

## **Long Distance Reflexives -- The State of the Art\***

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(Prefinal Version. Please only cite the published version in Cole, Hermon and Huang, *Long Distance Reflexives*. Note that font for the Mapun examples does not display correctly in this PDF version of the paper. See the printed version for the correct form of the examples.)

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## 1. Long Distance Reflexives and Universal Grammar

The papers in this volume examine the locality conditions on reflexives across languages. In languages around the world the distribution of anaphoric elements appears roughly like that found in English: certain forms occur only with antecedents that c-command them and which are in the same local domain (roughly, clause) as the anaphoric element, while other forms must be disjoint from their antecedents within that same domain. The occurrence of many genetically unrelated and typologically dissimilar languages with anaphoric elements that conform to the same distributional restrictions constituted early and powerful support for universalist, generative approaches to the syntax of what has come to be known as Binding.

While a universalist approach to Binding as instantiated in the Binding Theory has provided strong support for Universal Grammar, it has long been known that in many languages some forms that can be used as local reflexives can also take antecedents outside their local domain (hereafter, long distance reflexives). For instance in Chinese, the reflexive *ziji* in (1) can be interpreted as referring to the matrix subject, the intermediate subject or the lowest subject:

(1) Zhangsan<sub>i</sub> renwei Lisi<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ziji<sub>i/j/k</sub>

Zhangsan thinks Lisi knows Wangwu likes self

'Zhangsan thinks Lisi knows Wangwu likes self.'

The question naturally arises whether these "exceptions" to Binding Theory are arbitrary (thereby seriously undercutting the universality of Binding Theory and leaving unexplained why so many anaphoric forms in unrelated languages show the same distribution), or whether violations of Binding Theory occur in a

delimited domain, permitting the refinement and revision of the Binding Theory rather than its abandonment.

## 2. Typological Properties of Long Distance Reflexives

Approaching the problem from the perspective of syntax, it was soon noticed that long distance reflexives appear to share a number of characteristics across languages (Pica 1987):<sup>1</sup>

### (2) Apparent Typological Characteristics of Long Distance Reflexives

- a. Long distance reflexives are monomorphemic.
- b. They take subject antecedents.
- c. Their occurrence can, in many languages, be restricted to environments in which the antecedent and reflexive are found in specific domains (i.e., specific types of IPs such as infinitival or subjunctive).

Furthermore, it was noted in the Chinese literature (Y. -H. Huang (1984) and Tang (1985, 1989)) that long distance reflexives are subject to a "Blocking Effect": When the subjects of the matrix and the subordinate clauses share features for person, either NP is a possible antecedent for *ziji*. When, however, the subjects of these clauses differ in person, only the subject of the subordinate clause is a possible antecedent for *ziji*: The subordinate subject blocks the matrix subject (and any higher subject regardless of person) from antecedencing *ziji*:

(3) Zhangsan<sub>i</sub> renwei wo<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ziji<sub>\*i/\*j/k</sub>

Zhangsan thinks I know Wangwu likes self

'Zhangsan thinks I know Wangwu likes self.'

In (3) the presence of third person *Wangwu* as subject of the lowest clause blocks *ziji* from referring to either the intermediate subject *wo* or the main clause subject

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<sup>1</sup> See Cole and Hermon (1998) for a summary of the typological characteristics of long distance reflexives.

*Zhangsan*.<sup>2</sup> No similar restriction was noted in the literature on European languages with long distance reflexives. This raised the question of how the cross linguistic variation with respect to the existence of the Blocking Effect should be explained and of whether Blocking correlates with any property of the languages in which it occurs or of the forms that are subject to Blocking, a question to which we shall return below.

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<sup>2</sup> It is a matter of controversy in the Chinese literature whether a third person subject blocks reference to a first or second person subject, or whether blocking occurs only when the intervening subject is first or second person. (It is uncontroversial that the Blocking Effect is stronger when the blocker is first or second person.) For differing positions on the facts, see Cole, Hermon and Lee (this volume) on the one hand, and Huang and Liu (this volume) and Pan (this volume) on the other.

In addition to the restrictions just mentioned, which were widely interpreted as syntactic in nature, many authors noted that long distance reflexives are frequently limited to taking antecedents which are "prominent" in the discourse. The discourse requirements appeared to vary from language to language, to at least some extent, but they could, in most cases, be reduced to what came to be referred to as "logophoric" requirements, on analogy with the system of logophoric pronouns occurring in some African language. This raised the question of how logophoricity should be related to long distance reflexives. Are long distance reflexives simply logophoric pronouns masquerading as reflexives, or is the relationship between logophoricity and long distance reflexives more complex than simple equivalence?

### **3. The Groningen and Cornell Workshops**

In order to assess the current state of knowledge and to provide an impetus for the further study, a workshop on long distance anaphors was held in by the Department of Linguistics of Groningen University in June of 1987. This workshop resulted in a volume that appeared in 1991 (Koster and Reuland). While there was considerable diversity in the interests of the contributors to that volume, two themes preoccupied many of the authors: 1) What is the nature of the domain restriction on long distance reflexives? 2) What sorts of logophoric or other discourse conditions are necessary for long distance anaphora? While there was some brief discussion of Asian languages in several of the chapters in the volume, with the exception of the extended discussion of Mandarin in Huang and Tang (1991), nearly all of the detailed analysis was of European languages. This, of course, reflected the fact that in the 1980s most of the research on long distance anaphora had been on European languages (especially Italian and Scandinavian languages).

The present volume grows out of the explosion of interest in long distance anaphora that followed the publication of Koster and Reuland. A workshop similar to the Groningen workshop was organized at the Cornell LSA Linguistic Institute in July of 1997 to commemorate the tenth anniversary of the Groningen workshop and to assess progress over the last ten years. The contributions to the Cornell workshop provided the basis for most of the chapter in this volume. How do the results of the Cornell workshop differ from those ten years earlier? The most obvious difference between the 1991 volume and this volume is that the focus in the present volume is on the anaphoric systems of languages that had received little or no attention in the literature ten years earlier. In addition to four chapters containing extensive discussions of Mandarin (Cole, Hermon and Lee; Huang and Liu; Pan and Pollard and Xue),<sup>3</sup> there is a chapter comparing a variety of Mandarin with a southern Chinese dialect (Teochew) and (to a lesser extent) with Malay (Cole, Hermon and Lee), and chapters on Hindi-Urdu (Davison), Riau Indonesian (Gil), Turkish (Kornfilt), Kannada (Lidz), Chechen and Ingush (Nichols). In fact, the only languages discussed in this volume that figured prominently in Koster and Reuland are Norwegian (Hestvik and Philip) and Icelandic (Reuland). Not surprisingly, the long distance reflexives found in the languages described here are considerably more diverse than those that were the focus of research Koster and Reuland, but, despite the diversity, the major themes of the earlier volume are prominent in this volume as well.

#### **4. Pronoun or Bound Anaphor**

A fundamental and recurring topic in many of the chapters in this volume is whether the "long distance reflexives" in the language under study have the

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<sup>3</sup> These chapters display the diversity of views on both the facts and the analysis of Mandarin.

distribution of pronouns or of bound anaphors. While in a number of studies it is taken as a given that long distance reflexives are anaphors (e.g. Lidz), the question is in fact a difficult one. The study of the typological characteristics of long distance reflexives has been frustrating because every proposed characterization of the construction appears to have many counter examples. If, however, "long distance reflexives" are not a single type of morpho-syntactic entity, it would not be expected that they would have the same properties or the same analysis across languages. In fact, a comparison of the papers in this volume suggests that long distance reflexives are, in fact, several different sorts of entities, which differ with regard to whether they have the distribution of bound anaphors or of pronouns.<sup>4</sup> If this is correct, it is not surprising that they differ in both syntactic and discourse properties: Bound anaphors are generally assumed to require (or strongly favor) a binding relationship with their antecedents, thereby explaining why they require c-commanding antecedents, do not allow extra sentential antecedents and require (or strongly favor) sloppy readings in VP ellipsis. In contrast, pronouns are assumed to enter into both binding and coreference relations. Thus, c-command is not required, extra sentential antecedents are possible and both strict and sloppy readings are easily available under VP ellipsis.

It may be useful to illustrate the range of variation found in the languages discussed in this volume. Inflected reflexives in Turkish (Kornfilt this volume and 1997) provide an example of a form that can be used as a reflexive within the local domain, but which is a pronominal when used beyond that domain. Another such example is Malay (Cole and Hermon 1998a and 1998b, and, to a

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<sup>4</sup> But note that this position is denied by Pollard and Xue, who argue against a division between anaphors and pronouns, at least with respect to Chinese *ziji*.

lesser extent, Cole and Hermon and Lee, this volume). In these languages apparent long distance reflexives show none of the characteristics of a bound anaphors: outside of the local domain the antecedent does not need to c-command the "reflexive", extra sentential antecedents are possible and strict readings are easy to come by under VP ellipsis. This is illustrated from Malay:

(4) Ahmad<sub>i</sub> tahu Salmah<sub>j</sub> akan membeli baju untuk diri-nya<sub>i/j/k</sub>.<sup>5</sup>

Ahmad know Salmah will buy clothes for self-3SG

'Ahmad knows Salmah will buy clothes for him/herself.'

(5) a. [<sub>NP</sub> Bapa Siti]<sub>i</sub> tidak suka dirinya<sub>i/j/k</sub>.

father Siti not like self.3SG

'Siti's father does not like her/himself/him.'

b. [<sub>NP</sub> Ibu Ali]<sub>i</sub> telah mengenalkan dirinya<sub>i/j/k</sub>

mother Ali already introduce self.3SG

kepada kawan-kawan saya.

to friends my

'Ali's mother has introduced him/herself/her to my friends.'

In (4) *dirinya* can be interpreted either as a local reflexive, as referring to the matrix subject, or as referring to some third individual in the discourse. The examples of (5) show that a c-commanding or non-c-commanding antecedent, or an extra sentential, discourse antecedent are all possible.

Turning to VP ellipsis, we see that *dirinya* allows both strict and sloppy readings, even in local contexts, as is expected with a pronoun:

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<sup>5</sup> The index *k* on *dirinya* indicates that *dirinya* can refer to someone in the discourse other than Ahmad or Salmah.

(6) John nampak dirinya di dalam cermin; Frank pun.

John see self-3psg at inside mirror Frank also

'John saw himself/him in the mirror and Frank did too.' (= 'Frank saw Frank in the mirror' or 'Frank saw John in the mirror')

(7) Ali cukur dirinya di dalam bilik air; Bill pun.

Ali shave self-3psg at inside bathroom Bill also

'Ali shaved himself/him in the bathroom. Bill did so too.' (= 'Bill shaved Bill' or 'Bill shaved Ali')

To conclude, the relationship between the seeming long distance reflexive and its antecedent in Malay would appear to be either coreference or binding, as is the case for personal pronouns.<sup>6</sup>

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<sup>6</sup> It is argued in Cole and Hermon (1998b) that *dirinya* is not lexically specified as either a pronoun or an anaphor. Rather, *dirinya* lacks specification for the feature [ $\alpha$ anaphor].

The existence of forms which are not specified as either pronominal or anaphoric is not unique to Malay. Keenan (1976 and 2000) argues that in both Old English and Middle English there is only a single form that is used for local and interclausal anaphora:

(i) Beowulf line 1473 c.750

sy>fian he hine to gu>e gegyred hæfde  
once he<sub>i</sub>(nom) him<sub>i</sub> (acc) for battle girded had

'Once he had girded himself for battle'

(ii) Chaucer, "The Knight's Tale", verse 1384

At Thebes, in his contree, as I sayde,  
Upon a nyght in sleep as he<sub>i</sub> hym<sub>i</sub> leyde

In contrast, in Kannada long distance reflexives require c-commanding antecedents, cannot take extra sentential antecedents and require sloppy readings under VP ellipsis (Lidz, this volume, and Amritavalli 1999). Similar facts are found in Hindi-Urdu (Davison, this volume, and 1999). Example (7) illustrates the VP ellipsis facts in Hindi-Urdu (Davison 1999):

(7) Guatam<sub>i</sub> [apnee (aap<sub>i</sub>)-koo caalaak] samajhtaa hai, aur vikram<sub>j</sub> bhii Ø

Guatam self's self-dat smart consider-impf is and Vikram also  
'Guatam considers himself smart, and so does Vikram' (=Vikram considers Vikram smart; \*Vikram considers Guatam smart)

In these languages long distance reflexives have the properties associated with bound anaphors, and, like other bound anaphors, appear to require a binding relationship with antecedents.

The situation is more complex in Icelandic (Reuland, this volume). In Icelandic the reflexive form *sig* can occur with long distance antecedents in both infinitival and subjunctive clauses. However, *sig* has different properties in each environment: When *sig* and its antecedent are found within an infinitival clause, *sig* behaves like a bound anaphor, but when the domain is a subjunctive clause, it behaves like a pronominal. Thus, in some environments *sig* must be related to its antecedent by binding while in other environments a relationship of coreference is possible. Finally, in Chinese (both Mandarin and Teochew) the simplex reflexive (*ziji* in Mandarin/*caki* in Teochew) normally shows the distribution of a bound anaphor: The antecedent must c-command (or subcommand) the reflexive and VP ellipsis yields only (or predominantly) sloppy

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Similarly, in Javanese, while there exist forms which are exclusively used as local reflexives, the personal pronouns can be employed either for clause internal anaphora (including coarguments) or for interclausal anaphoric reference.

readings, as in Hindi-Urdu (Cole, Hermon and Lee (this volume) and Huang and Liu (this volume), as well as earlier works by many authors). However, in limited discourse contexts *ziji* can take extra sentential discourse antecedents, as is illustrated in (8), taken from Pollard and Xue (this volume):<sup>7</sup>

(8) Zhangsan<sub>i</sub> zhidao neijian shi yihou hen qifen; Lisi<sub>j</sub> shuo neixie hua

Zhangsan know that-CL thing after very angry Lisi say those word  
mingming shi zai he ziji<sub>i/j</sub> zuodui.

obviously is being with self against

'Zhangsan<sub>i</sub> was very angry when he learned that. By saying those words Lisi<sub>j</sub> was obviously acting against himself<sub>j</sub>/him<sub>i</sub>.'

The Icelandic and Mandarin facts suggest that the same reflexive form can be a bound anaphor in one grammatical and discourse context and a "free anaphor" with pronominal properties in another.

To summarize, there appear to be *at least* the following types of "long distance reflexives": 1) long distance bound anaphors, which show the distribution of bound variables (illustrated by Chechen/Ingush, Chinese, Hindi-Urdu, Kannada), 2) forms which are used as reflexives locally and as pronominals non-locally (illustrated by Turkish and Malay) and 3) forms that are "primarily" bound anaphor reflexives, but which can be used non-locally in specific syntactic and discourse contexts (Chinese "free anaphors", Icelandic subjunctives and long distance uses of English reflexives (Zribi-Hertz)). If "long distance reflexives" do in fact display the diversity just claimed, several conclusions follow: 1) The distribution and properties of each type of "long distance reflexive" (anaphor, pronominal, mixed) need to be investigated separately. 2) The factual contradictions both in and across languages may be

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<sup>7</sup> This is example (6) in Pollard and Xue.

resolved by distinguishing properly the various types of "long distance reflexives". 3) A major problem in understanding the phenomenon of long distance anaphora is the determination of the grammatical and discourse conditions that license each type of long distance anaphor. The successful solution to this problem may provide the basis for the development of a theory of long distanced anaphora with sufficient power to predict the properties of a reflexive from its grammatical and discourse context. We shall return in Section 10 to a consideration of what might constitute the basis for such a theory.

## **5. The Role of Discourse**

### **5.1 Variation Among Languages and Dialects With Bound Anaphor Long Distance Reflexives**

A second theme which recurs in many of the chapters is an attempt to characterize the role of discourse/pragmatics versus syntax in the licensing of long distance reflexives. While many aspects of the problem remain unclear, many new facts about the relationship of discourse factors and long distance reflexives emerge in the contributions to the volume. First of all, the role of discourse varies considerably from language to language and from form to form within some languages. Nichols shows that Chechen and Ingush exhibit bound anaphor-type long distance reflexives. In these languages, however, there is no requirement that the antecedent satisfy logophoric or other discourse conditions.

In many other languages discourse adds restrictions over and above those of the grammar. For instance, Amritavalli (1999) notes that in Kannada (which also exhibits bound anaphor long distance reflexives) the antecedent for the reflexive *tannu* must be aware of the state or event described, leading to a preference for the pronoun *avannu* over the long distance reflexive *tannannu* in sentences like (9) (Amritavalli's 119):

(9) Sitte<sub>i</sub> ?tannannui<sub>i,\*j,\*k</sub> / avanannu<sub>i</sub> kaaNalu bandaaga

Sita self-acc he-acc to see came then

raaju<sub>i</sub> sattu hoogidda

Raju was dead

'Raju<sub>i</sub> was dead when Sita<sub>j</sub> came to see ?self<sub>i,\*j</sub> / him<sub>i</sub>.'

Even within the same language, different dialects and varieties may vary with regard to the discourse properties of long distance reflexives. For example, Cole, Hermon and Lee (this volume) show that there is considerable variation in the discourse conditions on long distance reflexives in the Chinese dialects of Singapore. In these dialects (in most contexts) the reflexive has the distribution of a bound anaphor, but the logophoric conditions on Singapore Teochew are much stricter than those on Singapore Mandarin: In Teochew the antecedent of a long distance reflexive must be aware that he, himself, is carrying out the action described (a *de se* requirement), while in Singapore Mandarin self-awareness on the part of the antecedent is not required. However, weaker "PIVOT" conditions (Sells 1987) hold in both Singapore Mandarin and Singapore Teochew. Turning to other chapters that deal with Mandarin in the volume, Huang and Liu claim that a *de se* requirement constrains the relationship between matrix subject antecedents and object *ziji* in complement clauses. In contrast, Pollard and Xue claim that such examples (illustrated by (10)) are not subject to logophoric requirements:<sup>8</sup>

(10) Zhangsan<sub>i</sub> zhidao [Lisi<sub>j</sub> renwei [Wangwu<sub>k</sub> zui xihuan ziji<sub>i/j/k</sub>]].

Zhangsan know Lisi think Wangwu most like self

'Zhangsan<sub>i</sub> knows that Lisi<sub>j</sub> thinks that Wangwu likes himself/him<sub>i/j</sub> most.'

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<sup>8</sup> Example (1) in Pollard and Xue (this volume).

Pollard and Xue explicitly claim with respect to (10) that "the key fact about such cases is that any commanding subject qualifies as the antecedent for *ziji* **on the strength of its syntactic prominence alone** [emphasis ours]." We take such apparent factual contradictions among authors writing about Chinese as indicative of the fact that the discourse conditions vary in subtle ways from dialect to dialect, and from speaker to speaker within a single dialect. It would appear that the extent of the variation has not been recognized adequately in the literature.

### **5.2 Absence of Logophoric Conditions on Pronominal Long Distance Reflexives**

A second act about discourse that emerges from the chapters in this volume is that, while logophoric conditions may (but need not) restrict bound anaphor-type long distance reflexives, they do not affect pronominal long distance reflexives. Thus, in Malay "long distance" *dirinya* does not require any special perspective or self-awareness (Cole and Hermon, 1998a and 1998b, and Cole, Hermon and Lee, this volume). Rather, it has the same discourse properties as a personal pronoun. We believe that a similar lack of logophoric restrictions occurs for long distance inflected reflexives in Turkish, (as shown by Kornfilt, this volume and 1997, as well as for Middle English and Old English pronouns (Keenan, 2000 and 1976), which, as discussed in footnote 6, can also be used for local coreference). Thus, forms that are indeterminate between pronouns and reflexives do not seem to be subject to logophoric conditions.

### **5.3 Logophoric "Conversion" of Reflexives to Pronominals**

In contrast to the situation in Malay and Turkish, as well as to that in Chechen/Ingush, Hindi-Urdu, Kannada etc., in languages like English, and in Icelandic subjunctives, a form which in most environments is exclusively a bound anaphor is given special license by a combination of syntax and discourse to

function as a pronominal. As was shown by Reinhart and Reuland (1993 and earlier works) and by Zribi-Hertz (1989), this occurs mostly when a reflexive occurs in a non-argument position and when the antecedent satisfies logophoric conditions:<sup>9</sup>

(11)a. Philip<sub>i</sub> was supposed to be fooling (...), because Desiree (...)had undoubtedly explained to them the precise nature of her relationship with himself<sub>i</sub>.

(Zribi-Hertz 1989: (43b))

b. But Rupert<sub>i</sub> was not unduly worried about Peter's opinion of himself<sub>i</sub>.

(Zribi-Hertz 1989: (46b))

In the examples of (11) the reflexive occurs in a position in which it is not an argument of the verb. From a discourse perspective, the sentences present the situation as pictured in the mind of the antecedent for the reflexive: the use of the reflexive indicates to the reader that the scenes are being viewed from Philip and Rupert's perspective.

Note that in the case of sentences like (11b) VP ellipsis allows either a strict or a sloppy interpretation:<sup>10</sup>

(12) Rupert<sub>i</sub> was not unduly worried about Peter's opinion of himself<sub>i</sub>; nor was Fred<sub>j</sub>.

The elliptical clause of (12) can be understood to mean either (13) or (14):

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<sup>9</sup> The following examples are from Zribi-Hertz (as cited by Pollard and Xue (this volume)). The nature and origin of the logophoric conditions is discussed in greater detail in Section 10.

<sup>10</sup> There seems not to be any way to construct an analogous test sentence in the case of (11a).

(13) Nor was Fred unduly worried about Peter's opinion of Rupert (strict reading).

(14) Nor was Fred unduly worried about Peter's opinion of Fred (sloppy reading).

The fact that both strict and sloppy interpretations are easily available shows that in English, as Icelandic, the reflexive form has taken on the referential properties of a pronoun.

Although the reflexives show the distribution of a pronoun in both Malay and English, the use of reflexives differs in an important way. In English and in Icelandic subjunctives as discussed by Reuland (this volume) a reflexive can only be used as a pronominal in the specific licensing environments just described, while in Malay, Turkish etc. no special licensing conditions are necessary. This suggests that the Malay/Turkish and the English/Icelandic cases should not be conflated, and that the English/Icelandic type of long distance reflexive should be viewed as a reflexive that is "converted" to a pronominal under special syntactic and discourse circumstances (much as derivational morphology "converts" a noun to a verb), while the Malay/Turkish cases are inherently pronominal (or are indeterminate between an anaphor and a pronominal). (We will discuss and extend Reuland's analysis of the Icelandic facts further in Section 10.)

## **6. Logophoric Pronouns and Logophoric Restrictions on Long Distance**

**Reflexives** [NB The Mapun font does not display correctly. See the published version.]

We have seen that the various types of long distance reflexives (bound anaphor, pronominal and "de-anaphoric" pronominal reflexives) differ with regard to whether special discourse conditions apply to their use: bound anaphors may be subject to "logophoric" discourse requirements but need not be, pronominal (or indeterminate) forms are not subject to these requirements and "converted" reflexives are (we hypothesize) always subject to such

requirements. We would like to turn to an examination of whether the logophoric requirements on long distance reflexives are the same as those on logophoric pronouns.

The term "logophoric pronoun" was coined by Hagège (1974) to describe a special subgroup of personal pronoun used in reported speech in some African languages to refer to the individual whose speech is reported or to the addressee of that speech. For example, in Mupun, as described by Frajzyngier (1993), there are three sets of personal pronouns as well as a set of reflexive anaphors:<sup>11</sup>

(15) Personal Pronouns in Mupun [NB Mupun font does not display correctly. See published version.]

Set A				Set B			Set C
	Subj	Obj		Subj.	Obj.		Subj.
3MSG	wu	wur		ɖi	ɖin		gwar
3FSG	wa	war		ɖe	ɖe`		paa
3PL	mo			ɖu	ɖun		nuwa

(16) Reflexives in Mupun

	Singular	Plural
1p	sen	sun
2M	sak	suk
2F	sik	
3M	sin	sut
3F	set	

In complements of the verb *sát*, pronouns of Set A indicate disjoint reference with the subject of the matrix clause:

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<sup>11</sup> These tables are adapted from Frajzyngier (1993). All Mupun examples are taken from Frajzyngier as well. Some of the discussion of the examples is based on a presentation made by Frajzyngier at the Max Planck Institute for Evolutionary Anthropology in Leipzig and on personal communications.

- (17) wu/wa/mo sat nɣ wu/wa/mo ta ɔee n-jos  
 he/she/they say COMP he/she/they stop stay PREP-Jos  
 'He1/she1/they1 said that he2/she2/they2 stopped over in Jos'

In contrast, the Set B pronouns are used in indirect speech to indicate coreference with the matrix subject:

- (18) wu sat nɣ ɔi n nas an  
 3M sayCOMP 3M FUT beat 1SG  
 'He1 said he1 will beat me'

Set C is used to indicate that the pronoun refers to the addressee of the matrix clause. If the reference is to other persons, the pronoun must be drawn from Set A:

- (19) n- sat n-wur nɣ wur ji  
 1SG-say PREP-3SG COMP 3SG come  
 'I told him1 that he2 should come'

n-sat n-wur nɣ gwar ji  
 1SG-say PREP-3SG COMP 3SG come  
 'I told him1 that he1 should come'

The logophoric pronouns are used to indicate coreferentiality or disjoint reference with the subject or addressee of superordinate verbs of speaking. Whenever coreference is within the same clause a reflexive pronoun is employed:

- (20) n-seet nɣr n-sen  
 1SG-buy shirt PREP-REFL:1SG  
 'I bought a shirt for myself'

(21) mu-sʏrep nɿʏr-mo n-sun  
1PL-buy-PL shirt-PL PREP-REFL:1PL  
'We bought shirts for ourselves'

(22) wu cet mbise n-sin  
3M cook food PREP-REFL:3M  
'He cooked for himself'

To summarize, in a "classic" logophoric system like that described by Frajzyngier for Mupun, logophoricity is a property of pronouns rather than anaphors, and is licensed by whether the matrix verb is a verb of saying: In Mupun verbs of thinking like *pan* 'think, remember' do not permit Set B and C (logophoric) pronouns, but rather require pronouns from Set A (non-logophoric):

(23) wu ben nʏ wu pan an  
3M think COMP 3M remember 1SG  
'He thinks he remembers me.'

According to Frajzyngier (chapter 20), Set A pronouns are required in (23), and can be used to indicate either coreference or disjoint reference. This is unlike the case when the matrix verb is a verb of saying. In that case, the use of a Set A pronoun indicates disjoint reference:

(24) wu sat nʏ wu nas an  
he said COMP 3M beat 1SG  
'He<sub>1</sub> said that he<sub>2</sub> beat me'

According to Frajzyngier, the same pattern obtains with Set C pronouns, but examples showing the distinction between verbs of saying and verbs of mental activity like 'think' are not provided in the grammar.<sup>12</sup>

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<sup>12</sup> Examples are, however, provided for verbs of perception:

Logophoric conditions on long distance reflexives differ in a number of ways from classic logophoric pronominal systems like that illustrated by Mapun. First, as was shown above, the elements in question belong to different grammatical classes. Pronominal long distance reflexives (like those in Malay and Turkish) are *not* subject to logophoric requirements. Thus, it cannot be true that when reflexive forms have "pronominal" usage, they become logophoric pronouns. The logophoric requirements appear to be optionally present for bound anaphor long distance reflexives and obligatorily present for reflexives which have undergone "conversion" to pronominals as in the case of Icelandic subjunctives and English long distance reflexives. Second, the discourse restrictions on reflexives are different from those on true logophoric pronouns. The choice of logophoric pronouns is determined by whether the higher verb is a verb of saying and whether the antecedent is the subject of that verb or the addressee. In contrast, long distance reflexives are well formed when the higher predicate is one of saying or of thinking. While a special set of pronouns (Set C) exists in Mapun to indicate coreference with the addressee, no such possibility exists in the case of long distance reflexives: long distance reflexives never indicate coreference with the addressee. These facts suggest that the analogy between long distance reflexives and logophoric pronouns collapses when the two are compared in a fine grained fashion, and the origin of the discourse conditions on long distance reflexives is distinct from that of logophoric

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- (i) n-naa wur wur pŷ dŷm n-kaano  
 1SG-see 3SG 3SG PREP go PREP-K.  
 'I saw him going to Kano'

Note that a Series A pronoun *wur* is used despite the fact that the two instances of *wur* are coreferential.

pronouns. Furthermore, there will be separate sources for the "logophoricity" of bound variable and "conversion" long distance reflexives. These questions are explored in Section 10. To conclude this section, while the term "logophoricity" appears to be too well established to banish it from discussions of long distance reflexives, it is important to recognize that there is strong evidence against the hypothesis that long distance reflexives are covert logophoric pronouns. Furthermore, the system of logophoricity found with "classic" logophoric pronouns is quite different from that found with long distance reflexives of various types.<sup>13</sup>

## **7. Logophoricity and Attitudes De Se**

We would like to turn now to the question of whether there appears to be any unified use of the concept of logophoricity with respect to bound variable Frajzyngierlong distance reflexives. Sells (1987) claims expressly that the term has been used for three different though related concepts. Sell's SOURCE is similar to the use of "logophor" in the literature on logophoric pronouns. The SOURCE is the source of speech, e.g. the subject of a higher verb of saying. Sell's second type of logophoricity, SELF, is the individual whose mental state the sentence describes (subject of verbs of thinking), and PIVOT is the center of deixis or perspective for the sentence (the reference point for indexicals). What these notions share is that they refer to the individual whose point of view or general state of consciousness is expressed by the sentence. According to Sells, languages differ with regard to which type of logophoricity licenses long

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<sup>13</sup> A very similar point is made by Culy (1997), who argues that true logophoric pronouns are primarily devices for indirect discourse and that the representation of point of view is not a central use of these forms.

distance reflexives though there are claimed to be implicational relations among different types of logophoricity.

Huang and Liu take up the challenge of providing a unified treatment of logophoricity in the domain of long distance reflexives by proposing that the core meaning of logophoricity is SOURCE. This can be extended in some languages to also include SELF and in other languages to PIVOT well:

(25) SOURCE  $\subseteq$  SELF  $\subseteq$  PIVOT

Thus, in Huang and Liu's analysis it is predicted that in some languages only SOURCE will license the use of a long distance reflexive (verbs of saying); in others both SOURCE and SELF will license long distance reflexives (verbs of saying and verbs of thinking); in yet others the use of deictic expressions (e.g. *come, go, here, there*) will license long distance reflexives.

This proposal is challenged in two ways by other chapters in the volume. Pollard and Xue note that there are instances of SOURCE that do not license long distance *ziji* in Chinese:

(26) Zhangsan<sub>i</sub> cong Lisi<sub>j</sub> chu tingshuo Wangwu<sub>k</sub> bu xihuan ziji<sub>i/j/k</sub>.

Zhangsan from Lisi place hear Wangwu not like self  
'Zhangsan<sub>i</sub> heard from Lisi<sub>j</sub> that Wangwu<sub>k</sub> does not like him<sub>i/j</sub>/himself<sub>k</sub>'

In (26) *Lisi* is the SOURCE of communication, but this is not sufficient to permit the use of long distance *ziji*. Note, however, that examples like (26) are only direct counter examples to Huang and Liu's analysis if logophoricity is taken as a *sufficient* condition for the occurrence of a long distance reflexive. If, however, the appropriate form of logophoricity is taken as a necessary but not a sufficient condition, it could well be the case that (26) satisfies the discourse requirement on *ziji* but not the syntactic requirements (e.g. c-command). Thus, examples like (26) do not, in our view, constitute a strong argument against Huang and Liu's position.

Huang and Liu's proposal is also challenged by the data on Chinese dialects presented in Cole, Hermon and Lee. Cole, Hermon and Lee show that in the Mandarin of Singapore (as distinct from the Teochew spoken in the same city) the antecedent for *ziji* need not be SOURCE or SELF. However, violations of the Blocking Effect are ill formed. On the assumption that the Blocking Effect is due at least in part to PIVOT effects (argued for by both Cole, Hermon and Lee and Huang and Liu), the absence of SOURCE and SELF restrictions should predict the absence of PIVOT restrictions as well. One possibility is that the implicational relationship is restricted to

$SOURCE \subseteq SELF$

and that PIVOT is independent of SOURCE and SELF. These difficulties suggest the need for further study if the implicational hierarchy proposed in Huang and Liu is to achieve a general explanation of the data.

As just noted, while it is unclear whether all three sorts of logophoricity can be unified, the situation seems clearer with respect to SOURCE and SELF. Cole, Hermon and Lee, Huang and Liu and Pan all explore the possibility that SOURCE and SELF can be reduced to the notion of *de se*. Developing an idea suggested by Chierchia (1989) for Italian, Huang and Liu note that the restriction on *ziji* in the variety of Mandarin they report on is not merely that the antecedent for *ziji* must be the SOURCE of communication or the individual whose mind the sentence describes (SELF), but, rather, there is a stronger requirement: the individual in question must be aware that the sentence is a description of an event in which he himself is a protagonist (a *de se* restriction). Following Chierchia, the *de se* restriction is taken to be applicable to long distance reflexives generally. For instance, Chierchia examines the distinction between long distance reflexives and pronouns in Italian, and notes that sentence (27) is a contradiction, while (28) is not:

(27) Pavarotti crede che i **propri** pantaloni siano in fiamme. Ma non si

Pavarotti believes that the self pants are in flame but not

e' accorto che i pantaloni sono i propri.

realize that the pants are the own

'Pavarotti believes that self's pants are on fire, but he hasn't realized that the pants are his own.'

(28) Pavarotti crede che i **suoi** pantaloni siano in fiamme. Ma non si

Pavarotti believes that the his pants are in flame but not

e' accorto che i pantaloni sono i propri.

realize that the pants are the own

'Pavarotti believes that his pants are on fire, but he hasn't realized that the pants are his own.'

The contradictoriness of (27) disappears when the personal pronoun *suoi* is substituted for *proprio*. That is, the use of the long distance reflexive *proprio* requires that Pavarotti realize that it is his own pants that are on fire. No such requirement holds for the personal pronoun *suoi*: In (28) Pavarotti must realize of a certain individual that the individual's pants are on fire. It is not necessary, however, that Pavarotti identify that individual with himself. A de se restriction similar to (27) applies in Mandarin as discussed by Huang and Liu and by Pan, as well as in Teochew discussed by Cole, Hermon and Lee.

The existence of a de se restriction in Italian and in certain Chinese dialects suggests that neither SOURCE nor SELF adequately characterizes the discourse requirement in these languages. Rather, an apparent SOURCE/SELF discourse restriction may in fact be an artifact of a stronger de se requirement. While the chapters in this volume show that languages differ with respect to whether bound anaphor long distance reflexives are subject to a de se restriction, the presence of such a restriction may explain instanceS of apparent SOURCE/SELF

restrictions in languages in which they occur. We shall return to the origin of these below.

## **8. The Dividing Line Between Local and Long Distance Reflexives**

We will turn now to a new topic, one which figures in several of the chapters. It is taken as given in discussions of long distance reflexives that there is a well defined notion of what constitutes a local reflexive and what anaphoric relations are nonlocal. There are in fact two widely held notions of locality in the generative literature on reflexives. The traditional Binding Theory (Chomsky 1981 and subsequent works) treats the local domain ("governing category") as, roughly, consisting of the clause plus the subject of a non-finite complement clause. In a radical departure from the Chomskyan approach, Reinhart and Reuland (1993 and earlier work) have argued that the core use of reflexives is to mark coargumenthood, not intraclausal coreference.<sup>14</sup> Thus, the expected division would be between anaphors used to mark coargumenthood and other anaphors, rather than between clause internal (or governing category internal) and clause external (or governing category external) anaphora. Reinhart and Reuland's proposal is provided immediate support by the fact that many Germanic languages distinguish between different anaphoric forms along the lines predicted by Reinhart and Reuland's theory. For example, in Dutch *zichzelf* 'himself' is restricted to coargument reflexives:<sup>15</sup>

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<sup>14</sup> Our presentation is a considerable simplification of Reinhart and Reuland's position. See Reinhart and Reuland (1993) for a full exposition of their proposal.

(29) Max haat zichzelf.

Max hates selfself

'Max hates himself.'

(30) \*Max haat zich.

Max hates self

'Max hates himself.'

(31) Max hoorde mij over zich praten.

Max heard me about self talk

'Max heard me talk about him'

(32) \*Max hoorde mij over zichzelf praten.

Max heard me about selfself talk

'Max heard me talk about him'

(33) Jan<sub>i</sub> zag Piet<sub>j</sub> de spullen naast zich<sub>i</sub> / \*zichzelf<sub>i</sub> neerleggen.

Jan saw Piet the gear next to self selfself put

'Jan saw Piet put the gear next to him.'

Examples (29)-(33) show that the "true reflexive" *zichzelf* 'himself' is restricted to coarguments while the "pronominal reflexive" *zich* is permitted for both intraclausal non-coargument reflexives and for long distance reflexives. Similar facts occur outside Germanic as well. See Lidz (this volume and 1996).

While the pattern just illustrated would appear to provide prima facie support for Reinhart and Reuland's division of anaphora into coargument and non-coargument anaphora, the authors of several chapters provide arguments against this approach. First, Lidz argues from Kannada examples much like (29)-(33) that the distinction between *zich* and *zichzelf*-type anaphors is not a

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<sup>15</sup> Examples (29)-(32) are from Lidz this volume. Example (33) is from Everaert (1991).

distinction between coargument and non-coargument anaphora. Rather, the two types of anaphors differ in meaning. The apparent anti-locality of the *zich*-type anaphor is due to a distinction between "pure-reflexivity" (*zich*-type) and "near-reflexivity" (*zichzelf*-type). Lidz argues that pure-reflexives are compatible only with inherently reflexive predicates or with predicates that have been marked as reflexive by a verbal reflexive marker (as in Kannada). Thus, *zich*-type reflexives are predicted to occur only with reflexive predicates like 'shave' or in cases of non-coarguments, for which the distinction between pure reflexivity and near reflexivity is not relevant. If Lidz's argument holds up, it would remove an apparently strong empirical support for the division between coargument and non-coargument anaphora.

The question of whether the dividing line between local and non-local should be the governing category or the coargument/non-coargument distinction is considered in two additional chapters. Hestvik and Philip present evidence from Norwegian child language that binding of non-coarguments within the simple clause (locative PPs and possessive reflexives) constitutes an instance of "core binding" while binding into picture NPs is an instance of "logophoric" binding. Thus, from the perspective of child language the local domain appears to include non-coarguments within the simple clause. A similar point is made by Huang and Liu, who show that "local" reflexives in Mandarin are not subject to any logophoric restrictions (neither *de se* requirements nor PIVOT-based restrictions like the Blocking Effect). What counts as "local" for this purpose includes not only non-coarguments like locatives and benefactives, but also reflexives with subcommanding rather than c-commanding antecedents in the same clause: In both Mandarin and other Chinese dialects, when the head of a noun phrase is inanimate (and, hence, in Chinese, not a potential antecedent for

a reflexive), the specifier of that noun phrase can serve as antecedent for the reflexive:

- (34) Zhangsan<sub>i</sub>-de jiaoao hai-le ziji<sub>i</sub>.  
Zhangsan's arrogance hurt-ASP self  
Zhangsan<sub>i</sub>'s arrogance harmed him<sub>i</sub>.

In (34) the non-coargument *Zhangsan* is the antecedent for *ziji*. There is, however, persuasive evidence that *ziji* does not need to meet any logophoric restrictions: In (34) the antecedent is neither SOURCE nor SELF. Furthermore, the Blocking Effect is not exhibited:

- (35) Zhangsan<sub>i</sub> de biaoqing gaosu wo<sub>j</sub> [ziji<sub>i</sub>/\*<sub>j</sub> shi wugude].  
Zhangsan DE expression tell me self is innocent  
'Zhangsan's expression tells me that he is innocent.'

Thus, the absence of logophoric effects provides strong reason to believe that the relationship between *ziji* and its antecedent is local--despite the fact that *Zhangsan* is not an argument of the same predicate as *ziji*.<sup>16</sup>

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<sup>16</sup> A similar point was made earlier in the Chinese literature by Sung (1990, Chapter 2), who noted that despite the absence of ECM in Chinese, subjects of complement clauses behave uniformly as though they are in the same binding domain as the matrix clause. Sung's evidence was the fact that *ta ziji* 'himself', which normally requires a local antecedent, can appear as the subject of a complement clause.

- (i) Xiaoming xiangxin ta ziji neng kaoguo.  
Xiaoming believe himselfcan pass the exam  
'Xiaoming believes that he himself can pass the exam.'

While *ta ziji* is well formed when it is the subject of the clause immediately below its antecedent, it is ill formed when it is embedded more deeply:

We conclude that the contributions to this volume provide evidence that the division between local and long distance reflexives is along the lines of the locality domain as defined in Chomsky (1981) and related work, the traditional notion of "governing category" rather than along the lines proposed in Reinhart and Reuland (1993).

## 9. Typological Characteristics of Long Distance Reflexives

We would like to turn now to a review of the status of the typological properties traditionally associated with long distance reflexives: monomorphemicity, c-command/subject orientation and the Blocking Effect.

### 9.1 Monomorphemicity

It was noted early in the literature that long distance reflexives are typically monomorphemic while local reflexives tend to consist of more than one morpheme (Pica 1987):

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(ii) Xiaoming<sub>i</sub> shuo Zhangsan<sub>j</sub> xiangxin ta ziji<sub>\*i/j</sub> neng kaoguo.

Xiaoming say Zhangsan believe himself can pass the exam

'Xiaoming<sub>i</sub> says that Zhangsan<sub>j</sub> believes that he<sub>\*i/j</sub> can pass the exam.'

The contrast between (i) and (ii) is expected if the locality domain is along the lines of the bracketing in (iii) (where {...} represents the governing category for *ziji*), but not if locality is restricted to coarguments:

(iii) {Xiaoming xiangxin ta ziji} neng kaoguo.

Xiaoming believe himselfcan pass the exam

'Xiaoming believes that he himself can pass the exam.'

(69) Credo [che Mario<sub>i</sub> sostenga [che tu abbia parlato di

I-believe that Mario claims that you have spoken of  
se<sub>i</sub> e della sua famiglia in TV]].

self and of-the his family on TV

'I believe that Mario claims that you spoke about

him and his family on TV.' (Giorgi 1984)

(70) \*Gianni<sub>i</sub> pensava [che quella casa appartenesse

Giani thought that that house belonged  
ancora a se stesso<sub>i</sub>].

still to self self

'Gianni thought that that house still belonged to him.' (Giorgi 1984)

In (69) from Italian the monomorphemic reflexive *se* takes a long distance antecedent while in (70) the bimorphemic *se stesso* is ill formed with a long distance antecedent. Similar facts continue to be discovered as new languages are examined. For instance, Davison (1999) summarizes the facts of Hindi-Urdu as follows: "If the simple reflexive [*apnee*] is contained within a nonfinite embedded clause, it may be coindexed with subject antecedents in higher clauses or with the local subject...In a nonfinite clause, the complex reflexive *apnee aap* and the reciprocal have only a local c-commanding subject antecedent ..."<sup>17</sup>

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<sup>17</sup> Davison notes that if the complex reflexive is a subject it may take an antecedent in the immediately dominating clause. This fact is reminiscent of the Mandarin facts discussed in footnote 14. Like the Mandarin facts, the Hindi-Urdu facts provide the basis for an argument that the locality domain for reflexives includes the subject of the complement clause, a result which supports the governing category rather than coargumenthood as defining locality for Binding.

There are, however, a variety of counter examples to the claim that only simplex reflexives can have long distance interpretations. For instance, the Malay reflexive *dirinya* consists of two morphemes, *diri-* and a third person marker *-nya*. Yet, as was seen above, long distance interpretations are possible. Similarly, the inflected reflexives *kendisi* / *kendileri* in Turkish (Kornfilt, this volume and 1997) are clearly bimorphemic, consisting of *kendi* 'self' plus *-si* 'third person singular' or *-leri* 'third person plural'. Furthermore, long distance uses of English reflexives are clearly bimorphemic.

We do not, however, interpret such examples as counter examples to Pica's generalization regarding the monomorphemicity of long distance reflexives. Rather, we take examples of this type to show that the generalization that long distance reflexives are monomorphemic applies only to those "long distance reflexives" that are bound anaphors, and not to those that are pronominals. To the best of our knowledge, all bound anaphor long distance reflexives are monomorphemic.<sup>18</sup>

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<sup>18</sup> In some cases it is not clear if a form is a bound anaphor reflexive or a pronominal. The string *ta ziji* in Mandarin appears to be ambiguous between a local bound anaphor and a pronoun *ta* modified by an emphatic reflexive *ziji*. Thus, Tang (1985 and 1989), Sung (1990) and others have argued that all instances of apparent long distance *ta ziji* are in fact instances of the pronoun *ta* modified by an emphatic reflexive rather than a complex anaphor. It must be recognized, however, that there are no completely convincing syntactic tests that demonstrate that all cases of apparent long distance *ta ziji* are really the pronoun *ta* modified by *ziji*.

One argument in favor of the proposal that long distance *ta ziji* involves pronominal *ta*, is found in Cole, Hermon and Lee (2000), published in Chinese,

It does not, however, appear to be true that all monomorphemic reflexives are long distance. For example, the German reflexive *sich* consists of a single morpheme like the Icelandic reflexive *sig* or the Italian reflexive *se*. While these forms are all restricted to third person antecedents, there does not appear to be a division into two morphemes, one meaning 'self' and the other 'him' as is the case for English *himself* or Malay *dirinya*. However, German *sich* is local while Icelandic *sig* and Italian *se* take long distance antecedents. Thus, monomorphemicity appears to be a necessary but not a sufficient condition for bound anaphor long distance reflexives.

## 9.2 C-command and Subject Orientation

We saw earlier that c-command and subject orientation are restricted to bound anaphor long distance reflexives. It has been noted in the literature (e.g. Xu 1994 *inter alia* and Yu 1996 *inter alia*) that there are a variety of apparent counter examples to subject orientation. Such counter examples might be taken to indicate that subject orientation has a unctional rather than a grammatical explanation. In this section we would like examine four questions related to this general issue: (1) Is subject orientation derivable from logophoric discourse conditions on long distance reflexives, or does it appear to be a grammatical

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who show that long distance *ta ziji* (and its Teochew counterpart *i kaki*) manifest the discourse conditions of the personal pronouns *ta* and *i*, and not those of the long distance reflexives *ziji* and *kaki*. While *ziji* and *kaki* are subject to various logophoric conditions (see Cole, Hermon and Lee this volume), no such conditions apply to long distance *ta ziji* and *i kaki*. This state of affairs would be expected if *ta ziji* and *i kaki* are really the third person pronoun modified by an intensive reflexive, but not if they are bound anaphor long distance reflexives. (Similar considerations apparently hold for Cantonese as well.)

requirement? (2) Can subject orientation be reduced to a requirement that (bound anaphor) reflexives refer to the noun phrase with the highest rank on the following thematic hierarchy?

(71) Thematic Hierarchy

Agent < Experiencer < Theme < Other

(3) In the event that the answer to (2) is negative, can subject orientation be reduced to the requirement that (bound anaphor) long distance reflexives refer to the noun phrase with the highest grammatical function on a hierarchy of grammatical functions?

(72) Hierarchy of Grammatical Functions

Subject < Direct Object < Indirect Object < Oblique

(4) In the event that these functional explanations fail, can subject orientation can be reduced to c-command?

We shall argue that there is evidence against (1) and (2) and (3), but that (4) is consistent with the available evidence, at least if c-command understood as c-command/subcommand.

The main evidence that subject orientation is not reducible to a discourse requirement is typological. We saw earlier that languages with bound anaphor long distance reflexives differ regarding whether and which logophoric requirements are respected. Thus, in the languages discussed in this volume, Chechen and Ingush (Nichols) do not manifest any logophoric requirements. In contrast, in Teochew (Cole, Hermon and Lee this volume) there are strong logophoric restrictions on the relationship between the reflexive and its antecedent. Despite this striking difference between Chechen/Ingush and Teochew both languages manifest subject orientation. A similar point can be made on the basis of the comparison of Singapore Teochew and Mandarin in Cole, Hermon and Lee (this volume and 2000). Although Singapore Mandarin

and Teochew differ greatly in the nature of the logophoric requirements found, long distance reflexives are subject oriented in both cases. Thus, there is no correlation between the existence of subject orientation and logophoric requirements.

We turn next to the question of whether subject orientation could be reduced to the requirement that bound anaphor long distance reflexives must refer to the noun phrase which is highest on the thematic hierarchy in the domain chosen. (We assume that in a multicausal structure the choice of the clause in which the antecedent occurs is independent of the choice of which noun phrase in that clause serves as antecedent.) This hypothesis is given some support from the fact that non-nominative experiencers can serve as antecedents for bound anaphor long distance reflexives. There is, however, clear evidence that this hypothesis cannot be correct, at least for Mandarin: Cole and Wang (1996) show that while objects in postverbal position cannot serve as antecedents for long distance *ziji*, preverbal objects are possible antecedents.

(73) Wangwu<sub>i</sub> shuo Zhangsan<sub>j</sub> zengsonggei Lisi<sub>k</sub> yipian guanyu

Wangwu says Zhangsan gave give/to Lisi one about  
*ziji*<sub>i/j/\*k</sub> de wenzhang  
 self DE article

'Wangwu says that Zhangsan gave an article about him/himself to Lisi.'

(74) Zhangsan<sub>i</sub> yiwei Lisi hui ba Xiao Ming<sub>k</sub> dai hui *ziji*<sub>i/j/k</sub> de jia.

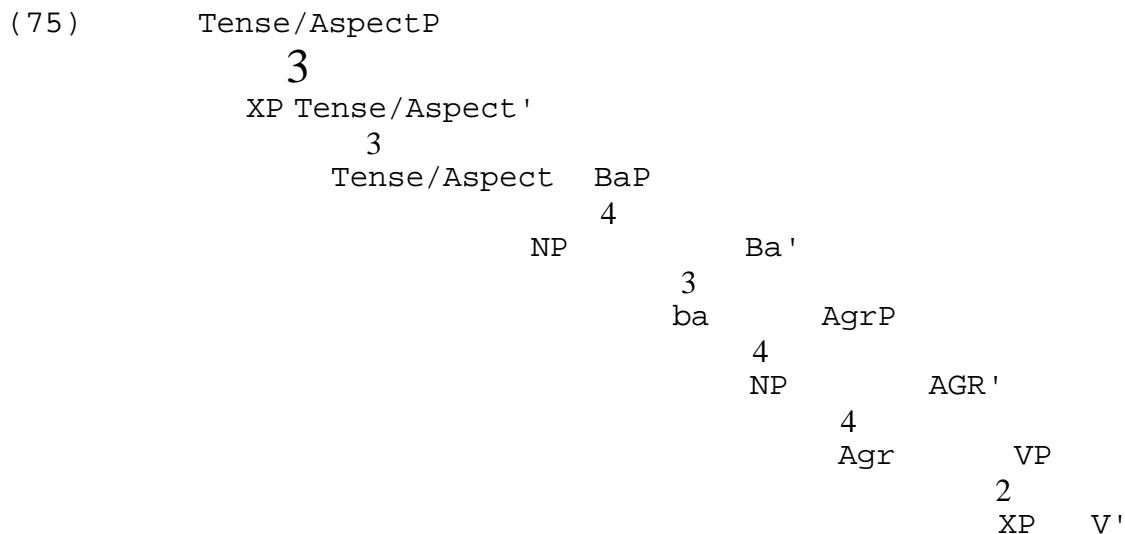
Zhangsan thought Lisi will BA Xiao Ming take back self 's home  
 'Zhangsan thought Lisi would take Xiao Ming back to his home.'

Example (73) shows that *ziji* cannot refer to the addressee, the postverbal object of *zengsong gei* 'give', but rather only to the matrix subject, *Wangwu*, or the complement subject, *Zhangsan*. In contrast, in (74), in which the theme occurs in preverbal position, *ziji* can refer to the matrix subject, *Zhangsan*, the complement

subject, *Lisi* or the theme, *Xiao Ming*. The fact that within the domain of the complement clause either the agent or the theme can be the antecedent for *ziji* shows that "subject orientation" cannot be reduced to a requirement that the antecedent must be the highest noun phrase on the thematic hierarchy.

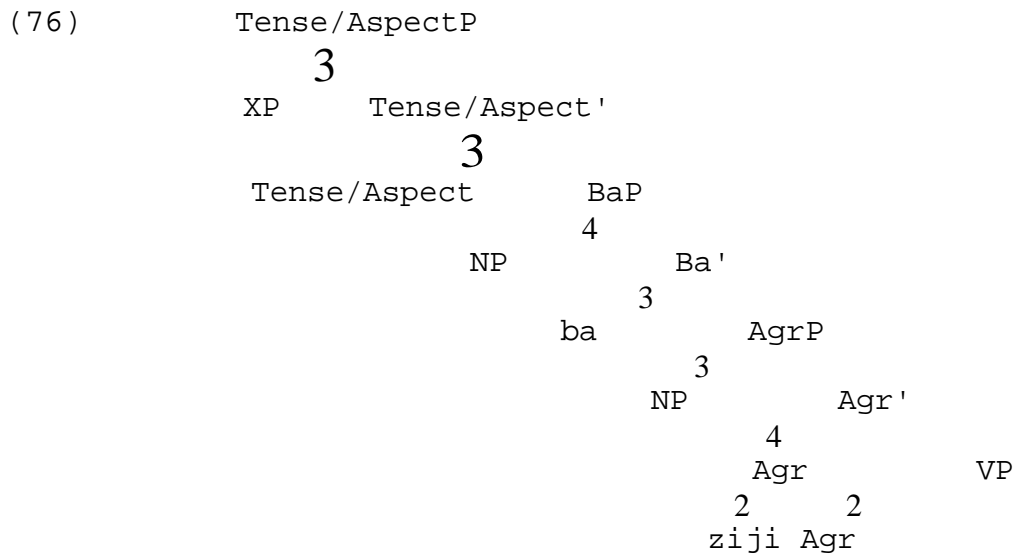
The same examples provide evidence against the proposal that subject orientation can be reduced to the requirement that the reflexive must refer the highest noun phrase on a hierarchy of grammatical functions (at least for Mandarin). In (74) the complement subject, *Lisi*, outranks the complement object, *Xiao Ming*, on a hierarchy of grammatical functions. Despite that fact, the object is a possible antecedent for *ziji*.

Turning now to the hypothesis that subject orientation can be reduced to c-command, there appears to be evidence that this is the case. Under current analyses of the *ba* 'preverbal object' construction, *ba* is a functional head and the "object" of *ba* is the specifier of the maximal projection which is the complement of *ba*:

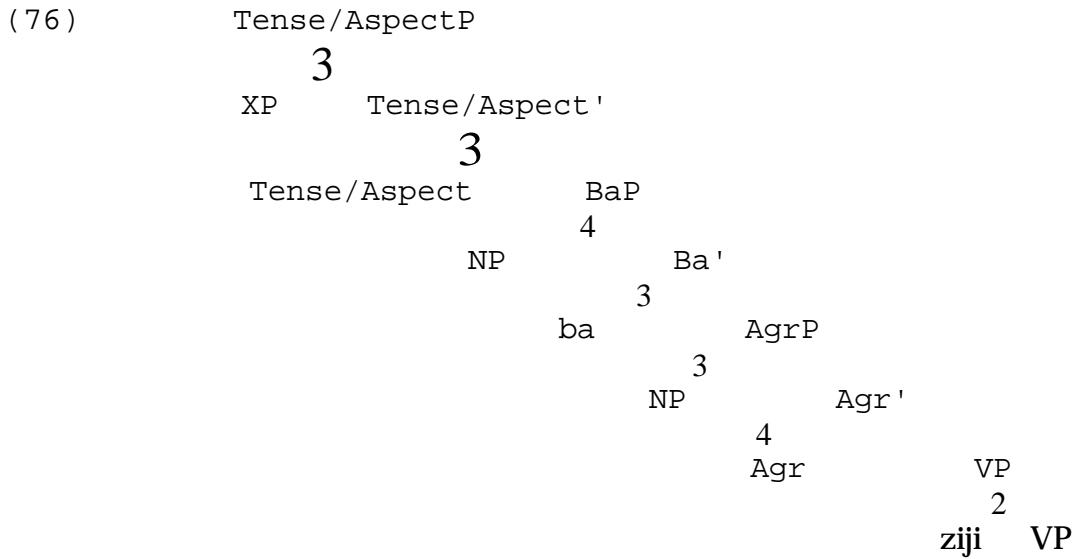


In tree (75) *ba* is a functional head and the "object" of *ba* is the specifier of the functional projection that is the complement of *ba*. (We show the

complement of *ba* as AgrP for the sake of concreteness, but the choice of projections is not relevant to our point here. Another possibility is PREDP.) We shall assume for the moment 1) that Tense/AspectP is the local domain in which Binding is determined, and 2) that some version of the movement theory of long distance reflexives applies, under which the reflexive moves to a position in which its antecedent is within the local domain of the reflexive. We shall also, for the moment, assume 3) that *ziji* adjoins to the head of AgrP (as in Cole and Wang (1996)), though this assumption will be dispensed with below:



Given the resulting tree (roughly (76)), c-command alone would predict that the possible antecedents for *ziji* are the subject (the specifier of Tense/AspectP) or the specifier of AgrP (the noun phrase immediately following *ba*). Thus, both subject orientation and the failure of subject orientation in examples like (74) can be shown to be predicted from c-command alone if a movement analysis for *ziji* is assumed. Furthermore, these predictions are not dependent on the assumption that *ziji* adjoins to the head of ?P (the head movement analysis). If, instead, it is assumed that *ziji* adjoins to VP, the same predictions are made:



Thus, we conclude that under either version of the movement analysis of bound anaphor long distance reflexives, the reduction of subject orientation to c-command makes more accurate predictions about the distribution of *ziji* than does an analysis in which subject orientation is a primitive (but see Pollard and Xue, this volume, for an analysis in which subject orientation is argued to be a primitive). We shall discuss the status of the movement analysis in Section 10 below, but clearly the facts just reviewed constitute an argument in favor of movement for Chinese. It remains to be seen, however, whether the argument can be generalized to bound anaphor long distance reflexives in other languages.

### 9.3 The Blocking Effect

The existence of a Blocking Effect based on person has been discussed primarily in the literature on long distance reflexives in Chinese. Although the Blocking Effect was analyzed as syntactic in nature in most early studies of Chinese reflexives (e.g., Battistella (1989), Cole, Hermon and Sung (1990), Huang and Tang (1991), Sung (1990)), it was originally noted by Y.-H. Huang (1984), who suggested that Blocking has a functional origin. The controversy regarding Blocking continues in this volume. While there is general agreement that the

Blocking Effect is due, at least in part, to discourse/semantic/pragmatic factors, it remains controversial whether there is a grammatical component to Blocking.

While we cannot resolve the controversy, we would like to point out some of the strengths and weaknesses of the positions held. The strongest argument for discourse as the exclusive source for Blocking is that it is redundant for the same effect to have two origins, discourse and syntax. Rather, Occam's razor would suggest that the phenomenon should be accounted for in a single component. While this argument is quite persuasive, there remains a serious problem for the proposal that Blocking is due entirely to discourse: If Blocking is due to discourse, and if the relevant aspects of discourse are the reflection of general properties of the human mind, it would be expected that Blocking would occur in all languages with bound anaphor long distance reflexives. This, however, is not the case. Of the languages discussed in some detail in this volume, Blocking is found in Chinese (both Mandarin and Teochew), but not in Chechen/Ingush, Kannada, Hindi-Urdu, Icelandic or Norwegian. No explanation is provided by any of the proponents of a discourse account regarding why this variation should exist.

While the non-universality of Blocking raises questions about a discourse account, the fact that Blocking is not universal is not in itself a strong argument in favor of a syntactic component for Blocking. As is shown in Cole, Hermon and Lee, languages can share the same syntactic restrictions but differ in their discourse structure. Thus, the non-universality of Blocking is not in itself a convincing argument against discourse as the sole explanation for Blocking.

The strongest argument that Blocking is in part syntactic is made in Cole, Hermon and Lee (this volume), who argue that there is a syntactic component to Blocking in Chinese which derives from the fact that Chinese lacks verb agreement. We will not examine the Chinese internal evidence for and against

the agreement theory of Blocking here. This topic is debated in detail in several papers in the volume (Cole, Hermon and Lee, Huang and Liu, Pollard and Xue and Pan). We also will not review technical details here. There is, however, a typological prediction made by the agreement theory of Blocking that we would like to examine on the basis of the known cross linguistic data: The agreement theory of Blocking predicts that syntactic Blocking will be found only in languages with bound anaphor long distance reflexives which lack verb agreement. This typological prediction is not, to the best of our knowledge, made by any other theory of Blocking.

The typological prediction is corroborated by Chinese languages, which lack agreement and manifest Blocking. It is also corroborated by Hindi-Urdu, Icelandic, Italian and Kannada, which have verb agreement and, as predicted, lack Blocking. Furthermore, strong support is provided by a comparison of Kannada (Amritavalli 1999, and Lidz this volume and 1996) and Malayalam (Jayaseelan 1999). The facts regarding long distance reflexives in these two languages are very similar except that Malayalam has lost verb agreement. As predicted by the agreement theory of Blocking, Malayalam manifests a Blocking Effect like that seen in Chinese, while none is found in Kannada or any of the other Dravidian languages, none of which, other than Malayalam, has lost verb agreement. Thus, the Dravidian facts suggest that the absence of agreement and presence of Blocking in Chinese are coincidental.

While the Dravidian facts provide corroboration for the agreement theory of Blocking, other languages present problems for the theory. First, the Mainland Scandinavian languages have lost verb agreement, but long distance reflexives are not subject to Blocking. This would appear to be a strong counter example to the agreement theory. This evidence, however, is not as persuasive

as might appear. As is pointed out in Sung (1990), the Mainland Scandinavian languages exhibit agreement in predicate adjective constructions:<sup>19</sup>

(77) Predicate Adjective Agreement

a. Gutten er stor.

the boy is big

'The boy is big.'

b. Huset er stort.

the house is big

'The house is big.'

c. Husene/Guttene er store.

'The houses/boys are big.'

We assume that agreement in predicate adjective constructions is indicative of the presence of agreement features on AGR, which are then transmitted to the predicate adjective. Thus, the Mainland Scandinavian languages do not appear to constitute a genuine counter example to the agreement theory of Blocking.

Finally, Korean may constitute an additional language in which verbs do not agree with their subjects, but for which Blocking is absent.<sup>20</sup> However, Korean exhibits honorific agreement:

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<sup>19</sup> Example (77), from Norwegian, was provided to Li-May Sung by Arild Hestvik (personal communication).

<sup>20</sup> The facts about Blocking in Korean are less clear than those regarding Blocking in Chinese. While some speakers have told us that Blocking occurs with the reflexive *casin*, others have disagreed. Contrary to earlier work on this topic

(78) atu-nim-i ttokttokha-si-ta  
son-NOM smart-HON-Decl

'The son is smart.'

Sentence (78) illustrates obligatory honorific agreement in Korean. As in the case of Mainland Scandinavian predicate adjective agreement, honorific agreement may indicate that abstract agreement features are present on AGR. The presence of such features would be expected to result in the absence of syntactic Blocking in the language.

While the apparent counter examples to the agreement theory of Blocking are inconclusive, it must be recognized that the typological argument in favor of the agreement theory is not entirely convincing. So far the only languages that illustrate the correlation between the absence of verb agreement and the Blocking Effect are Chinese and Malayalam. The empirical evaluation of the hypothesis, therefore, must await the examination of additional languages which lack verb agreement and which exhibit bound anaphor long distance reflexives. We conclude that Blocking clearly has a discourse component, but the typological facts are not yet available which would determine whether Blocking has a syntactic component as well.

## **10. Theories of Long Distance Reflexives**

We would like to end this chapter by examining the ways in which the facts described in previous sections might contribute to our understanding of how long distance reflexives fit into the anaphoric possibilities for natural language. We have seen that there appear to exist three kinds of entities which might be considered "long distance reflexives" in a pre theoretical sense, long

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by Cole, Hermon and Sung (1990) and subsequent papers, we assume here that Blocking does not hold in Korean.

distance bound anaphors, forms which are indeterminate between local reflexives and pronouns, and reflexives which undergo "conversion" from bound anaphor to pronominal in specific syntactic and pragmatic contexts. Reuland (this volume) discusses two types of reflexives (local reflexives and those that have undergone "logophoric conversion" to pronominals), and notes that they are in complementary distribution: local reflexives undergo "conversion" to pronominals when 1) they lack a c-commanding antecedent within their local domain and 2) they satisfy certain logophoric conditions. This distribution suggests that local reflexives are given pronominal interpretation only if they lack an eligible local antecedent as bound anaphors. That is, the complementarity derives from a principle of Avoid Pronoun, which requires that a form which is inherently capable of interpretation as either a pronominal (i.e. by coreference) or as an anaphor (by binding) must receive interpretation as a bound anaphor in contexts where an anaphoric interpretation is possible.

Why might such a preference for anaphoric interpretation exist? Reuland argues that the complementarity can be explained if we assume that local reflexives constitute a chain, a single syntactic object, perhaps as a result of movement of the reflexive to an inflectional projection. Reuland proposes that interpretation in which syntax and semantics work in tandem (i.e.. by chain formation, in which a binding relationship is forced by the existence of the chain) is inherently "cheaper" than interpretation by coreference (in which real world information plays a role in the interpretive process).<sup>21</sup> Thus, whenever a single

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<sup>21</sup> Reuland phrases his account in terms of cross-modular operations. A syntactic chain requires only two cross-modular operations while coreference requires four. See Reuland (this volume) for the details of how the evaluation is conducted.

form can either form a chain (and, hence, receive a bound anaphor interpretation) or be interpreted pronominally, the possibility of the more economical chain interpretation should eliminate the possibility of pronominal interpretation. Pronominal interpretation should occur only when, for some reason, chain formation is blocked.

We would like to extend this proposal from local reflexives to bound anaphor long distance reflexives. Let us assume that this type of long distance reflexive is derived by movement. (We abstract away from the issue of whether the movement is head movement or phrasal movement, whether it is adjunction to IP or to AGR and what drives the movement. These questions are dealt with in some detail in Cole, Hermon and Lee and Huang and Liu and in the references cited in those chapters.)<sup>22</sup> If bound anaphor long distance reflexives are derived by movement, chain formation must also occur in the case of bound anaphor long distance reflexives. This predicts that in languages in which long distance chain formation is possible, a c-command relationship would hold between the reflexive and its antecedent and the reflexive would receive a sloppy rather than a strict interpretation under ellipsis. This extension of Reuland's analysis would predict that only when chain formation is somehow blocked a pronominal interpretation would become possible. This prediction appears to be correct, at least with respect to Chinese. As was pointed out by Yu (1992, 1996) and others,

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<sup>22</sup> There are a number of technical problems with the movement analysis of long distance reflexives, the most troubling of which is the fact that the distribution of reflexives, at least in Chinese, does not respect islands. For possible solutions to this problem for various versions of the movement analysis, see Huang and Liu (this volume), Cole and Sung (1997) and Sung (1990).

when *ziji* is unbound syntactically it receives a pronominal interpretation which is subject to logophoric requirements:<sup>23</sup>

(79) Bu qinchu *ziji* shenme shi ho neng qu mei guo nian shu.; Xiao Li shuo yi-yang  
not clear self when can go U.S. readbook little Li says same

'It is not clear when I can go to the U.S. to study. Little Li says the same.'

In (79) there is no syntactic binder for *ziji*. As predicted, the absence of a syntactic binder allows *ziji* to receive a pronominal interpretation, as is shown by the fact that the elliptical clause can receive either a strict or a sloppy interpretation ('Xiao Li says it is unclear when I can go' or 'Xiao Li says it is unclear when he can go').<sup>24</sup> Thus, Reuland's theory of economy together with the movement theory of bound anaphor long distance reflexives predicts that both local and bound anaphor long distance reflexives will be able to receive a pronominal interpretation only when there is no syntactic binder available.

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<sup>23</sup> The presence of logophoric requirements does not distinguish "conversion" long distance reflexives from bound anaphor long distance reflexives in those varieties of Chinese in which roughly the same logophoric requirements apply to bound variable *ziji* as to the use of *ziji* as a free anaphor as in (79). However, it is notable that even in Singapore Mandarin, the use of *ziji* as a free anaphor is subject to logophoric interpretation.

<sup>24</sup> The presence of the two readings is especially clear if the following dialog is imagined:

Speaker: Bu qinchu *ziji* shenme shi ho neng qu mei guo nian shu.

not clear self when can go U.S. read book little

Xiao Li: Wo yei yi-yang.

I also the same

Sentence (79) reports this dialog.

We will next examine the predictions of Reuland's analysis with regard to long distance reflexives like those in Malay and Turkish, forms that are interpreted as pronominals when they are long distance. Are such forms counter examples to Reuland's theory of economy? In the context of Reuland's theory, the fact that such forms have the properties of pronominals rather than bound anaphors tells us that, unlike bound anaphor long distance reflexives, chain formation must be impossible. There is, in fact, evidence with respect to local uses of Malay *dirinya* that chain formation has failed to apply. Example (80) shows that even in a local context c-command is not required for *dirinya*:

(80) [<sub>NP</sub> Bapa Siti]<sub>i</sub> tidak suka dirinya<sub>i/j/k</sub>.

father Siti not like self.3SG

'Siti's father does not like her/himself/him.'

Examples with *dirinya* are to be contrasted with the complex reflexive *dirinya sendiri*, which requires a local antecedent and which is ill formed when the potential antecedent does not stand in a c-command relations to the reflexive:

(81) [Ibu Ali]<sub>i</sub> telah menyiram air di dirinya sendiri<sub>i</sub>, \*<sub>j</sub>.

mother Ali already splash water on self.3SG alone

'Ali's mother already splashed water onto herself.'

We, therefore, conclude that *dirinya*, unlike *dirinya sendiri*, cannot participate in chain formation.<sup>25</sup> Since chain formation is blocked with this form, there will not

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<sup>25</sup> Reuland speculates that number plays a critical role in determining whether a form is able to undergo chain formation, and, hence, show the distribution of a bound anaphor. *Dirinya* appears to be a counter example to the proposal that number is the only feature that could block chain formation: While the reflexive root *diri-* is inflected for person, inflection for number is not possible.

be competition between pronominal and anaphoric *dirinya*. Thus, it is expected that apparent long distance reflexives employing forms like *dirinya* will have the distribution of a pronominal rather than that of a bound anaphor.

We have shown that an extension of Reuland's analysis successfully predicts the syntactic properties of each type of apparent long distance reflexive. We will turn now to the discourse properties. We shall start with bound anaphor long distance reflexives. These have been argued to consist of chains between the surface site of the anaphor and a position in which a c-commanding antecedent is located within the local domain (roughly, the governing category) of the reflexive. This chain may be long distance (interclausal) when otherwise permitted by the structure of the language and by principles of universal grammar (such as principles of chain formation).<sup>26</sup> The problem raised by discourse for this analysis is why logophoric conditions might apply to the relationship between the head of the chain and the antecedent, with variation from language to language. We would like to suggest that the answer may be

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It should be noted that number appears to distinguish *diri-* from personal pronouns. In the pronominal system it is possible to distinguish *dia* '3P pronoun' (singular or plural) from *mereka* or *dia orang* '3PPL pronoun' (obligatorily plural). No such distinction exists for *diri-*: The only possible form is *diri-nya* '3P', and number cannot be indicated.

We have seen, however, that *dirinya* does not permit chain formation. Thus, it cannot be the presence or absence of number which is critical for distinguishing between forms that allow chain formation and those that do not.

<sup>26</sup> That is, long distance chains would be permitted when the reflexive is monomorphemic and when no domain restrictions block the chain. For instance, in Icelandic a finite clause boundary would block chain formation.

provided by viewing the chain as uninterpretable unless it is related to an antecedent by a predication relation along the lines suggested in Huang and Liu's contribution to this volume. While a variety of technical problems remain unsolved with respect to this proposal, we propose that discourse principles, which may vary from language to language, determine whether the predication relationship would be subject to logophoric requirements. Thus, in the case of bound anaphor long distance reflexives logophoricity may restrict the relationship between the chain and the ultimate antecedent. The relationship between the head and tail of the chain would not be subject to logophoric requirements. [\[Jim, I am sure you can improve on this!\]](#)

We turn next to those reflexives which can be used long distance only when they lack a c-commanding antecedent in their local domain (e.g. English and Icelandic subjunctives). Why are such reflexives obligatorily subject to logophoric requirements when logophoric requirements are optional in the case of movement chains (predication, according to Huang and Liu) and absent entirely in the case of the Malay/Turkish type of reflexive, in which chain formation is blocked? Reuland proposes that the answer can be found by examining the fundamental semantic content of pronouns. The semantic contribution of pronouns is to express orientation vis a vis the speech act (speaker, perceiver). This orientation is the lexical content of personal pronouns like *I* and *you*. In the case of anaphors that undergo "conversion" to pronominals, orientation is not lexically specified since these forms are radically deficient in lexical content. While "classical" personal pronouns express only speech act orientation, "de-anaphoric" pronouns lack even that lexical content. In order to be well formed, they must take their orientation from the context. That is, they must satisfy conditions of logophoricity.

Turning, finally, to "pronominal" long distance reflexives like those found in Malay and Turkish, Reuland's theory would predict that, unlike *sig*, they must include a specification of orientation in their lexical content, as must third person personal pronouns. It is not immediately apparent how the specification of orientation could be demonstrated without circularity, so we will leave this question open for future discussion.

To conclude, we have argued that the properties of "long distance reflexives" derive from a variety of sources, and that economy considerations are, as Reuland (this volume) suggests, responsible for the partial complementary distribution of the forms. We have also argued that "logophoricity" does not have a unified origin. First, the logophoricity found with long distance reflexives is entirely separate from that found in classical logophoric pronoun systems (Frajzyngier 1993). Second, bound anaphor long distance reflexives manifest logophoricity due to *de se* restrictions, which may themselves be reducible to discourse constraints on predication. Third, the logophoric restrictions on "conversion" long distance reflexives may be due to the need for pronominals to include a specification of orientation along the lines discussed by Reuland. If this is correct, we would expect that a fine grained comparison of the conditions on bound anaphor and conversion long distance reflexives would show that they do not have identical logophoric conditions. Such a study could be conducted fruitfully in Chinese dialects that have both "free anaphor" *ziji* and *de se* conditions on the use of *ziji* as a bound anaphor long distance reflexive.

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