Version 2.3 July, 2012

Anaphora in the African Languages - Questionnaire

NSF grants: BCS-0303447, BCS-0523102, BCS-0919086

Introduction

This questionnaire is loosely based on a questionnaire originally designed by Alexis Dimitriadis and Martin Everaert of Utrecht OTS (and adapted from theirs with their permission). I, Ken Safir, have extensively revised the questionnaire to better reflect the research goals as defined in NSF grant BCS-0303447 and BCS-0523102. Our goal is to collect information on all "strategies" that your language uses to express anaphoric relations, particularly reflexive and reciprocal local anaphoric relations and logophoric relations, but also bound variable relations, and we shall clarify what we mean by all of these terms.

We use the term "anaphoric relation" in its most general sense to mean any relationship between nominals that results in construing them as the same referent or variable. Often we will use the relatively neutral term "coconstrual", or we may use the historically more typical term "coreference". We reserve the term "anaphor" for those forms that must be dependent on a syntactic antecedent or a very specific discourse relation - we will not use the term anaphor for any form that can be used with a pointing gesture to pick out a figure coming into view (as in standard English, Look, it's him!, but not *Look, it's himself!). A pronoun that does not require a syntactic antecedent will be called an "independent pronoun", as in Mary saw *him*, though of course, otherwise independent pronouns can also be used to establish an anaphoric relation, as in *John* says that you love *him*, which is also a relationship we are interested in. We will refer to the language for which you are completing this questionnaire as "the subject language", or simply "your language". We use the term "strategy" (rather than, say, "anaphor" or "reflexive morpheme"), because it is not always possible to identify a specific word or morpheme that can be said to be the reflexive or the reciprocal, etc. - sometimes it is a construction.

Part of our focus is to study any construction involving very local coreference, including bound coreference, between two arguments of a predicate. Each grammatical device the language can use to express such a relationship is called a "local coreference strategy", or "strategy" for short. A typical version of what counts as a reflexive relationship is one like Carl criticized himself, where a transitive verb gives the reading that X acts on X. A typical version of a reciprocal relation is The two men criticized each other, where Y acts on X and X acts on Y, but neither X nor Y criticizes himself. To establish contrasts between local and nonlocal strategies, and between reflexive and reciprocal strategies, we will often ask how the same sorts of relations are expressed when the coreferent terms are not arguments of the same predicate, and in some cases languages may draw different boundaries, as expressed in their morphology, between what is a local relationship and what is a non-local one. In addition to contrasts between reciprocal and reflexive, local and non-local strategies, we also intend to explore forms of coconstrual that may not exactly match the description of reflexives or reciprocals or else involve more than just reflexive or reciprocal meaning. All of these distinctions and phenomena will be described in the questionnaire, so I will not go into detail here.

No questionnaire could fully anticipate the complexities of languages unfamiliar to the questionnaire designers and so to facilitate comparison, we are asking questions about very different sorts of languages in the same way; accordingly, we provide ample opportunity for you to explain if a question is inappropriate or misleading. In some cases, if we have the time in advance, we will try to examine what references we can find and add some notes pertaining to

the language we are collecting information about, but this is not likely to be the general case. Please feel free to provide as much additional commentary about your language as you think will be useful to the task at hand. We know, however, that the task we ask of you is already a great imposition, as well as an opportunity, and we hope that most of your energy will be directed toward providing us with answers to the questionnaire that are as complete as you can manage.

Section 1 of this questionnaire has been removed and is now part of the Afranaph Consultant Information Form. The questionnaire begins with section 2 which is designed to elicit an initial, very general, description and inventory of coreference strategies. Not all of section 2 will appear directly in our presentation of the data you give us, but it is an exploratory section designed to help you map out what we need to pay attention to in your language. Subsequent sections are intended to assist you in fleshing out some details and boundaries of the strategies, and parts of these sections may encourage you to develop some very specific information that may be of interest to linguistic research. The more specific the guide, the more likely it is that your skills as a linguist may be required to get the sense of what we are after. This is especially the case because our suggestions about how to proceed may be too general to provide specific models of the sorts of sentences that are most linguistically revealing for your language.

We do not expect that all informants will find all sections of the questionnaire as easy to fill out as others, and we would be happy to have as many sections of the questionnaire filled out as you are able to provide. If you notice that some of the strategies that are described in the questionnaire do not correspond to anything in your language, please let us know, as negative information is also useful. At times, you will also discover that certain section seem to ask for the same information that was asked earlier, but the example sentences are slightly different, or that you will be asked for a whole set of sentences with slight differences and with respect to these sentences, nothing new happens in your language. Do not skip over these sections unless it is suggested in the questionnaire that you do, because we still need these sentences for comparisons with other languages, which may not treat the same set of sentences in a uniform way. This is one of the points where the work can become tedious, but it is still necessary.

We would like to stress a few aspects of what we hope you will be able to provide for us. First, we will usually need you to formulate sentences (directed translations of those given for a particular strategy) that are not acceptable, not just a report of those that are. As I just noted, negative evidence is an important part of our descriptive task, and one that serves the purposes of theorists perhaps more than it would those putting together a description for pedagogical uses. We also ask you to be very conscientious about aligning your translations with our example numbers. If there is more than one translation for a sentence on the questionnaire (and I expect this will often be the case), then please give them all the example number of the translated sentence, but distinguish them by lower case Roman numerals (e.g., if there is more than one translation of C12, then give them as C12ai, C12aii, C12aiii...). Sometimes it will be appropriate to provide a sentence that does not correspond to a translation of any of those on the questionnaire, and if you are moved to do this, that's a good thing, but just make sure that you indicate that it does not correspond directly to a sentence on the questionnaire.

Use the following symbols for acceptability judgements. You do not have to employ all of them for any given paradigm.

ok = Perfect
? = A bit odd, but acceptable
?* = Pretty bad

* = Unacceptable
** = Word jumble

Please feel free to contact us for guidance in responding to sections of the questionnaire that do not seem clear to you, or where you do not feel confident that you know what it is we are asking for. I, or one of my collaborators, can be reached at safir@ruccs.rutgers.edu.

***Important*:** We urge you to read through the entire questionnaire before you begin to provide any information. This will help you to get a sense of both the scope and style of the questionnaire, and it will help you to avoid elaborating too much at the early stages, if you know that more detailed questions will address the issues or example types that seem important to you early on.

A note on the form of the information you provide to us

We are set up to receive your responses either in electronic form or in hard copy form based on a printout of our inert electronic file, but we very strongly prefer for you to answer in an electronic file that uses our MS Word version of the questionnaire as a template with the answers provided directly in the Word file (if you must send hard copy, please consult with us about it). Please provide each answer under its section number (e.g., 2.1.3, or 4.1.2.1) or example number, as mentioned above. If you are not sure what section heading an answer should appear under, just make your best guess and let us know you are guessing.

We will also need a reliable way of writing your language, one that we can represent at least mostly with Latin script, and, if possible, one that is also generally used in your linguistic community (the reason for Latin script, besides the familiarity of it for speakers of Western European languages, is that it also permits us to employ more convenient search mechanisms). If these are incompatible, we want a Latin script for transcription where possible with enough information about orthography to guide readers unfamiliar with the language to appropriate pronunciation. We are willing to include any diacritics or special symbols (e.g., for tone or nasality) that we can easily represent, and this we leave this for you to arrange with whomever is assigned to help you in the presentation of your contribution in the questionnaire. We can provide a wide variety of diacritic fonts that are available free, so most likely we can accommodate your needs.

For every sentence that you provide for us, please try to provide all four lines of information. The first line is the sentence as it would be written in your language community (or else as best you can do with Latin fonts, as mentioned above). The second line is a morpheme breakdown, decomposing a word into all the smaller morphemes that make it up. We are aware that it may not be easy to provide a complete morpheme breakdown, but please do your best. The third line is a gloss, which is a morpheme by morpheme translation such that each morpheme is given a corresponding translation. We will send you an additional file that includes our glossing conventions, if that file is not already available on our site. Lastly, please provide an English translation if you are formulating a sentence that is not one of the ones provided as a model in the questionnaire, but also provide an English translation if the model sentence in the questionnaire does not exactly correspond to the sentence you have provided (which often happens - sometimes you will find it necessary to adjust the example in some way, perhaps choosing a slightly different verb, for example). The four lines of information are illustrated with the Kinande examples in i. and ii. The third line of i., for example, gives a morpheme by morpheme translation aligned with the morpheme breakdown in the second line. The subject

marker (SM), the tense marker (TM) and the reflexive marker (RFM) (part of the verb structure in this language) precede the verb stem, and then a causative marker and a particular form of phonological ending (sometimes also related to tense) called the final vowel (fv) comes at the end.

i. tukándiyinabyâ
   tu-kandi-yi-nab-i-a
   SM.c1.1p-TM-RFM-wash-CAUS-fv
   We will wash ourselves.

There is only one word in this example, and notice that for a single word consisting of many morphemes, the morpheme breakdown separates each piece of the word with a dash which corresponds to the gloss translations of each piece also separated by a dash. When a morpheme consists of several bits of information, but not a separate morpheme, then the separate bits of morpheme are separated by periods, i.e., the morpheme *tu-* in this example is a first person subject marker of class one, and so the three pieces of information about this marker are separated by periods, but *tu-* is separated by a dash from the next morpheme, *-kandi-*.

Notice in ii., which consists of four words, that the beginning of each word of the gloss is left-aligned with each word of the morpheme breakdown, but morphemes within words are not left-aligned. Where it is necessary to add more information than is in the four lines, add a comment.

ii. Yohani ákánáya okó bimúlólerékô
   Yohani a-a-kan-a-i-a okó bi-mú-lól-er-ire-ko
   John SM.c1-TM-speak-a-CAUS-fv on C7-him-look-TM-on
   John spoke about things that concern him.
   Comment: Where him = John. C7 is the SM for class 7; here bi- refers to things.

In many cases, you may not feel confident about what should be in the gloss, and if necessary, you can either omit it or give it your best guess or analysis, letting us know of any issues that you think providing a gloss raises that we should know about. If providing a gloss is holding you up too much, then leave it for last and consult with us about it later. However, be sure always to provide your best guess at a translation.

We now have a French version of this questionnaire, and so those who speak French as their more typical language of discourse outside of their non-colonial language may download the French version and answer in French. We are not yet prepared to remedy this difficulty for Portuguese speakers at this stage, but perhaps if our project grows we will be able to address this weakness in our research elicitation.

And so we begin - PART 1 has been elided from this questionnaire (It now forms the basis of the Preliminary Consultant Questionnaire), so please begin with Part 2.

PART 2 An inventory of reflexive and reciprocal strategies

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

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

Pay special attention to parts of a strategy that appear to be optional. In such cases you should list two strategies, one with and one without the "optional" element.
For example, Javanese has two reflexive constructions, awak+pronoun+dewe and awak+pronoun. It would be incorrect to treat them as a single construction in which dewe is optional: on close inspection the two forms turn out to have very different properties. Hence, any "optional" elements in your language should be studied under the assumption that we are dealing with different strategies.

2.1 Coreference in a single clause

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

A1) John saw himself.

Choose a short name (label) for this strategy. It will be used to refer to this strategy in the remainder of the questionnaire. You can label it Strategy A, or you may choose a more descriptive name. For example, in English, we might call the strategy in A1 "x-SELF" or "pronoun-SELF" since the pronoun varies and the SELF form is constant. In Dutch, one might use the label ZICHZELF since the form that is used to translate English sentences like A1, but there is also a form zich, which can be used with the verb meaning "wash" but not with the verb meaning see under normal circumstances, hence we would want to label that strategy the ZICH strategy, or Strategy B. Whatever label you choose, please use it consistently.

2.1.2 Is there another way, or are there other ways, to express coreference in A1 (that is, with the verb see held constant)? If so, give examples of their use now, and label them (use Strategy B, C, or choose your own labels). For example, in German both Hans und Maria sehen sich and Hans und Maria sehen einander are possible with a reciprocal reading (although the sich strategy also allows a reflexive reading). Hold off on presenting reciprocal strategies - we have a special section for that.

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-NULL. 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).

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

Here we are just trying to see if there are other strategies besides the ones you have named, so if the examples above do not uncover a new strategy, (e.g., in English, John washed can only be understood reflexively) then just translate them and move on. At this point, we are just making an inventory of strategies.

2.1.4 Obliques and other argument types - In the preceding examples, the coindexed arguments were subject and object. Many languages use a different coreference strategy for oblique arguments. Does yours? Consider a variety of oblique objects (dative, genitive, etc., as appropriate for your language), as well subcategorized prepositional arguments (e.g., English Karl counted on himself) and finally prepositional adjuncts (e.g., Sally saw a snake near her/herself). The following examples are models only and may not have the desired syntax in your language - in which case, please do your best to design appropriate sentences reflecting the relations in parentheses. Once again, translate them only if they involve a strategy that you have not yet identified.

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

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

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

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

should therefore be considered a distinct local coreference strategy.

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

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

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

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

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

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

(b) Do quantificational constructions involve a separate strategy?

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

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

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

(d) The above were all tensed main clauses. Experiment with placing both coreferring 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). Please provide examples corresponding to the sentences in A9 even if the translation reveals no

new strategy.

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

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. For this section, please translate all the sentences, indicating the acceptability of the results.

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

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

2.2.2 If your language has more than one type of pronouns (e.g., null, clitic and non-clitic pronouns, strong, or stressable pronouns, etc.), list each type with examples. It is helpful for us to have full paradigms for subject, object and indirect object pronouns (only if indirect object pronouns are different from object pronouns) as well as possessive pronouns and pronouns in prepositional phrases. Keep in mind that pronouns and agreement are not always easy to distinguish when the pronoun is mixed in with the verb morphology. Some languages will have an agreement morpheme that can cooccur with a pronoun in subject or object position, and in some cases the pronoun (or any full noun phrase) and the agreement are mutually exclusive. Please inform us as to the situation in your language for each argument position (subject, object, indirect object, possessive, prepositional object...)

2.2.3 Null arguments - If your language allows argument drop (null pronouns, or pro-drop) as a pronominalization strategy in simple (single clause) sentences, then name it here as an additional pronominalization option. This kind of argument drop does not have to be interpreted as reflexive (as in the case of English John washed), but rather it is the sort of argument drop that could be used where there is not necessarily an antecedent in the sentence, but the interpretation is like that of an independent pronoun. Provide an examples for each grammatical function that

can be dropped. In Japanese, for example, null arguments are possible for both subject and object arguments, but none of the examples in (A10e-f) are possible in English. If your language allows the pronouns to drop for any of these grammatical functions (subject, object, prepositional object), but the range of pronominal interpretations is limited, please comment. (If agreement plays a role with respect to when a pronoun can be missing, please say so, even though your answer to this may overlap with your answer to 2.2.2.)

A10d) Ate fish. (meaning *he/she/they/it/we/you/I ate fish*)
e) Hal hit (meaning *Hal hit him/her/them/it/us/you/me*)
f) Hal talked to (meaning *Hal talked to him/her/them/it/us/you/me*

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

2.2.4 The use of otherwise independent pronouns for clausemate anaphora

Even if your language has a special strategy for local anaphora, as English does (e.g., the use of pronoun-*self*), we still need to know whether or not a simple pronoun, a pronoun that could be used in contexts like those in (A10a-c), could also be used to form a reflexive reading.

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

In English, none of (A10g-n) are acceptable if *him* = Ali, rather all speakers find that *him* must refer to someone other than Ali. Most English speakers, though not all, accept (A10l, m) with *him* = Ali. Try to use verbs close to these and use pronouns corresponding to the direct object (or object markers, if that is what your language uses for direct object pronouns) and determine if the pronoun you use can form a reflexive reading (=Ali) or not in these cases or not. It is especially important to keep in mind that we also need translated examples that show what is not possible, when that is the case.

2.3 Reciprocal Readings

The previous sections asked about strategies for reflexive coreference. We now consider reciprocals. Please keep in mind that we are still just compiling an inventory of strategies and we shall explore details later. As before, remember to treat "optional" morphemes as evidence of distinct strategies.

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

2.3.2 As a means of assessing what sorts of reciprocal strategies your language contains, consider these typical sorts of reciprocal sentences in English. If a new strategy is involved (a special reciprocal form, or affix, or clitic or argument drop, or verb form, etc.), name it and give an example. (For argument drop, consider English *They argued*, which can be understood to mean that 'they argued with each other').

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

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

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

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.

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

2.3.5 Other clause types, and other strategies: Briefly consider various types of reciprocal embedded clauses; if a new coreference strategy can be used with some of them, name it here. Also consider if there may be a reciprocal strategy not identified by the preceding questions. Use the following sentences as models and please translate them even if no new strategy is revealed.

A14a) Sol says that the girls love each other.
b) Sol required that the girls praise each other.
c) Sol thought the girls should praise each other.
d) Sol asked the girls to praise each other.
e) The girls want to praise each other.

f) Sol expects the girls to praise each other.
g) Sol heard the girls praising each other.

2.4 Other types of local coreference

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

A15a) Paul lost his shoes.
b) Paul raised his hand. (e.g., in class)
c) Paul cut his hand. (e.g., accidentally)
d) Paul examined his hand.
e) Paul twisted his ankle (or 'stubbed his toe')

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

A16) Andrew's self-confidence annoyed Mary.
A17a) Andrew's introduction of himself impressed the teacher.
b) Andrew's evaluation of himself was too critical.
c) Their instructions to each other were not clear.
d) Their evaluations of each other were too generous.

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

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

Part 3 General details about the strategies

You should now have a list of several different "strategies" for coreference, each represented by one or more examples. The following sections will study the properties of each of these strategies.

For each question, you should give a separate answer for each of the strategies you have identified. Be sure to clearly label each answer with the name of the strategy used (A, B, "zich", etc.). Even you feel that it is obvious which strategy is used, labeling all your answers will help us process them efficiently and avoid errors.

It may be easier for you if you complete part 3 of the questionnaire for one strategy at a time. Begin with the first strategy you have identified (Strategy A, for example), and answer all questions as they apply to it. Then return to this point and do the same with strategy B, etc. This is just a suggestion, however. You may find it easier to go through answering for all strategies for each question. Some questions refer to "the current strategy," meaning whichever strategy you are providing an answer for at that moment. This part of the AQ is harder for those with little or no linguistic training, since we are asking you to make analytic distinctions.

3.1 Marking

3.1.1 Some strategies are manifested as involving special nominal (NP) form (an "anaphor" if it must have a configurational antecedent) (e.g., *himself* in English or *lui-même* in French) which appear where a full nominal otherwise would. For example, English *himself* appears in a position that a name might appear (*John praised Bill/himself).* Another way of achieving coconstrual is to use a (potentially independent) pronoun, e.g. *John attacked his opponent*, but in these cases, the pronoun does not have to refer to *John*. Other languages achieve reflexive readings by means of a morpheme that attaches to the verb or auxiliary (e.g., Bantu languages typically use a special reflexive affix that appears on a verb in the same prefix slot that an object pronoun marker otherwise would); yet others by a change in verb form without an identifiable "reflexive" morpheme, e.g., by passivization ("verbal reflexives"). Occasionally, a strategy will even involve both a special NP *and* marking on the verb. We would like to focus for part of this section on the way strategies are marked in your language.

With these distinctions about marking in mind, please indicate which parts of the sentence the current strategy affects. Explain briefly which of the three possibilities below seems relevant. In some cases, it may not be easy to make principled distinctions, (for example, it is difficult to make a principled distinction between pronominal clitics and "true" verbal affixes). Make sure to give a separate, clearly labeled answer for each strategy you are reporting on. Please keep in mind that some strategies may use more than one option below. For example, in French, the SE strategy (described below) permits both reflexive and reciprocal interpretations, but reciprocal interpretations are disambiguated from reflexive ones by the addition of l'un l'autre.

Y1) Ils se critiquent l'un l'autre.
they SE criticize the-one the-other
"They criticize each other".

The *se* appears as a clitic pronoun (a pronoun that is morphologically parasitic on some other form it attaches to). So the l'un l'autre reciprocal strategy for French is in combination with the SE strategy, which would mean, in terms of the questions below, that it would appear to involve both (a) and (b). (For another example of marking on both verb and argument, see the Malayalam example that was the first one provided as an example of a glossed sentence.)

Marking Strategies for coconstrued interpretations
Ma) Marking on a coconstrued argument or adjunct. (E.g., English *himself*)
b) Marking on the verb or an auxiliary. (French clitic *se*, the Bantu reflexive marker)
c) Coconstrual is marked by dropping an argument. (as in English *John washed*)
d) Coconstrual is signaled by a specialized adjunct. (Such as *l'un l'autre* in (Y1)).

An example of just (Ma) would be the English reflexive himself, which marks just one of the coreferent NPs, prototypically the object in subject-object coreference, insofar as a special form is required. Where (Mb) is marked there is often a special form of the verb, or a modifier, affix or clitic, or a change in the verb's argument structure. In French, for example, either reflexive or reciprocal interpretation can be achieved with a preverbal clitic se (always anaphoric) on the verb (in third person), which we might call the SE strategy

Y2) Jean se paie souvent.
Jean SE-pay often
"Jean pays himself often" (suppose Jean is the boss)

The form se appears to occupy is the position that an independent Accusative pronominal (le) normally would, as in Jean le paie souvent ("Jean pays him often", a noncoreferent interpretation) but full NPs in French (non-pronominal ones) normally appear after the verb, as in (Y3).

Y3) Jean a payé Pierre.
Jean have paid Pierre,
"Jean paid Pierre."

Rather than determine whether se is a clitic or prefix, we ask you, should your language mark reflexivity by anything on the verb, to simply treat the strategy in question as verb-marking (and let us know if clitic pronouns occur in the same position, if that is clear to you). In this case, one would also add that French is normally SVO, and when this marker on the verb occurs, there is no direct object visible. Many Bantu languages have reflexive markers on verbs that are reminiscent of the French *se*.

For the third marking strategy, which is (Mc), it is often not obvious whether or not we should treat this as a phonetically null version of (Ma) or (Mb), such that an argument is marked as null (and necessarily coconstrued with a coargument antecedent) or a verb is taken to bear a null marker that allows what appears to be a form of intransitive interpretation. This strategy is used, for example, in the English John washes.

A somewhat less commonly observed possibility (Md) is that a sentence element that is not part of the verb or one of the coindexed NPs is marked, perhaps a prepositional phrase or an oblique NP or adjunct. For example, it has been argued that Finnish reflexives are indicated by the addition of a certain locative expression. Moreover, some regard the French l'un l'autre that accompanies the clitic in (Y1) to be an adjunct, not an argument.

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*.

A strategy is "extremely productive" if it can be applied to nearly every verb you can think of. It is "fairly productive" if there are many exceptions, but you could still find a potentially unlimited number of verbs that allow it. (Could you name twenty verbs that allow it without too much difficulty?). One way of testing for productivity you might try is to see if the current strategy can be used for verbs that are formed in a productive way from other categories. For example, English -ize is added to nouns to make verbs, and all of the verbs formed in this way in English use the x-SELF strategy. If this works, then the strategy in question is productive.

A strategy is not productive if it can only be used for a small set of verbs and cannot normally be extended to newly formed verbs. For example, the null object strategy for reflexive interpretation in English is not productive because it applies to a small set of verbs (*wash, shave,*

dress, bathe...) and not generally (**John killed, *John praised, *John promoted*, none with reflexive meaning) and does not easily extend to similar forms, e.g., **John cleaned*.

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 strategy is "restricted to a specific class" if you are aware of some class of verbs which are the only ones, or nearly the only ones, that allow its use. If the strategy is restricted in its use, please describe, if you can, what you think the restriction is. Please give a few examples where it is possible to use it, and a few examples where it is not possible to use it. (e.g., "used only with verbs of motion"). Use the following scale: (a) Has (almost) no exceptions, (b) Has few exceptions, (c) Is only a general tendency, (d) Can't tell.

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? Is it the way people talk to each other in 'normal' contexts?

3.3.2 Is special intonation or emphasis necessary, and if so, where (e.g., is it on the morpheme that constitutes the marker for the strategy or is it a contour on the verb, or perhaps a special contour for the whole sentence). For example, English has adverbial reflexives which look like object reflexives except they don't apply to arguments of the verb, e.g. *John did it himSELF*, where upper case indicates stress.

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.

B1a) If Marsha admires just one person, then I suspect that she admires just HER.
b) Marsha thinks I should trust no one but herSELF.

Some English speakers accept a pronominal object permitting she=her, but only with heavy stress on her as in B1a. If this sort of stress is required, we suspect that a simple pronoun is not normally a strategy for forming reflexive readings in English, and set the case aside. In contrastive environments, many English speakers also accept (B1b), where what is otherwise a reflexive is permitted to be non-locally related to its antecedent (the local antecedent should be I. Consider whether or not one of the strategies you have named may be described as only possible in such a specially stressed or marked environment.

3.3.4 Do you have any other comments on the use or meaning of this strategy, or on how it differs from other strategies you have identified? (Before you answer, take a look at the questions asked in the following sections).

3.4 Morphology

In this section we explore the internal structure or lexical properties of the form that supports a

reflexive or reciprocal reading or any other form that is involved in the strategy (so, for example, if a given strategy involves both an affix on the verb and a special form of NP argument, answer for both parts). Complete this section for all strategies for which the questions make sense. (The strategy used for English John washed contains no overt morpheme, so that would be a case where it appears that there is nothing to say).

3.4.1 Does the reflexive element, in its entirety, have a stateable lexical translation? For example, many languages use a reflexive consisting of a pronoun and a body part term, e.g., "his-head" or "him-face", whereas others use a term meaning "own" or "same", etc. Reciprocals often involve the term "other", but some languages also use a body part or some other 'meaning atom'. In some languages, it is not obvious that there is any translation of the term at all.

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? Is it some form of prepositional phrase or adjective? Is there anything further to say about its meaning in such cases?

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. Provide a morpheme-by morpheme gloss for the visible elements of the strategy, giving the following information about each morpheme. (This question can be very hard to answer for some parts or altogether. Provide as much information as you can, but if you do not see how to answer, say so and move on).

(a) Agreement features etc.

(b) Does this morpheme have a lexical meaning? Is it clearly or plausibly related to a lexically contentful word or morpheme? Give details as necessary.

3.5 The agreement paradigm

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

For example, for English, the following information would be given, presumably with remarks like those below.

B2) myself, ourselves, yourself, yourselves, himself, herself, itself, themselves.

Remarks: - *itself is not human because it is not used to refer to humans. The self portion can be singular or plural but is not marked for gender. The forms him, them and her are homophonous with Accusative in English. The forms my, our, your, and her are homophonous with possessive pronouns in English. There is no self form for possessive NPs, so just the possessive (otherwise independent) pronoun is used for coreference.*

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.

For example, the Modern Greek reflexive o eaftos tou is morphologically an NP that is always grammatically masculine, but contains a possessive that agrees in person, number and gender with the antecedent. The reflexive NP is also marked for case, according to its syntactic position. Finally, the reflexive NP as a whole may be either singular or plural, the plural form being possible (but not required) when the antecedent NP is plural. This interacts with interpretation (distributivity etc.), in ways that are not immediately obvious.

All forms of the above features, Case, person, number and gender (and animacy or noun class, if it is marked in your language) should be given. For any features that are usually or optionally employed, provide an example of a context where the optionality holds and provide as much additional information as you suspect will be useful.

3.6 Interaction with verb morphology - Incompatibilities

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. In this section we ask you to look for such morphological incompatibilities between the reflexive strategy and other morphological elements. Sometimes Case combinations are impossible or phonological or prosodic restrictions. This section can be skipped over to save time, but it is one which we may choose to explore in follow-up investigations (Note- this section is slightly renumbered by comparison with the last version of the questionnaire)

3.6.1 Tense, Mood, Aspect.
It is sometimes observed that coconstrual strategies are sensitive to the tense, mood or aspect of a clause, particularly if the aspect (whether an event is complete or not) has other syntactic effects. If there is any sign that coconstrual for some strategy is blocked or peculiar for a given tense (e.g., simple past, habitual, generic), mood (such as subjunctive, if your language marks it), or aspect, please comment and provide examples . Check with at least the verbs meaning *see*, *praise*, *help*, *like*, *know*, and *wash*.

B3a) Gina (generally) washes herself
b) Gina has washed/was washing herself.
c) Gina should wash herself.

3.6.2 Grammatical Function (GF)-changing - Consider 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. Sometimes Grammatical-Function Changing ("GF-changing") morphemes, such as passive, inverse, middle, dative alternation, causative, applicative affixes or markers etc. are incompatible with a given coconstrual strategy. In other words, where the result of the GF-change has at least two

arguments, check whether the GF-change is compatible with the current strategy. Manipulate the verbs meaning *talk to*, *give*, *visit*, and *kill.*

For example, English permits passives, but the pronoun-SELF strategy of English is considered marginal or * in the passive by-phrase. Compare, John killed himself with John was killed by himself, where the second one is only acceptable with a non-reflexive adverbial interpretation (i.e., *John was killed when he was alone* - though this is still an anaphoric interpretation, since himself in by himself must be anteceded by John and agree with it). In other words, passive is incompatible with pronoun-SELF reflexivization in English. By comparison, dative alternations do not affect the acceptability of the pronoun-SELF strategy in English, as in Gary gave a book to himself and Gary gave himself a book (though I personally have a slight preference for the latter).

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

3.6.3 (formerly 3.6.1) If you are aware of operations or morphemes that cannot co-occur with this strategy, then list them here, providing an example an a brief statement of what the incompatible morphemes or constructions are. So for example, if your language distinguishes accusative case from dative case, is one or the other case exclusively compatible or incompatible with a particular strategy?

3.7 Uses that are not quite coreference

The body of the questionnaire investigates uses of the identified strategies as coreference strategies, meaning that they express coreference or overlap between two logical arguments (or adjuncts) of a clause. Are there other uses of this strategy, in which it does not express coreference between two arguments or adjuncts (e.g., like locatives or directionals)? Many languages use reflexive morphology for purposes not obviously connected to reflexivization. If so, explain and provide a few examples. Some frequent uses of reflexive strategies:

3.7.1 Idiosyncratic or inherent. Some languages have verbs that lexically require a reflexive which does not appear to correspond to an argument. The uses are typically special idioms. [Example: English has a few such verbs, for example, perjure oneself. For this verb, *John perjured Bill is not possible. German has many more, such as sich erinneren,"to remember", as does French, such as s'évanouir, "to faint"] Are there such uses for the current strategy? If so, give examples of as many as possible. It may turn out that not all reflexive idioms you find make use of the same strategy . Martin Evereart has noted that most idiosyncratic (sometimes called 'inherent') reflexives in Dutch are formed with zich, but a small set of others are formed with zichzelf. Please be on the look-out for such contrasts.

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

Your language may also have forms that require a local antecedent but seem to indicate a relationship with an antecedent that stresses how a particular participant related to an event. We see this with constructions in English like (B1c,d)

B1c) John ate fish himself.
d) John himself ate fish.

Please translate (B1c,d). Which of the readings below are permitted? (English adverbial reflexives permit readings (C) and (D), but other languages permit (A) and (D) with forms that seem more like English *himself* than English *alone*.)

A) John alone did this - i.e., only John and no other individuals did this.
B) John did this alone - John was unaccompanied when he did this.
C) John himself did this - John appearing in person did this (no one did it for him)
D) John himself did this - Even John did this (e.g. Although you would not have thought he would, John also ate the crispy jellyfish)

3.7.3 Middle. The argument structure of the verb is changed into a form that has an explicit patient, but no agent is present and an agent may or may not be implied. In English, this construction is not marked by any overt morphology, e.g., The tires on this car change easily. There does not appear to be any reflexive form used in English middles, but other languages use forms that are otherwise used to create reflexive readings. Greek uses passive morphology for middles, and as a reflexivization strategy.

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 coconstrual between two logical arguments.

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).

B5a) Bill did not see X
b) Does Mary like X?
c) X went to the bank yesterday.

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

B6a) Bill insulted X. (X = speaker, X = addressee)
b) Many people do not like anchovies, but X likes them.
(X = speaker, X = addressee)

Can the form in question be used in a sense like that of English generic one (which is not evenly acceptable for English speakers in non-subject environments). Or is there a meaning that means "arbitrary person". There are otherwise local anaphors in Hindi, for example, that can have the latter usage.

B7a) 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.

3.7.6 Focus.
Please translate these question-answer pairs. (Numbers are out of sequence here for a reason)

B15) Who did the farmers see?
They saw *him*.

(For example, the children are playing hide and seek in the yard, four girls and one boy, John. The farmers entered the yard but they only saw John).

B16) The farmers didn't see Mary. They saw *him.*

3.7.7 Other. Are there other ways to use the strategy that do not express coreference (or reciprocal coreference) between two arguments? If so, give examples and a brief explanation 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 (e.g., Grisham) and their work. Feel free to substitute your favorite national author for Grisham.

B8a) 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 those in (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.

B9a) 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.
e) Castro saw himself in the show, but he didn't like what he saw.

The judgments for English in these cases is that the null strategy in (B9b,d), possible for the verbs dress and wash normally, are not acceptable here, at least not in the intended sense. While (B9d) permits a reading that the movie star dressed her own person, not her statue, in a way that does not damage the wax, it does not mean that she dressed the statue, a reading possible for (B9c). In the case of (B9b), there is a reading for which Castro did some non-specific washing, perhaps of the statue, in a way that does not damage the wax, but it does not have the more specific reading that Castro washed the statue of him that (B9a) has. For (B9e), imagine a show where an actor is playing the part of Castro and Castro is in the audience watching his counterpart on stage.

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 B10a-c are also generally possible.

B10a) 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.

Proxy readings are also possible for reciprocals in many languages. For (B11a), once again the antecedents are the authors and each other describes the works these authors have written, such that Mark Twain did not read Victor Hugo's novels in Swahili and Victor Hugo did not read Mark Twain's novels in Berber. For (B11b), imagine a show where there are actors masquerading as our two protagonists. The first each other refers to the person Marlene and Castro, but the second each other refers to the actors (or statues) representing them on the stage or in the show.

B11a) Mark Twain and Victor Hugo did not read each other in Berber.
b) Marlene and Castro did not see each other in the audience, but they did see each other on the stage/in the show.

3.9 Ellipsis

Consider the following examples, which all have an ellipsis of one sort or another. In (B12), there is missing structure that is parallel or identical to stated structure and it is interpreted as if it is there.

B12a) Sherman likes/praises himself more than Bill
b) Sherman likes/praises himself more than Bill does

English permits both of these, though I suspect (B12b) may not be as widely available as (B12a). If not, then concentrate on (B12a). The following readings, where the Italicized portions are what is missing for (B12a,b) but can be interpreted as if it was there (which is what is meant here by 'ellipsis')

i. Sherman likes/praises himself more than *Sherman likes* Bill.
ii. Sherman likes/praises himself more than Bill *likes him* (=Sherman).
iii. Sherman likes/praises himself more than Bill *likes himself*.

Please try to formulate sentences like those in (B12a) (an/or B12b, if that is possible) trying out each of the non-reciprocal strategies in the first clause and determining for each strategy which of the readings i-iii. are possible. If you have several strategies in your language, then we expect you will have many examples as translations of (12a,b) for whatever verb works with the strategy in question. Please adjust the examples to use appropriate verbs for the strategy you are testing, and if there are generalizations about which verbs go with which strategies more successfully, that would be very interesting to know. Remember to try both affixal and argument anaphor strategies, if your language has both.

PART 4 Exploration of syntactic domains

This section is more exploratory than the preceding ones, and so we rely more on your linguistic expertise and your sense of what we are looking for in the pattern of anaphora in your language. Soliciting examples for all possible combinations of syntactic factors would be a prohibitive task. We present selected combinations of syntactic factors and ask you be on the lookout for any significant interactions between these factors and the strategies they allow, such as distance from the antecedent, type of antecedent, and some details of interpretation. Some of the information asked for here will be redundant with respect to earlier information, but please bear with us, as we are establishing broader paradigms of what is possible for each strategy. Please read these instructions carefully, and return to them if unclear about how to handle a question.

In this section you will be asked to construct a variety of sentence types and test their acceptability. In typical cases, an English sentence will be provided as a guide with one argument marked "X" and the X argument is to be construed as coreferent with some other designated argument (e.g., X = John). When you are asked to provide a reciprocal example, change John to some plural subject of the form John and Bill or the boys or the girls, but do not use other sorts of subjects unless you are instructed to do so (we are avoiding certain kinds of complications that arise with quantified subjects that we will ask about separately below).

To show how we would like you to proceed in this section, we begin with a relatively simple 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.

X1a)*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

Remarks: *Example (X1c) is not possible with any interpretation, reciprocal or reflexive. The IMPLICIT strategy is limited to certain verb classes, as mentioned in section 2.1.3.*

Now suppose that the verb chosen had been wash. As a native English speaker, I might respond as follows.

X2a) 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.

Remarks: *Examples (X2a) and (X2b) contrast, although the difference is unclear to me. You could say John washed himself clean, but not *John washed clean. I am not sure why. Example (X2c) can have a reflexive interpretation like (X2a), but (X2a) is * if it is intended to have a reciprocal reading like (X2d) or (X2e). The implicit (null) strategy, as mentioned in section 2.1.3, is limited to verbs of grooming, etc., so I will not test it further with verbs it is not compatible with.*

Now suppose the example is constructed as follows, where what we are seeking to test is whether or not the possessive of an argument of the main predicate (verb in this case) can be represented by one of the coreference strategies that we have identified as holding between coarguments.

X3a)*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.

Remarks: *I had to change the verb to wash to test the implicit strategy, since that strategy is generally impossible with see, but it doesn't help and plurality wouldn't make a difference. We don't have a possessive x-self form, but a pronoun works for coreference here with a singular or plural antecedent. For some reason, the reciprocals sound odd in this construction, but they improve a lot if we replace mother with mothers. Then I would accept (X3c) completely, but maybe (X3d) is still ?. Incidentally, the plural pronoun in (X3e) does not appear to have a reciprocal reading, but maybe it is just vague.*

These are examples of the sorts of responses you might give for your language when you provide sentences for us with gloss, translation, and any commentary that you feel would help us understand.

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.

C1a) Bob saw X.
b) The women described X.
c) You(pl.) kicked X.

d) They praised X

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

C3a) Donna washed X. (X = Donna)
b) Don cut X's hair. (X = Don).
c) The girl cut X [unintentionally] (X = the girl)

4.1.1.3 Psychological predicates. Please provide examples for verbs like those below, even if nothing exact seems appropriate for the current strategy, marking them according to the level of their acceptability based on the scale given above.

C4a) John hates/fears X
b) John is ashamed of X
c) John is worried about X
d) John is proud of X
e) John worries/troubles/pleases X

4.1.1.4 Creation and destruction predicates. 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
b) The machines built X (X = themselves)

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.

C6a) The boys represented X.
b) John spoke for X.

At this point you might want to reconsider your answer to section 3.7.1, where we asked you about idiosyncratic or inherent reflexives - perhaps some of the ones you looked at earlier belong to some pattern that you might alert us to here.

At this point, we should have some idea of the verb classes for which local coreference strategies succeed, and so from this point on, in formulating sentences testing the usage of a given strategy, use only predicates that would not be excluded for that strategy based on the verb class restrictions you have already given us. For example, if the current strategy cannot be used with the verb "see", then there is no need to show that, for example, reverse binding with "see" (e.g. *Himself saw Joe, see 4.1.3.6 below) is ungrammatical; instead, start with a predicate that is compatible with the that strategy.

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.

C7a) Mary gave the gift to X (X = Mary)
b) John showed the house to X (X = John)

For comparison, also provide judgements for the following:

C8a) Mary gave X the gift (X = Mary)
b) John showed X to the children (X = John)

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

C9a) Dan talked to X.
b) Dan told Mary about X (X = Dan)
c) Dan gave X a book.

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

C10a) Mary saw a snake behind X (X = Mary)
b) Mary called me because of an article about X (X = Mary)
c) John offended Mary because of X (X = John)
d) We laughed in spite of X

4.1.2.4 Ditransitives and double complements- Can the strategy be used to indicate coreference between the two non-subject arguments of a verb?. If there is more than one way to express the two non-subject arguments of a verb like "give", give examples for each type of construction. In English, for example, we would want examples both of the type "show Hal the book" and "show the book to Hal." (where X = Hal for C11a-d). For example, for (C11c), Bill gave Hal himself, which is admittedly pragmatically awkward, but imagine for (C11a) that Mary is showing Hal his image in the mirror - imagine Hal had never seen a mirror before.

C11a) Mary showed Hal to X.
b) Mary showed X to Hal.
c) Bill gave Hal X.

d) Bill gave X Hal.
e) Mary told/asked the boys about themsleves/each other.
f) Mary showed/introduced/presented the boys to each other.

4.1.2.5 Two internal arguments or adjuncts - Consider coreference between two arguments of adjunct NPs in the same clause, neither of which is a subject and neither of which is a direct object (if your language has such constructions - if not just say so and move on). Consider X=Hal in (C12). If I were answering for English, I would say that (C12c) is successful with the pronoun-SELF strategy, (C12b,d) fail with both pronoun-SELF and the independent pronoun strategies, and C12a is marginal with the independent pronoun strategy.

C12a) Bill talked about Hal to X.
b) Mary talked about X to Hal.
c) Mary talked to Hal about X
d) Mary talked to X about Hal.

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

C13a) Nick telephoned X's mother.
b) Nick combed X's hair.
c) Nick spoke to X's boss.
d) Nick put X's book on the table.
e) The king gave Nick a prize in X's village.
f) The boys washed X's face.
C14a) Nick's father admires X.
b) Nick's ambition destroyed X.
c) Nick's mother sold X's car.

Please provide translations and judgments for the following examples where the plural pronoun is coconstrued with the boys or the poltiticians.
X20a) The boys saw pictures of themselves/each other/them
b) Mary told the boys about pictures of themselves/each other/them
c) The politicians planned attacks against each other.
d) The politicians faked/simulated attacks against themselves/them.

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

Example: (C15a-c) have been passivized. If your language has passive, construct reflexive and

non-reflexive versions of each one as above. For English, the by-phrases in (C15a,b) are not interpretable as "alone" (see 3.6) and are not generally regarded as acceptable with by herself.

C15a) Polly was praised by X
b) Polly was helped by X
c) Little is known by Polly about X (X = Polly)
d) The wax melted itself

There are more subtle cases, like (C15d), where the interpretation is not equivalent to "the wax melted", but requires an odd agency for the subject such that it acted on itself to melt itself. The latter interpretation requires some sort of animacy for the subject, but the problem for C15d in this regard is can be mitigated, insofar as it is possible to imagine a fairy story in which an animate wax character Max commits suicide, hence Max melted himself.

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. (Once again, start with a predicate that allows use of the current strategy, if the verb meaning "see" does not). If there is any variation in judgements, provide examples for the entire paradigm. Otherwise, provide a couple of representative examples. However, in some languages, a strategy that works for singulars does not work for plurals (Danish, for example, shows such asymmetries), and in other languages, a strategy that works for third person does not work for first and/or second person. It is intended here that X is the pronoun or anaphoric reflexive strategy that would be coconstrued with the subject to produce a grammatical result.

C16a) I saw X.
b) You saw X. (etc.)

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

C17a) I washed X.
b) I hate X.
c) I told John about X
d) I saw a snake near X
e) I am liked by X.
f) I telephoned X's mother
g) My father admires X

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

C18a) History repeats X
b) This type of fish cannibalizes X
c) This machine destroys X (e.g., after you use it)

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

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

C19a) Every woman saw X.
b) Every child washed X.
c) Every student hates X.
d) Every child saw a snake near X.
e) Every child telephoned X's mother.
f) Every child's father admires X.

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

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

C20a) Who saw X?
b) Who washed X?
c) Who saw a snake near X?
d) Who telephoned X's mother?
e) Whose father admires X?

4.1.3.6 Reverse binding - In the following examples, the full NP ('antecedent') appears in the lower (prototypically, object) position. Try to translate these into your language. It is expected that many sentences constructed in this section, possibly all, will be unacceptable in many languages (as *Himself saw Fred is in English). Naturally, any examples which are not ungrammatical are of particular interest.

C21a) X saw Fred.
b) X saw us. (X=us)
c) X saw a snake behind Fred.
d) X impressed Fred
e) Bill spoke to X about Fred.
f) Bill told X about Fred
g) X was praised by Fred.
h) X is liked by you. (X = 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.
b) X's mother wanted to improve George.
c) X's mother worried/impressed George.
d) Mary told X's mother about George.
e) A picture of X's mother fell on George.
f) A picture of X'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. In translating these cases we want you to preserve the linear order of X before its antecedent and providing a judgment accordingly, insofar as the unmarked word order of your language allows.

Please let us know, however, if word order in your language is fluid enough to scramble arguments in such a way that the linear order between X and its antecedent could change (e.g., in English, this would be a form of topicalization, such as John, his mother loves, which English informants do not always agree about). This we will not explore directly in this questionnaire, but we want to know in case we choose to do follow up research on this phenomenon.

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.

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

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

Remarks*: If I were answering this for English, I would say for themselves in place of X that (C24d,e) are clearly possible, while (CD24b,c) are possible, but maybe not the first interpretations I would think of. However, (CD2ba,e) are not possible. On the other hand, if I were answering for each other, (C24a,e) are clearly possible and probably (C24f), but not (C24b,d), and I am not sure about (C24c).*

Translate each of the following examples, which are compatible with collective action, and state

their possible interpretations as above.

C25a) The women praised X.
b) The women will support X.
c) The women photographed X.
d) The women betrayed X.

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

If this strategy can have both reflexive and reciprocal readings, can you think of some predicates in which it is ambiguous? For example, in German, Die Kinderen wassen sich can mean either "the children are washing themselves" or "the children are washing each other."

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

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

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

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

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

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

C28a) John and Mary praised X.
b) The women praised X.

Remarks: *In some languages, a different reciprocal is favored or required when the antecedent phrase refers to pairs (or perhaps distributed groups) rather than large pluralities.*

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

C29a) John and Mary spoke to X.
b) John and Mary met with X.
c) John and Mary gave this book to X.

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"?

C30) Bill and Mary think that they like X.

4.1.4.3 Sociative readings

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

C31a) The baboons left together

b) The baboons ate fish together

4.1.4.4 Antipassive readings

C32a) That panther bites people.

b) The government arrests people.

c) Bill praises people

4.2 Cross-clausal binding

Cases of coreference across clause boundaries fall into two major categories: in some cases, the coconstrual strategy permits relations between arguments in different clauses just in case the distance across clauses is determined by a relationship that is in principle local. In languages like English, the X-SELF strategy can be used to relate the thematic subject of a subordinate clause to the subject of the immediately higher one, as in (X4).

X4) John expects himself to win.

The position of himself is taken to be uniquely the thematic subject of to win (not the object of expect, except for Case assignment), since other diagnostic tests show that the infinitive subject is uniquely selected by the lower predicate (as in examples such as John expects all hell to break loose, where all hell is never selected as an argument of any predicate except break loose in English). However, in this construction, which is relatively rare crosslinguistically, the antecedent of himself is still found in the local domain of its Case-assigner, expect and hence of the subject of expect. Other languages permit just the subject of a complement clause to be an anaphor anteceded by the matrix subject, but still the relation is very local. Slightly less local relations are possible in languages that permit anaphors, forms that must have a configurational antecedent, to find it in a higher clause if intervening clauses are all infinitives, as in Norwegian (X5), or across subjunctive clauses, as in Icelandic (X6) (if the intervening verbs are not subjunctive, then SIG cannot be used in (X6)).

X5) *Jon* bad oss forsøke å få deg til å snakke pent om *seg*.
Jon asked us try to get you to talk nicely about SEG
"Jon asked us to try to get you to talk nicely about him."

X6) Jón segir að Haraldur elski stúlkuna sem hafi kysst sig.
Jon said that Harald loves-SUBJ the-girl that kissed-SUBJ SIG
"*Jon* said that Harald loves the girl that kissed *him*."

Other languages have forms that appear to require an antecedent can find their antecedent across almost any sort of higher tensed clause, as in Chinese.

X7) *Zhangsan* shuo Lisi chang piping *ziji*
Zhangsan say Lisi often criticize ZIJI
"*Zhangsan* says that *Lisi* often criticizes *him*."

However, in many long distance antecedency cases like Chinese ziji, there are quite a number of semantic and discourse conditions that appear to restrict the effect, or only permit it under certain interpretations. This section explores whether or not a given strategy permits a non-clausemate antecedent and if so, just how far away the antecedent can be and what sorts of conditions restrict it.

4.2.1 Coreference relations across typical tensed clausal complement

Please translate each example in this section choosing predicates that seem to most closely match the ones employed below. Check each strategy and supply judgments about the results. Don't forget to use the simple pronoun strategy, which in many languages may be the only one that works.

It may turn out that coconstrual across clauses will reveal a new strategy that does not correspond to any of the ones used up to now. For example, your language may require the use of a particular kind of pronoun to achieve coreference when the antecedent is the thematic believer, speaker or experiencer of a higher verb. A pronoun in a complement to such a verb may not be able to refer back to the antecedent unless it has a form that is not used for clausemate coreference in a matrix clause. If that is the case, then your language probably has "logophors". If you think this is so, say so and we will explore that at a later point.

If the strategy you are testing involves marking on the verb ("verbal reflexive"), take care to apply it to the embedded clause. In other words, the anaphoric argument should be in the embedded clause, its antecedent in the matrix clause. For example, 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, OK SE = Marie)
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) where SE=Jean (the reading with Marie fails for another reason).

X9)**Jean s'a dit que Marie aime. (SE=Jean, Marie)
Jean SE-has said that Marie loves
"Jean said that Marie loves him."

It seems that the SE strategy in French is stubbornly local, in that the SE argument must be close to its thematic source (it represents the object the verb ‘love’ of the lower clause) and yet SE

must be itself closer to its antecedent than embedding in a tensed sentence allows, so neither reading (Jean or Marie for SE) succeeds in French. What does succeed in French for Jean as antecedent is (X10) (which employs an independent pronoun in the form of a clitic) but not (X11), where the clitic corresponding to the object of "love" has moved from the lower verb to the higher one, again moving too far from its thematic source (the object of 'love'). In other words, it looks like it is a function of clitics, whether SE or pronominal, to be close to their thematic source, but what can count as the antecedent is different, in that SE must have a local antecedent and the clitic pronoun must not.

X10) Jean a dit que Marie l'aime. (OK pronominal l' = Jean, *pronominal l' = Marie)
Jean has said that Marie him-loves
"Jean has said that Marie loves him."

X11)*Jean l'a dit que Marie aime. (clitic pronoun = Jean/Marie)
Jean him-has said that Marie loves
"Jean has said that Marie loves him."

In what follows, please be careful to use verbs compatible with the strategy you are testing, as determined by your answers earlier in the questionnaire. If the strategy does not permit a subject argument to be marked, please try to formulate what it would look like and mark it unacceptable according to the strength of your judgment. It is just as important to tell us which readings do not work as it is to tell us which readings do, so please pay particular attention to indicating which is which.

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

D1a) Jack said that X is smart.
b) Jack knows that George likes X.
c) Jack knows that Bill said that X is smart.
d) Jack thinks that Lisa knows that Wendy likes X.
e) Jack thinks that Lisa knows that X likes Alice.
f) Sarah told Jack that Lisa loves X.
g) Sarah told Jack that X loves Wendy.

If any of the above examples, or any analogous examples you provide, are grammatical using a particular coreference strategy, we consider this strategy to be a long-distance coreference strategy. Some subsequent questions depend on whether or not we are dealing with a long distance strategy. For this questionnaire, the term "long-distance strategy" includes ordinary independent pronouns, as in the French case above (and it is what is often employed for English as well), as well as long-distance anaphors (sometimes these are forms used as local reflexives but that can also be used at a distance) and logophors (loosely speaking, pronouns that are used for the person whose perspective is being reported - there will be more on these later).

Although there is no morphological marking of the distinction in English, sometimes a difference in factivity makes a difference for what we are studying and we want you to consider this difference. In English, verbs like admit presuppose that the proposition of what is admitted is

true (e.g., John admitted that he was guilty implies that he was indeed guilty - adding "but he was mistaken" is very odd) while other verbs do not carry this presupposition (e.g. John suspected he was late, but he was mistaken is not at all odd). If this semantic distinction is marked morphologically in your language, please let us know for the following two "Jack" sentences, and if there is also an additional difference in which coreference strategies succeed, then provide as full a "Jack" paradigm for each verb type in accordance with what is possible.

D2a) Jack admitted that Mary loved X.
b) Jack suspected that Mary loved X.

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

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

We are naturally interested if there is any difference in the way that complements and adjuncts behave.

Please do not forget to test reciprocal strategies in these long distance contexts (adjusting for plural antecedents), but if none of them work, it is not necessary to provide examples for all of them. Just let us know. However, if any of the distinctions above reveal contrasts such that some permit reciprocals and others don't please let us know and we will probably be interested in some follow-up questions.

Please also let us know if differences in gender, plurality or person make a difference for which strategy succeeds. For example, if you replace Jack in all of the Jack sentences with first person "I" or second person "you" does the pattern change in any way? If so, we will follow up about this in section 4.4, so set it aside for now.

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

Change the examples in the previous section so that the higher verb is marked (but the sentence still expresses coreference with an argument of the embedded clause). For example, this sort of climbing is possible in French if the clause is of a very minimal type (a "small clause"), as in John se croix intelligent, interpreted as "John believes [himself (to be) intelligent.]"

4.2.2 Long distance relations and the variety of clausal embedding types

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

X12a) I hope [to leave]

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

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

For subjunctives, if your language permits them and 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), and where X = Edgar, we want you to give us a range of examples where the infinitive subject is not controlled by the matrix subject. In other words, the understood subject of the infinitive (the understood giver or talker) should never be Edgar, but Bill (or else we will actually testing just a clausemate strategy instead of a long distance one). Thus in (D4a), for example, Bill is understood to be the one trusting, and we want to test whether or not X could be Edgar, and if so, which form makes the possible (in English, it is the otherwise independent pronoun him).

D4a) 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.

D5a) Edgar expects X to win.
b) Edgar expects Bill to defeat X.
D6a) 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:

D7a) 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. Such sentences might look something like (D5c,d) and (D6c,d), if they are possible at all (and abstracting away from VO/OV word order, etc.)

D5c) Edgar X-expects to win.
d) Edgar X-expects Bill to defeat.
D6c) Edgar X-hopes for to win.
d) Edgar X-hopes for Bill to defeat.

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.

D8a) Tom considers X intelligent.
b) Tom considers Mary fond of X.
c) Tom considers Mary angry at X.

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

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

4.2.3 Backwards anaphora

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

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

Section 4.3 Principle C-type effects

In English it is not possible to interpret he=Malik or he=the boy in (E1), except in some exceptional discourse circumstances such as extra stress and/or focus (and then not for everybody). For all of these examples, give judgments that indicate whether or not it is possible in normal discourse circumstances for the pronoun to be either Malik or the boy.

E1a) He criticized Malik.
b) He said Mariam criticized Malik.
c) He criticized the boy.
d) He said Mariam criticized the boy.
E2a) His mother criticized Malik.
b) His mother said Mariam criticized Malik.
c) His mother criticized the boy.
d) His mother said Mariam criticized the boy.
E3a) The man who he liked criticized Malik
b) The man who he liked criticized the boy.
c) The man who liked him criticized the boy.

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

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

Now consider whether the boy = Malik for the following examples
E7a) The boy criticized Malik.
b) The boy said Mariam criticized Malik.
c) Malik criticized the boy.
d) Malik said Mariam criticized the boy.
E8a) The boy's mother criticized Malik.
b) The boy's mother said Mariam criticized Malik.
c) Malik's mother criticized the boy.
d) Malik's mother said Mariam criticized the boy.

E9a) The man who the boy liked criticized Malik
b) The man who Malik liked criticized the boy.
c) The man who liked Malik criticized the boy.
d) The man who liked the boy criticized Malik

4.4 More on long distance anaphor strategies

Strategies that allow coreference across tensed clause boundaries, but where the marked argument is one that is not a typical pronoun, we will call "long distance anaphor strategies", hereafter, LDA strategies. In some languages, the LDA form is the same form that is used in clausemate anaphora, while in some cases, the LDA form is that of a pronoun of a special type or else it is an anaphor of a type that may be used in a more local strategy as well (to form reflexives, for example) . In many other languages, such as English, there is no long distance anaphor, and the independent pronoun strategy is used.

If your language uses a special pronoun for LDA, it may be that the special pronoun has other uses. In some languages a special pronoun of this type is particularly required when referring back to the reported speaker or believer (a logophoric antecedent), as in D10.

D10) *John* believes *he* is guilty.

In other words, a language with this strategy would have a special morphological form for he just in case he refers to John (but not if it refers to someone else). We will call this a "logophoric" pronoun strategy, and in some languages, this form of pronoun has only this use.. English does not have such a form, but if your language does, then we will eventually ask you more questions than those that are found in this section.

4.4.1 Position of the antecedent - Long-distance coreference is often constrained in ways that local coreference is not (especially: subject-orientation). Which possible syntactic positions can be occupied by a long-distance antecedent of the current strategy? Construct examples and give judgments where X = Zeke.. In English, the independent pronoun strategy is all that works for these (i.e., where X= he or him). If your language is like English, then the reflexive form does not work in the position of X where X=Zeke. If your language does not use the simple independent pronoun, but another form, be sure to show not only the form that works, but the one that doesn't.

D11a) Larry told Zeke that Mike does not like X.
b) Zeke told Larry that Mike does not like X.
c) Zeke told Larry that X does not like Mike.
d) Larry told Zeke that X does not like Mike.
e) Larry knows that Zeke thinks that Mike does not like X.
f) Zeke knows that Larry thinks that Mike does not like X.
D12a) Zeke's mother thinks that Mike does not like X.
b) Zeke's mother thinks that X does not like Mike.
c) Zeke thinks that Mike does not like X.
d) Zeke's letter said that Mike does not like X.
e) Zeke heard that Mary did not like X.

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

D13a) Zeke said that X had dressed X.

b) Zeke said that X had wounded X.

c) Zeke said that X had tatooed X.

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

4.4.2 Antecedent properties

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

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.

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). For example, in English, (D14d) would be "*Ozzie* told *Harriet* that Bill dislikes *them*," where them would be Ozzie and Harriet.

D14a) Ozzie talked about Harriet to X.

b) Ozzie talked about X to Harriet.

c) Ozzie told Harriet that X should leave.

d) Ozzie told Harriet that Bill dislikes X.

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

4.4.2.4 Discourse antecedents - Sometimes, LDA strategies do not have to have antecedents in the same sentence if the discourse connections between sentences is strong. Please translate the following scenarios using only the acceptable strategies that permit the corresponding English pronouns all to refer to Mark (English allows only the independent pronoun strategy). Then give please tell us which strategies do not work, providing a translation and gloss, if it is significantly different from your acceptable translations of (D15) and (D16) (save time by setting aside cases where a given strategy could not ever work in the relevant grammatical position, e.g., English *himself* can never be the subject of a tensed sentence). Suppose that in the following scenarios we are being told what was going on in Mark's mind.

D15) Mark feared that his son was not safe. He was ashamed that he could not protect his closest relative. What would his cousins think of him?

D16) Mark was shocked to see his picture in the paper. All of his supporters would

abandon him. How would he tell his mother?

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

D17) Morris said it was a difficult day for Mark. First, Morris told him that his car had been stolen. Then he had to hire a taxi to take him to work. Morris thought he might be angry.

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

D18) A: Look, there's Mark!
B: He is so handsome.
A: I would not want to be his wife though. All the women are chasing him.
B: Also, I think he praises himself too much.

In considering your responses to this subsection, are there any generalizations that you think would be of interest to us in understanding the circumstances or nuances of meaning that a given choice of coreference strategy might reflect?

4.4.3 Blocking Effects

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

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

D19a) Larry thinks that John respects X.
b) Larry thinks that I respect X.
c) Larry thinks that Mary respects X.
d) Larry thinks that the boys respect X.
e) The men think that the boys respect X. (X = the men)

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

D20a) Larry thinks that Bill knows that Dave respects X.
b) Larry thinks that I know that Dave respects X.
c) Larry thinks that Mary knows that Dave respects X.
d) Larry thinks that the boys know that Dave respects X.
e) The men think that the boys know that Dave respects. (the men = X)

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

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

D21a) Walter thinks that Bill told Harry that Dave respects X.
b) Walter thinks that Bill told me that Dave respects X.
c) Walter told me that Dave respects X.
d) Walter said that Dave gave me a book about X.

4.4.4 Islands

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

D22a) Ira resents the fact that Mary hates X.
b) Ira respects the man who likes X.
c) Ira says that the man who likes X is intelligent.
d) Ira asked whether Bill saw X.
e) Ira asked when Bill saw X.
f) Ira did not realize that George followed X.
g) Ira said that Mary was pretty and that she would marry X.

4.4.5 De se reading

Sometimes an interpretation of identity with an antecedent is tinged by a different meaning distinction. There is a famous ambiguity in D23 depending on whether or not the subject of <u>believe</u> is aware that he is referring to himself. The distinction is between two readings where <u>his</u>=<u>Oedipus</u>, that is, we are not interested, for theses cases, in readings where <u>his</u> is not <u>Oedipus</u>. Now imagine that Oedipus thinks his step-mother (Step) is his biological mother - he just calls her "mother", because Step is the only mother he has ever known. Now let us suppose that Oedipus is the only one in town who is unaware who his biological mother (Bio) is, perhaps because Bio is a notorious person of whom polite people do not normally speak. People in town, in spite of what they know, generally refer to Step as Oedipus' mother, since no one wants to

bring up the subject of Bio. Then Bio, long out of town, makes a surprise visit to the town to see Oedipus, whom she finds scowling in his front yard, angry at Step because she has punished him.. Bio spends some time with Oedipus, as others watch suspiciously, but Bio does not tell Oedipus who she is. Oedipus thinks Bio is nice. Then someone says D23a or D23b.

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

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

However, other languages have such a morphological distinction (often it is like the logophoric distinction, discussed above, but not always). For example, Adésolá (2004) reports that Yoruba permits a non-logophoric pronoun (a weak pronoun) to be coconstrued with the matrix subject, but the logophoric marked one (the strong pronoun) is still distinguished insofar as it must be *de se*. The verb meaning 'believe' selects for the logophoric complementizer *pé* and the pronouns are distinguished as weak (w) and strong (s).

D24a) Olú gbàgbó pé ilé rè ti wó.
Olu believe that house he(w) ASP fall
b) Olú gbàgbó pé ilé òun ti wó.
Olu believe that house he(s) ASP fall
Both: "Olu believes that his house has collapsed."

As Adésolá remarks, "...a strong pronoun [*òun*] is used when self-reference is intended by the reported speaker (or believer) [15b], while a weak pronoun [*rè*] is used when the reported speaker (or believer) does not know that he was in fact referring to his own house [15a]." The weak pronoun does not have to refer to Olu, but the strong one must.

If there is such a distinction in your language, then translate the examples indicating the difference in pronouns and we will ask you more about it after we get the questionnaire responses. If you don't understand what is asked for in this section, skip it or ask for assistance.

PART 5 Final thoughts

5.1 - Having looked at the details of each strategy individually, do you have any general comments on differences in meaning between the various strategies, conditions that would cause one or another to be preferred or required, etc.?

5.2 - Are there any properties of the questionnaire that you think could be improved, made more relevant, or more flexible? Is there any part of the questionnaire that you thought was unsuccessful at addressing what seems to you an important class of phenomena for our anaphora project? Please make us aware of any way in which you think we could improve our data collection.