Blocking effects and non-clause bound reflexives in Mandarin and American English[i]

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A sub-set of languages with non-clause bound (NCB) reflexives exhibits Blocking effects. In

these languages, a NCB reflexive is "blocked" from corefering with a higher subject when a

lower subject does not agree with a higher subject for person. Accounting for Blocking effects

has been challenging. Recently, researchers have posited a functional head that encodes point of

view or sentience (e.g. Huang & Liu 2001, Tenny 2006, Chou 2012). However, these analyses

do not account for all available data. Here, I offer a small modification to the most recent

analysis of this type that accounts for available data by conforming to Chomsky's cyclic transfer

system (2007, 2008). I also provide exploratory data that suggests that (i) NCB reflexives exist in

American English and (ii) they unexpectedly exhibit Blocking effects. Finally, I illustrate that the

modified analysis for Mandarin also accounts for the distribution of NCB reflexives in American

English.

Key words: *non-clause bound reflexives, Blocking effects, American English, functional head*

1. Introduction

Non-clause bound (NCB) reflexives from a variety of languages, including English and Mandarin, challenge Chomsky's (1981) Binding Theory Condition A, which, simplified, states that a reflexive pronoun must be bound by an antecedent in the same clause. An example of an NCB reflexive is given below in (1) (Ross 1970:226). Coreference is indicated with subscripts. The minimal clause is indicated with brackets.

(1) Tom_i believed [that the paper had been written by Ann and $himself_i$].

In this example, *himself,* which is in the embedded clauses*,* corefers with *Tom*, which is in the matrix clause. NCB reflexives have long been observed in the literature across a variety of languages: Mandarin (e.g. Huang & Tang 1989), Malay (e.g. Cole & Hermon 2005), German (e.g. Rienhart & Reuland 2003), Icelandic (e.g. Maling 1986), Italian (e.g. Giorgi 1984), British English (e.g. Baker 1995, Zribi-Hertz 1989), and American English (e.g. Ross 1970, Fasold 2003).

In this paper, I focus on the subset of NCB reflexives that exhibit Blocking effects (*sensu* Huang 1984), such as Mandarin. Below, I examine two theoretical proposals for NCB reflexives in Mandarin. Both proposals encode Point of View (see Banfield 1973) in the syntactic structure. First, I look at Huang and Liu's (2001), which is one of the first syntactic proposals that encodes Point of View in the syntax. Next, I focus on Chou's (2012) proposal, which modifies Huang and Liu's analysis to account for more data. In this section, I also illustrate that Chou's proposal does not account for native speakers' grammaticality judgments of some sentences with two

embedded clauses. In section 2, I propose a small modification to Chou's analysis to account for this additional data. The modification relies on Chomsky's (2007, 2008) cyclic transfer, which requires that narrow syntax periodically (i.e. by phase) send its derivation outputs to the CI interface for interpretation. Finally in section 3, I present a pilot study of NCB reflexives in American English. In the pilot study, sentences with NCB reflexives were rated similarly to sentences with NCB pronouns. Additionally, American English NCB reflexives are subject to Blocking Effects. Lastly, I illustrate that NCB reflexives in American English can also be accounted for with Chou's modified analysis for NCB reflexives in Mandarin.

As mentioned above, only a subset of languages with NCB reflexives also exhibit Blocking Effects. In languages that exhibit Blocking effects, a NCB reflexive cannot corefer with a higher nominal expression when there is an intervening subject (or, in some languages, subject or object) that does not match a higher subject for person. Below are two examples from Mandarin that illustrate the behavior of the NCB reflexive *ziji* "self." In the first example, the NCB properties of *ziji* are illustrated: *ziji* can corefer with the local subject, *Wangwu*, the intervening subject, *Lisi*, or the matrix subject, *Zhangsan*. In the second example, (3), the intervening second person pronoun *ni* or first person pronoun *wo* blocks *ziji* from corefering with the subject in the matrix clause, *Zhangsan*; *ziji* can only corefer with the local subject, *Wangwu*.[ii]

(2) Zhangsan$_i$ renwei [Lisi$_j$ zhidao [Wangwu$_k$ xihuan ziji$_{i/j/k}$]]

    Zhangsan   think   Lisi   know   Wangwu   like   self

    "Zhangsan$_i$ thinks that Lisi$_j$ know that Wangwu$_k$ likes self$_{i/j/k}$."

(3) Zhangsan$_i$ renwei [*wo/ni*$_j$ zhidao [Wangwu$_k$ xihuan ziji$_{*i/*j/k}$]]

Zhangsan think   I/you   know   Wangwu like   self

"Zhangsan$_i$ thinks that *I/you*$_j$ know that Wangwu$_k$ likes self$_i$."

Providing a theoretical account of Blocking effects in languages with NCB reflexives has been challenging. Researchers have often suggested that discourse factors, namely sentience and/or point of view (see Banfield 1973), play a role in the distribution of NCB reflexives in languages with and without Blocking effects (e.g. Maling 1986, Zribi-Hertz 1989, Baker 1995). Following this observation, some researchers have suggested that point of view or sentience is encoded in the syntax and the addition of this functional head can account for Blocking effects (e.g. Huang & Liu 2001, Tenny 2006, Chou 2012).

The proposal to encode Point of View in syntax has both support and opposition. One piece of support comes from Guéron and Haegeman (2012)'s work on West Flemish. In West Flemish, the neuter pronoun *tet* allows the speaker to introduce her point of view into a sentence that would otherwise only illustrate the point of view of the syntactic subject. Consider the following sentences (73):

(4)   a. Wien is dadde?

            who is that

           "Who's that?"

         b. Dat is Valère.

            that is Valère

           "That's Valère."

     c. Dat is tet Valère!

       that is tet Valère

       "That's Valère!"

(4) is a typical *wh*-question. (4) is an unmarked answer to (4). Finally, (4) is an appropriate response to (4) if Valère's presence is unexpected or is in conflict with salient discourse assumptions.

     Based on *tet*'s distribution, which seems to combine the properties of a subject pronoun, a doubling pronoun, and a discourse-related particle, Guéron and Haegeman claim that it has subject properties in terms of its distribution as well as the ability to encode the speaker's attitude of a statement. *Tet* does not behave like other discourse-related elements, such as modal adverbs or interjections because it, unlike discourse-related elements, can intervene between the complementizer and the definite subject. Typically, it is thought that the C(omplementizer)-domain encodes the speaker and the T(ense)-domain encodes the syntactic subject (e.g. Speas & Tenny 2003, Tenny 2006). It is thought that in West Flemish, C-agreement and cliticization of the subject onto C encodes an extension of the subject's domain from the T-domain to the C-domain.

     Guéron and Haegeman posit that the reverse can also happen through pronominal doubling in the T-domain: when the pronominal is doubled, it creates a relationship from the T-domain to the C-domain, and the speaker can be construed as a participant in the sentence. Doubling the pronoun creates a "downward" (rather than the usual "upward") continuum between the speaker related C-domain and the subject-related T-domain. *Tet* has a unique

position in the sentence that other discourse items do not share, which creates a temporal continuity between speech time (in C) and event time (in T). Thus, "[t]he insertion of *tet* overrules the point of view of the subject and unambiguously imposes that of the speaker" (78). In this analysis, point of view is housed in the syntax in a location where speech time and event time meet.

There are alternative proposals for these types of claims. For example, Harris (2012) claims that deviations from canonical syntactic forms offer incomplete pragmatic evidence that the default speaker's point of view may be violated. It could be that non-canonical use of *tet* is a piece of the pragmatics. Syntactic approaches of encoding pragmatic effects may be seen as pushing the explanation of a sentence's naturalness to another level of description. Thus, having possibly two levels of grammar doing the work that a single level could do. For further arguments along these lines, see Gärtner and Steinbach (2006) and Harris (2012).

Proposals to encode sentience and/or point of view in syntax as a way to account for Blocking effects typically over-generate, as I will illustrate below. Here, I will focus on Huang and Liu's (2001) and Chou's (2012) theoretical accounts for Blocking effects in Mandarin. I focus on Huang and Liu's proposal because it is one of the first to suggest Blocking effects are a result of a perspective conflict within the sentence. Chou's analysis is included because it is, to my knowledge, the most recent analysis that extends Huang and Liu's earlier work on this topic.

Huang and Liu (2001) propose that Blocking effects arise from a perspective conflict. For example, an intervening first person subject (here, *wo* 'I') prevents *ziji* 'self' from corefering with a third person matrix subject (here, *Zhangsan*):

(5) Zhangsan$_i$ renwei [wo$_j$ bu yinggai kan-bu-qui ziji$_{*i/j}$].

Zhangsan think I not should look-not-up self

"Zhangsand thinks you should not look down on self."

Huang and Liu (2001) propose that *ziji* is equivalent to a first person pronoun, which is anchored to the matrix subject (*Zhangsan*), since the matrix subject denotes the internal speaker of the embedded clause in a direct discourse representation. In contrast, they claim that a first or second person pronoun (e.g., *wo*) in an embedded clause is anchored to the external speaker of the entire utterance. Therefore, when there is an intervening first or second person pronoun, a perspective conflict occurs: *ziji* matches *Zhangsan*, but the first or second person pronoun matches the speaker of the utterance. The claim is that this mismatch between one form working with the matrix subject and the other form working with the speaker makes the sentence ungrammatical due to how difficult it is to sort out perceptually.

Chou (2012) points out that an intervening second person subject prevents *ziji* from coreferring with a matrix first person subject, as illustrated below.

(6) Wo$_i$ renwei [ni$_j$ bu yinggai kan-bu-qui ziji$_{*i/j}$].
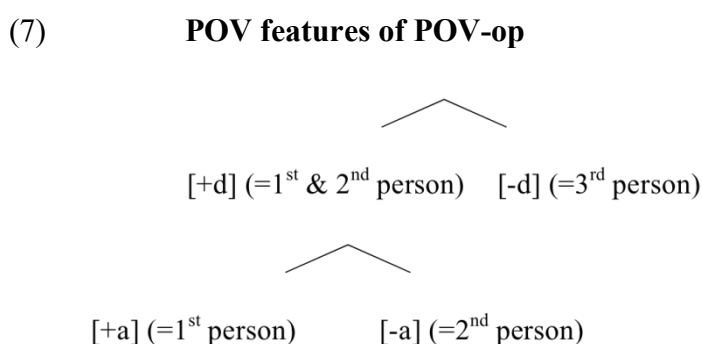
I think you not should look-not-up self

"I think you should not look down on self."

However, under Huang and Liu's analysis, which relies on a direct discourse representation, no perspective conflict should arise in (6). Therefore, Huang and Liu's analysis predicts that, in this sentence, *ziji* should be able to corefer with *wo* in the matrix clause. However, speakers do not

allow this type of coreferences. Thus, Huang and Liu (2001) analysis does not account for all

Blocking effects.

   Chou's (2012) analysis, which comes from an analysis he proposes for the distribution of

wh-the-hell and *how come*, extends the idea of perspective being encoded in syntax by positing a

functional head in the left periphery of phases (here, CP and *v*P) that encodes Point of View and

licenses NCB reflexives (see also Guéron and Haegeman 2012). Additionally, NCB reflexives

have unvalued discourse participant ([ud]) and addresser ([ua]) features. Chou's use of speaker

and addressee roles is reminiscint of Schlenker (2003), Baker (2008), and Zanuttini (2008), who

also posit features that encode speaker and addressee.[iii] In Chou's analysis, discourse features

account for the Point of View of the NCB reflexive pronouns (logophoric expression) and must

be valued via a probe-goal relationship with the closest c-commanding Point-of-View operator in

the left periphery of phases. Valuing these features is necessary to fully interpret the attitude

bearer in these sentences. The features of the POV-op are formalized below in (7). [d] stands for

discourse participant, and [a] stands for addresser (Chou 2012:12):

(7)   **POV features of POV-op**

$$[+d]\ (=1^{st}\ \&\ 2^{nd}\ \text{person}) \qquad [-d]\ (=3^{rd}\ \text{person})$$

$$[+a]\ (=1^{st}\ \text{person}) \qquad [-a]\ (=2^{nd}\ \text{person})$$

   Chou (2012), following Huang and Liu (2001) and Chierchia (1989), claims that

Logophoric expressions raise in LF to the POV-op to create an input for self-ascription of (*de se*)

attitude.[iv] Furthermore, Chou states that all POV [ud, ua] features must match at their final, raised position to ensure correct ascription of attitudes. The covert raising for scope is what allows a reflexive to corefer with a nominal expression seemingly outside of its minimal clause. Below, I offer some full derivations that account for the distribution of NCB reflexives in Mandarin and propose a small change to Chou's analysis.

Chou illustrates his analysis of NCB reflexives with the following sentences: the first sentence does not have Blocking effects while the second sentence does illustrate Blocking effects.

(8) Zhangsan$_i$ renwei [Lisi$_j$ kan-bu-qi   ziji$_{i/j}$].

Zhangsan   think   Lisi look-not-up self.

'Zhangsan thinks Lisi looks down on self.'

(9) Zhangsan$_i$ renwei [wo$_j$ kan-bu-qi   ziji$_{*i/j}$].

Zhangsan   think   I   look-not-up self.

'Zhangsan thinks I look down on self.'

Below, I apply Chou's analysis to these sentences. First, I apply the analysis to (8), resulting in (10) below.

(10)   Zhangsan$_i$ renwei [Lisi$_j$ kan-bu-qi ziji$_{i/j}$].

      a. [$_{v*P}$ ziji$_{[ud, ua]}$-POV-op$_{[ud, ua]}$...t]

      b. Lisi [$_{v*P}$ ziji$_{[-d, -a]}$-POV-op$_{[-d, -a]}$...t]

c. $[_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[ud, ua]}$ Lisi . . . $[_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

d. Zhangsan … $[_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[-d, -a]}$ Lisi . . . $[_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

First, *ziji* moves in LF to the POV-op in the left periphery of phases to create a direct input for the semantics of attitude *de se* (Chierchia 1989). After *ziji* raises once, neither its [ud] and [ua] features are specified, nor are the [ud] and [ua] features of the POV-op. Once *Lisi* joins the derivation, it values both sets of [ud] and [ua] features via a probe-goal relationship. Then, *ziji* continues to raise in LF for ascription of *de se* attitudes to the next POV-op. Here, *Zhangsan* joins the derivation and values the higher POV-op's [ud] and [ua] features. The non-clause bound construal of *ziji* is allowed here because *ziji* and the embedded CP POV-op share the same [ud] and [ua] features (here, [-d, -a]).

Next, I illustrate how Chou's analysis accurately accounts for Blocking effects by applying the analysis to the sentence in (9), as illustrated in (11).

(11)   Zhangsan$_i$ renwei [wo$_j$ kan-bu-qi ziji$_{*i/j}$].

a. $[_{v*P}$ ziji$_{[ud, ua]}$-POV-op$_{[ud, ua]}$...t]

b. wo $[_{v*P}$ ziji$_{[+d, +a]}$-POV-op$_{[+d, +a]}$...t]

c. $[_{CP}$ ziji$_{[+d, +a]}$-POV-op$_{[ud, ua]}$ wo . . . $[_{v*P}$ t-POV-op$_{[+d, +a]}$ . . . t]]

d. Zhangsan … $[_{CP}$ ziji$_{[+d, +a]}$-POV-op$_{[-d, -a]}$ Lisi . . . $[_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

Again, *ziji* raises in LF to create a direct input for the semantics of attitude *de se*. When first person *wo* joins the derivation, it values the [ud] and [ua] features on *ziji* as well as the POV-op as [+d, +a]. *Ziji* continues to raise in LF to the next POV-op. At this point, *Zhangsan* joins the

derivation and values the [ud] and [ua] features on POV-op as [-d, -a]. This does not match the

[+d. +a] features on *ziji*, and ascription of *de se* attitudes is not possible.

      Chou's (2012) analysis accounts for sentences in Mandarin with one embedded clause,

but it does not account for sentences in Mandarin that have two embedded clauses and an

intervening subject that does not match a lower subject for person, as reported in Cole et al

(2001), and given below in (12):

(12)   Zhangsan$_i$ renwei [wo$_j$ zhidao [Wangwu$_k$ xihuan ziji$_{*i/*j/k}$]]

              Zhangsan thinks I   know Wangwu likes   self

              'Zhangsan thinks that I know that Wangwu likes himself.'

      Here, *ziji* 'self' cannot corefer with the middle subject *wo* 'I' or the matrix subject

Zhangsan. If it is only at the final scope position where the [d] and [a] features must match, then

we would expect this sentence to be grammatical, as illustrated below:

(13)   Zhangsan$_i$ renwei wo$_j$ zhidao Wangwu$_k$ xihuan ziji$_{*i/*j/k}$

      a. [$_{v*P}$ ziji$_{[ud, ua]}$-POV-op$_{[ud, ua]}$...t]

      b. Wangwu [$_{v*P}$ ziji$_{[-d, -a]}$-POV-op$_{[-d, -a]}$...t]

      c. [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[ud, ua]}$ Wangwu . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

      d. wo . . . [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[+d, +a]}$ Wangwu . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

      e. [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[ud, ua]}$ wo . . . [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[+d, +a]}$ Wangwu . . . [$_{v*P}$ t-

         POV-op$_{[-d, -a]}$ . . . t]]

f. Zhangsan … [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[-d, -a]}$ wo … [$_{CP}$ t-POV-op$_{[+d, +a]}$ Wangwu . . . [$_{v*P}$

t-POV-op$_{[-d, -a]}$ . . . t]]

In this derivation, *ziji* raises successive-cyclically through the sentence to a position where it is local to *Zhangsan* and its [ud] and [ua] features match the POV operator's [ud] and [ua] features. This sentence, with *Zhangsan* and *ziji* corefering should be grammatical. However, native speakers reject this interpretation. Therefore, this analysis over-generates.

2. Theoretical Contribution

I suggest a modest modification of Chou's (2012) analysis, which will account for such Blocking effects by appealing to Chomsky's (2007, 2008) cyclic transfer system, which requires that narrow syntax periodically (i.e. by phase) send its derivation outputs to the CI interface for interpretation. Since there is a POV phrase at the periphery of each phase, the match between the NCB reflexive's [d] and [a] features and the POV-op's [d] and [a] features must be evaluated at each phase. Thus, if there is a mismatch among [d] and [a] features at any point, the derivation fails. The stipulation that features must match throughout the derivation is similar to Cole and Sung's (1994) analysis of non-English NCB reflexives, which claims that a derivation fails as soon as a mismatch of features, in this case φ-features, not [d] and [a] features, on nouns occurs. Here is the same sentence from (12) but with the addition of cyclic system transfer:

(14)   Zhangsan$_i$ renwei wo$_j$ zhidao Wangwu$_k$ xihuan ziji$_{*i/*j/k}$

    a. [$_{v*P}$ ziji$_{[ud, ua]}$-POV-op$_{[ud, ua]}$...t]

    b. Wangwu [$_{v*P}$ ziji$_{[-d, -a]}$-POV-op$_{[-d, -a]}$...t]

    c. [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[ud, ua]}$ Wangwu . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

    d. wo … [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[+d, +a]}$ Wangwu . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

    e. [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[ud, ua]}$ wo … [$_{CP}$ ziji$_{[-d, -a]}$-POV-op$_{[+d, +a]}$ Wangwu . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

When *wo* joins the derivation in (14), there is a mismatch between the POV-op [-d, -a] features and the [+d, +a] features on *ziji*. This mismatch is now evaluated when it is sent to the CI interface for interpretation. At this point, the mismatch causes the derivation to fail. Therefore, compliance to the cyclic transfer system allows Chou's analysis to account for a larger amount of the data.

3. Exploratory study of NCB reflexives in English

In this section, I present a pilot study that investigates NCB reflexives in American English. The pilot study explores two questions: (i) do NCB reflexives exist in American English and (ii) if they exist, do they exhibit Blocking effects (similar to those found in Mandarin)? NCB reflexives in English have long been observed in the literature (Ross 1970, Zribi-Hertz 1989, Pollard & Sag 1992, Reinhart & Reuland 1993, Baker 1995, Fasold 2003, Loss 2014, inter alia).[v] Despite the wealth of previous research on NCB reflexives in British English, there are some gaps in our knowledge about both their existence and distribution in American English.

Most research on NCB reflexives in English comes from British English (e.g. Zribit-Hertz 1989 and Baker 1995, c.f. Magenau, *ms*, cited in Fasold 2003). This study is a first step in exploring if NCB reflexives exist in American English as well as if their distribution is like (or dislike) NCB reflexives in British English.[vi]

One question about the distribution of NCB reflexives in American English is whether or not intervening animate subjects prevent a NCB reading. Intervening animate subjects are allowed in British English interpretations of NCB reflexives (Zribi-Hertz 1989: 698):

(15)   John$_i$ thinks that [Mary is taller than himself$_i$].

However, recall that the example of a NCB reflexive in American English from Ross (1970) has an inanimate intervening subject:

(16)   Tom$_i$ believed [that the paper had been written by Ann and himself$_i$].

In fact, all of Ross's examples have an intervening inanimate subject.

If NCB reflexives are available to American English speakers when there is an intervening animate subject, it is also important to understand the status of Blocking effects. According the cross-linguistic literature on NCB reflexives, languages that exhibit Blocking effects typically lack subject-verb agreement (e.g. Mandarin). Languages that do not exhibit Blocking effects, on the other hand, typically have subject-verb agreement (e.g. Italian). An example from Italian of a NCB reflexive not being prevented from corefering with the matrix subject despite an intervening second person subject is given below (Cole & Sung 1994):

(17)   Gianni$_i$ suppone che [*tu*$_j$ sia inamorato della propria$_{i/j}$ moglie]

           Gianni supposes that you are in-love   with self's   wife

           'Gianni supposes that you are in love with his/your wife.'

Here, the intervening second person pronoun *tu* does not prevent the NCB reflexive *propria* from corefering with the third person subject of the matrix clause, *Gianni*. According to this generalization, we do not expect to find Blocking effects in American English. However, Loss (2014) found that Blocking effects exist in a non-standard dialect of American English that also exhibits subject-verb agreement. Additionally, Fasold (2003) gives the following sentence, which is currently allowed for in analyses of (British) English NCB reflexives, and claims that it is not natural:[vii]

(18)   #I$_i$ think [my$_i$ goldfish likes myself$_i$ (not you)].

According to current analyses, an English speaker should be able to construct a pragmatic context through back-story, contrastive character assignment, and stress placement to make this sentence acceptable (e.g. Baker 2005). However, Fasold claims that no matter how much of a pragmatic context he develops, *myself* cannot co-refer with *I* in the matrix clause. If other speakers of American English share Fasold's judgment of the sentence in (18), we need to develop an account of NCB reflexives that excludes such a sentence.[viii] We also need to understand if (18) is an example of Blocking effects or if its unnatural status arises from something else, such as the fact that first person logophors are rare cross-linguistically (Hagège

1974, Schlenker 2003). Therefore, it is important to know if a variety of sentences with intervening subjects that do not match for person also lead to similar naturalness judgments.

3.1 Methods

Eighteen speakers affiliated with Cleveland State University (students and staff) participated in the pilot study.[ix] To my knowledge no literature suggests that Cleveland-area English sentence structure is non-standard. Subjects were offered $10 as compensation, and the task generally took between 30 and 50 minutes to complete.

Naturalness ratings were collected using Magnitude Estimation, which was first used to measure physical continua (Stevens 1956). Magnitude Estimation has more recently been employed by linguists as a way to collect grammaticality judgments. Participants were presented with a single modulus sentence at the beginning of the task, before they rated any stimuli. The modulus sentence for the study was: *ANNE gave Mary a picture of HERSELF*. Participants gave the modulus sentence an arbitrary naturalness rating. Participants then judged the naturalness of stimulus sentences in comparison to the naturalness rating they gave the modulus sentence. If the stimulus sentence was judged to be twice as natural as the modulus sentence, a rating twice as high as that given to the modulus was given to the stimulus. On the other hand, if a stimulus is half as natural as the modulus sentence, participants gave it a rating that is half as high as the rating they gave to the modulus sentence.

The modulus sentence was selected because native English speakers have been reported to sometimes not recognize that the object can be an antecedent in sentences like this (Finer 1991, Finer & Broselow 1986, Hirakawa 1990). Therefore, even though the modulus sentence is grammatical, it might be rated as middling grammaticality due to the antecedent being in object

position. A middling sentence was chosen to help participants think about secondary readings of sentences with reflexives and their acceptability. The modulus was constant throughout the experiment, and each subject saw the modulus once at the beginning of the task. Participants were told that since each judgment in an ME task is in proportion to the first, they can judge a new sentence relative to any sentence that they do remember.

Stimuli were delivered in a random order using the E-Prime 2.0 software (Psychology Software Tools, Pittsburgh, PA). Each stimulus began with a short written context (called a "situation" in the stimuli examples) that supported a potential NCB interpretation of the reflexive. Contexts supported a potential NCB interpretation of the reflexive in the two ways: (i) the context explicitly provided a situation in which the matrix subject's point of view was being expressed in the following reportive context (Hagège 1974) and (ii) the context provided a pragmatic context in which the target sentence would not be wholly unexpected, since each sentence relied on a specific context the "situation" changed for each sentence (Fasold 2003). Next, there was a target sentence that indicated intended coreference with capital letters. For example, in the sentence *SAM hopes that his parents forgive HIMSELF, himself* was meant to corefer with *Sam*. Subjects were instructed to interpret caps as indicating coreference, not focus. There was an open field for the naturalness rating. The open field allowed for up to 9 characters to be entered, including numbers, commas, and a decimal point. Below are two examples of the stimuli:

(19)   Example Stimulus 1:

    Situation: Sam has totaled the family car. He is concerned about his

    parents' reaction to the accident. To describe this situation, could you say:

Target: SAM hopes that his parents forgive HIMSELF.

How natural does this sentence sound? **Rating**: _____

(20)   Example Stimulus 2:

        Situation: In general, when a person needs a loan, he or she goes to a bank and hopes to get a loan. To describe this general situation, could you say:

        Target: ONE hopes a banker will loan money to ONESELF.

        How natural does this sentence sound? **Rating**: _____

Bard et al (1996) and Cowely (1997) illustrated (i) that naturalness judgments can be collected using ME from both sophisticated and naïve informants and (ii) these judgments are similar to those gathered in traditional laboratory settings. In addition to these and other studies, ME has previously been used to effectively collect judgments of linguistic coreference (Keller & Asudeh 2001a, 2001b). Magnitude Estimation allows for nuanced levels of grammaticality to become apparent. This was important because some of the sentences in the study were predicted to be degraded due to their status of being a secondary interpretation, but still somewhat natural for speakers. In order to separate degraded sentences from completely unnatural sentences (no matter when they occurred during the study), a flexible scale was required. In fact, my participants used the flexible scale, giving .1 and .01 naturalness ratings for the first time to sentences that they encountered toward the end of the task. Schütze (2011) offers some critiques of Magnitude Estimation: (i) it does not seem to give different results than a standard Likert scale and (ii) subjects report finding it harder to use. ME was adopted despite well known criticisms.

In order to normalize the raw Magnitude Estimation ratings across subjects, the following steps were taken based on the standard procedure outlined in Baylis (2007) and Engen (1971); the statistical analysis was done using SPSS version 21.0 (SPSS 2012).

1. For each subject, calculate the logarithm of each response
2. For each subject, calculate the mean value of each of their (log-converted) responses
3. Calculate the grand mean of step 2
4. Subtract the grand mean of step 3 from the subject means of step 2
5. Add the values in step 2 to the values in step 4
6. Calculate the antilog of the values in step 5

3.2 Results

A paired t-test was conducted on the normalized data to determine if sentences with NCB reflexives were rated similarly or dissimilarly to sentences with NCB pronominals. Since there were uneven numbers of sentences with NCB reflexives and NCB pronominals, each person's ratings were averaged across sentence type (sentences with NCB reflexives and sentences with NCB pronouns). The following types of sentences were included in the analysis:

(21)   One hopes that banker will loan money to one.

(22)   One hopes that banker will loan money to oneself.

Sentences with NCB reflexives (*M*=7.7, SD=11.5) were rated similarly to sentences with NCB pronominals (*M*=5.2, SD=5.8; t(0.24)=17, p=.816). Therefore, NCB and clause bound reflexives were rated as similarly natural in this study, and intervening animate subjects are allowed.

Since NCB reflexives are rated similarly to NCB pronominals, a second paired t-test was conducted to determine if Blocking effects also exist in Northeast Ohio English, again, using average ratings for sentence types. I compared sentences in which all subjects matched for person (like the examples in (22)) with sentences in which there was an intervening subject that did not match the lower subject (or reflexive) for person, like the examples given below.

(23)   a. One hopes that you will loan money to oneself.

         b. One hopes that I will loan money to oneself.

         c. I think my goldfish loves myself. (Fasold 2003)

Sentences with all matching subjects were rated as significantly more natural than sentences with an intervening subject that did not match the reflexive for person (*M*=7.94, *SD*=11.66; *M*=4.66, *SD*=5.54, respectively; t(2.06)=17, p=.05). On the one hand, it is surprising that a dialect of English has Blocking effects, since other languages with NCB reflexives that also exhibit subject/verb agreement do not exhibit Blocking effects (Cole & Sung 1994). On the other hand, Fasold (2003) suggests that a sentence is somehow degraded when a subject in the minimal clause does not match the subject in the matrix clause for person. It has been suggested that NCB first person reflexives are ungrammatical for reasons outside of Blocking effects (e.g. Schlenker 2003). Therefore, it seems possible that the sentences with NCB *myself* could be skewing these results. However, the mean rating of sentences with a NCB first person reflexive and an

intervening, non-matching subject were similar to the mean rating of sentences with a NCB third person reflexive and an intervening, non-matching subject (*M*=4.2 and *M*=4.8, respectively).

3.3 Extension of analysis

Chou's analysis along with the modification suggested above, that cyclic transfer system requires that the POV-op [d, a] features and the [d, a] features on the subject match at each phase, can be applied to NCB reflexives in American English. I illustrate this below. Again, I have only included the successive-cyclic movements that are crucial for readability reasons. Recall that NCB reflexives can corefer with a subject outside of its clause even with an intervening animate subject, as illustrated in (22).

(24)   One$_i$ hopes that a banker will loan oneself$_i$ money.

   a.   [$_{v*P}$ oneself$_{[ud, ua]}$-POV-op$_{[ud, ua]}$ . . . t]

   b.   a banker … [$_{v*P}$ oneself$_{[-d, -a]}$-POV-op$_{[-d, -a]}$ . . . t]

   c.   [$_{CP}$ oneself$_{[-d, -a]}$-POV-op$_{[ud, ua]}$ a banker . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

   d.   One … [$_{CP}$ oneself$_{[-d, -a]}$-POV-op$_{[-d, -a]}$ a banker . . . [$_{v*P}$ t-POV-op$_{[-d, -a]}$ . . . t]]

In (24), *oneself* raises successive-cyclically in a and adjoins to the POV-op. At this point in the derivation, both the POV-op and *oneself* do not have values for [ud] and [ua]. In (24), the nominal expression *a banker* joins the derivation and values the [ud] and [ua] of both the POV-op and *oneself* as [-d, -a]. At this point, *oneself* does not have a coreferent. In (24), *oneself* continues to raise (covertly) for scope reasons. In (24), the nominal expression *one* joins the

derivation and values the [ud] and [ua] features of the POV-op. Since the POV features of

oneself in scope position and the POV-op match, the derivation is allowed.

In (25) I present a derivation in which Blocking effects (non-matching [ud] and [ua] values), as illustrated in (23), create an ungrammatical sentence; specifically, the intervening second person subject prevents *oneself* from corefering with the matrix subject *one*.

(25)   *?One$_i$ hopes that you will loan oneself$_i$ money.

    a.   [$_{v*P}$ oneself$_{[ud,\ ua]}$-POV-op$_{[ud,\ ua]}$ . . . *t*]

    b.   you … [$_{v*P}$ oneself$_{[+d,\ -a]}$-POV-op$_{[+d,\ -a]}$ . . . *t*]

    c.   [$_{CP}$ oneself$_{[+d,\ -a]}$-POV-op$_{[ud,\ ua]}$ you . . . [$_{v*P}$ *t*-POV-op$_{[+d,\ -a]}$ . . . *t*]]

    d.   One… [$_{CP}$ oneself$_{[+d,\ -a]}$-POV-op$_{[-d,\ -a]}$ you . . . [$_{v*P}$ *t*-POV-op$_{[+d,\ -a]}$ . . . *t*]]

Here, *oneself* and POV-op both have unvalued [ud] and [ua] features that are valued as [+d, -a] when *you* joins the derivation. The reflexive continues to raise successive-cyclically for scope reasons to the next POV-op. Once *one* joins the derivation, it values the POV-op features just below it as [-d, -a]. However, the POV features at *oneself*'s scope position do not match: *oneself* is [+d, -a] and the POV-op is valued as [-d, -a]. Since the values do not match, proper attitudes cannot be ascribed, and the derivation fails.

Recall that the logophor's POV features and the features on the POV-op must match not only at the scope position but also throughout the derivation in order to ascribe attitudes. Therefore, a nominal expression that does not match for person higher in the derivation than the scope of the logophoric expression does not trigger Blocking effects. This is illustrated below:

(26)   You said that Tom_i said that Matt likes himself_i.

a.   [_{v*P} himself_{[ud, ua]}-POV-op_{[ud, ua]} . . . t]

b.   Matt . . . [_{v*P} oneself_{[-d, -a]}-POV-op_{[-d, -a]} . . . t]

c.   [_{CP} himself_{[-d, -a]}-POV-op_{[ud, ua]} Matt . . . [_{v*P} t-POV-op_{[-d, -a]} . . . t]]

d.   Tom . . . [_{CP} oneself_{[-d, -a]}-POV-op_{[-d, -a]} Matt . . . [_{v*P} t-POV-op_{[-d, -a]} . . . t]]

e.   You . . . Tom . . . [_{CP} oneself_{[-d, -a]}-POV-op_{[-d, -a]} Matt . . . [_{v*P} t-POV-op_{[-d, -a]} . . . t]]

In (26), both the POV-op and *himself* have unvalued [ud] and [ua] features. Once *Matt* joins the derivation in (26), the [ud] and [ua] on both *himself* and the POV are valued as [-d, -a]. Next, *himself* continues to raise for scope reasons. *Himself* adjoins the next highest POV-op, which has unvalued [ud] and [ua] features. In (26), *Tom* joins the derivation and values the POV-op as [-d, -a]. *Himself* is now at its scope position, and, therefore, no longer raises. The [d] and [a] features at *himself's* scope position match, so the derivation is allowed to continue.

Importantly, the proposed analysis for NCB reflexives can help us understand the data presented in Fasold (2003) that could not be accounted for with previous analyses. Fasold gives the follow grammaticality judgment:

(27)   #I_i think my goldfish loves myself_i.

In essence, Fasold's data illustrates the Blocking effects that are found in NOE. Assuming that the variety of English that Fasold speaks is similar to the variety of English spoken in northeast Ohio, it would follow that sentences like (27) are not acceptable since these sentences would

include a mismatch of values for the [ud] and [ua] features once the reflexive raises to the CP of the embedded clause in order to be in a local position to *I* for ascription of *de se* attitude, as illustrated in the derivation below:

(28)   I think my goldfish loves myself

    a. [$_{v*P}$ myself$_{[ud,\ ua]}$-POV-op$_{[ud,\ ua]}$ . . . t]

    b. my goldfish … [$_{v*P}$ myself$_{[-d,\ -a]}$-POV-op$_{[-d,\ -a]}$ . . . t]

    c. [$_{CP}$ myself$_{[-d,\ -a]}$-POV-op$_{[ud,\ ua]}$ Matt . . . [$_{v*P}$ t-POV-op$_{[-d,\ -a]}$ . . . t]]

    d. I … [$_{CP}$ myself$_{[-d,\ -a]}$-POV-op$_{[+d,\ +a]}$ Matt . . . [$_{v*P}$ t-POV-op$_{[-d,\ -a]}$ . . . t]]

Here, the derivation fails in (28) when *I* values the POV-op as [+d, +a], but *myself* has [-d, -a] features.

3. *Conclusion*

Accounting for Blocking effects in some languages with NCB reflexives has been challenging. Here, I propose a small modification to Chou's analysis of Blocking effects in Mandarin, which accounts for more data, specifically sentences with an intervening subject that does not match for person. The modification requires that ascription of attitudes occurs *throughout* the derivation, and if there is a mismatch among [ud] and [ua] features at any point, ascription of attitude fails. Therefore, at each phase, the value of the [d, a] features is checked. A mismatch will result in a failed derivation. This modification aligns with the Minimalist Program's cyclic transfer system. Furthermore, this modification can also account for new data on NCB reflexives from American English. New data suggests that American English speakers

find some sentences NCB reflexives as natural as sentences with NCB pronominals. Interestingly, American English NCB reflexives exhibit Blocking effects: an intervening subject that does not match a higher subject for person prevents a NCB interpretation of the reflexive.

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Appendix

EXPLORATORY INVESTIGATION STIMULI

PRACTICE

Modulus
Situation: Sarah had a picture of Laura. Laura wanted the picture, and asked Sarah for it. Sarah parted with the picture. Does it sound natural to say:
Sentence: Sarah gave LAURA a picture of HERSELF.

Practice 1
Situation: Andy enjoys his own company. Tom knows this. To summarize this situation, could you say:
Sentence: Tom knows that ANDY likes HIMSELF.

Practice 2
Situation: Someone left a picture of Bill at his house, but you don't know who did this. Bill knows who did this and has been telling people about it. Could you ask:
Sentence: Who did BILL say left a picture of HIMSELF?

Practice 3
Situation: Someone left a picture of Bill at his house, but you don't know who did this. Bill knows who did this and has been telling people about it. Could you ask:
Sentence: WHO did Bill say left a picture of HIMSELF?

TASK

Modulus
Situation: Sarah had a picture of Laura. Laura wanted the picture, and asked Sarah for it. Sarah parted with the picture. Does it sound natural to say:
Sentence: Sarah gave LAURA a picture of HERSELF.

1.
Situation: In general, when a person needs a loan, he or shoes goes to a bank and hopes to get a loan. To describe this general situation, could you say:
Sentence: ONE hopes that a banker will loan ONE money.

2.
Situation: In general, when a person needs a loan, he or shoes goes to a bank and hopes to get a loan. To describe this general situation, could you say:
Sentence: ONE hopes that a banker will loan money to ONE.

3.
Situation: In general, when a person needs a loan, he or shoes goes to a bank and hopes to get a loan. To describe this general situation, could you say:
Sentence: ONE hopes a banker will loan ONESELF money.

4.
Situation: In general, when a person needs a loan, he or shoes goes to a bank and hopes to get a loan. To describe this general situation, could you say:
Sentence: ONE hopes a banker will loan money to ONESELF.

5.
Situation: You are a banker. You are talking to other bankers about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes that we will loan ONE money.

6.
Situation: You are a banker. You are talking to other bankers about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes that we will loan money to ONE.

7.
Situation: You are a banker. You are talking to other bankers about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes that we will loan ONESELF money.

8.
Situation: You are a banker. You are talking to other bankers about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes that we will loan money to ONESELF.

9.
Situation: You are talking to a banker about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes you will loan ONE money.

10.
Situation: You are talking to a banker about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes you will loan money to ONE.

11.
Situation: You are talking to a banker about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes you will loan ONESELF money.

12.
Situation: You are talking to a banker about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes you will loan money to ONESELF.

13.
Situation: You are a banker. You are talking about people who come in asking for a loan. Applicants are always so hopeful! Could you expand on this by saying:

Sentence: ONE hopes I will loan ONE money.

14.
Situation: You are a banker. You are talking about people who come in asking for a loan.
             Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes I will loan money to ONE.

15.
Situation: You are a banker. You are talking about people who come in asking for a loan.
             Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes I will loan ONESELF money.

16.
Situation: You are a banker. You are talking about people who come in asking for a loan.
             Applicants are always so hopeful! Could you expand on this by saying:
Sentence: ONE hopes I will loan money to ONESELF .

17.
Situation: When a person needs a loan, they go to a bank. Once a person is there they talk to a
             group of bankers about getting the loan. Could you say this about this general situation:
Sentence: ONE hopes they will loan ONE money.

18.
Situation: When a person needs a loan, they go to a bank. Once a person is there they talk to a
             group of bankers about getting the loan. Could you say this about this general situation:
Sentence: ONE hopes that they will loan money to ONE.

19.
Situation: When a person needs a loan, they go to a bank. Once a person is there they talk to a
             group of bankers about getting the loan. Could you say this about this general situation:
Sentence: ONE hopes that they will loan ONESELF money.

20.
Situation: When a person needs a loan, they go to a bank. Once a person is there they talk to a
             group of bankers about getting the loan. Could you say this about this general situation:
Sentence: ONE hopes that they will loan money to ONESELF.

21.
Situation: When a person needs a loan, he or she goes to a bank and meets with a banker. Once a
             person is there, he or she meets with a banker. Could you say this about this general
             situation:
Sentence: ONE hopes she will loan ONE money.

22.
Situation: When a person needs a loan, he or she goes to a bank and meets with a banker. Once a
             person is there, he or she meets with a banker. Could you say this about this general
             situation:
Sentence: ONE hopes that she will loan money to ONE.

23.
Situation: When a person needs a loan, he or she goes to a bank and meets with a banker. Once a
             person is there, he or she meets with a banker. Could you say this about this general
             situation:
Sentence: ONE hopes that she will loan ONESELF money.

24.
Situation: When a person needs a loan, he or she goes to a bank and meets with a banker. Once a person is there, he or she meets with a banker. Could you say this about this general situation:
Sentence: ONE hopes that she will loan money to ONESELF.

25.
Situation: In general, if you run for office, you hope to win, and you need votes to win. To describe this situation about someone who runs for office, could you say:
Sentence: ONE hopes that others will vote for ONESELF.

26.
Situation: If you run for office, you hope to win, and you need votes to win. To describe this situation about someone who runs for office, could you say:
Sentence: ONE hopes that others will vote for ONE.

27.
Situation: Sam just totaled the family car. He hopes that his parents don't overreact, and that they'll eventually let him drive their car again. To expand on this situation, could you say:
Sentence: SAM hopes that his parents will forgive HIMSELF.

28.
Situation: You are reading a newspaper article about an activity for elementary school students that allows them to express their individual personalities. In this activity, students fill in silhouettes with writing and pictures. To describe this art project, could you say:
Sentence: THEY can have their silhouettes drawn, which they then fill in with writing and pictures that describe THEMSELVES.

29.
Situation: You are reading a newspaper article about a robbery that happened to a guy named Harvey. Your friend asks you what happened. Could you say:
Sentence: According to HARVEY the two men stole $80 from his friend and about $20 from HIMSELF.

30.
Situation: You are writing a play about a Jewish person in Germany right before World War II. Could you write this as one of the lines and have it sound natural (*him* refers to the Jewish person):
Sentence: Tell HIM, please, that we wish him no harm; but that it will be better for HIMSELF if he goes away from Germany at once.

31.
Situation: You are telling a story about Maggie and Maggie's baby. Maggie's landlord told her to move out. Maggie was shocked. Could you describe the situation and Maggie's thoughts by saying:
Sentence: MAGGIE looked at him. Did he mean HERSELF—HERSELF and the baby?

32.
Situation: You are very attached to your goldfish. You think your goldfish gets especially animated when it sees you at the end of the day. To describe this situation, could you say:
Sentence: I think my goldfish loves MYSELF.

33.
Situation: An older man is preparing for a long week of helping his son move. The old man is even training for the move—he is practicing going up and down stairs in his house carrying a 5lb bag of flour. You are telling a friend about this man's dedication to being able to help his son move. You are now concluding your story. Could you say:
Sentence: HE made sure that it wouldn't wear HIMSELF out to do such work.

34.
Situation: You are buying a handmade item from a small business owner. The check should be made out to the business owner. Could you summarize the situation by saying:
Sentence: SHE wants the check to be made out to HERSELF.

35.
Situation: In general, one who wants to win a political office will say anything. To expand on this, could you say:
Sentence: You may hear from ONE that America will vote for ONESELF if the person is a candidate for president.

36.
Situation: In general, one who wants to win a political office will say anything. To expand on this, could you say:
Sentence: You may hear from ONE that America will vote for ONE if the person is a candidate for president.

37.
Situation: You are talking to a person who is new to politics. You know that if a person is running for political office, this person wants everyone he meets to cast their vote for him. To summarize this general situation to the other person, could you say:
Sentence: If one is running for office, you may hear from ONE that you should vote for ONESELF.

38.
Situation: You are talking to a person who is new to politics. You know that if a person is running for president, this person wants everyone he meets to cast their vote for him. To summarize this general situation to the other person, could you say:
Sentence: If one is running for office, you may hear from ONE that I should vote for ONESELF.

39.
Situation: You are talking to a person who is new to politics. You know that if a person is running for president, this person wants everyone he meets to cast their vote for him. To summarize this general situation to the other person, could you say:
Sentence: If one is running for office, you may hear from ONE that people should vote for ONESELF.

40.
Situation: You are talking to a person who is new to politics. You know that presidential candidates walk around like everyone loves them and their policies. To summarize this general situation to the other person, could you say:
Sentence: When running for office, ONE always says that others like ONESELF.

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[ii] Blocking effects in Mandarin may be more complicated than this data suggests. Xu (1993) and Huang & Liu (2001) note that there is a person asymmetry for Blocking effects. A local first or second person nominal expression blocks a remote third person NCB interpretation. In contrast, a local third person nominal expression does not block a remote first or second person NCB interpretation. However, He and Kaiser's (2011) research of the use of *ziji* by Mainland China Mandarin speakers found no person asymmetry. Since the status of person asymmetry is uncertain, I focus on general Blocking effects as a first step.

[iii] Schlenker (2003) posits three types of indexicals: (i) indexicals that are tied to the current context (e.g. English clause-bound reflexives), (ii) indexicals that are underspecified for context (e.g. Amharic first person pronouns), and (iii) indexicals that cannot be tied to the current speech act (e.g. logophors). Schlenker's proposal works well for the type of logophoric data he explores, which are described by Clements (1975: 171): "logophoric pronouns are restricted to *reportative contexts* transmitting the words or thought of an individual or individuals other than the speaker or narrator." Clements makes no mention of Blocking effects, which do not occur in all languages with NCB reflexives. Since Schlenker uses Clement's definition of logophoric pronouns for his analysis, he has no provisions for Blocking effects. Therefore, I will not go into much detail of his analysis; however, I will point out an interesting consequence. Since logophors cannot be tied to the current speech act, they cannot be in first person, which seems to be the case in many languages. However, some non-clause bound refelxives in English are first

person: "But you, – you above all, above my mother, had been wronged by me. I, and only I, knew your heart and its sorrows; yet, to what did it influence me? – Not to any compassion that could benefit you or myself." (Jane Austen's *Sense and Sensibility*, cited in Baker 1995: 88). If we follow Schlenker's analysis, we have two types of NCB reflexives.

[iv] As Chou (2012) points out, this process is very similar to Huang and Tang's (1991) analysis of Blocking effects. The main difference between these two approaches is that Huang and Tang relied on a system that matches previously assigned φ-features across nominal expressions while Chou's (2012) analysis relies on the concepts of discourse participants and addresser. This is advantageous for an analysis of NCB reflexives in English since they inherently have φ-features (rather than being assigned φ-features in a derivation).

[v] Interestingly, Kennedy & Lidz (2001) also posit a long-distance reflexive in English. However, they claim that NCB reflexives in English only occur in Verb Phrase Ellipsis environments. Therefore, they do not include any examples of NCB reflexives in non-ellipsis environments.

[vi] It is theoretically possible that two dialects of the same language exhibit different distributions of reflexives. In fact, Baker (1995) even claims that British English, but not American English, has NCB reflexives. We see differences in the distribution of NCB reflexives across dialects of Mandarin. For example, Cole et al (2001) illustrate that Singapore Teochew has stricter pragmatic conditions on NCB reflexives than Singapore Mandarin does. Therefore, it is reasonable to expect differences in the behavior of NCB reflexives between British and American English (and even differences *within* these two major dialects). However, it is not necessarily true that the two dialects differ in their distributions of NCB reflexives.

[vii] It should be noted that Fasold speculates that while this sentence is unacceptable or uninterpretable, it may still be grammatical. Here, I have marked it as uninterpretable, but not ungrammatical. It is possible that sentences which require a rich pragmatic context, like *I think my goldfish loves myself*, may often be uninterpretable if certain conditions of are unavailable in the context. This sentence's naturalness could be a result of a semantic or pragmatic clash.

[viii] Importantly, if only sentences with NCB reflexives that are first person are ungrammatical, then Schlenker's (2003) analysis accounts for this pattern. According to Schlenker, logophors are indexicals that cannot be tied to the current speech act (e.g. logophors). Therefore, logophors cannot be in first person, which seems to be the case in many languages. It is probably not the case, however, that English does not allow first person NCB reflexives, since

there are examples of NCB first person reflexives being natural. One occurs in Jane Austen's *Sense and Sensibility* (cited in Baker 1995: 88) given in (1) and another is from Ross (1970:228), given in (2).

(1) "But you, – you above all, above my mother, had been wronged by me. I, and only I, knew your heart and its sorrows; yet, to what did it influence me? – Not to any compassion that could benefit you or myself."

(2) This paper was written by Ann and myself.

[ix] One person's responses were excluded from the study since this person consistently represented outliers in the data.