other.'

d) They left books in front of each other.

- 4.a *sa<sup>f</sup>s-n* *lktub* *zaθ* *i* *w-ayawya*  
 put.PERF-3.PL. books front of CS-each other  
 'They left books in front of each other.'
- 4.b\* *m-sa<sup>f</sup>s-n* *lktub*  
 RCM-put.PERF-3.PL. books

'They left books in front of each other.'

*With some verbs like 'kill', it is possible to make use of both strategies 'A' and 'B' to encode reciprocal co-reference. The following example with verb 'kill' /'fight' illustrates the point.*

- 5.a *ms-ŋg a-n*                      *w-aryaz-n*    *ag*    *w-ayawya*  
RCM-kill.PERF-3PL.M   CS-men-PL    with   CS-each other  
'The men fought/tried to kill each other.'
- 5.b *ms-ŋga-n*                      *w-aryaz-n*  
RCM-kill.PERF-3PL.M   CS-men-PL  
'The men fought/tried to kill each other.'
- 5.c *aryaz-n*      *ŋgi-n*                      *ayawya*  
CS-men-PL   RCM-kill.PERF-3PL.M   each other  
'The men fought/ killed each other.'

Also consider other verbs that have unusual argument structures in your language.

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.

- A13 a) 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.

*No new strategy of encoding reciprocal co-reference is revealed by using the sentences in (13a) as a testing ground.*

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.

- A14 a) 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.

*No new strategy of encoding reciprocal co-reference is revealed by testing the examples in (14.a-14.g)*

## 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?

*Yes The pronominal strategy is used in the sentences below*

A15

- a) Paul lost his shoes.  
*Paul*    *i-wdaʰ*                      *ihakussn*    *i-ness*

Paul 3SM-lose.PERF shoes of-his  
'Paul lost his shoes.'

b) Paul raised his hand. (e.g., in class)

Paul *i-ghsi* fus *i-ness*  
Paul 3SM-raise.PERF hand of-his  
'Paul raised his hand.'

c) Paul cut his hand. (e.g., accidentally)

Paul *i-qes* fus *i-ness*  
Paul 3SM-cut.PERF hand of-his  
'Paul cut his hand.'

d) Paul looked at his hand.

Paul *i-xza* *ga w-fus i-ness*  
Paul 3SM-look.PERF to CS-hand of-his  
'Paul looked at his hand.'

2.4.2 Reflexives in nominals -

A16) Andrew's self-confidence annoyed Mary.

A17) Andrew's introduction of himself impressed the teacher.

ANSWER-NE:

*In nominal reflexive constructions, the same reflexive strategy of "head+CLpp" is also used, yet the sentence is semantically odd.*

1. Andrew's oath about himself

*θzajjiθ n Andrew x ixef-ines*  
oath of Andrew on himself  
'Andrew's oath about himself.'

### PART 3 GENERAL DETAILS ABOUT THE STRATEGIES

*I have identified in part 1 and 2 above that the Berber variety (Guezenaya Tarifyt Berber) reported here makes use of two strategies to encode reciprocal coreference and one strategy to encode reflexives. First, I start with the details of Reflexive strategy.*

#### ☞ *Reflexive Strategy*

##### *Strategy "Head+CLpp"*

*Example:*

Mohand	<i>i-ssrir</i>	<u><i>ixef-ins</i></u>
Mohand	3S.M-wash.PERF	head-of his /himself
'Mohand washed himself.'		

#### ☞ *Reciprocal strategies*

##### *Strategy 1. Argument reciprocal*

*Example:*

*θimǧari-n*    *zar-nt*    *ayawya*  
 women-PL    see.IMPERF-3PLF    each other  
 ‘The women see each other.’

**Strategy2. Affix strategy**

Example:

*tm-za<sup>f</sup>-nt*    *θimǧari-n*  
 RCM- IMPERF -see-3PLF    women-PL  
 ‘The women see each other on a regular basis.’

**DETAILS OF REFLEXIVE STRATEGY**

**Strategy “Head+CLpp”**

Example:

Mohand    *i-ssrir*    *ixef-ins*  
 Mohand    3S.M-wash.PERF    head-of his /himself  
 ‘Mohand washed himself.’

**3.1 Marking**

3.1.1

- (a) Marking on a coconstrued argument or adjunct.
- (b) Marking on the verb or an auxiliary.

*The marking mechanism used by Berber language to mark its reflexive strategy is similar to the one used in English. The equivalent of the English reflexive himself is ‘ixef-ins’. That is, Berber like English, uses option (a) mentioned in your classification above. That is, it marks one of the coreferent NPs, prototypically the object in subject-object coreference. Hence options (b) and (c) are excluded since there is no reflexive marking on Berber verbs.*

**3.2 Productivity**

3.2.1 How productive is this strategy, with respect to which verbs or predicates allow it? when you write up this section, indicate that the strategy in question is either *extremely productive*, *fairly productive*, or *I am not sure*.

*The reflexive strategy used in GT Berber is extremely productive. It can be used almost with all the verbs without exception, including derived and non-derived verbs.*

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

*This strategy applies across all the verbs. This strategy has almost no exception (scale (a)).*

**3.3 Context of Use**

3.3.1 How marked or natural is this strategy? For example, is this strategy typical of a particular social style or literary style, or does it sound old-fashioned? Is it considered formal or casual or is it used in any of these contexts?

*This strategy is not restricted to a special social class or contexts. It can be used across different discourse contexts and does not for part of specific registers.*

3.3.2 Is special intonation or emphasis necessary?

*To my knowledge, I cannot associate a specific prosodic trait with this strategy.*

3.3.3 Is a particular discourse context (e.g., contradicting) necessary? For example, it is possible to get coconstrual of subject and object in English with an object pronoun in special circumstances, as in B1.

B1) If Marsha admires just one person, then I suspect that she admires just HER.

*The GT Berber reflexive strategy mentioned above is not associated with a specific discourse context*

### 3.4 Morphology

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

*The stateable lexical translation of reflexive strategy in GT Berber is of the kind “head+of his” (ixefins). So GT Berber uses the body part head (which also translates into his soul when the word head is not taken literally).*

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?

*The GT Berber reflexive strategy an ordinary noun ixef 'head/soul' that can be possessed by other pronouns as in the example below.*

*ixef -ins  
head of his  
'The head of his.'*

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.

*The reflexive strategy “head+CLpp”/‘ixefins’ has an internal structure of the form Noun+P+CL. The ordinary noun ixef 'head/soul' can be possessed by other pronouns. The CLpp part which is a sort of clitic prepositional phrase is formed of the preposition i followed by a pronominal dative-clitic-like element. The clitic-like element included within the reflexive construction has an agreement feature structure that exhibits gender, person and number distinctions.*

### 3.5 The agreement paradigm

3.5.1 Give the morphological paradigm of each reflexive strategy.

*I illustrate the agreement paradigm of the pronominal part of the reflexive by the following table.*

	Dative-clitic-like	
	CLitic	Gloss
1.sg.	inw	Of me
2.sg.masc.	inj	Of you
2.sg.femin.	inm	Of you
3.sg.masc.	ins	Of him
3.sg.femin.	ins	Of her
1.pl.	nx	Of us
2.pl.masc.	nwn	Of you
2.pl.fem.	nknt	Of you
3.pl.masc.	nsn	Of them
3.pl.fem.	nsnt	Of them

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.) In particular, for each agreement feature, indicate whether it must agree with the antecedent, or perhaps with something else, and whether it must do so (a) obligatorily, or (b) usually or optionally.

*The agreement features on the reflexive NP must agree with the antecedent NP. In GT Berber, the NP which functions as an antecedent to the reflexive is NP subject. This NP subject can be realized as a lexical subject (which can either precede or follow the verb)-see underlined NP in examples 1.a and 1.b.*

1.a	<u><i>θimǧarin</i></u> women.PL.F 'The women saw themselves.'	<u><i>zri-nt</i></u> see.PERF-3PLF	<u><i>ixef-nsent</i></u> head-of them.PLF
1.b	<i>zri-nt</i> see.PERF-3PLF 'The women saw themselves.'	<u><i>θimǧarin</i></u> women.PLF	<u><i>ixef-nsent</i></u> head-of them.PLF

*The occurrence of this lexical subject is optional. GT Berber can be characterized as a subject pro drop language. In contexts where the NP lexical subject is dropped, the NP antecedent to the reflexive is assumed by the subject affix that appears on the verbal stem-see underlined affix in example 1.c. See also table 2 on page 14 of this questionnaire for a detailed description of the distribution of the subject affixes on the verbal stems in GT Berber.*

1.c	<i>zri-nt</i> see.PERF-3PLF 'They saw themselves.'	<u><i>ixef-nsent</i></u> head-of them.PLF
-----	--	--

*The occurrence of the subject affixes on the verbal stem is mandatory.*

### **3.6 Interaction with verb morphology**

Reflexives, especially those that are attached to the verb rather than occupying an argument position, are frequently incompatible with other morphological operations that can be applied to the verb..

*The (non-derived) verbal formal in GT Berber as in other Afroasiatic languages is a complex form, which includes a stem (root), a subject affix, and an affix of aspect/tense. The derived verbal form includes in addition to the subject and aspect/tense affixes, affixes for grammatical function changing (e.g. passive, causative).*

*The reflexive strategy in GT Berber interacts with verb morphology in terms of the agreement features that appear on the verbal stem. Any changes in the agreement features of the subject affixes on the GT Berber verbal stems requires change in the agreement features on the CLpp part of the reflexive.*

*The occurrence of the affixes which are part of the grammatical function changing do not induce a different reflexive strategy or block the use of the "head+CLpp" reflexive strategy.*

3.6.1 If you are aware of operations or morphemes that cannot co-occur with this strategy?  
*See 4.1.2.7.*

3.6.2 Exploration: Potential incompatibilities

3.6.2.1 Tense, Mood, Aspect - Make an inventory of the tense, mood and aspect system of your language. Check whether the various forms are compatible with the current coreference strategy. Check with at least the following verbs.

B3) see, praise, help, like, know, wash

*The reflexive strategy “head+CLpp” is compatible with the tense, mood and aspect forms in GT Berber*

3.6.2.2 GF-changing - Make a list of GF-changing constructions or operations in your language that affect the argument structure of a verb, adding, promoting, or demoting arguments. For example, passive, antipassive, stative, benefactive, applicative, etc. Where the result of the GF-change has at least two arguments, check whether each transformation is compatible with application of the current strategy.

Consider the verbs listed in B3 and B4.

B4) cook, give, visit, kill

If the interaction is too unclear, or too dependent on syntactic details, you may postpone it until section 4.1.2.7, where syntactic aspects are examined in more detail.

*I will address this in section 4.1.2.7*

### 3.7 Non-coreference uses

3.7.1 Idiosyncratic. Some languages have verbs that lexically require a reflexive, which does not appear to correspond to an argument. Are there such uses for the current strategy? If so, give examples of as many as possible [Example: English has a few such verbs, for example, perjure oneself. German has many more, such as sich erinnern, "to remember".]

*The reflexives used with GT Berber verbs always correspond to an argument.*

3.7.2 Emphatic or intensifier. As in the English, The president himself answered the phone.

*It is possible to focalize and cleft a reflexive construction.*

1.a. *rrqayað*     *s*     *ixef-ines,*     *i-xff*     *d*  
the chief     with     himself     3S.M-arrive.PERF     CL  
'The chief himself arrived.'

1.b. *ð*     *ntta*     *s*     *ixef-ines*     *i*     *d*     *i-xff-n*  
COP     him     with     himself     RM     CL     PART-arrive.PERF-PART  
'It is himself who arrived.'

3.7.3 Middle.

*GT Berber has middle-type constructions similar to the ones attested in English. Middles in GT Berber are not associated with reflexivization.*

3.7.4 Distributive, sociative, etc. Some strategies (reciprocal markers most frequently) can also

be used to mean that some action was performed separately, or jointly, or repeatedly, etc. You should only report uses that do not involve coreference between two logical arguments.

*No (non-coreference) uses to report here*

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)? (Suggest a context if necessary).

- B5
- a) Bill did not see X
  - b) Does Mary like X?
  - c) X went to the bank yesterday.

*In GT Berber, it is always necessary to refer to the antecedent of a reflexive NP even if the antecedent is physically present. It is only in ostension contexts (if we can assume that ostension context is a deictic context) that a reflexive form can be used without the antecedent being mentioned in the sentence or discourse.*

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

- B6
- a) Bill insulted X. (X = speaker, X = addressee)
  - b) Many people do not like anchovies, but X likes them.  
(X = speaker, X = addressee)

*The reflexive form can be used to refer only to the conversation participants that are mentioned in the sentence.*

Can the form in question be used in a sense like that of English generic one?

- B7
- a) I don't like the way he speaks to one.
  - b) One cannot be too careful
  - c) Bill insults one before one can say a word.

*The reflexive form in TG Berber cannot be used in contexts of the generic 'one'*

3.7.6 Other. Are there other ways to use the strategy that do not express coreference (including reciprocal coreference) between two arguments? If so, give examples and a brief explanation here.

*No (non-coreference) uses to report here*

### 3.8 Proxy readings

One interpretation that the choice of coreferent strategy is sometimes sensitive to is proxy interpretation. A proxy reading is one where the coreferent argument is understood as a representation of or a "stand in" for the reference of the antecedent. This is often the case with statues, for example, or authors and their work.

- B8
- a) Castro admired himself in the wax museum. (himself = statue of Castro)
  - b) Grisham has not read himself in Swahili, though he has read himself in Spanish. (himself = Grisham's writings)

The differences emerge in English for cases like B9. Imagine that the wax museum is having a special event, which the wax statues of each celebrity will be washed and dressed by the celebrity they represent.

- B9
- a) Castro washed himself carefully, so as not to damage the wax.
  - b) Castro washed carefully, so as not to damage the wax.



- c) The movie star dressed herself carefully, so as not to damage the wax.  
 d) The movie star dressed carefully, so as not to damage the wax.

Test for proxy readings in your language and see if there are instances where they are possible and others where they are not. Proxy readings do not require locality, so cases like B10 are also generally possible.

- B10 a) Grisham says he sounds better in Swahili. (where he = Grisham's writings)  
 b) Castro thought that he looked handsome. (he = statue of Castro)

*Proxy cases in GT Berber exist, but the different proxy readings as the ones in B8 and B9 (English) seem difficult for me to get.*

*I illustrate a reflexive-proxy reading case in GT Berber by the following example*

Mohand *i-msaḥ* *ixfeines* *fwafai* *ḥbaf* *wa* *i-tazzi* *tswaiθ*  
 Mohand 3SM.clean.PERF himself slowly so as not 3SM-break.NEG.IMPER photo  
 “Muhand cleaned his photo slowly so as not to break it.”

## DETAILS OF RECIPROCAL STRATEGIES

### ☞ *Reciprocal strategies*

#### *Strategy1. Argument reciprocal*

*Example:*

*θimḡari-n* *zar-nt* *ayawya*  
 women-PL see.IMPERF-3PLF each other  
 ‘The women see each other.’

#### *Strategy2. Affix strategy*

*Example:*

*tm-zaʼ-nt* *θimḡari-n*  
 RCM-IMPERF -see-3PLF women-PL  
 ‘The women see each other on a regular basis.’

### **3.1 Marking**

3.1.1 We would like to focus for part of this section on the way strategies are marked.

- (a) Marking on a coconstrued argument or adjunct.  
 (b) Marking on the verb or an auxiliary.  
 (c) coreference is marked by dropping an argument.

*TG Berber marks reciprocity in two ways: With the affix strategy, the reciprocal is marked by a verbal affix (t)-m which forms part of the verbal complex. In this case TG Berber uses option (b).*

*In addition to the verbal affix reciprocal marking, GT Berber uses an additional reciprocal strategy, by adding the word ‘ayawya’ which means ‘each other’. In this case TG Berber uses option (a).*

### **3.2 Productivity**

3.2.1 How productive is this strategy, with respect to which verbs or predicates allow it?

- a. The argument reciprocal strategy is extremely productive*  
*b. The reciprocal verbal affix is fairly 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)?

*a. The argument reciprocal strategy applies across all verb categories*

*b. The reciprocal verbal affix is excluded with certain verbs. For example with verbs such as 'wash', 'listen', 'talk'*

### **3.3 Context of Use**

3.3.1 How marked or natural is this strategy?

*The above two mentioned reciprocal strategies are not restricted to a special social class or contexts. They can be used across different discourse contexts and does not form part of specific registers.*

3.3.2 Is special intonation or emphasis necessary, and if so, where

*To my knowledge, I cannot associate a specific prosodic trait with these two strategies of encoding reciprocal interpretation.*

3.3.3 Is a particular discourse context (e.g., contradicting) necessary? For example, it is possible to get coconstrual of subject and object in English with an object pronoun in special circumstances, as in B1.

B1) If Marsha admires just one person, then I suspect that she admires just HER.

*No particular discourse strategy is necessary for the realization of the reciprocal strategies in GT Berber*

### **3.4 Morphology**

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

*A. For the reciprocal verbal (affixal) strategy, it is expressed through a specific affix.*

*B. For the reciprocal argument strategy, though it translates to the English equivalent 'each other', it is not possible to lexically or morphologically decompose it. For the Berber equivalent of 'each' and 'other' are two different lexemes. 'each'=ijj and 'other'=ngni*

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?

*The reciprocal forms used in GT Berber cannot be used for non-reciprocal contexts. The argumental reciprocal form can be possessed as illustrated by the following example*

1.a) *gri-n                                      yayazn lkub n w-ayawya*  
*read.PERF-3PL.M      men              books of CS-each other*  
*'The men read each other's books.'*

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.

*The reciprocal strategies in TG Berber and the forms that express them do not contain agreement features. The form of the reciprocal affix does not change and is not affected by the agreement features on the NP antecedents it associates with. For the reciprocal argumental strategy, its lexical content is not derived from other words.*

### **3.5 The agreement paradigm**

3.5.1 Give the morphological paradigm of each reflexive strategy.

*The reciprocal strategies in TG Berber and the forms that express them do not contain agreement features.*

3.5.2 For each morphological feature, what determines its value?

*The reciprocal strategies in TG Berber and the forms that express them do not contain agreement features.*

### **3.6 Interaction with verb morphology**

3.6.1 If you are aware of operations or morphemes that cannot co-occur with this strategy, then list them here

*A. For the argumental reciprocal strategy, there are no co-occurrence restrictions with the other morphemes that appear on the verbal complex.*

*B. For the affixal reciprocal strategy, the tests suggest that the reciprocal affix can co-occur with the affixes of tense, aspect, agreement and causativization, but it cannot co-occur with the passivization affix. Note that these affixes appear on the verbal complex of GT Berber. See the detailed description of the GT Berber clause.*

3.6.2 Exploration: Potential incompatibilities

This section can be skipped over to save time, but it is one which we may choose to explore in follow-up investigations

*A. For the argumental reciprocal strategy, there are no co-occurrence restrictions with the other morphemes that appear on the verbal complex.*

*B. For the affixal reciprocal strategy, the tests suggest that the reciprocal affix cannot co-occur with the passivization affix.*

3.6.2.1 Tense, Mood, Aspect - Check whether the various forms are compatible with the current coreference strategy. Check with at least the following verbs.

B3) see, praise, help, like, know, wash

*For the argumental reciprocal strategy and the affixal reciprocal strategy in GT Berber, there are no co-occurrence restrictions with the Tense/Mood/Aspect system of GT Berber.*

3.6.2.2 GF-changing - Consider the verbs listed in B3 and B4.

B4) cook, give, visit, kill

If the interaction is too unclear, or too dependent on syntactic details, you may postpone it until section 4.1.2.7, where syntactic aspects are examined in more detail.

*A. For the argumental reciprocal strategy, there is no interaction with the grammatical function changing operations*

*B. The affixal reciprocal strategy in GT Berber cannot co-occur with the passivization affix.*

### **3.7 Non-coreference uses**

3.7.1 Idiosyncratic.

*The GT Berber reciprocal strategies identified above are used only for encoding the reciprocal readings.*

3.7.2 Emphatic or intensifier.

*A. The affixal reciprocal form cannot occur in a focus or topic position.*

*B. The argumental reciprocal form can occur in a cleft construction.*

1.      $\delta$      ayawya     *i*     zri-nt      $\theta$ im $\acute{g}$ ari-n  
 COP   each other   REL   see.PERF-3PLF   women-PL  
 ‘It is each other that the women saw.’

### 3.7.3 Middle.

*Middles in GT Berber are not associated with reciprocal strategies.*

3.7.4 Distributive, sociative, etc. Some strategies can also be used to mean that some action was performed separately, or jointly, or repeatedly, etc. You should only report uses that do not involve coreference between two logical arguments.

*In GT Berber, the reciprocal affix can be used to mean that an action is repeated and coreference always holds between two logical arguments in such contexts.*

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)? (Suggest a context if necessary).

- B5     a) Bill did not see X  
        b) Does Mary like X?  
        c) X went to the bank yesterday.

*In GT Berber, it is always necessary to refer to the antecedent of a reciprocal NP even if the antecedent is physically present. This holds for the affixal reciprocal strategy and the argumental reciprocal strategy. It is only in ostension contexts (if we can assume that ostension context is a deictic context) that reciprocal forms in GT Berber can be used without the antecedent being mentioned in the sentence or discourse.*

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

- B6     a) Bill insulted X. (X = speaker, X = addressee)  
        b) Many people do not like anchovies, but X likes them.  
        (X = speaker, X = addressee)

*In GT Berber, it is always necessary to refer to the antecedent of a reciprocal NP even if the antecedent is physically present.*

Can the form in question be used in a sense like that of English generic one ?

- B7     a) I don't like the way he speaks to one.  
        b) One cannot be too careful  
        c) Bill insults one before one can say a word.

*In GT Berber, the two reciprocal strategies cannot be used in contexts of generic one.*

3.7.6 Other. Are there other ways to use the strategy that do not express coreference (including reciprocal coreference) between two arguments? If so, give examples and a brief explanation here.

*No, there aren't*

## 3.8 Proxy readings

Test for proxy readings in your language and see if there are instances where they are possible and others where they are not. Proxy readings do not require locality, so cases like B10 are also

generally possible.

B10 a) Grisham says he sounds better in Swahili. (where he = Grisham's writings)

b) Castro thought that he looked handsome. (he = statue of Castro)

Provide both local and long distance examples with gloss and translation of proxy readings. If proxy readings seem difficult for you to get just say so, and if you find that you need to transform the examples in some way to get the right interpretation, feel free to do so, but then be extra careful about gloss and translation.

*Discourse context: both of Sartre and Camus, being together in a library, they both noticed that their books are published in Berber. Each one of them read the book of the other.*

*In this discourse context, it is possible to obtain a reciprocal coreference with a proxy-reading when the argumental coreference, but not the affixal coreference is used. I illustrate this by 1 and 2.*

1. Sartre  $\delta$  Camus  $\acute{g}ri-n$  waywya ss  $\theta mazight$   
Sartre and Camus read.PERF-3PL each other with Berber  
'Sartre and Camus read each other in Berber.'

2.\* Sartre  $\delta$  Camus  $mm-gri-n$  waywya ss  $\theta mazight$   
Sartre and Camus RCM-read.PERF-3PL each other with Berber  
'Sartre and Camus read each other in Berber.'

*The different proxy readings (within the context of the reciprocals) similar to the ones in B8 and B9 (English) seem difficult for me to get.*

## PART 4 EXPLORATION OF SYNTACTIC DOMAINS

Sample elicitation. Construct a relatively simple transitive sentence, such as John hit Bill, providing gloss and translation. Now use each coreference strategy in your list to change the sentence you constructed into a reflexive. For example, for a sentence like John hit X where X is John, try each strategy and determine whether or not the outcome is successful for a reflexive or reciprocal reading. For English, we might describe four strategies as IMPLICIT, X-SELF, EACH-O and O-another (one another) as well as the pronominal strategy which, in English, does not normally work for coargument coreference. As a native English speaker, I might respond as follows.

X1 a)\*John hit.  
b) John hit himself.  
c)\*The boys hit.  
d) The boys hit each other.  
e) The boys hit one another.  
f)\*John hit him

X2 a) John washed.  
b) John washed himself.  
c) The boys washed.  
d) The boys washed each other.

- e) The boys washed one another.
- f)\*John washed him.

- X3
- a)\*John saw himself's mother.
  - b)\*John washed mother,
  - c)?John and Bill saw each other's mother.
  - d)?\*John and Bill saw one another's mother.
  - e) John and Bill saw their mother.
  - f) John washed/saw his mother.

#### 4.1 Clausemate coconstrual

The following questions will provide a broad outline of the types of predicates that allow the use of each strategy.

##### 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.

- C1
- a) Bob saw X.
  - b) The women described X.
  - c) You(pl.) kicked X.
  - d) They praised X

*Note that the reciprocal affix strategy is excluded at times (with DP preverbal subjects but not with subject pronouns).*

C1

- a) Bob saw X.

<i>Bob</i>	<i>i-zra</i>	<i>ixef-ines</i>
Bob	3S.M-see.PERF	head-of his
'Bob saw himself.'		

<i>Bob</i>	<i>i-zra</i>	Fatima
Bob	3S.M-see.PERF	Fatima
'Bob saw Fatima.'		

- b) The women described X.

<i>? θimġarin</i>	<i>wsf-nt</i>	<i>θimġarin</i>
women	describe.PERF-3PL.F	women
'Women described women.'		

<i>θimġarin</i>	<i>wsf-nt</i>	<i>ayawya</i>
women	describe.PERF-3PL.F	each other
'Women described each other.'		[Argumental reciprocal strategy]

<i>?* θimġarin</i>	<i>ms-wsaf-nt</i>	
women	RCM-describe.PERF-3PL.F	
'Women described each other.'		[Reciprocal Affix strategy]

c) You(pl.) kicked X.

*θ-akr-m*                                      *ixef-nwn*  
3.PL.M-kick-3.PL.M                      head-of yours  
'You kicked yourselves.'

*θ-ms-akr-m*  
3.PL.M-RCM-kick-3.PL.M  
'You kicked each other.'                                      [Reciprocal Affix strategy ]

*θ-akr-m*                                      *ayawya*  
3.PL.M-kick-3.PL.M                      each other  
'You kicked each other.'                                      [Argumental reciprocal strategy]

d) They praised X

*/ka-n*    *θimɣarin*  
prais.PERF-3PL.M                              women  
'They praised women.'

*/ka-n*    *ayawya*  
prais.PERF-3PL.M                              each other  
'They praised each other.'                                      [Argumental reciprocal strategy]

*ms-/ka-n*  
RCM-prais.PERF-3PL.M  
'They praised each other.'                                      [Reciprocal Affix strategy ]

**4.1.1.2.** Commonly reflexive predicates - Can this strategy be used with verbs of grooming, inalienable-possession objects, etc? Give judgments on the following. Provide some additional examples of your own.

- C3      a) Donna washed X. (X = Donna)  
          b) Don cut X's hair. (X = Don).  
          c) The girl cut X [unintentionally] (X = the girl)

*The following examples illustrate the possible and impossible uses of the commonly reflexive predicates with each of the anaphoric strategies we identified for TB Berber.*

C3  
a) Donna washed X. (X = Donna)

\* *Donna*                      *θ-srir*  
*Donna*                      3S.F-wash.PERF  
'Donna washed.'

*Donna*                      *θ-srir*                                      *ixef-ines*  
*Donna*                      3S.F-wash.PERF                              head-of her  
'Donna washed herself.'

\* *Donna*                      *θ*                      *Don*                      *srir-n*

Donna and Don wash.PERF-3PL  
 'Donna and Don washed'

*Donna*  $\delta$  *Don* *srir-n* *ixef-nsen*  
 Donna and Don wash.PERF-3PL head-of them  
 'Donna and Don washed themselves.'

? *Donna*  $\delta$  *Don* *srir-n* *ayawya*  
 Donna and Don wash.PERF-3PL each other  
 'Donna and Don washed each other.'

\* *Donna*  $\delta$  *Don* *m-srrir-n*  
 Donna and Don RCM-wash.PERF-3PL  
 'Donna and Don washed each other.' [Reciprocal Affix strategy]

*Remark: As these examples show, it is not possible to use the affixal reciprocal strategy with the verb 'wash'. Argumental reciprocal strategy works with the verb 'wash', though the sentence is a bit odd.*

b) Don cut X's hair. (X = Don).

*Don* *i-qs* *arif* *i-nes*  
 Don 3S.M-cut.PERF hair of-his  
 'Don cut his hair.'

*Don*  $\delta$  *Donna* *qs-n* *arif nesn*  
 Don and Donna cut.PERF-3PL hair of them  
 'Don and Donna cut their hair.'

*Don*  $\delta$  *Donna* *qs-n* *arif n w-ayawya*  
 Don and Donna cut.PERF-3PL hair of CS-each other  
 'Don and Donna cut each other's hair.'

\**Don*  $\delta$  *Donna* *m-qs-n* *arif*  
 Don and Donna RCM-cut.PERF-3PL hair  
 'Don and Donna cut each other's hair.' [Reciprocal Affix strategy]

c) The girl cut X [unintentionally] (X = the girl)

\* *θabat* *θ-qs* *θabat*  
 girl 3S.M-cut.IMPERF girl  
 'The girl cut the girl.'

*θabat* *θ-qs* *ixef-ines*  
 girl 3S.M-cut.IMPERF head-of her  
 'The girl cut herself.'

*θabaθ-in* *qs-nt* *ayawya*



girl-PL cut.PERF-3PL each other  
 ‘The girls cut each other.’

\**θabaθ-in m-qs-nt*  
 girl-PL RCM-cut.PERF-3PL  
 ‘The girls cut each other.’

[Reciprocal Affix strategy]

#### 4.1.1.3 Psychological predicates.

C4

##### a) John hates X

*John i-fah ixef-ines*  
 John 3S.M-hate.PERF head-of him  
 ‘John hates himself.’

*John ð Jane fah-n ixef-nsn*  
 John and Jane hate.PERF-3PL head-of them  
 ‘John and Jane hated themselves.’

*John ð Jane fah-n ayawya*  
 John and Jane hate.PERF-3PL each other  
 ‘John and Jane hated each other.’

*John ð Jane tm-frah-n*  
 John and Jane RCM-hate.IMPERF-3PL  
 ‘John and Jane hated each other.’

##### b) John is ashamed of X

*John i-sðħa zg ixef-ines*  
 John 3S.M-ashame-PERF from head-of him  
 ‘John is ashamed of himself.’

*John ð Jane tsðħa-n zg ixef-nsn*  
 John and Jane ashame-PERF.3PL from head-of them  
 ‘John and Jane are ashamed of themselves.’

*John ð Jane tsðħa-n zg w-aywya*  
 John and Jane ashame-PERF.3PL from CS-each other  
 ‘John and Jane are ashamed of each other.’

?*John ð Jane tssðħa-n aywya*  
 John and Jane ashame-PERF.3PL each other  
 ‘John and Jane are ashamed of each other.’

\**John ð Jane t-m-ssðħa-n*  
 John and Jane RCM-ashame-PERF.3PL

‘John and Jane are ashamed of each other.’

c) John is worried about X

*John i-nhm x Jane*  
John 3S.M-worry.PERF on Jane  
‘John is worried about Jane.’

*John i-nhm x ixef-ines*  
John 3S.M-worry.PERF on head-of him  
‘John is worried about himself.’

*John ð Jane nhm-n x ixef-nsen*  
John and Jane worry.PERF-3PL on head-of their  
‘John and Jane are worried about themselves.’

*John ð Jane nhm-n x w-aywya*  
John and Jane worry.PERF-3PL on CS-each other  
‘John and Jane are worried about each other.’

\* *John ð Jane m-nhma-n*  
John and Jane RCM-worry.PERF-3PL  
‘John and Jane are worried about each other.’

d) John is proud of X

*John i-tcfa s Fatima*  
John 3S.M-proud.PERF with Fatima  
‘John is proud of Fatima.’

*John i-tcfa s ixef-ines*  
John 3S.M-proud.PERF with head-of him  
‘John is proud of himself.’

*John ð Fatima tcfa-n s ixef-nsen*  
John and Fatima proud.PERF-3PL with head-of theirs  
‘John and Jane are proud of themselves.’

*John ð Fatima tcfa-n s w-ayawya*  
John and Fatima proud.PERF-3PL with CS-each other  
‘John and Jane are proud of each other.’

?\* *John ð Fatima tcfa-n ayawya*  
John and Fatima proud.PERF-3PL each other  
‘John and Jane are proud of each other.’

*John ð Fatima tm-cfa-n s w-ayawya*  
John and Fatima RCM-proud.PERF-3PL with CS-each other

‘John and Jane are proud of each other.’  
*John* *ð* *Fatima* *t-m-çfa-n*  
 John and Fatima RCM-proud.PERF-3PL  
 ‘John and Jane are proud of /with each other.’

e) John worries/troubles/pleases X

*John* *i-tğdad* *ixef-ines*  
 John 3S.M-worry.PERF head-of him  
 ‘John worries himself.’

*John* *ð* *Fatima* *tğdad-n* *ixef-nsen*  
 John and Fatima worry.IMPERF-3PL head-of theirs  
 ‘John and Fatima worry themselves.’

*John* *ð* *Fatima* *tğdad-n* *ayawya*  
 John and Fatima worry.IMPERF-3PL each other  
 ‘John and Fatima worry each other.’

*John* *ð* *Fatima* *tm-ğdad-n*  
 John and Fatima RCM-worry.IMPERF-3PL  
 ‘John and Fatima worry each other.’

*John* *ð* *Fatima* *tm-ğdad-n* *ag* *w-ayawya*  
 John and Fatima RCM-worry.IMPERF-3PL with CS-each other  
 ‘John and Fatima worry with each other.’

REMARK: Note that with the last two examples in (d) and (e) it seems that the reciprocal affix strategy works independently as well as in combination with the argumental reciprocal strategy.

4.1.1.4 Creation and destruction. Provide examples in addition to C5 using verbs of creation (e.g., "sew", "make", "form") or destruction (e.g. "kill", "eliminate", "make disappear").

C5a)

The women will destroy X

*θimğarin* *að* *arz-nt* *θawarθ*  
 women FUT destroy.AOR-3PL door  
 ‘Women will destroy the door.’

*θimğarin* *að* *az-nt* *ixef-nsent*  
 women FUT destroy.AOR -3PL head-of theirs  
 ‘Women will destroy themselves.’

*θimğarin* *að* *az-nt* *ayawya*  
 women FUT destroy.AOR -3PL each other  
 ‘Women will destroy each other.’

\**θimǵarin aḏ m-az-nt*  
 women FUT RCM-destroy.AOR -3PL  
 ‘Women will destroy each other.’

The women will kill X

*θimǵarin aḏ nǵ-nt ixef-nsent*  
 women FUT kill.AOR-3PL head-of theirs  
 ‘Women will kill themselves.’

*θimǵarin aḏ nǵ-nt ayawya*  
 women FUT kill.AOR-3PL each other  
 ‘Women will kill each other.’

*θimǵarin aḏ ms-nǵa-nt*  
 women FUT RCM-kill.AOR-3PL  
 ‘Women will kill each other.’

The women will make disappear X

*θimǵarin ǵwa-nt aqzin*  
 women disappear.PERF-3PL dog  
 ‘Women made the dog disappear.’

? *θimǵarin ǵwa-nt ixef-nsent*  
 women disappear.PERF-3PL head-of theirs  
 ‘Women made themselves disappear.’

*θimǵarin ǵwa-nt ayawya*  
 women disappear.PERF-3PL each other  
 ‘Women made each other disappear.’

?\* *θimǵarin m-ǵwa-nt*  
 women RCM-disappear.PERF-3PL  
 ‘Women made each other disappear.’

b) The machines built X (X = themselves)

*machinaθ aḏ bna-nt ṛḥiḏ*  
 machines FUT build.AOR-3PL wall  
 ‘Machines will build a wall.’

?\* *machinaθ aḏ bna-nt ixef-nsent*  
 machines FUT build.AOR-3PL head-of theirs  
 ‘Machines will build themselves.’

?\* *machinaθ aḏ bna-nt ayawya*  
 machines FUT build.AOR-3PL each other  
 ‘Machines will build each other.’

\*\* *machinaθ ađ m-sbna-nt*  
 machines FUT RECbuild.AOR-3PL  
 ‘Machines will build each other.’

REMARK: *With the inanimate subjects and creation verbs, it seems that none of the strategies works as the examples in (b) show.*

**4.1.1.5** Verbs of representation. Reflexive versions of these verbs include instances where individuals act on their own behalf, rather than have someone act in their name or for them.

C6

a) John spoke for X.

*rcwyar siwr-n x ixef-nsen*  
 boys speak.PERF-3PL on head-of-theirs  
 ‘Boys spoke for themselves.’

*rcwyar siwr-n x w-ayawya*  
 boys speak.PERF-3PL on CS-each other  
 ‘Boys spoke about each other.’

*rcwyar m-sawar-n x w-ayawya*  
 boys RCM-speak.PERF-3PL on CS-each other  
 ‘Boys spoke about each other.’

?\* *rcwyar m-sawar-n*  
 boys RCM-speak.PERF-3PL  
 ‘Boys spoke about each other.’

*The system that emerges out the data described above is summed up in this table*

<i>Predicate type verb classes restrictions</i>	<i>Anaphoric strategies</i>		
	<i>Reflexive strategy</i>	<i>Reciprocal affixal strategy</i>	<i>Reciprocal argumental strategy</i>
Canonical Transitives	+	+	+
Commonly reflexive predicates	+	-	+
Psychological predicates	+	+/-	+/-
Creation and destruction verbs	+	-	+
Representation verbs	+	-	+

#### **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.

Yes it is possible to express coreference between a subject and an indirect object.

C7

a) Mary gave the gift to X (X = Mary)

*Mary* *θ-wfa* *Ikadou* *i* *xef-ines*  
 Mary 3S.F-give.PERF present to head-of her  
 ‘Mary gave a gift to herself.’

*Mary* *δ* *Fatima* *wfi-nt* *Ikadou* *i* *xef-nsnt*  
 Mary and Fatima give.PERF-3.PL present to head-of theirs  
 ‘Mary and Fatima gave the gift to themselves.’

*Mary* *δ* *Fatima* *wfi-nt* *Ikadou* *i* *w-ayawya*  
 Mary and Fatima give.PERF-3.PL present to CS-each other  
 ‘Mary and Fatima gave the gift to each other.’

\**Mary* *δ* *Fatima* *mr-wfa-nt* *Ikadou*  
 Mary and Fatima RCM-give.PERF-3.PL present  
 ‘Mary and Fatima gave the gift to each other.’

b) John showed the house to X (X = John)

*John* *i-mra* *θadarθ* *i* *xef-ines*  
 John 3S.M-show.PERF house to head-of him  
 ‘John showed the house to himself.’

*John* *δ* *Fatima* *mri-n* *θadarθ* *i* *xef-nsen*  
 John and Fatima show.PERF.3PL house to head-of him  
 ‘John and Fatima showed the house to themselves.’

*John* *δ* *Fatima* *mri-n* *θadarθ* *i* *w-ayawya*  
 John and Fatima show.PERF.3PL house to CS-each other  
 ‘John and Fatima showed the house to each other.’

\**John* *δ* *Fatima* *m-mar-n* *θadarθ*  
 John and Fatima RCM-show.PERF.3PL house  
 ‘John and Fatima showed the house to each other.’

For comparison, also provide judgments for the following:

C8

a) Mary gave X the gift (X = Mary)

? *Mary* *i-wfa* *i* *xef-ines* *Ikadou*  
 Mary 3S.M-give.PERF to head-of her present  
 ‘Mary gave the gift to herself.’

b) John showed X to the children (X = John)

John *i-mra* *ixef-ines* *i* *rc'wyar*  
 John 3S.M-show.PERF head-of him to the boys  
 'John showed himself to the boys.' (for example, on a photo)

**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).

*Berber does not have an overt case system.*

C9

a) Bill talked to X.

Bill *i-siwr* *ag* *ixef-ines*  
 Bill 3S.M-speak.PERF with head-of his  
 'Bill spoke to himself.'

Bill *ð* Jane *siwr-n* *ag* *ixef-nesn*  
 Bill and Jane speak.PERF-3PL with head-of theirs  
 'Bill spoke to/ with themselves.'

Bill *ð* Jane *siwr-n* *ag* *w-ayawya*  
 Bill and Jane speak.PERF-3PL with CS-each other  
 'Bill spoke to/with each other.'

Bill *ð* Jane *m-sawar-n*  
 Bill and Jane RCM-speak.PERF-3PL  
 'Bill spoke to/ with each other.'

b) John told Mary about X (X = John)

? John *i-siwr* *ag* Mary *x* *ixef-ines*  
 John 3S.M-speak.PERF with Mary on head-of his  
 'John talked to Mary about himself.'

John *ð* Jane *siwr-n* *ag* Mary *x* *ixef-nesn*  
 John and Jane speak.PERF.3PL with Mary on head-of theirs  
 'John and Jane talked to Mary about themselves.'

?\* John *ð* Jane *siwr-n* *ag* Mary *x* *w-ayawya*  
 John and Jane speak.PERF.3PL with Mary on CS-each other  
 'John and Jane talked to Mary about each other.'

\*John *ð* Jane *m-sawr-n* *ag* Mary  
 John and Jane RCM-speak.PERF.3PL with Mary  
 'John and Jane talked to Mary about each other.'

**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.

C10

a) Mary saw a snake behind X (X = Mary)

?\*Mary      *θ-zra*                      *fiġar zefa*                      *i*                      *xef-ines*  
 Mary              3S.M-see.PERF              snake behind              of              head-of her  
 ‘Mary saw a snake behind herself.’

Mary *θ-zra*                                      *fiġar zefa*                                      *as*  
 Mary 3S.M-see.PERF              snake behind                                      CL  
 ‘Mary saw a snake behind her.’

\*Mary *ð*      *Jane zri-nt*                                      *fiġar zefa*                                      *i*                      *xef-nsent*  
 Mary and Jane 3S.M-see.PERF              snake behind                                      of              head-of them  
 ‘Mary and Jane saw a snake behind themselves.’

Mary *ð*      *Jane zri-nt*                                      *fiġar zefa*                                      *asnt*  
 Mary and Jane 3S.M-see.PERF              snake behind                                      CL  
 ‘Mary and Jane saw a snake behind them.’

?\* Mary      *ð*      *Jane zri-nt*                                      *fiġar zefa*      *i*                      *w-ayawya*  
 Mary              and Jane 3S.M-see.PERF              snake behind of                      CS-each other  
 ‘Mary and Jane saw a snake behind each other.’

\*\* Mary      *ð*      *Jane m-zra-nt*                                      *fiġar*  
 Mary              and Jane RCM-3S.M-see.PERF                                      snake  
 ‘Mary and Jane saw a snake behind each other.’

b) Mary called me because of a book about X (X = Mary)

\* Mary *θ-raġa*                      *ay d umi θ-zra*                                      *lkab x ixef-ines*  
 Mary 3S.M-call.PERF      CL CL because 3S.M-see.PERF      book about head-of her  
 ‘Mary called me because she saw the book about herself.’

\* Mary *ð*      *Jane raġa-nt*                      *ay d umi zri-nt*                                      *lkab x ixef-nesnt*  
 Mary and Jane call.PERF.3PL      CL CL because see.PERF-3PL      book about head-of them  
 ‘Mary and Jane called me because they saw the book about themselves.’

\*\* Mary *ð*      *Jane raġa-nt*                      *ay d umi zri-nt*                                      *lkab x w-ayawya*  
 Mary              and Jane call.PERF.3PL      CL CL because see.PERF-3PL      book about CS-each other  
 ‘Mary and Jane called me because they saw the book about each other.’

\*\* Mary      *ð*      *Jane*                      *raġa-nt*                      *ay d umi*  
 Mary              and Jane                      call.PERF.3PL                      CL      CL                      because  
*m-zri-nt*                                      *lkab x w-ayawya*  
 RCM-see.PERF-3PL                      book about CS-each other  
 ‘Mary and Jane called me because they saw the book about each other.’



c) John offended Mary because of X (X = John)

*\*\* John i-zawar Mary umi x ixef-ines*  
 John 3S.M-insult.PERF Mary because on head-of her  
 ‘John insulted Mary because of himself.’

*\*\* John ð Jane zawar-n Mary umi x w-ayawya*  
 John and Jane insult.PERF-3PL Mary because on CS-each other  
 ‘John and Jane insulted Mary because of each other.’

*\*\* John ð Jane m-zawar-n ag Mary x w-ayawya*  
 John and Jane RCM-insult.PERF-3PL with Mary on CS-each other  
 ‘John and Jane insulted Mary because of each other.’

d) We laughed in spite of X

*n-ðhaf bzez x ixef-neg*  
 3PL.-laugh.PERF despite on head-of ours  
 ‘We laughed despite ourselves.’

*?\* n-ðhaf bzez ag wayawya*  
 3PL.-laugh.PERF despite with each other  
 ‘We laughed despite of each other.’

*? n-ms-ðhaf bzez*  
 3PL-RCM-laugh.PERF despite  
 ‘We laughed despite of each other.’

*? n-ms-ðhaf bzez x ixef-neg*  
 3PL-RCM-laugh.PERF despite on head-of ours  
 ‘We laughed with each other despite ourselves.’

#### 4.1.2.4 Ditransitives - C11

a) Mary showed Hal to X.

*\* Mary θ-mra Jane i ixef-ines*  
 Mary 3S.M-show.PERF Jane to head-of her  
 ‘Mary showed Jane to herself.’

b) Mary showed X to Hal.

*Mary θ-mra ixef-ines i Jane*  
 Mary 3S.M-show.PERF head-of her to Jane  
 ‘Mary showed herself to Jane.’

c) Bill gave Hal X.

*\* Mary θ-wfa Jane i xef-ines*  
 Mary 3S.M-give.PERF Jane to head-of her  
 ‘Mary gave Jane herself.’

d) Bill gave X Hal.

<i>Mary</i>	<i>θ-wfa</i>	<i>ixef-ines</i>	<i>i</i>	<i>Jane</i>
Mary	3S.M-give.PERF	head-of her	to	Jane

‘Mary gave herself to Jane.’

**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.

C12

a) Bill talked about Hal to X. (X = Hal)

?* <i>Bill</i>	<i>i-siwr</i>	<i>x</i>	<i>Hal</i>	<i>ag</i>	<i>ixef-ines</i>
Bill	3S.M.talk.PERF	about	Hal	with/to	head-of his

‘Bill talked about Hal to himself.’

b) Mary talked about X to Hal. (X = Hal)

?* <i>Mary</i>	<i>θ-siwr</i>	<i>x</i>	<i>ixef-ines</i>	<i>ag</i>	<i>Hal</i>
Mary	3S.F.talk.PERF	about	head-of her	with/to	Hal

‘Mary talked about himself to Hal.’

**4.1.2.6** Possessives - For each of C13 and C14, X = Nick.

C13

a) Nick telephoned X's mother.

** <i>Nick</i>	<i>i-rağa</i>	<i>i</i>	<i>yema</i>	<i>s</i>	<i>n</i>	<i>ixef-ines</i>
Nick	3S.M-phone.PERF	to	mother	CL	of	head-of his

‘Nick telephoned the mother of himself.’

<i>Nick</i>	<i>i-rağa</i>	<i>i</i>	<i>yema</i>	<i>s</i>	<i>(ines)</i>
Nick	3S.M-phone.PERF	to	mother	CL	

‘Nick telephoned his mother.’

b) Nick combed X's hair.

* <i>Nick</i>	<i>i-mfð</i>	<i>arif</i>	<i>n</i>	<i>ixef-ines</i>
Nick	3S.M-comb.PERF	hair	of	head-of his

‘Nick combed the hair of himself.’

<i>Nick</i>	<i>i-mfð</i>	<i>arif</i>	<i>ines</i>
Nick	3S.M-comb.PERF	hair	of-his

‘Nick combed his hair.’

c) Nick spoke to X's boss.

* <i>Nick</i>	<i>i-siwr</i>	<i>ag</i>	<i>lmcalam</i>	<i>n</i>	<i>ixef-iness</i>
Nick	3S.M-speak.PERF	with	boss	of	head-of his

‘Nick spoke with the boss of himself.’

<i>Nick</i>	<i>i-siwr</i>	<i>ag</i>	<i>lmcalam</i>	<i>iness</i>
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Nick 3S.M-speak.PERF with boss of-his  
 ‘Nick spoke with his boss.’

d) Nick put X's book on the table.

\**Nick i-sas lktab n ixef-ines x tabra*  
 Nick 3S.M-put.PERF book of head-of his on table  
 ‘Nick put the book of himself on the table.’

e) The king gave Nick a prize in X's village.

\**Imalik i-wfa Nick rahdaayθ ði w-village n ixef-ines*  
 King 3S.M-give.PERF Nick gift in CS-village of head-of his  
 ‘The king gave Nick a gift in the village of himself.’

f) The boys washed X's face.

\**rcuyar saið-n aǵmbub n ixef-nsen*  
 boys wash.PERF-3PL face of head-of theirs  
 ‘The boys washed the face of theirs.’

C14

a) Nick's father admires X.

\**baba s n Nick i-txis ixef-ines*  
 father CL of Nick 3S.M-admire.IMPERF head-of his  
 ‘Nick’s father admires himself.’

*Remark: Note this sentence can be grammatical in case the reflexive is coreferent with father of Nick but not Nick*

b) Nick's ambition destroyed X.

\*\**ttumouh n Nick y-aza ixef-ines*  
 ambition of Nick 3S.M-destroy.PERF head-of his  
 ‘Nick’s ambition destroyed himself.’

c) Nick's mother sold X's car.

\**y-ama s n Nick θ-zenz ttoumubin n ixef-ines*  
 mother CL of Nick 3S.F-sell.PERF car of head-of his  
 ‘Nick’s mother sold the car of herself.’

#### 4.1.2.7 Demoted arguments -

C15

a) Polly was praised by X

\*\**Polly θ-tw-afka s ixef-ines*  
 Polly 3S.F-PASS-praise.PERF by head-of him  
 ‘Polly was praised by herself.’

b) Polly was helped by X

?\**Polly θ-tw-cawn s ixef-ines*

Polly 3S.F-PASS-help.PERF by head-of him  
 ‘Polly was helped by herself.’

c) Little is known by Polly about X (X = Polly)

\* *fwayt ig i-twa-sne-n s Polly x ixef-ines*  
 little RM PART-PASS-know.PERF-PART by Polly on head-of him  
 ‘It is little that Polly knows about herself’

### 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) I saw X.

*zri-x ixef-ino*  
 see.PERF-1S head-of me  
 ‘I saw myself.’

*θ-zri-ð ixef-inef*  
 2S-see.PERF-2S head-of you  
 ‘You saw yourself.’

*θ-zi-ð ixef-inem*  
 2S-see.PERF-2S head-of you  
 ‘You saw yourself.’

*i-zra ixef-ines*  
 3S.M-see.PERF head-of his  
 ‘He saw himself.’

*θ-zra ixef-ines*  
 3S.F-see.PERF head-of her  
 ‘She saw herself.’

*n-zra ixef-nex*  
 1PL-see.PERF head-of us  
 ‘We saw ourselves.’

*θ-zri-m ixef-nwen*  
 2PL.M-see.PERF-2PL.M head-of yours  
 ‘You saw yourselves.’

*θ-zri-nt ixef-nkent*  
 2PL.F-see.PERF-2PL.F head-of yours  
 ‘You saw yourselves.’

*zri-n ixef-nsen*  
 3PL.M-see.PERF-3PL.M head-of theirs  
 ‘They saw themselves.’

<i>zri-nt</i>	<i>ixef-nsent</i>
3PL.F-see.PERF-2PL.F	head-of theirs
'They saw themselves.'	

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

C17a) I washed X.

<i>srii-x</i>	<i>ixef-ino</i>
see.PERF-1S	head-of me
'I washed myself.'	

b) I hate X.

<i>faha-x</i>	<i>ixef-ino</i>
hate.IMPERF.1S	head-of me
'I hate myself.'	

c) I told John about X (X = myself)

<i>siwr-x</i>	<i>ag</i>	<i>John</i>	<i>x</i>	<i>ixef-ino</i>
speak.PERF-1S	with	John	on	head-of me
'I told John about myself.'				

d) I saw a snake near X (X = myself)

? <i>zri-x</i>	<i>figar</i>	<i>ttaf</i>	<i>n</i>	<i>ixef-ino</i>
see.PERF-1S	snake	near	of	head-of me
'I saw a snake near me.'				

e) I am liked by X.

? <i>i-ci'zz</i>	<i>xafi</i>	<i>ixef-ino</i>
3S.M-like.PERF	on me	head-of me
'I am liked by myself.'		

f) I telephoned X's mother (X = myself)

* <i>ragi-x</i>	<i>i</i>	<i>yma</i>	<i>s</i>	<i>n</i>	<i>ixef-ino</i>
call.PERF-1S	to	mother	CL	of	head-of me
'I telephoned the mother of myself.'					

g) My father admires X (X = myself)

** <i>bba</i>	<i>i-txis</i>	<i>ixef-ino</i>
father	3S-admire.IMPERF	head-of me
'My father admires myself.'		

#### 4.1.3.2 Animacy or humanity-

C18a) History repeats X

? <i>ttarix</i>	<i>i-tc'awad</i>	<i>ixef-ines</i>
history	3S-repeat.IMPERF	head-of him
'History repeats itself.'		

b) This type of fish cannibalizes X

? *asrm-a*    *i-fa*                    *ixef-ines*  
 fish-this    3SM-eat.PERF            head-of him  
 ‘This fish cannibalized itself.’

c) This machine destroys X (e.g., after you use it)

? *majina-ya*            *θ-aza*                    *ixef-ines*  
 machine-this            3S.F-destroy.PERF    head-of her  
 ‘This machine destroyed herself.’

**4.1.3.2** 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.

*Remark-NE: GT Berber has subject affixes, no subject clitics*

**4.1.3.4** Quantifiers - Provide judgments for the following sentences.

C19a) Every woman saw X.

*kur*    *δamatuθ*            *θ-zra*                    *ixef-ines*  
 every woman            3S.F-see.PERF            head-of her  
 ‘Every woman saw herself’

b) Every child washed X.

*kur*    *rçayer*                    *i-srrir*                    *ixef-ines*  
 every child                    3S.M-wash.PERF            head-of his  
 ‘Every child washed himself.’

c) Every student hates X.

*kur*    *amahða*                    *i-faħ*                    *ixef-ines*  
 every student                    3S.M-hate.IMPERF            head-of his  
 ‘Every student hates himself.’

d) Every child saw a snake near X.

?\* *kur arba*    *i-zra*                    *fiğar*    *ttaf*    *n*                    *ixef-ines*  
 every boy    3S.M-see.PERF            snake    near    of                    head-of his  
 ‘Every boy saw a snake near himself.’

e) Every child telephoned X's mother.

\* *kur arba i-rağa*                    *i*            *yma*                    *s*            *n*                    *ixef-ines*  
 every boy 3S.M-call.PERF            to            mother                    his            of                    head-of him  
 ‘Every boy called the mother of himself.’

f) Every child's father admires X.

?\* *kur bbaba s*            *n*                    *w-arba*                    *i-txis*                    *ixef-ines*  
 every father his            of            CS-boy                    3S.M-admire.IMPERF            head-of his  
 ‘Every boy’s father admires himself.’

*Remark: This sentence is acceptable if the reflexive is co-referential with ‘father’*

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

*wra ttamatuθ ma θ-zra ixef-ines*  
 NEG woman NEG 3S.F-see.PERF head-of her  
 'No woman saw herself.'

*wra ð rcayer ma i-srrir ixef-ines*  
 NEG COP boy NEG 3S.M-wash.PERF head-of his  
 'No boy saw himself.'

*wra ð amahða ma i-fah ixef-ines*  
 NEG COP student NEG 3S.M-hate.PERF head-of his  
 'No student hates himself.'

? *wra ð arba ma i-zra fiġar ttaf n ixef-ines*  
 NEG COP boy NEG 3S.M-see.PERF snake near of head-of his  
 'No boy saw a snake near himself.'

\*\* *wra ð arba ma i-raġa i yema s n ixef-ines*  
 NEG COP boy NEG 3S.M-call.PERF to mother his of head-of his  
 'No boy called the mother of himself.'

**4.1.3.5** Questioned antecedents - 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) Who saw X?

*manwn y-zri-n ixef-ines*  
 who PART-see-PART head-of his  
 'Who saw himself?'

b) Who washed X?

*manwn i g y-sið-n ixef-ines*  
 who CM X PART-wash-PART head-of his  
 'Who washed himself?'

c) Who saw a snake near X?

*manwn i g y-zri-n fiġgar ttaf n ixef-ines*  
 who CM X PART-see-PART snake near of head-of his  
 'Who saw a snake near himself?'

d) Who telephoned X's mother?

\* *manwn i g y-raġa-n i yema s n ixef-ines*  
 who CM X PART-call-PART to mother his of head-of his  
 'Who called the mother of himself?'

e) Whose father admires X?

\**bba-s*      *n*      *manwn*      *i*      *g*      *y-txis-n*      *ixef-ines*  
father-his      of      who      CM      X      PART-admire.PART      head-of his  
'Whose father admires himself?'

*Remark: This sentence is acceptable if the reflexive is co-referential with 'father'*

**4.1.3.6** Reverse binding - Assume X = Fred unless otherwise marked.

C21a) X saw Fred.

\* *ixef-ines*      *i-zra*      *Fred*  
head-of his      3S.M-see.PERF      Fred  
'Himself saw Fred.'

b) X saw us. (X = us)

\* *ixef-nex*      *n-zra*      *nfin*  
head-of ours      3PL-see.PERF      us  
'Ourselves we saw us.'

c) X saw a snake behind Fred.

\* *ixef-ines*      *i-zra*      *ffigar*      *zefa*      *i*      *Fred*  
head-of his      3S.M-see.PERF      snake      behind      of      Fred  
'Himself saw a snake behind Fred.'

d) X impressed Fred

\* *ixef-ines*      *i-cjbb*      *i*      *Fred*  
head-of his      3S.M-impress.PERF      to      Fred  
'Himself impressed Fred.'

e) Bill spoke to X about Fred.

\* *Bill*      *i-siwr*      *ag*      *ixef-ines*      *x*      *Fred.*  
Bill      3S.M-speak.PERF      with      head-of his      about      Fred  
'Bill spoke to himself about Fred.'

f) Bill told X about Fred

\* *Bill*      *i-nna*      *i*      *ixef-ines*      *x*      *Fred*  
Bill      3S.M-say.PERF      to      head-of his      about      Fred  
'Bill told himself about Fred.'

g) X was praised by Fred.

?\* *ixef-ines*      *i-twa-fkar*      *s*      *Fred*  
Head-of his      3S.M-PASS-praise.PERF      by      Fred  
'Himself was praised by Fred.'

h) X is liked by you. (X = you)

\*\* *ixef-inef*      *i-twa-cjbb*      *i*      *fk*  
head-of you      3S.M-PASS-like.PERF      to      you



‘Yourself was liked by you.’

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) X telephoned George's mother.

\*\**ixef-ines i-rağa i yema s n George*  
head-of his 3S.M-call.PERF to mother his of George  
‘Himself telephoned Gorge’s mother.’

*Remark: if the reflexive does not co-refer with George, then the sentence is acceptable*

b) X's mother wanted to improve George.

\*\**yema-s i ixef-ines θ-xis a t-halla ði George*  
mother-his of head-of his 3S.M-want.PERF FUT 3S.F-care.AOR of George  
‘Himself’s mother wanted to improve George/take care of George.’

c) X's mother worried/impressed George.

\*\**yma-s n ixef-ines θ-cjib i George.*  
Mother-his of head-of his 3S.F-impress.PERF to George  
‘Himself’s mother impressed George.’

d) Mary told X's mother about George.

\**Mary θ-nna i yema-s i ixefines x George.*  
Mary 3S.F-say.PERF to mother-his to head-of her about George  
‘Mary told herself’s mother about George.’

e) A picture of X's mother fell on George.

\*\**tswaiθ n yma-s n ixef-ines θ-bða x George.*  
picture of mother-his of head-of his 3S.F-fall.PERF on George  
‘A picture of himself’s mother fell on George.’

f) A picture of X's mother pleased George.

\*\**tswaiθ n yma-s n ixef-ines θ-cjib i George*  
picture of mother-his of head-of his 3S.F-please.PERF to George  
‘A picture of himself’s mother pleased George.’

In some languages, it is possible to scramble the positions of argument nominals so that objects can precede subjects, or perhaps the order of arguments in the VP is less fixed.

*Remark: Word order is GT Berber is not fluid. The canonical word order in GT Berber is VSO. SVO word order is a case of topicalisation*

#### 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.

*θimgari-n tcawane-nt ixef-nsent*

women-PL help.IMPERF-3PL.F head-of their  
 'Women help themselves'

Which of the following meanings can this example have? Say which it can have and which it can't have.

- C24 a) Each woman helps all (or almost all) of the women, excluding herself. [No]  
 b) Each woman helps all of the women, including herself. [Yes]  
 c) Each woman helps at least some of the other women. [Yes]  
 d) Each woman helps herself. [Yes]  
 e) The women together as a group help the women together as a group. [Yes]

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

C25a) The women praised X.

*θ-imgarin fka-nt ixef-nsent*  
 women praise.PERF-3PL.F head-of their  
 'Women praised themselves.'

b) The women will support X.

*θ-imgarin aḏ cawne-nt ixef-nsent*  
 women FUT help.PERF-3PL.F head-of their  
 'Women will help themselves.'

c) The women photographed X.

*θ-imgarin aḏ swa-nt ixef-nsent*  
 women FUT photograph.PERF-3PL.F head-of their  
 'Women will photograph themselves.'

d) The women betrayed X.

*θ-imgarin xḏcā-nt ixef-nsent*  
 women betray.PERF-3PL.F head-of their  
 'Women will help themselves.'

Remark: *The same interpretations that hold for 24C.a-e hold for the sentences in 25.a-d.*

**4.1.4.2** Reciprocal readings - Complete this section only if your strategy allows a reciprocal reading. If the strategy is ambiguous, make sure to use verbs that allow the reciprocal interpretation.

a) Which of the following verbs can the strategy be applied to?

C26) "meet", "see", "fight", "speak", "hit"

Remark: *The argumental and affixal reciprocal strategies in GT Berber can be used with all the verbs in C26. The verb "meet" cannot be used with the affixal reciprocal strategy.*

b) Does the strategy allow the following constructions?

C27) John met/saw X with Bill (Meaning: "John and Bill met/saw each other.")

Remark: *The strategy does not allow the construction in (C27)*

c) Is there any contrast between C27a and C27b with respect to the acceptability of reciprocal interpretation? 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) John and Mary praised X.

b) The women praised X.

Remark: *See the note related to (b/C27) and (a/C26) above.*

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

Remark: *Yes it is possible to express reciprocity between a subject and an indirect object*

C29a) John and Mary spoke to X.

*John* *ǰ* *Mary* *ssiwr-n* *ag* *w-ayawya*  
John and Mary speak.PERF-3PL with CS-each other  
'John and Mary spoke to each other.'

b) John and Mary met with X.

*John* *ǰ* *Mary* *mmqabar-n* *ag* *w-ayawya*  
John and Mary meet.PERF-3PL with CS-each other  
'John and Mary spoke to each other.'

c) John and Mary gave this book to X.

*John* *ǰ* *Mary* *wfii-n* *lktab-a* *i* *w-ayawya*  
John and Mary give.PERF-3PL book-this to CS-each other  
'John and Mary spoke 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"?

Remark: *Yes it is possible to obtain such an interpretation.*

C30) Bill and Mary think that they like X.

1.a) *Muna* *ǰ* *Fatima* *ǧir-nt* *qa* *txis-nt* *ayawya*  
Muna and Fatima think.PERF-3PL.F that like.IMPERF-3PL.F each other  
'Muna and Fatima think that they like each other.'

## 4.2 Cross-clausal binding

### 4.2.1 Coreference relations across typical tensed clausal complement

In French, the reflexive clitic (which counts as a verbal affix in our empirical designation) is on the lower verb in X8 but its antecedent is Jean, the subject in the higher clause. As it happens, this relationship is unacceptable in French, at least with Jean as the antecedent.

X8) \*Jean a dit que Marie s'aime. (SE = Jean)

Jean has said that Marie SE loves

"Jean said that Marie loves him."

In section 4.1.1.2, you will be asked to construct a sentence like X9, still with the meaning of X8.

X9) \*\*Jean s'a dit que Marie aime. (SE=Jean)

Jean SE-has said that Marie loves

"Jean said that Marie loves him."

It seems that the SE strategy in French is stubbornly local. What does succeed in French is X10 (but not X11).

X10) Jean a dit que Marie l'aime. (pronoun (clitic) = Jean)

Jean has said that Marie him-loves

"Jean has said that Marie loves him."

X11) \*Jean l'a dit que Marie aime. (pronoun (clitic) = Jean)

Jean him-has said that Marie loves

"Jean has said that Marie loves him."

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

*Remark: In all of the examples in D1 (D1.a-D1.g), any other co-referential strategy is excluded, except the pronominal strategy involving a pronoun or a clitic form. This strategy allows long-distance coreference.*

D1a) Jack said that X is smart.

*Jack y-nna qa nnta i-fða*  
Jack 3S.M-say.PERF that him 3S.M-smart.PERF  
'Jack said that he is smart.'

b) Jack knows that George likes X.

*Jack y-snn qa George i-txsi θ*  
Jack 3S.M-know.IMPERF that George 3S.M-love.PERF him  
'Jack knows that he is smart.'

c) Jack knows that Bill said that X is smart.

*? Jack y-snn qa Bill y-nna belli nnta i-fða*  
Jack 3S.M-know.IMPERF that Bill 3S.M-say.PERF that him 3S.M-smart.PERF  
'Jack knows that Bill said that he is smart.'

d) Jack thinks that Lisa knows that Wendy likes X.

*Jack i-ğir qa Lisa θ-snn belli Wendy t-xsi θ*  
Jack 3S.M-think.IMPERF that Lisa 3S.F-know.IMPERF that Wendy 3S.F-like.IMPERF him  
'Jack thinks that Lisa knows that Wendy likes him.'

e) Jack thinks that Lisa knows that X likes Alice.

*Jack i-ğir qa Lisa θ-snn belli nnta i-t-xis Allice*  
Jack 3S.M-think.IMPERF that Lisa 3S.F-know.IMPERF that him 3S.F-like.IMPERF Allice  
'Jack thinks that Lisa knows that him/he likes Alice.'

f) Sarah told Jack that Lisa loves X.

*Sarah*  $\theta$ -*nna*                      *i*     *Jack*   *qa*   *Lisa*     *t-xsi*                       $\theta$   
Sarah 3S.M-say.PERF            to     Jack    that Lisa     3S.F-love.IMPERF     him  
‘Sarah told Jack that Lisa loves him.’

g) Sarah told Jack that X loves Wendy.

*Sarah*  $\theta$ -*nna*                      *i*     *Jack*   *qa*   *ntta*                      *i-t-xis*                      *Wendy*  
Sarah 3S.M-say.PERF            to     Jack    that him/he     3S.M-love.IMPERF     Wendy  
‘Sarah told Jack that he loves Wendy’

Although there is no morphological marking of the distinction in English, sometimes a difference in factivity makes a difference.

- D2    a) Jack admitted that Mary loved X.  
      b) Jack suspected that Mary loved X.

Remark: *This semantic distinction is not morphologically marked in GT Berber.*

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

Remark: *The coreference pronominal strategy works if the pronominal element used is a clitic and not a full pronominal form.*

D3a) Jeff complained about Mary when Ella blamed X

*Jeff*   *i-fka*    *zi*     *Mary*   *zga*     *t*                      *t-ramem*                      *Ella*  
Jeff    3S.M-complain.PERF                      from Mary when CL     3S.F-blame.PERF     Ella  
‘Jeff complained about Mary when Ella blamed him.’

b) Jeff returned home when/before/after X became tired.

*Jeff*   *i-ðwrd*    *ga*      $\theta$ *adar* $\theta$                       *qbr*     *ma*                      *að*     *y-aħr*  
Jeff    3S.M-return.PERF                      to     home                      before X                      FUT    3S.M-tired.AOR  
‘Jeff returned back home before he got tired.’

c) When/before/after Mary wrote to X, Jeff returned home.

*zga*     *s*                       $\theta$ -*wra*    *Mary, Jeff*     *i-ðwrd*    *ga*                       $\theta$ *ada* $\theta$   
when CL    3S.F-write.PERF                      Mary, Jeff    3S.M-return.PERF                      to                      home  
‘When Mary wrote to him Jeff returned back home.’

d) Jeff left without Mary seeing X.

*Jeff*     *y-wghur*    *bra*     *ma*     *a*                      *t*                      *t-zar*    *Mary*  
Jeff    3S.M-left.PERF                      without X     FUT     CL                      3S.F-see.IMPERF                      Mary  
‘Jeff left without Mary seeing him.’

e) Mary condemned Jeff without meeting X.

*Mary*    $\theta$ -*sxð*    *x*     *Jeff*     *bra*                      *maaki*                      *s*                       $\theta$ -*mqabar*  
Mary 3S.F-condemn.PERF                      on Jeff    without X     with                      CL                      3S.F-meet.IMPERF  
‘Mary condemned Jeff without meeting him.’

#### 4.2.1.2 Climbing from tensed complements -

Remark-NE: *Unlike French and Italian, Berber pronominal elements, including those which enter into coreference relations do not attest the phenomena of climbing (cf. Sadiqi 1997)*

#### 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. For subjunctives, if your language permits them to have lexical subjects, the tests can probably proceed on the model of tensed clause complements. However, some of these clausal types require some adjustments if they require null subjects. For example, in providing data for infinitives, if your language has infinitives, we want you to give us a range of examples where the infinitive subject is not controlled by the matrix subject (where X = Edgar). In other words, the understood subject of the infinitive should never be Edgar.

- D4
- a) Edgar asked Bill to trust X.
  - b) Edgar asked Bill to give a book to X.
  - c) Edgar asked Bill to talk to X.
  - d) Edgar asked Bill to talk about X.
  - e) Edgar expected Bill to trust X.
  - f) Edgar ordered Bill to pay X.
  - g) Edgar ordered Bill to say that X was smart.
  - h) Edgar ordered Bill to say that Mary loved X.

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
- a) Edgar expects X to win.
  - b) Edgar expects Bill to defeat X.
- D
- 6a) Edgar hopes for X to win.
  - b) Edgar hopes for Bill to defeat X.

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

- D7
- a) Edgar expects Bill to defeat X's brother.
  - b) Edgar hopes for Bill to defeat X's brother.
  - c) Edgar expects X's brother to defeat him.
  - d) Edgar hopes for Bill to defeat X's brother.

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.

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
- a) Tom considers X intelligent.
  - b) Tom considers Mary fond of X.
  - c) Tom considers Mary angry at X.

*Berber does not have a marked infinitive as is the case with French 'er' suffixed to the verb. Rather the equivalent of the infinitive is a verbal form that is referred to as the 'aorist' verbal form.*

*GT Berber does not have a serialization of verbs as in Germanic clustering verbs.*

*For the small clauses constructions I am not sure whether Berber, at least the variety I am describing here, has them.*

#### **4.2.3 Reverse anaphora**

If your language permits sentential subjects like those in D9, please indicate if coreference succeeds. Your language may not have a verb like implicate, but if so, try a verb that seems close, if possible.

- D9
- a) 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.

*Remark: If X= Oliver, then it is not possible to establish co-reference using whatever anaphoric strategy*

#### **4.4 More on long distance anaphor strategies**

D10) Olu said that he(log) saw himself(log).

**4.4.1** Position of the antecedent - Which possible syntactic positions can be occupied by a long-distance antecedent of the current strategy? Construct examples and give judgments where X = Zeke.

*Remark: It is possible to establish LDA coreferential relation just with the use of the pronominal strategy (clitics and full pronouns).*

D11

a) Larry told Zeke that Mike does not like X.

*Larry i-nna i Zeke belli Mike wa θ i-txis*  
Larry 3S.M-say.PERF to Zeke that Mike NEG CL.him 3S.M-like. NEG.IMPERF  
'Larry told Zeke that Mike does not like him.'

b) Zeke told Larry that Mike does not like X. (X= Larry)

*Zeke i-nna i Larry belli Mike wa θ i-txis*  
Zeke 3S.M-say.PERF to Larry that Mike NEG CL-him 3S.M-like. NEG.IMPERF  
'Zeke told Larry that Mike does not like him.'

c) Zeke told Larry that X does not like Mike. (X= Zeke or someone else)

*Zeke i-nna i Larry qa nta wa i-txis Mike*  
Zeke 3S.M-say.PERF to Larry that him NEG 3S.M-like.NEG.IMPERF Mike

'Zeke told Larry that he does not like Mike'

d) Larry told Zeke that X does not like Mike. (X= Zeke,Larry or someone else)

*Larry i-nna i Zeke qa wa θ i-txis Mike*  
Larry 3S.M-say.PERF to Zeke that NEG CL.him 3S.M-like. NEG.IMPERF Mike  
'Larry told Zeke that he does not like Mike.'

e) Larry knows that Zeke thinks that Mike does not like X. (X= Larry, Zeke or someone else)

*Larry i-ssn belli Zeke i-tgir qa Mike wa*  
Larry 3S.M-know.PERF that Zeke 3S.M-think.IMPERF that Mike NEG  
*θ i-txis*  
CL-him 3S.M-like.NEG.IMPERF  
'Larry knows that Zeke thinks that Mike does not like him.'

f) Zeke knows that Larry thinks that Mike does not like X. (X= Larry, Zeke or someone else)

*Zeke i-ssn belli Larry i-tgir qa Mike*  
Zeke 3S.M-know.PERF that Larry 3S.M-think.IMPERF that Mike  
*wa θ i-txis*  
NEG CL-him 3S.M-like.NEG.IMPERF  
'Zeke knows that Larry thinks that Mike does not like him.'

D12

a) Zeke's mother thinks that Mike does not like X.

*yma-s n Zeke t-gir qa Mike wa t i-txis*  
mother-his of Zeke 3S.F-think.IMPER that Mike NEG CL.her 3S.M-like.NEG.IMPERF  
'Zeke's mother thinks that Mike does like her.'

b) Zeke's mother thinks that X does not like Mike.

*yma-s n Zeke t-gir qa nntaθ wa t*  
mother-his of Zeke 3S.F-think.IMPER that her NEG CL.her  
*t-xis Mike*  
3S.F-like. NEG.IMPERF Mike  
'Zeke's mother thinks that she does like Mike.'

c) Zeke thinks that Mike does not like X.

*Zeke i-tgir qa Mike wa θ i-txis*  
Zeke 3S.M-think.IMPER that Mike NEG CL-him 3S.M-like.NEG.IMPERF  
'Zeke thinks that Mike does not like him.'

d) Zeke's letter said that Mike does not like X.

*?? θabrat n Zeke θnna qa Mike wa θ i-txis*  
letter of Zeke 3S-say.PERF that Mike NEG CL-him 3S.M-like.NEG.IMPERF  
'The letter of Zeke states that Mike does not like him.'

e) Zeke heard that Mary did not like X.

*Zeke i-sjj qa Mary wa t t-txis*



Zeke 3S.M-head.PERF that Mary NEG CL-him 3S.F-like.NEG.PERF  
'Zeke heard that Mary did not like him.'

f) Zeke was told that Mary did not like X. (if your language permits passive)

*Zeke i-tw-xaba qa Mary wa t t-txis*  
Zeke 3S.M-PAS-infor.PERF that Mary NEG CL-him 3S.F-like.NEG.PERF  
'Zeke was told/informed that Mary did not like him.'

D13

a) Zeke said that X had dressed X.

*Zeke i-nna qa nnta i-seið ixef-ines*  
Zeke 3S.M-say.PERF that him 3S.M-dress.PERF head-of his  
'Zeke said that he dressed himself.'

b) Zeke said that X had wounded X.

*Zeke i-nna qa nnta i-jjah ixef-ines*  
Zeke 3S.M-say.PERF that him 3S.M-hurt.PERF head-of his  
'Zeke said that he wounded himself.'

c) Zeke said that X had tattooed X.

*Zeke i-nna qa nnta i-wfm ixef-ines*  
Zeke 3S.M-say.PERF that him 3S.M-tattoo.PERF head-of his  
'Zeke said that he 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 the last three of the Zeke paradigm.

D11

a) Larry told Zeke that Mike does not like X.

*Larry i-nna ayi belli Mike wa ayi i-txis*  
Larry 3S.M-say.PERF CL-me that Mike NEG CL-me 3S.M-like.NEG.IMPERF  
'Larry told me that Mike does not like me.'

*Larry i-nna af belli Mike wa f i-txis*  
Larry 3S.M-say.PERF CL-you that Mike NEG CL-you 3S.M-like.NEG.IMPERF  
'Larry told you that Mike does not like you.'

b) Zeke told Larry that Mike does not like X. (X= Larry)

*nnf nni-x i Larry belli Mike wa θ i-txis*  
me say.PERF-1S to Larry that Mike NEG CL-he 3S.M-like.NEG.IMPERF

‘I told Larry that Mike does not like him.’

*fk θ-nnið i Larry belli Mike wa θ i-txis*  
you 2S.M-say.PERF to Larry that Mike NEG CL-him 3S.M-like.NEG.IMPERF  
‘You told Larry that Mike does not like him.’

c) Zeke told Larry that X does not like Mike. (X= Zeke or someone else)

?\* *nnf nni-x i Larry belli nnf wa txis-x Mike*  
me say.PERF-1S to Larry that me NEG like.NEG.IMPERF-1S Mike  
‘I told Larry that I do not like Mike.’

?\* *fk θ-nnið i Larry belli fk wa*  
you 2S.M-say.PERF to Larry that CL-you NEG  
*txis-ð Mike*  
like.NEG.IMPERF-2S Mike  
‘You told Larry that you do not like Mike.’

d) Larry told Zeke that X does not like Mike. (X= Zeke, Larry or someone else)

? *Larry i-anna ayi qa nf wa txse-x Mike*  
Larry 3S.M-say.PERF CL-me that me NEG like.NEG.IMPERF-1S Mike  
‘Larry told me that me I do not like Mike.’

? *Larry i-anna f qa fk wa txse-ð Mike*  
Larry 3S.M-say.PERF CL-you that you NEG like.NEG.IMPERF-2S Mike  
‘Larry told you that you you do not like Mike.’

e) Larry knows that Zeke thinks that Mike does not like X. (X= Larry, Zeke or someone else)

*Larry i-ssn belli nf tğir-x qa Mike wa*  
Larry 3S.M-know.PERF that me think.IMPERF-1S that Mike NEG  
*ayi i-txis*  
CL-me 3S.M-like.NEG.IMPERF  
‘Larry knows that I think that Mike does not like me.’

*Larry i-ssn belli fk*  
Larry 3S.M-know.PERF that you  
*tğir-ð qa Mike wa f i-txis*  
think.IMPERF-2S that Mike NEG CL-you 3S.M-like.NEG.IMPERF  
‘Larry knows that you think that Mike does not like you’

f) Zeke knows that Larry thinks that Mike does not like X. (X= Larry, Zeke or someone else)

*nf ssn-x belli Larry i-tğir*  
me know.PERF-1S that Larry 3S.M-think.IMPERF  
*qa Mike wa ayi i-txis*  
that Mike NEG CL-me 3S.M-like.NEG.IMPERF  
‘I know that Larry thinks that Mike does not like me.’

*fk θ-ssn-ð belli Larry i-tğir*

you 2S.M-know.PERF-2S.M that Larry 3S.M-think.IMPERF  
*qa Mike wa af i-txis*  
 that Mike NEG CL-you 3S.M-like.NEG.IMPERF  
 ‘You know that Larry thinks that Mike does not like you.’

D12a) Zeke's mother thinks that Mike does not like X.

? *yma-inw t-tg'ir qa Mike wa ayi i-txis*  
 mother-of me 3S.F-think.IMPER that Mike NEG CL.me 3S.M-like.NEG.IMPERF  
 ‘My mother thinks that Mike does not like her.’

? *ymaf inf t-tg'ir qa Mike wa f i-txis*  
 mother-yours CL.you 3S.F-think.IMPER that Mike NEG CL.you 3S.M-like.NEG.IMPERF  
 ‘Your mother thinks that Mike does not like you.’

b) Zeke's mother thinks that X does not like Mike.

*yma-inw t-tg'ir qa nf wa txs-x Mike.*  
 mother-of me 3S.F-think.IMPER that CL.me NEG like.NEG.IMPERF.1S Mike  
 ‘My mother thinks that I do not like Mike.’

*ymaf inf t-tg'ir qa fk wa t-xis-ð*  
 mother-your CL.you 3S.F-think.IMPER that CL.you NEG 2S.M-like.NEG.IMPERF-2S.M  
 Mike.  
 Mike  
 ‘Your mother thinks that you do not like Mike.’

D13

a) Zeke said that X had dressed X.

*nf nni-x qa nf seið-x ixef-inw*  
 me say.PERF-1S that me dress.PERF-1S head-of mine  
 ‘I (me) said that I dressed myself.’

*fk θ-nni-ð qa fk θ-seið-ð ixef-inf*  
 me 2S.M-say.PERF-2S.M that you 2S.M-dress.PERF-2S.M head-of yours  
 ‘You said that you dressed yourself.’

b) Zeke said that X had wounded X.

*nf nni-x qa nf jjaħa-x ixef-inw*  
 me say.PERF-1S that me wound.PERF-1S head-of mine  
 ‘I (me) said that I wounded myself.’

*fk θ-nni-ð qa fk θ-jjaħa-ð ixef-inf*  
 me 2S.M-say.PERF-2S.M that you 2S.M-wound.PERF-2S.M head-of yours  
 ‘You said that you dressed yourself.’

c) Zeke said that X had tattooed X.

*nf nni-x qa nf wfm-x ixef-inw*

me say.PERF-1S that me tattoo.PERF-1S head-of mine  
 'I (me) said that I tattooed myself.'

*ʃk θ-nni-ð qa ʃk θ-wʃm-ð ixef-ɪnf*  
 me 2S.M-say.PERF-2S.M that you 2S.M-tattooed.PERF-2S.M head-of-yours  
 'You said that you 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". Report all examples that differ in acceptability from the examples you have already provided for those paradigms. If there are no differences, just provide a few representative examples.

Remark-NE: *The examples with Jack, Edgar and Zeke seem to have the same judgments when substituted with a quantifier antecedent. Here are a set of examples.*

*Larry i-nna i kur arba belli*  
 Larry 3S.M-say.PERF to every child that  
*Mike wa θ i-txis*  
 Mike NEG CL-him 3S.M-like.NEG.IMPERF  
 'Larry told every child that Mike does not like him.'

*Larry i-ssn belli kur arba i-tg̃ir qa*  
 Larry 3S.M-know.PERF that every child 3S.M-think.IMPERF that  
*Mike wa θ i-txis*  
 Mike NEG CL-him 3S.M-like.NEG.IMPERF  
 'Larry knows that every child thinks that Mike does not like him.'

*kur arba i-sjj qa Mary wa t t-txis*  
 every child 3S.M-heard.PERF that Mary NEG CL-him 3S.F-like.NEG.PERF  
 'Every child heard that Mary did not like him.'

*kur arba i-nna qa nnta i-seið ixef-ines*  
 Every child 3S.M-say.PERF that him 3S.M-dress.PERF head-of his  
 'Every child said that he dressed himself.'

*kur arba y-snn qa George i-txsi θ*  
 Every boy 3S.M-know.IMPERF that George 3S.M-love.PERF him  
 'Every boy knows that George likes him.'

*kur arba i-tg̃ir qa Lisa θ-snn*  
 Every boy 3S.M-think.IMPERF that Lisa 3S.F-know.IMPERF  
*belli nnta i-t-xis Alice*  
 that him 3S.M-like.IMPERF Alice  
 'Every boy thinks that Lisa knows that him/he likes Alice.'

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

**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).

D14

a) Ozzie talked about Harriet to X.

\* *Ozzie i-siwr x Harriet ag ixef-nsen*  
 Ozzie 3S.M-speak.PERF about Harriet with head-of them  
 'Ozzie talked about Harriet to themselves.'

b) Ozzie talked about X to Harriet.

\* *Ozzie i-siwr x ixef-nsen ag Harriet*  
 Ozzie 3S.M-speak.PERF about head-of them about Harriet  
 'Ozzie talked about themselves to Harriet.'

c) Ozzie told Harriet that X should leave.

*Ozzie i-nna i Harriet belli ixsa aḏ wghu-n*  
 Ozzie 3S.M-tell.PERF to Harriet that should FUT go.AOR-3PL  
 'Ozzie told Harriet that they should leave.'

d) Ozzie told Harriet that Bill dislikes X.

*Ozzie i-nna i Harriet belli Bill i-fahi θn*  
 Ozzie 3S.M-tell.PERF to Harriet that Bill 3S.M-hate.IMPPERF CL.Them  
 'Ozzie told Harriet that Bill dislikes them.'

e) Ozzie said that Harriet thinks that Bill dislikes X.

*Ozzie i-nna qa Harriet t-tǧir*  
 Ozzie 3S.M-say.PERF that Harriet 3S.F-think.IMPERF  
*qa Bill i-fahi θn*  
 that Bill 3S.M-hate.IMPPERF CL.Them  
 'Ozzie said that Harriet thinks that Bill dislikes them.'

**4.4.2.4** Discourse antecedents -. Please translate the following scenarios using only the acceptable strategies that permit the corresponding English pronouns all to refer to Mark. Suppose that in the following scenarios we are being told what was going on in Mark's mind.

*Note: The pronominal/clitic strategy is the ones that works*

D15)

Mark feared that his son was not safe.

*Mark i-gwḏ qa memi-s dza wa idzi fa mliḥ*  
 Mark 3S.M-fear.PERF that son-his PTM NEG was NEG good

He was ashamed that he could not protect his closest relative.

*i-sḏḥa zg ixefines umi wa i-zema*  
 3S.M-ashame.PERF from himself because NEG 3S.M-can.NEG.PERF  
*aḏ i-ḥḏa familia i-nes*  
 FUT 3S.M-protect.AOR family of-his

What would his cousins think of him?

*min ġa y-nni-n afθmas xaf-s ?*  
what FUT PART-say-PART brothers on-him

D16)

Mark was shocked to see his picture in the paper.

*Mark y-ajjij umi i-zra ttswiθ ines ði jounan*  
Mark 3S.M-shake.PERF when 3S.M-see.PERF picture of his in newspaper

All of his supporters would abandon him.

*kulfi yin θ y-ðfa-n ax-as bacð-n*  
all those CL.him PART-follow-PART on-CL-him abandon.PERF-3PL

How would he tell his mother?

*min ġa y-inni i yma-s*  
how FUT 3S.M-say.PERF to mother-his

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 strategy for coreference with Mark that works.

D17)

Morris said it was a difficult day for Mark.

*Morris y-nna belli Mark i-sċda nhar ðabarġan*  
Morris 3S.M-say.PERF that Mark 3S.M-spend.PERF day black

First, Morris told him that his car had been stolen.

*gmzwaru, i-nna s Morris qa ttumubin ines θ-tw-afa*  
first 3S.M-say.PERF CL-his Morris that car of his 3S-PASS-steal.PERF

Then he had to hire a taxi to take him to work.

*ruxdeni i-kra ttumubin a t t-siwað ġa rxðent*  
then 3S.M-hire.PERF car FUT CL-him 3S.M-take.AOR to work

Morris thought he might be angry.

*Morris i-ġir as i-zċaf*  
Morris 3S.M-think.PERF CL.him 3S.M-angry.PERF

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.

D18)

A: Look, there's Mark!

*xza, aqaf θ!*  
Look, here is CL.him

B: He is so handsome.

*i-fraħ*  
3S.M-handsom.IMPERF

A: I would not want to be his wife though.

*camas ađ iri-x ttamtuθ innes*  
never FUT be-1S wife of his

All the women are chasing him.

*kulfi θimğarin ttðfa-nt t*  
all women follow.IMPERF-3PLF CL.him

B: Also, I think he praises himself too much.

*zaidun, i-tfkar ixef-ines attas*  
also, 3S.M-praise.IMPER also head-of-his a lot

#### 4.4.3 Blocking Effects

**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.

D19

a) Larry thinks that John respects X.

*Larry i-tğir belli John i-ħtarami θ*  
Larry 3S.M-think.IMPERF that John 3S.M-respect.PERF CL-him  
'Larry thinks that John respects him.'

b) Larry thinks that I respect X.

*Larry i-tğir belli ħtaram-x θ*  
Larry 3S.M-think.IMPERF that respect.IMPERF-1S CL-him  
'Larry thinks that I respect him.'

c) Larry thinks that Mary respects X.

*Larry i-tğir belli Mary t-ħtarami θ*  
Larry 3S.M-think.IMPERF that Mary 3S.F-respect.PERF CL-him  
'Larry thinks that Mary respects him.'

d) Larry thinks that the boys respect X.

*Larry i-tğir belli ħhanzen t-ħtaram-n θ*  
Larry 3S.M-think.IMPERF that boys 3PL.M-respect.PERF-3PL.M CL-him  
'Larry thinks that the boys respect him.'

e) The men think that the boys respect X. (X = the men)

*aryazen t-tğir-n belli ħhanzen t-ħtaram-n θn*

Men 3PL.M-thinkt.IMPERF-3PL.M that boys 3PL.M-respect.PERF-3PL.M CL-them  
 ‘The men think that the boys respect them.’

Same tests, with the intervening subject in an intermediate clause:  
 D20

a) Larry thinks that Bill knows that Dave respects X.

*Larry i-tg'ir belli Bill y-ssn*  
 Larry 3S.M-think.IMPERF that Bill 3S.M-know.IMPER  
*qa Dave i-th'tarami θ*  
 that Dave 3S.M-respect.IMPERF CL-him  
 ‘Larry thinks that Bill knows that Dave respects him.’

b) Larry thinks that I know that Dave respects X.

*Larry i-tg'ir belli nf*  
 Larry 3S.M-think.IMPERF that me  
*ssn-x qa Dave i-th'tarami θ*  
 know.IMPER-1S that Dave 3S.M-respect.IMPERF CL-him  
 ‘Larry thinks that I know that Dave respects him.’

c) Larry thinks that Mary knows that Dave respects X.

*Larry i-tg'ir belli Mary θ-ssn*  
 Larry 3S.M-think.IMPERF that Mary 3S.F-know.IMPER  
*qa Dave i-th'tarami θ*  
 that Dave 3S.M-respect.IMPERF CL-him  
 ‘Larry thinks that Mary knows that Dave respects him.’

d) Larry thinks that the boys know that Dave respects X.

*Larry i-tg'ir belli ihandzen ssn-n*  
 Larry 3S.M-think.IMPERF that boys know.IMPER-3PL.M  
*qa Dave i-th'tarami θ*  
 that Dave 3S.M-respect.IMPERF CL-him  
 ‘Larry thinks that the boys know that Dave respects him.’

e) The men think that the boys know that Dave respects X. (the men = X)

*aryazen t-tg'ir-n belli ihanzen*  
 Men 3PL.M-thinkt.IMPERF-3PL.M that boys  
*ssn-n qa Dave i-th'tarami θn*  
 know.IMPERF-3PL.M that Dave 3S.M-respect.PERF CL-them  
 ‘The men think that the boys know that Dave respects them.’

**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.

D21

a) Walter thinks that Bill told Harry that Dave respects X.



Walter *i-tg̃ir* *belli* Bill *i-nna*  
 Walter 3S.M-think.IMPERF that Bill 3S.M-tell.PERF  
*i* Harry *qa* Dave *i-t̃tarami*  $\theta$   
 to Harry that Dave 3S.M-respect.IMPERF CL-him  
 ‘Walter thinks that Bill told Harry that Dave respects him.’

b) Walter thinks that Bill told me that Dave respects X.

Walter *i-tg̃ir* *belli* Bill *i-nna* *ayi*  
 Walter 3S.M-think.IMPERF that Bill 3S.M-tell.PERF CL-me  
*qa* Dave *i-t̃tarami*  $\theta$   
 that Dave 3S.M-respect.IMPERF CL-him  
 ‘Walter thinks that Bill told me that Dave respects him.’

c) Walter told me that Dave respects X.

Walter *i-nna* *ayi* *qa* Dave *i-t̃tarami*  $\theta$   
 Walter 3S.M-tell.PERF CL-me that Dave 3S.M-respect.IMPERF CL-him  
 ‘Walter told me that Dave respects him.’

d) Walter said that Dave gave me a book about X.

?\* Walter *i-nna* *qa* Dave *i-wfa* *ayi* *ijj* *n* *ktab* *xafs*  
 Walter 3S.M-tell.PERF that Dave 3S.M-give.PERF CL-me one of book on him  
 ‘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.

D22

a) Ira resents the fact that Mary hates X.

? Ira  $\theta$ -*fah* *umi* *t* *t-fah* *Mary*  
 Ira 3S.F-hate.IMPERF because CL-her 3S.F-hate.IMPERF Mary  
 ‘Ira hates the fact that Mary hates her.’

b) Ira respects the man who likes X.

Ira *t-t̃taram* *aryaz* *i* *t* *i-txsen*  
 Ira 3S.F-respect.IMPERF man who CL-her 3S.M-love.IMPERF  
 ‘Ira respects the man who likes her.’

c) Ira says that the man who likes X is intelligent.

Ira  $\theta$ -*qqar* *belli* *aryaz* *i* *t* *i-txsen* *ifðar*  
 Ira 3S.F-say.IMPERF that man who CL-her 3S.M-love.IMPERF intelligent  
 ‘Ira says that the man who likes her is intelligent.’

d) Ira asked whether Bill saw X.

Ira  $\theta$ -*sqa* *ma* *i-zri* *t* *Bill*  
 Ira 3S.F-ask.PERF whether 3S.M-see.PERF CL-her Bill  
 ‘Ira asked whether Bill saw her.’

e) Ira asked when Bill saw X.

*Ira*    *θ-sqsa*                    *mermi*            *t*                    *i-zra*                    *Bill*  
Ira    3S.F-ask.PERF            when            CL-her            3S.M-see.PERF            Bill  
'Ira asked when Bill saw her.'

f) Ira did not realize that George followed X.

*Ira*    *wa*    *θ-ħqq*                    *qa*    *George*                    *i-ðfa*                    *t*  
Ira    NEG    3S.F-realise.PERF            that    George                    3S.M-follow.PERF            CL-her  
'Ira did not realize that George followed her.'

g) Ira said that Mary was pretty and that she would marry X.

?\* *Ira*    *θ-nna*                    *qa*    *Mary*    *θ-fiñ*                    *w*    *qa*    *a*    *t*                    *y-mrf*  
Ira    3S.F-say.PERF            that    Mary    3S.F-pretty.IMPERF            and    that    FUT CL-her    3S.M-marry  
'Ira said that Mary was pretty and that she would marry her.'

#### 4.4.5 De se reading

There is a famous ambiguity in D23 depending on whether or not Pavarotti is aware that the pants which are on fire are his. If Pavarotti has a belief about pants he knows to be his, then D23 could be said to describe this situation. This is a *de se* interpretation, since Pavarotti knows the pants in question are his own.

D23) Pavarotti believes X's pants are on fire.

Now suppose Pavarotti is standing in a line of men stretching to his right and left and facing them is a long horizontal waist high mirror. Everyone is wearing the same sort of pants and Pavarotti is not sure which reflected pants are his. Now suppose Pavarotti sees one pair of pants burning and laughs out loud saying "that guy's pants are on fire", but he does not realize he is speaking of his own pants. This is a non-*de se* reading of D23, but one in which Pavarotti and the owner of the pants are nonetheless coreferent. Do any of your long distance or pronominal strategies distinguish these two readings (allowing only one of the readings) for cases like D23 or D24 in translations you provide?

D24    a) Pavarotti said that X would sing the aria.

          b) Pavarotti believes that the audience loves X.

If the antecedent of a person is aware of a description or statement, this description or statement can contain a reflexive that has this person as its antecedent.

*Note: I think that with the anaphoric pronominal strategy, we can get interpretations of the de-se kind. For instance, some of the examples in section 4.4.2.4. above have de-se interpretation. I need some more clarifications as to how you would like this explored.*