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The Morphosyntax of Self-ascription: A Cross-linguistic Study

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The Morphosyntax of Self-ascription: A Cross-linguistic Study

Troy Messick, PhD

University of Connecticut, 2017

This dissertation investigates cross-linguistic variation in the domain of *de se* speech and attitude reports and argues for a number of novel generalizations.

Chapter 2 introduces data from Telugu and Nuer to establish a new way to express *de se* attitudes. In both these languages, an embedded third person pronoun controls first person verbal agreement morphology. I propose a model where embedded pronouns can be simultaneously first and third person as advanced by Schlenker (2003) along with the view of syntax-morphology mapping where the morphology can express only a subset of the features present in the syntax. I generalize this system to account for all the previously noted variation in this domain including indexical shift, logophors, logophors that control first person agreement and languages like English that use a third person pronoun and agreement morphology. A previously unobserved typological gap in this domain is also noted.

Chapter 3 shows that when a pronominal element is read *de se*, the most deficient possible element (in Cardelletti & Starke's 1999 sense) must be used. This is shown to follow from a general constraint *Minimize DP!*. The chapter also establishes a typology regarding the type of elements that undergo indexical shift.

Chapter 4 investigates the role of complementation in the licensing logophors and indexical shift. It is shown that the distribution of both is tied to a

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complementizer etymologically related to the verb *say*. I propose an analysis in which only these complementizers introduce embedded contexts that license logophors and indexical shift, which has consequences for the locus of cross-linguistic variation in the domain under investigation.

The Morphosyntax of Self-ascription: A Cross-linguistic Study

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B.A., University of Michigan, 2011

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A Dissertation

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2017

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APPROVAL PAGE

Doctor of Philosophy Dissertation

The Morphosyntax of Self-ascription: A Cross-linguistic Study

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TOWARDS A THEORY OF EMBEDDED SELF-ASCRPTION

This dissertation examines attitude reports, with a detailed examination of a number of mechanisms and phenomena involved in attitude reports, including agreement, the syntax and semantics of pronouns (including logophors), and the syntax and semantics of complementizers embedded under attitude verbs.

It was first noted by Castañeda (1968) that the sentence in (1a) can be used to express two distinct thoughts attributed to the attitude holder. Under the thought in (1b), the attitude holder self-attributes the property of being smart. Under the thought in (1c), the attitude holder attributes the property of being smart to some third party that just happens to be himself (e.g., John could think that the person who scored the highest score on some exam is smart, and it turns out that he was the highest scorer).

- (1) a. John thinks that he is smart.
b. John thinks, "I am smart."
c. John_i thinks, "He_i is smart."

The reading on which John has the thought in (1b) is known as the *de se* reading; when (1a) expresses the thought in (1c), the embedded clause is said to be read non-*de se*.

Cross-linguistic studies have found that there is a large amount of variation in how languages express the thought in (1b). Some languages use dedicated logophoric pronouns instead of the third person pronoun in (1a); others use a first person pronoun in its place and still other languages are “hybrids”: they deploy a third person or logophoric pronoun accompanied with first person agreement morphology. When faced with this amount of crosslinguistic variation, linguists must ask themselves where in the grammar the locus of this variation resides, whether there are any limits regarding the variation in this domain and how the variation in question is to be modeled formally. The goal of this thesis is to address and provide answers to these questions.

The next subsections will lay out the empirical landscape of how languages express *de se* attitudes.

1.0.1 *Logophors*

We have seen that in English, reported attitudes are ambiguous between the *de se* and the non-*de se* (or *de re*) reading. This ambiguity is often accounted for by positing two different LFs for the two readings (see e.g., Chierchia 1989, Percus & Sauerland 2003, Patel-Grosz 2014). With two LFs, we may expect some languages to morphologically distinguish between them, and this is precisely

what we find. Languages with logophoric pronouns show such a morphological distinction. Logophoric pronouns must refer to the person whose attitudes are being reported. This is illustrated in (2) from Ewe.

- (2) a. kofi be yè-dzo
Kofi say LOG-leave
'Kofi_i said that he_i left'
- b. kofi be e-dzo
Kofi say 3SG-leave
'Kofi_i said that he_k left' (Clements 1975)

In some languages where this has been tested, it appears that logophors must be obligatorily read *de se*. This is illustrated in (3) from Bafut (Schlenker 2003b).¹

- (3) SITUATION: John is looking at a mirror from a distance and sees a man in the mirror. He notices that the man's pants are on fire. In fact the man he sees in the mirror is John himself, but he doesn't realize it.
- a. #John wà?àtǒ mǒ yu ká khi
John thinks that LOG FUT burn
'John thinks that he is going to get burnt.'
- b. John wà?àtǒ mǒ à ká khi
John thinks that he FUT burn

¹The empirical landscape is murkier than what I am presenting here. The Ewe consultants in Pearson (2015) accepted logophors with a *de re* reading.

'John thinks that he is going to get burnt.'

There is considerable crosslinguistic variation regarding where logophors can appear. For example, the logophoric pronoun in Mundang can appear in embedded speech reports but cannot occur in relative clauses (4), while the logophor in Tuburi can occur in both environments, as shown in (5).

- (4) a. à fá mò ?I zǐ nē
 3SG say you see LOG Q
 'He asked if you saw him.'
- b. à fá mò hí dìb má kàl mē nē
 3SG say you know man REL surpass me Q
 'He asked, 'Do you know a man who is taller than me?'" (Sells 1987)
- (5) a. à ríŋ wò gā tí sã:rã tǐ sã:rã
pro say PL COMP head LOG hurt LOG
 'They said that they had headaches.'
- b. à Dǐk tí mǎy mǎ:gã sɛ kón sú: mònò
pro think about girl REL LOG see yesterday REL
 'He is thinking about the girl he saw yesterday.' (Sells 1987)

Sells (1987) suggests that the difference may be caused by the fact that the complementizer that introduces logophoric clauses in Tuburi also introduces relative clauses. Similar findings were noted by Clements (1975) for Ewe, where a spe-

cial complementizer *be* is used to introduce clauses that allow logophors. These complementizers are etymologically related to a verb meaning “say”.

Culy (1994) suggests that the predicates that license logophors cross-linguistically fall onto an implicational scale given in (6). If a predicate on the scale licenses logophors, then all predicates to its left will also license them.

- (6) SPEECH > THOUGHT > KNOWLEDGE > DIRECT PERCEPTION

Another relevant aspect of logophoric pronouns is that they allow for mismatches in number with their antecedents. For example, Ewe and Mupun plural logophors can have a singular antecedent. This is shown in (7) and (8).

- (7) kofi kpɔ be yèwo-do go
Kofi see COMP LOG-PL.-come out
'Kofi saw that they (including Kofi) had come out' (Clements 1975)

- (8) a. wur sat nɔ n nas dɔn
he said that I beat LOG-PL
'He said that I beat them (including him)'
b. wur sat nɔ n nas mo
He said that I beat them.
'He said I beat them.' (Frajzyngier 1985)

The final point about logophors to be noted here is that there is variation in whether languages have hearer denoting logophors or not. Ewe and Bafut do

not, however Mupun does have pronouns that refer to the hearer of the sentence internal speech act (Frajzyngier 1985, Frajzyngier 1993). This is shown in (9).

- (9) a. n-sat n-wur nə wur ji
 I-say PREP-him COMP he come
 'I told him_i that he_j should come.'
- b. n-sat n-wur nə gwar ji
 I-say PREP-him COMP LOG come
 'I told him_i that he_j should come.' (Frajzyngier 1985)

While there are languages that have both speaker and hearer denoting logophors and languages that only have speaker denoting logophors, there do not seem to be languages that only have hearer denoting logophors. Let's capture this descriptively by postulating the implicational scale in (10).

- (10) SPEAKER > HEARER

Again, the scale should be read that if a given language has hearer-denoting logophors then that language will have speaker-denoting logophors but not necessarily the opposite.

1.0.2 *Indexical Shift*

I now turn to indexical shift.

Indexical shift refers to the phenomenon wherein an indexical expression can refer to a non-actual context. This situation has been found cross-linguistically in the scope of attitude and speech predicates. For instance, in Zazaki, the indexical ϵz can refer to the sentence internal speaker *Hesen* and not the speaker of the current utterance.

- (11) $H\epsilon sen_i_j \quad va \quad k\epsilon \quad \epsilon z_j \quad d\epsilon wletia$
 Hesen.OBL said that I rich.be-PRESS
 ‘Hesen said that he was rich.’ (Anand & Nevins 2004)

One may wonder whether examples like (11) are instances of direct quotation (i.e., Hesen said, “I am rich.”) Such an analysis of (11) would run into serious problems, however. It is well known that quoted speech is opaque for grammatical dependencies like relativization, *wh*-question formation, and the licensing of negative polarity items. This is demonstrated for English in (12).

- (12) a. *The girl_j that John said, “I liked t_j .”
 b. *Who_j did John say, “I liked t_j ”?
 c. *John did not say, “I kissed anyone.”

If the phenomenon in question in Zazaki were simply an instance of quotation, then we would expect to find embedded clauses of this sort to likewise be opaque to such dependencies. This is not the case. As shown in (13), the embedded clause with a shifted indexical can host a trace of relativization or an NPI licensed by matrix negation.

- (13) a. čenεkε [kε Hεseni va mi t paci kεrda] rindεka
 girl that Hesen said I t kiss did pretty.be-PRES
 ‘The girl that Hesen said that he kissed is pretty.’
- b. Rojda ne va kε mi kes paci kεrd.
 Rojda not say that I anyone kiss did
 ‘Rojda did not say that she kissed anyone.’ (Anand & Nevins 2004)

Another important fact about shifted indexicals is that they must be read *de se*, meaning they must be used to report attitudes that the attitude holder knowingly has about him or herself. This is demonstrated for Amharic first person shifted indexicals in (14) (from Schlenker 1999). The scenario in (14) forces the *de re* reading, making the use of the shifted indexical infelicitous.

- (14) SCENARIO: John, who is a candidate in the election, is so drunk he doesn’t remember who he is. He watches TV and sees a candidate he finds terrific, thinking that this guy must be a hero. This candidate happens to be John himself though he doesn’t realize it.
- a. #jɔn jɔgna nə-ññ yil-all
 John hero be.PF-1S0 3M.say-AUX.3M
 ‘John says that he is a hero.’
- b. jɔn sɔwyew jɔgna nəw alä
 John the-man hero is said
 ‘John said the man is a hero.’

As with logophors, there is considerable variation regarding which predicates in a given language license indexical shift. For example, in Zazaki indexical shift takes place under predicates of speech, but not under other predicates, but in Uyghur indexical shift may take place under predicates of speech, thought, knowledge and direct perception. Sundaresan (2011) suggests that the same implicational hierarchy that constrains the distribution of logophoric licensing (cf. (6)) also constrains the licensing of indexical shift.

Also like logophors, the licensing of indexical shift appears to be tied to the presence of special complementizers. For instance in Uyghur, all complements of verbs other than the verb meaning *to say* must be introduced by the complementizer *dep* which itself is etymologically related to the verb meaning *to say* (Sudo 2012: 202). The same need for a special complementizer is noted for the related language Mishar Tatar in Podobryaev (2014).

Another similarity between indexical shift and logophors concerns the types of elements that can undergo shift. In the previous section, we saw that some languages have speaker-denoting logophors and some languages have speaker and hearer-denoting logophors, but no language has only hearer-denoting logophors. Likewise, there are languages where only first person indexicals shift (Slave under the verb *want*), languages where only first and second person pronouns shift (Amharic) and languages where first and second person indexicals and also time and location indexicals shift (Zazaki). Importantly, languages that only shift sec-

ond person indexicals or just time and location indexicals are unattested.² Let's again capture this fact by postulating the implicational scale in (15).

- (15) FIRST PERSON > SECOND PERSON > TEMPORAL AND LOCATIONAL INDEXICALS

1.0.3 Logophors with first person agreement

Another relevant pattern that occurs in embedded clauses concerns the co-occurrence of a logophor in an agreement controlling position with first person agreement on the verb. This pattern occurs in Donno So (16) and Tamil (17).

- (16) Oumar inyeme jembɔ paza bolum miñ tagi
Oumar LOG sack.DF drop left.1SG 1SG.OBJ informed
'Oumar told me that he had left without the sack' (Culy 1994)
- (17) Murukeesan taan var-r-een-nnũ so-nn-aarũ
Murugesan LOG come.PRES-1SG-COMP say-PAST-3MSG
'Murugesan said that he would come.' (Sundaresan 2012)

²Schlenker (1999) claims that the temporal indexical *in two days* can shift in English, but this claim does not survive closer scrutiny (see Anand 2006:92).

What is interesting about these languages is that they employ a logophoric marking on their pronouns, in addition to employing indexical shift on their verbal agreement morpheme.

While there has not been as much attention paid to this form of attitude report, it is known that such constructions are obligatorily read *de se* in Tamil (Sundaresan 2011, Sundaresan 2012). The licensing predicates of these constructions are less established, but from survey work, Sundaresan (2011) reports two dialects of Tamil: one dialect that only allows logophors with shifted agreement under predicates of speech and another dialect that accepts them under both predicates of speech and thought. This again seems to fall onto Culy's hierarchy presented in section 1.0.1, though more work needs to be done in this area.³

1.0.4 *Third person pronouns with first person agreement*

One novel empirical contribution of this thesis is the first in depth investigation of languages that allow for first person agreement with third person pronouns embedded under attitude verbs, with Telugu providing a case study (Nuer is also discussed in some detail). The relevant construction is illustrated by example (18) from Telugu. The embedded third person pronoun controls first person

³I am unaware of any language that has a hearer-denoting logophor that controls second person agreement, so it appears that this type of *de se* marking trivially satisfies the scales for what shifts.

agreement morphology on the embedded verb (the English equivalent would be a sentence like *John said he am . . .*).

- (18) Rani [ʔanu exam pass aʃj-aa-n-ani] nam-mu-ʔundi.
 Rani [3SG exam pass happen-PAST-1SG-COMP] believe-PAST-F.SG
 ‘Rani believes that she passed the exam.’

This type of pattern has not been studied in depth before; it has been only noted briefly in descriptive works of several African languages. Thus, Noveli (1985) notes this pattern in Karimonjong and Curnow (2002) also cites this phenomenon in Lotuko. I provide the relevant examples for both languages in (19).

- (19) a. àbù papà tlim εbè àlózì iṅèz morotó.
 AUX father say that 1SG-go-NPST 3SG Moroto
 ‘The father said that he was going to Moroto.’
 b. ʒati ‘daṅ xul ojori ‘tò jojo era isi a xobwok.
 people all REL say PRT COMP 1PL.be they PRT kings
 ‘Those who say that they are kings.’

Such constructions are also interesting from the perspective of agreement licensing. The mainstream view of agreement sees it as an operation whereby the features of the controller value the features of the target (see e.g., Chomsky 2000, 2001). The data in (18) and (19) pose problem for this view as the features of the controller and the features of the target mismatch. The analysis of such constructions provided in this thesis shows that this problem is only apparent. Under the

proposed analysis, the controller and the target do match in features at the point in the derivation when agreement takes place. This is, however, later obscured by independently motivated operations taking place during the mapping from the syntax to PF.

As will be demonstrated in chapter 2, like logophors and indexical shift, these attitudes (i.e., (18)) are also interpreted *de se*, and as shown in chapter 4, they also display a similar distribution in terms of the environments where such mismatches can occur.

Having laid out the empirical landscape of the domain of interest for the dissertation, in the following sections, I will lay out some of the major goals of the dissertation.

1.1 goals of the dissertation

1.1.1 *Universality in diversity*

As detailed in the previous sections, there is a large amount of variability in how languages mark self ascription in embedded contexts. The main empirical contribution of this dissertation is to establish several new universals in this domain. One such generalization is established in chapter 2. This generalization concerns the availability of pronoun agreement mismatches and is given in (20).

- (20) In a language with overt pronouns and agreement morphology, if the pronoun shifts then the agreement morphology also shifts.

This generalization allows for the mismatch we find in Telugu (cf. (18)) where a third person pronoun can control first person agreement in a *de se* attitude. It forbids, however, the opposite pattern where a shifted first pronoun controls third person agreement on the embedded verb (i.e., John said I is smart) to express a *de se* attitude.

The second generalization, discussed in chapter 3, concerns an asymmetry between covert and overt pronouns and their ability to shift. This generalization is given in (21).

- (21) In a language with both overt and covert pronouns, if overt pronouns are shiftable then covert pronouns are also shiftable.

Chapter 4 establishes a correlation between certain types of complementizers and the licensing of logophors and indexical shift, given in (22).

- (22) Clauses introduced by a complementizer etymologically related to a verb meaning *say* will license indexical shift or logophoric pronouns in a given language.

The investigation of these generalizations will also lead to in-depth investigation of the mechanism of agreement, the syntax and semantics of embedded pro-

nouns (including logophors), and the syntax and semantics of complementizers embedded under attitude verbs.

1.1.2 *The locus of variation*

When dealing with crosslinguistic variation, a question arises which module of grammar the variation resides in. This dissertation explores this question in the domain of embedded self-ascription. There are broadly two approaches to this question in this domain. The approaches of Schlenker (1999) and von Stechow (2002, 2003) place the variation solely in the morphosyntax while allowing all languages to have a uniform semantics for embedded self ascription. The second (and currently more prominent) approach, explored most explicitly by Anand (2006), places the locus of the variation in the semantics of the various languages. Hence, a language with indexical shift achieves an embedded *de se* interpretation via a different semantic mechanism from a language with logophors and vice versa. This dissertation will present evidence for the former approach where variation lies solely in the morphosyntax; namely in how languages spell out the feature bundle of the embedded pronoun. The system and the parameters of variation are outlined in detail in Chapter 2.

1.2 outline of the dissertation

The dissertation is organized as follows.

Chapter 2 introduces language variation found in the domain of self-ascription including the first investigation of this domain in Telugu and Nuer. The investigation leads to the discovery of a previously unnoticed typological generalization noted above in section 1.1.1 (see (20)). An analysis of the variation in this domain is then proposed with the proposed system accounting for each of the language types discussed in this chapter. It is argued that logophoric pronouns have first person and third person features simultaneously. Language specific morphological constraints lead to only a subset of these features being expressed on the pronoun and the agreement morphology in some languages. The chapter closes with the discussion of the generalization in (20) within the proposed system, which also has consequences for person interaction phenomena like the Person-case constraint and direct-inverse languages.

Chapter 3 tackles the generalization in (21) and shows that it is in fact part of a larger paradigm where *de se* pronouns must be the smallest nominal element available. The generalization is argued to follow from an independently motivated constraint: *Minimize DP!*.

Chapter 4 first establishes a correlation between the presence of certain complementizers and the licensing of indexical shift and logophors. Then evidence from Shklovsky & Sudo (2014) is discussed which indicates that a pronoun's structural height relative to the complementizer determines whether or not it will shift. An analysis of the two effects in question is then proposed within the general framework where the locus of logophor and indexical shift licensing resides in the complementizer.

Chapter 5 Concludes the thesis with a discussion of some consequences of the proposed analysis for the associative plural generalization, partial control, and quantifier partitives like *each of us*.

SHIFTY AGREEMENT

2.1 introduction

This chapter explores crosslinguistic variation in the way various languages express *de se* speech and attitude reports. Previous investigations of such constructions have revealed large amounts of variation in this domain: languages that deploy indexical shift, languages with logophors, and hybrid languages that have logophoric pronouns but seem to display indexical shift in the agreement morphology. Special attention will be paid in this chapter to the hybrid languages that display what has been called ‘Monstrous Agreement’, where only the agreement morphology shifts when embedded under speech and attitude verbs, with a detailed investigation of the phenomenon in the Dravidian language Telugu and the Nilo-Saharan language Nuer. Novel data from these two languages will reveal a new type of monstrous agreement. What is special about these languages is that the shifted agreement morphology is controlled by a third person pronoun, not a logophor.

The analysis developed in this chapter will be built around these cases of monstrous agreement. The main idea pursued in this chapter is that logophors and third person pronouns can in certain situations have first person features that can be the target of agreement operations; however these features on the pronoun are deleted or obscured by later morphological operations. This analysis can be generalized to account for all the languages and the crosslinguistic variation discussed in this chapter. The chapter concludes with a discussion of limits on crosslinguistic variation found in this domain with the establishment of a previously unnoticed typological gap.

2.1.1 *Indexical shift*

The first person pronoun in English and other Indo-European languages appears to have a fixed referent: it can only be used to refer to the speaker of the current utterance. Unlike other nominal expressions, this referent cannot be manipulated by modal operators like attitude predicates, as illustrated by (1). In (1a), the definite description can refer to an entity that is not the actual department head; the first person pronoun in (1b) on the other hand must refer to the current speaker.

- (1) a. John thinks the department head is rich.
 b. John thinks I am rich.

Data like (1) led Kaplan (1977) to conjecture that first person pronouns are directly referential on the speech context and thus always refer to the speaker of the current utterance. Contrary to the conjecture in Kaplan (1977), there do appear to be languages where the first person pronoun can refer to attitude holders. This phenomenon has come to be called *indexical shift*.¹ Indexical shift of pronominal arguments has been found in a number of unrelated languages. Below are some examples from Amharic (Schlenker 1999), Zazaki (Anand & Nevins 2004; Anand 2006) and Nez Perce (Deal 2014).

- (2) a. $\text{ʝon ʝəɡna nə-ññ yil-all}$
 John hero be.PF-1S_O 3_M.say-AUX.3_M
 'John says that he is a hero.'
- b. $\text{Həsənij va kε εzj dəwletia}$
 Hesen.OBL said that I rich.be-PRES
 'Hesen said that he was rich.'
- c. $\text{Sue hi-i-caa-qa 'iin ∅-k'oomay-ca-∅}$
 Sue 3_{SUBJ}-say-IMPERF-REC.PAST I 1_{SUBJ}-be.sick-IMPERF-PRES
 'Sue said she is sick.'

Importantly, these clauses cannot be analyzed as simple instances of quotation as they are transparent to grammatical dependencies, such as long distance *wh*-

¹Indexical shifting is not limited to pronouns, but can also be found with temporal phrases like *two days ago* (see Schlenker 2011 and references therein).

question formation and the licensing of negative polarity/concord items, which are opaque to quoted speech, as demonstrated for English in (3).

- (3) a. *What_i did Bob say, “I ate t_i”?
 b. *Bob didn’t say, “I ate any bananas.”

If the phenomenon in question in (2) were simply an instance of quotation, then we would expect to find these embedded clauses to likewise be opaque to such dependencies. This is not the case. As shown in (4) for Zazaki, the embedded clause with a shifted indexical can host a trace of relativization or an NPI licensed by matrix negation.

- (4) a. čenεkε [kε Hεseni va mi t paci kεrda] rindεka
 girl that Hesen said I t kiss did pretty.be-PRES
 ‘The girl that Hesen said that he kissed is pretty.’
 b. Rojda ne va kε mi kes paci kεrd.
 Rojda not say that I anyone kiss did
 ‘Rojda did not say that she kissed anyone.’ (Anand & Nevins 2004)

An interesting interpretative restriction has been found for languages that allow indexical shift. Shifted indexicals must be interpreted *de se*, which means that they must fulfill the following requirements taken from Pearson (2012).

- (5) A *de se* attitude must meet both:
 a. *The aboutness condition*: the attitude is about the attitude holder *and*

- b. *The awareness condition*: the attitude holder is aware that the attitude is about herself.

In order to test whether a pronoun is interpreted *de se*, a scenario must be constructed in which (5b) is not met. If in such a scenario the use of the pronoun is judged to be false then we can conclude that the pronoun must be interpreted *de se*. This is shown for Amharic in (6) (Schlenker 1999: 97; see also Sudo (to appear) for Uyghur).

- (6) SCENARIO: Jon, who is a candidate in the election, is so drunk he doesn't remember who he is. He watches TV and sees a candidate he finds terrific, thinking that this guy must be a hero. This candidate happens to be Jon himself though he doesn't realize it.

- a. #Jon jəgna nə-ññ yil-all
 John hero be.PF-1S0 3M.say-AUX.3M
 'John says that he is a hero.'
- b. Jon səwyew jəgna nəw alä
 John the-man hero is said
 'John said the man is a hero.'

2.1.2 Logophors

While the languages described in the previous section use a regular pronoun in the context of indexical shift, in many other languages a special *logophoric*

pronoun is used in such a situation. This is shown for Ewe in (7) (Clements 1975; Pearson 2015). When the logophor *yè* is used, as in (7a), it must obligatorily refer to the attitude holder, but when an ordinary third person pronoun is used, as in (7b), it must refer to some other individual than the attitude holder.

- (7) a. kofi be yè-dzo
 Kofi say LOG-leave
 ‘Kofi_i said that he_i left’
- b. kofi be e-dzo
 Kofi say 3SG-leave
 ‘Kofi_i said that he_k left’

Logophors have a distribution similar to indexical shift;² they can only occur in embedded environments. Thus, they are disallowed in out-of-the-blue matrix positions, as shown in (8).

- (8) *yè dzo
 LOG leave
 Intended: ‘He left’

Also like in the case of indexical shift with pronouns, they must be interpreted *de se*. This is shown for the language Bafut in (9) (the data are taken from Schlenker

²This is discussed in more detail in Chapter 4 of the dissertation.

2003a). Again, the scenario is constructed in such a way that the *Awareness Condition* is not met, and the utterance with the logophor is judged to be false.

(9) SITUATION: John is looking at a mirror from a distance and sees a man in the mirror. He notices that the man's pants are on fire. In fact, the man he sees in the mirror is John himself, but he doesn't realize it.

- a. #John wà?àtǎ mǎ yu ká khi
 John thinks that LOG FUT burn
 'John thinks that he is going to get burnt.'
- b. John wà?àtǎ mǎ à ká khi
 John thinks that he FUT burn
 'John thinks that he is going to get burnt.'

2.1.3 Logophors with first person agreement

In addition to the languages that have indexical shift of pronominal arguments and logophors, there are also languages where only the embedded verbal morphology appears as first person while the embedded subject is a logophoric or a long distance anaphoric pronoun (Sundaresan 2012; Culy 1994; Curnow 2002). This is shown for Tamil in (10a) (Sundaresan 2012) and Donno So (Culy 1994) in (10b).

- (10) a. Murukeesan taan var-r-een-nnǔ so-nn-aarǔ
 Murugesan LOG come.PRES-1SG-COMP say-PAST-3MSG

‘Murugesan said that he would come.’

- b. Oumar inyemε jεmbə paza bolum miñ tagi
 Oumar LOG sack.DF drop left.1SG 1SG.OBJ informed
 ‘Oumar told me that he had left without the sack’

To my knowledge, there has been no investigation of whether this type of embedded clause must be read *de se*. I will work under the assumption that they must be read *de se* and leave the empirical testing of this issue for future research.

2.1.4 *Third person pronouns with first person agreement*

In this section I present novel data regarding the existence of a type of indexical shift in the Dravidian language Telugu and the Nilo-Saharan language Nuer, where only the agreement morphology shifts, with nothing special happening with the subject, which is a regular non-shifted pronoun.

Telugu

Consider first Telugu. In Telugu, only the agreement morpheme shifts while the subject is a non-shifted *and* non-logophoric third person pronoun. This is shown in (11).

- (11) Rani [t̪anu exam pass aɟj-aa-n-ani] nam-mu-t̪undi.
 Rani [3SG exam pass happen-PAST-1SG-COMP] believe-PAST-F.SG
 ‘Rani believes that she passed the exam.’

While this type of pattern has not been studied in depth, it has been noted before in descriptive works of several African languages. Noveli (1985), for example, notes the same pattern in Karimonjong and Curnow (2002) also cites this phenomenon in Lotuko. I provide the relevant examples for both languages in (12).

- (12) a. àbù papà tlim εbè àlózì iṅèz morotó.
 AUX father say that 1SG-go-NPST 3SG Moroto
 ‘The father said that he was going to Moroto.’
- b. ʒati ‘daṅ xul ojori ‘tò jojo era isi a xobwok.
 people all REL say PRT COMP 1PL.be they PRT kings
 ‘Those who say that they are kings.’

The works in question merely noted the existence of such examples in the languages in question. There have been no detailed descriptions of such patterns or examination of the importance of such cases for the syntax and semantics of pronouns, agreement and indexical shift. The goal of this chapter is to do just that.

Returning to Telugu, Telugu displays verbal agreement with non-case marked subjects. The agreement paradigm for matrix clauses is given in (13) (putting aside number).

- (13) a. neenu parigett_{nn}-ææ-nu
 1SG run-PAST-1SG
 ‘I ran.’

- b. nuvvu parigett_{ṁṁ}-ææ-vu
 2SG run-PAST-2SG
 ‘You ran.’
- c. tanu parigett_{ṁṁ}-ææ-Du
 3SG run-PAST-M.SG
 ‘He ran.’
- d. tanu parigett_{ṁṁ}-in-di
 3SG run-PAST-F.SG
 ‘She ran.’

Before we continue, I would like to note that what I gloss as the third person pronoun *tanu* is a cognate of *ta(a)n* found in other Dravidian languages Malayalam (Anand 2006) and Tamil (Sundaresan 2012). *Ta(a)n* in these languages is usually not treated as a third person pronoun, but a logophoric pronoun or a long-distance reflexive. *Tanu* was evidently also once logophoric, but in current usage, speakers use it to refer to each other in the third person (Krishnamurti & Gwynn 1985: 73). This can be seen by examining the distribution of *tanu*. Logophoric pronouns are typically found in embedded attitude reports; they cannot be the matrix subject of an out of the blue sentence. For example, (14) shows the logophoric pronoun *yè* in Ewe. *Yè* can be used in attitude reports (14a), but not as the matrix subject of an out-of-the-blue context (14b) (data taken from Pearson 2015).

- (14) a. kofi be yè-dzo
 Kofi say LOG-leave
 ‘Kofi_i said that he_i left’
- b. *yè dzo
 LOG leave
 Intended: ‘He left’

Tanu, on the other hand, can be used in both environments, as shown in (15). Not only can *tanu* be used in embedded attitudes (15a), but it can also be used as the subject of a matrix clause in out-of-the-blue contexts (15b).

- (15) a. Raju tanu parigett-ææ-nu ani cepp-ææ-Du
 Raju 3SG run-PAST-1SG COMP say-PAST-M.SG
 ‘Raju said that he ran.’
- b. tanu parigett-ææ-Du
 3SG run-PAST-M.SG
 ‘He ran.’

(15b) can even be used deictically (i.e., accompanied by a pointing gesture). In light of this, I take the treatment of *tanu* as a third person pronoun to be empirically well-founded.

Telugu thus allows for monstrous agreement with pronouns under embedding in attitude reports. When the report expresses an attitude about the attitude

holder, the agreement on the embedded verb can be either third person (16a) or first person (16b).

- (16) a. Raju _̱tanu parigett_{̱̱}-ææ-Du ani cepp-ææ-Du
 Raju 3SG run-PAST-M.SG COMP say-PAST-M.SG
 ‘Raju said that he ran.’
- b. Raju _̱tanu parigett_{̱̱}-ææ-nu ani cepp-ææ-Du
 Raju 3SG run-PAST-1SG COMP say-PAST-M.SG
 ‘Raju said that he ran.’

To rule out the possibility that the embedded clause is (partially) quoted, I provide two diagnostics from matrix questions and NPI licensing. As has been noted in the literature on indexical shift (e.g., Anand & Nevins 2004: 21 and section 2.1.1), grammatical dependencies cannot cross quotation marks. This is shown for English in (17). In (17a), *what* is moved out of the quoted clause into the matrix clause and the resulting utterance is ungrammatical. Likewise, the ungrammaticality of (17b) is caused by matrix negation being unable to license the NPI in the quoted clause.

- (17) a. *What_i did Bob say, “I ate *t_i*”?
 b. *Bob didn’t say, “I ate any bananas.”

As is the case with monstrous agreement in Tamil and indexical shift in languages like Zazaki, Telugu allows such dependencies between the embedded and matrix clauses in constructions under investigation, indicating that the embedded clause

is not a quotation. This is shown in (18). In (18a), a *wh*-element *eemi* in the embedded clause can scope into the matrix clause and receive matrix question interpretation. In (18b), negation in the matrix clause can license the NPI in the embedded clause.

- (18) a. Raju [ʔanu eemi tinn-aa-nu ani] cepp-ææ-Du
 Raju [3SG what eat-PAST-1SG COMP] say-PAST-M.SG
 ‘What did Raju say I ate?’
- b. Raju [ʔanu ee aratipanD-lu tinn-aa-nu ani] cepa-leeḍu
 Raju [3SG any banana-PL eat-PAST-1SG COMP] say-NEG
 ‘Raju did not say that he ate any bananas.’

Monstrous agreement can also be found when the attitude holder is second person: the embedded verb can show second person (19a) or first person (19b) agreement.³

- (19) a. nuuvu parigett-ææ-vu ani nuuvu cepp-ææ-vu
 2SG run-PAST-2SG COMP 2SG say-PAST-2SG
 ‘You said that you ran.’
- b. nuuvu parigett-ææ-nu ani nuuvu cepp-ææ-vu
 2SG run-PAST-1SG COMP 2SG say-PAST-2SG
 ‘You said that you ran.’

³The matrix subject is moved to the preverbal position to avoid having the two *nuuvus* adjacent to one another.

Monstrous agreement is only acceptable in embedded clauses. Mismatches are disallowed in matrix clauses, as in (20).

- (20) a. $\text{tanu parigett-}\underset{\text{nn}}{\text{ææ}}\text{-Du}$
 3SG run-PAST-M.SG
 ‘He ran.’
- b. * $\text{tanu parigett-}\underset{\text{nn}}{\text{ææ}}\text{-nu}$
 3SG run-PAST-1SG
 ‘He ran.’

A final note: what sets monstrous agreement apart from indexical shift is the fact that pronouns do not shift. In other words, first person pronouns must always refer to the current speaker and cannot refer to the attitude holder. This is shown in (21). The embedded first person pronoun, *neenu*, must refer to the current speaker.

- (21) Raju neenu eemi tinn-aa-nu ani čepp-ææ-Du?
 Raju_i 1SG*_{i/s} what eat-PAST-1SG COMP say-PAST-M.SG
 ‘What did Raju say that I ate?’

If the attitude with monstrous agreement is only read *de se*, then the prediction is that an utterance with agreement shift will be judged infelicitous in scenarios where the *Awareness Condition* (cf. 5b) is not met. As (22) shows, this prediction is correct. In the scenario in (22), Rani is not aware that she has an attitude about

herself; the sentence with monstrous agreement is judged to be infelicitous while the sentence without monstrous agreement is judged to be acceptable.⁴

(22) SCENARIO: Rani took an exam, and later saw the top 10 scores with the scorer's student ID numbers. She forgot her own ID number, so did not know who was who. Looking to the top score, she thinks: "This student definitely passed!" But it turned out she was that student.

- a. #raani [ṭanu exam pass aḷḷ-aa-n-ani] nam-mu-ṭundi
 Rani [3SG exam pass happen-PAST-1SG-COMP] believe-PAST-F.SG
 'Rani believes that she passed the exam.'
- b. raani [ṭanu exam pass aḷḷ-in-and-ani] nam-mu-ṭundi
 Rani [3SG exam pass happen-PAST-F.SG-COMP] believe-PAST-F.SG
 'Rani believes that she passed the exam.'

A question one may have at this point is: do attitude reports without monstrous agreement like those in (16a) and (19a) also have a *de se* reading or are they always read *de re*? This is a more difficult question to answer than it appears at first sight because in simple cases, utterances with a *de se* attitude entail the

⁴The judgments were collected from a non-linguistically trained consultant over the course of several in person elicitation sessions. The utterance containing monstrous agreement was first elicited, then the scenario was constructed and presented to the consultant as a truth value judgment task. The judgment that monstrous agreement is infelicitous in such a scenario was stable over multiple sessions. The judgments were also later replicated with another Telugu speaker.

one with a *de re* attitude. Despite this, there are ways to test whether an attitude has a *de se* reading. Below I deploy a test developed in Percus & Sauerland (2003). Percus & Sauerland were concerned with testing whether third person pronouns in finite clauses in English have a *de se* reading in addition to a *de re* interpretation. In the scenario for this test, there are four individuals: one has a *de se* thought, two have *de re* thoughts about themselves, and one has a *de re* thought about the first individual. The test sentence then reports that only the first individual has the attitude. The prediction of the test is that if a report has a *de se* reading, then the sentence will be judged true in this scenario because it is true that she is the only one who has the *de se* attitude, but if the report only has a *de re* reading, then it would be judged as false because other people in the scenario have *de re* beliefs about themselves or the first individual. For the sake of illustration, let's again first look at English. In the scenario in (23), only John has the *de se* attitude "I will win.". Bill and Sam have *de re* attitudes about themselves, and Peter has a *de re* attitude about John.

- (23) SITUATION: A group of drunken election candidates watching campaign speeches on the television do not recognize themselves in the broadcast. John, the only confident one, thinks, "I'll win," but does not recognize himself in the broadcast. Bill and Sam, both depressed, think, "I'll lose," but are impressed by the speeches that happen to be their own and are sure "*that* candidate," will win. Peter, also depressed, happens to be impressed not by his own speech but by John's.

The sentence in (24) is judged to be true in this scenario. This indicates that third person pronouns in finite clauses do have a *de se* reading.

(24) Only John thinks that he will be elected.

In (25), I deploy this test in Telugu. As indicated by the judgements, both clauses with agreement shift and clauses without agreement shift are judged to be true in such scenarios, suggesting that both reports have a *de se* reading.

(25) SCENARIO: Rani, Raju, Rahul, and Bill all took an exam. Later the exam scores were posted next to the student's ID numbers. Rani was the only confident one and thought, "I passed the exam." Raju and Bill had forgotten their ID numbers and both were pessimistic about how they did, thinking they had failed. They saw the two top scorers and thought that those students definitely passed. It turned out they were those students. Bill also thought he had failed, but was confident about Rani and thought she had passed.

- a. raan-e [ʈanu exam pass aʃʃ-in-andʈ-ani]
 Rani-FOC [3SG exam pass happen-PAST-F.SG-COMP]
 nam-mu-ʈundi
 believe-PAST-F.SG
 'Only Rani believes that she passed the exam.'

- b. raan-e [ṭanu exam pass aij-aa-n-ani] nam-mu-ṭundi
 Rani-FOC [3SG exam pass happen-PAST-1SG-COMP] believe-PAST-F.SG

'Only Rani believes that she passed the exam.'

Nuer

In this section, I demonstrate that the same type of monstrous agreement occurs in Nuer, a Nilo-Saharan language.⁵ Verbs in Nuer show agreement in person and number, which is demonstrated in (26) for 'call' (omitting tone).

- (26) a. cɔaala
 sing.1SG
 'I sing'
- b. cɔli
 sing.2SG
 'You sing'
- c. cɔle
 sing.3SG
 'He/she sings'

⁵This section reports on collaborative work with Irina Monich in Messick & Monich (2016).

- d. cɔalkɔ/nɛ
sing.1EXC/INC
'We sing''
- e. cɔalɛ
sing.2PL
'You sing'
- f. cɔalke
sing.3PL
'They sing'

The agreement paradigm changes with embedding under speech and attitude verbs. When the matrix attitude holder co-refers with the subject of the embedded clause, the agreement that is controlled on the verb is first person.

- (27) John c-ɛ wee [jɛn] c-ɔ̃ Mary
J.NOM AUX.PERF-3SG say.PERF.PART [he.NOM] AUX.PERF-1SG M.OBJ
nɛɛn].
see.PERF.PART]
'John said that he saw Mary.'

- (28) John c-ɛ caar [jɛn] c-ɔ̃ Mary
J.NOM AUX.PERF-3SG think.PERF.PART [he.NOM] AUX.PERF-1SG M.OBJ
nɛɛn].
see.PERF.PART]
'John thought that he saw Mary.'

This is not some sort of default/frozen form, but tracks the features of the controller, as shown in (29) with a plural embedded subject.

- (29) John kɛnɛ Peter ci-kɛ wee [kɛn]
 J.NOM and P.NOM AUX.PERF-3PL say.PERF.PART [they.NOM]
 ca-[kɔ] Mary nɛɛn].
 AUX.PERF-[1PL.EXCL] M.OBJ see.PERF.PART]
 ‘John and Peter said that they saw Mary.’

Again, unlike the languages with indexical shift, in Nuer embedded reports the first person pronoun does not shift. (30) with an embedded first person pronoun can only report what John said about the current speaker. It cannot report what John said about himself.

- (30) John c-ɛ wee [yan] c-[a] Mary
 J.NOM AUX.PERF-3SG say.PERF.PART [I.NOM] AUX.PERF-[1SG] M.OBJ
 nɛɛn].
 see.PERF.PART]
 ‘John said that I saw Mary.’
 #‘John said that he saw Mary.’

And again, unlike the logophor, the pronoun *jɛn* in Nuer can be used in out-of-the-blue contexts indicating that it truly is a third person pronoun.

- (31) jɛn c-ɛ Mary nɛɛn
 he.NOM AUX.PERF-3SG M.OBJ see.PERF.PART
 'He saw Mary.'

2.1.5 *Wrapping up the typology*

In the preceding subsections, I laid out the typology which this chapter focuses on. The typology is summarized in the table below.

Languages	Embedded morphology
English (most Indo-European)	Third person pronoun
Amharic, Zazaki, Slave, Golin	Indexical shift
Ewe, Yoruba, Ibibio	Logophor
Donno So, Najamba, Tamil	Logophor + 1st agreement
Telugu, Nuer, Karimonjong, Lotuko	3rd pronoun + 1st agreement

Table 1: Typology of embedded pronouns and agreement morphology

In the upcoming sections, I will lay out my analysis of this variation.

2.2 an analysis of embedded pronouns

In this section, I will propose an analysis of monstrous agreement that also covers the basic cases of indexical shift as well as logophors. The basic idea is that when a pronoun is interpreted *de se* in embedded speech and attitude reports, it is simultaneously an author of some speech/attitude event and not the author of the current speech event. The observed variation across languages then arises

from how the languages handle this situation at the morphosyntactic interface. In languages such as Ewe or Donno So, this feature combination is spelled out as a logophoric pronoun following Schlenker (2003a,b). In other languages, however, the feature combination is subject to a markedness constraint that leads to a rule of impoverishment removing one of the features from the representation before vocabulary insertion takes place. The feature removed varies from language to language. This process interacts with agreement to give us the observed typology.

2.2.1 *Preliminaries*

I assume the basic “Y-model” of grammar where the syntactic component creates legible interface objects through the use of the primitive operations Merge (both internal and external) and AGREE. For the purposes of the proposed analysis, the operations that underlie morphological agreement are particularly important. I assume that agreement morphology on the verb is the result of the operation AGREE (Chomsky 2000, 2001). In this system, the locus of the agreement probe for subject agreement is on the T(ense) head, furthermore, ϕ -features on T are uninterpretable. Following Arregi & Nevins (2012), Bhatt & Walkow (2013) and Smith (2015), among others, I also assume that Chomsky’s AGREE operation is

decomposed into two sub-operations: *MATCH* and *VALUATION*.⁶ I assume the definition of *MATCH* in (32) (from Bhatt & Walkow 2013: 972).⁷

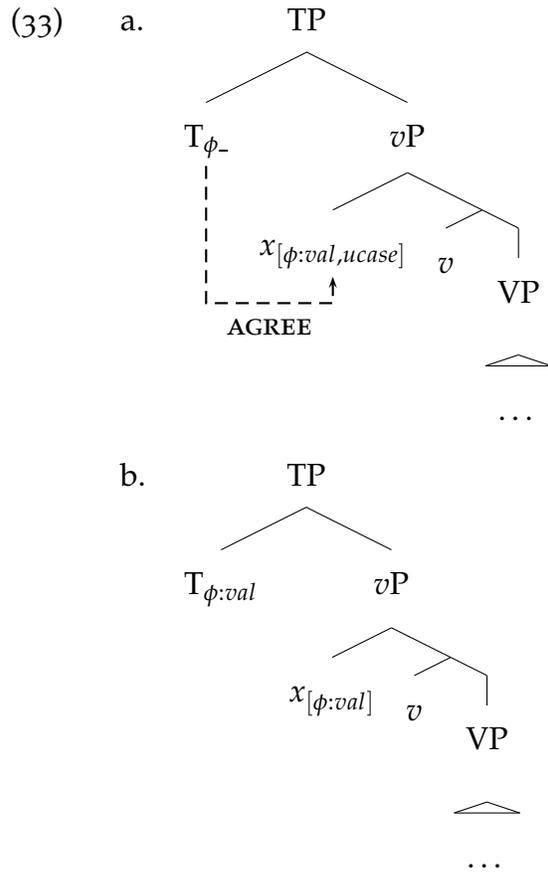
(32) *MATCHING* is a relation that holds of a probe P and a goal G. Not every link induces *VALUATION*. To do so G must (at least) be in the domain *D(P)* of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown below:

- a. Matching is feature identity.
- b. *D(P)* is sister of P.
- c. Locality reduces to “closest c-command”

This is schematized in (33). The ϕ -probe on T searches within its c-command domain for an active DP and undergoes match with the closest DP within that domain (33a). The value of the DP is then copied onto the probe (33b).

⁶The analysis proposed below is compatible with the Agree operation found in Chomsky (2000, 2001) where all agreement operations take place in the syntax. The decomposed Agree is used below inly as one of two alternatives in the account of the optionality of Monstrous agreement in Telugu; otherwise it is not needed.

⁷In Arregi & Nevins terminology: *AGREE-LINK* and *AGREE-COPY*



Representations created by the syntax are sent to the LF and PF interfaces for interpretation. Following work in Distributed Morphology, I assume that the elements on which the syntax operates are abstract in that they lack phonological information. The abstract elements that will be important for the purposes of this analysis are person features. I assume an *author* feature and an *addressee* feature both of which can have either a positive (+) or negative (-) value. These features are manipulated in the syntax (i.e., they can be merged in, moved, and enter agree relations). In the mapping from the syntax to PF these feature bundles are

given morphological form by rules of *vocabulary insertion* (VI). As an illustration, take for example the VI rules for English singular nominative pronouns given in (34). These rules show how particular feature combinations of person features are realized in English.

- (34) Fragment of English Pronouns
- a. [+author -addressee] ↔ I
 - b. [-author +addressee] ↔ you
 - c. [-author -addressee] ↔ he/she (depending on gender specification)

I also assume that the mapping from syntax to PF involves operations that allow the morphology to manipulate the output of the syntax. The analysis proposed below will make use of one such operation: feature deletion or *impoverishment* (Bonet 1991, 1995; Nevins 2011; Noyer 1997). Impoverishment takes the feature structures of the syntax and deletes certain features before Vocabulary Insertion. In such cases, the morphology expresses fewer features than are present in the syntax (importantly, as this deletion happens during the mapping to PF, the features are still present at LF). Take as an illustration gender agreement with first person pronouns in Serbo-Croatian, as shown in (35). In (35), we see gender agreement controlled on the verb; however the apparent controller of the agreement, *ja*, does not morphologically express any gender.

- (35) a. Ja sam otišla no posao
 I am gone.FEM.SG to work

- 'I have gone to work' (said by a woman)
- b. Ja sam otišao na posao
 I am gone.MASC.SG to work
 'I have gone to work' (said by a man)

One way to capture this data is to have the gender feature of the controller be present in the syntax, and hence available for agreement operations, but have it later deleted from the representation via an impoverishment rule before vocabulary insertion takes place. This is schematized in (36). The features of the pronoun are fully specified for person and gender in the syntax (36a), hence the gender feature can enter into a syntactic agreement relation. In the mapping of the syntactic structure to PF, there is a rule of impoverishment that deletes the gender feature in the context of pronouns that have a +author feature (36b). With the gender feature removed, vocabulary insertion occurs, where the vocabulary item *ja* is inserted for the feature bundle in question.

- (36) a. *Features in the syntax*: [+author -addressee \pm masc]
 b. *Impoverishment rule*: \pm masc $\rightarrow \emptyset$ / [+author ___]_{pro}
 c. *Vocabulary insertion*: [+author -addressee] \leftrightarrow ja

Noyer (1997) suggests that impoverishment rules are triggered by markedness constraints that may or may not be active in a given language. These markedness constraints are possibly triggered by feature complexity and thought to underlie possible typological generalizations. Thus, since the feature bundle [+author

$\pm\text{masc}$] is marked on pronouns, the expectation is that few languages will express both features on a single pronoun. In that vein, for the data in (35), we can assume that the impoverishment rule in (36b) is triggered by the markedness constraint in (37), where the feature combination of +author with a gender feature is marked.

(37) * [+author $\pm\text{masc}$]

Having laid out my assumptions concerning the mapping of syntax to PF, let us turn to how the representation created by the syntax is interpreted.

Let us again begin with the interpretation of person features. Following Sauerland (2003), Schlenker (2003b), and Heim (2008), I assume that pronouns are variables and person features denote partial identity functions (i.e., of type $\langle e, e \rangle$) which introduce presuppositions that restrict the possible values of those variables. The denotations for the [+author] feature and [-author] feature are given in (38). For the [+author] feature, this adds the presupposition that the variable includes the author of the context, while the [-author] feature adds the presupposition that the variable does not include the author of the context. A *context* is a tuple of variables consisting of the two individuals (the author and addressee), a time and a world. Like the assignment function g , the context c is a parameter on the interpretation function.

- (38) a. $\llbracket +\text{author} \rrbracket^{c, \mathcal{G}} = \lambda x. x$ includes the author of c . x
 b. $\llbracket -\text{author} \rrbracket^{c, \mathcal{G}} = \lambda x. x$ doesn't include the author of c . x

Following Schlenker (2003b), I assume that matrix clauses are topped with a context binder (λc^*), which binds the context variables in the denotations in (38). This means that matrix clauses denote a function from contexts to truth values (i.e., type $\langle k, t \rangle$, where k is the context type). We insure that the context introduced by the matrix binder is the current utterance context by the rule in (39).

- (39) ϕ is true with respect to context c and assignment g if and only if $\llbracket \phi \rrbracket^{c, g}(c) = 1$.

So if we take a simple sentence like that in (40), we compute the truth conditions in (41).

- (40) I am tall.

- (41) $\llbracket (40) \rrbracket^{c, g}$ is defined if x is in the domain of g and x includes the author of c .

Where defined $\llbracket (40) \rrbracket^{c, g} = 1$ iff x is tall, and $= 0$ otherwise.

With these preliminary assumptions about the syntax, morphology and semantics, we can proceed into the analysis of the typology laid out in the previous sections of this chapter.

2.2.2 *Logophors*

As my analysis of the typology presented in the preceding section builds off a theory of logophors given in the works of Schlenker (2003a,b), I will begin the discussion there. While the person features discussed in the previous section are typically used only to account for the distinctions we find in pronouns that can occur in matrix clauses, Schlenker attempts to augment the system in order to account for logophors as well. The idea is that person features index the actors in the utterance context. So the [+author] feature picks out the author of the current context (i.e., the current speaker). [+addressee] picks out the addressee of the current context (i.e., the person being spoken to). [-author] features must pick out an individual that is distinct from the author of the utterance context and so on. For Schlenker, speech and attitude reports introduce additional contexts that person features can index. This means that embedded clauses also denote a function of type $\langle k,t \rangle$. Speech and attitude verbs then do not quantify over possible worlds, but over context. A denotation of *believe* is given in (42).

- (42) a. $\llbracket \textit{believe} \rrbracket^{c,g} = \lambda p_{\langle k,t \rangle} . \lambda x_e . \forall c' \in \text{DOX}(x, c_w) [p(c')]$
 b. $\text{DOX}(x,w) = \{ c : c' \text{ is compatible with what } x \text{ believes in } w \text{ and } x = c_a \}$

So the context variable in the [+author] features in the scope of speech and attitude verbs can be bound to an embedded context and pick out the author of that context (i.e., the attitude holder) and not the current speaker. Since speech

and attitude verbs can introduce their own contexts, embedded pronouns can be [+author] for an embedded context but [-author] for the context of the current utterance. Under this theory, logophors are the spell out of this feature combination, as schematized in (43). Following Schlenker, I adopt a “*” notation to differentiate the different contexts that the two author features cross-reference. The * on the author feature marks the author of the current utterance context (i.e., the current speaker) while the absence of the * indicates that the feature can index the speaker of the context introduced in clauses embedded under speech and attitude verbs.

(43) [+author, -author*] ↔ LOG

The intuition behind the analysis is that logophoric pronouns mark the author of an embedded speech context, but a non-author of the current speech act context. In the next three subsections, I will present arguments that this is indeed the correct analysis of logophors.

2.2.3 *First person antecedents*

Treating logophors as the spell out of the feature bundle in (43) has a number of welcome consequences. The first was noted in Schlenker (2003b). Schlenker notes that logophors cannot take first or second person pronouns as antecedents. He demonstrates this with an example from Gokana. While in most logophoric con-

texts, the logophoric marker is obligatory, in the case where the attitude holder is first person, the utterance with logophoric marking is degraded.

- (44) a. m̀m̀ kɔ̃ m̀m̀ d̀
 I said I fell
 'I said I fell.'
- b. ??m̀m̀ kɔ̃ m̀m̀ d̀-è
 I said I fell-LOG
 'I said I fell.'

This can be replicated in a number of languages. This is demonstrated in (45) for Danyi Ewe (O'Neill 2016).

- (45) a. Kofi gbl'ɔ̃ b́ yi ɖu dzi
 Kofi say COMP LOG course win
 'Kofi says that the he won.'
- b. *Mə gbl'ɔ̃ b́ yi ɖu dzi
 I say COMP LOG course win
 Intended: 'I say that the I won.'

This follows from the vocabulary insertion rule in (43). Logophors can only be inserted for the feature bundle [+author, -author*]; in other words, in cases where the features pick out the author of the embedded context, but the non-author of the current utterance context. The embedded pronouns in (44) and (45) do not meet this requirement as they pick out the author of the embedded context, but

they also pick out the author of the current utterance context (i.e., they have the feature bundle [+author, +author*]), hence the vocabulary insertion rule in (43) cannot be used.

2.2.4 *The associative plural semantics of logophors*

The second property that this analysis accounts for is the associative plural semantics of logophors, as noted in Schlenker (2003a). Logophors, like first and second person pronouns, allow for associative plurals. This means that a plural logophor does not necessarily refer to a plural antecedent (or plural attitude holders), but can refer to a plurality that includes the attitude holder. This is shown for Ewe in (46) (Clements 1975) and Mupun in (47) (Frajzyngier 1993).

(46) kofi kpɔ be yèwo-do go
 Kofi see COMP LOG-PL.-come out
 ‘Kofi saw that they (including Kofi) had come out’

(47) a. wur sat nɔ n nas dɔn
 he said that I beat LOG-PL
 ‘He said that I beat them (including him)’
 b. wur sat nɔ n nas mo
 He said that I beat them.
 ‘He said I beat them.’

Compare this to a first person plural pronoun in English, as in (48). *We* in (48) could potentially refer to a plurality of speakers (as in chanting), but it can also refer to a group that only includes that speaker (e.g., the speaker's teammates for an example like (48)), mirroring the behavior we see for logophors in (47) and (46).

(48) We are the champions!

Wechsler (2010) argues that associative plural semantics only occurs with pronouns that have first or second person features, i.e., with pronouns that [+author] or [+addressee] features (see also Bobaljik 2008). If this analysis is correct, then if logophors also demonstrate associative plural semantics, they too must have a [+author] or [+addressee] feature.⁸

⁸Wechsler's analysis builds off the idea that first and second person pronouns must be read *de se* and *de te* respectively. So it is natural under this analysis that logophors which also at least strongly favor *de se* readings must have associative plural semantics. It should be noted that other elements that are obligatorily *de se* also have associative plural semantics. PRO for instance appears to allow for associative semantics in partial control constructions as in (i) (see chapter 5 for some relevant discussion).

(i) Bill wanted to gather at noon.

2.2.5 *Morphological transparency*

Under the above analysis, the abstract feature bundle that is morphologically realized as a logophor is [+author, -author*]. We might then expect that the morphological realization of a pronoun will sometimes express both first and third person exponence. In other words, we may expect some language to have a logophoric pronoun look something like *he-me*, where this is a combination of [-author] pronoun and [+author] pronoun. This is surprisingly indeed found in the language Fongbe, which has not been noted before in the indexical shift or logophor literature.⁹ The personal pronoun system of Fongbe is given in the table below (Lefebvre & Brousseau 2002).

Features	Personal Pronouns	Clitics (+NOM)	Clitics (-NOM)
1sg	nyè	ùn	mì
2sg	hwè	à	wè
3sg	é(yè)	é	è
1/2pl	mí	mí	mí
3pl	yé	yé	yé

Table 2: Pronouns of Fongbe

Fongbe also has a logophoric pronoun that behaves in a similar manner to the other logophors described above: it is only found in embedded environments, obligatorily refers to the attitude holder, and cannot be anteceded by a first person pronoun (Kinyalolo 1993). An example from Lefebvre & Brousseau (2002) is given in (49).

⁹Thanks to Chris Collins (p.c.) for bringing this data to my attention.

- (49) É ɖ̀ɔ é-mì m̀ɔ é-mì-ɖ̀éè
 3SG say LOG see LOG-ANA
 ‘She said that she saw herself.’

The logophoric pronoun in (49) is *é-mì*, which contains both the third person personal pronoun *é(yè)* and the first person clitic *mì*. This is expected under the analysis proposed here as logophors are abstractly made up of a [+author] feature and a [-author*] feature, hence it is unsurprising that some languages wear these abstract features on their sleeve. Fongbe thus provides strong evidence for the analysis adopted here.

2.3 accounting for monstrous agreement

With the above analysis of logophors, we are also able to account for monstrous agreement. Recall that one case of monstrous agreement involves a logophoric pronoun controlling first person agreement. This is demonstrated again in (50) for Donno So.

- (50) Oumar inyemɛ ʝembɔ paza bolum miñ tagi
 Oumar LOG sack.DEF drop left.1SG 1SG.OBJ informed
 ‘Oumar told me that he had left without the sack’

What had previously made monstrous agreement puzzling is that it appeared to involve a mismatch between the agreement controller (i.e., the logophor) and

the agreement target (i.e., the verbal agreement morphology). Under the analysis proposed here, the problem changes; it is not the case that the agreement controller and the target mismatch in features, but instead the agreement target is only morphologically expressing a *subset* of the controller's features. This is a change in the perspective on logophors, which allows us to frame monstrous agreement as a more familiar problem of subset agreement. Monstrous agreement as subset agreement can, in fact, be accounted for with the assumptions laid out in section 2.2.1.

2.3.1 *The logophoric feature combination is marked*

As we saw in section 2.2.1, certain feature combinations are marked and can trigger repair operations like impoverishment to remedy the marked combination. As I showed in section 2.2.2, logophoric pronouns are actually the spell out of the feature combination +author and -author*. I argue that such a combination is marked and hence in certain contexts and languages subject to repair operations, such as deletion. In languages that display monstrous agreement with logophors, the feature combination is marked in the presence of T (markedness constraints can be contextualized; i.e., sensitive to a particular context as well as being active or inactive in a given language (see Calabrese (2010, 1995))). In order to repair this configuration, deletion of the [-author*] feature occurs, leaving only the [+author] feature. Once vocabulary insertion occurs, first person morphology is inserted. This is schematized in (51).

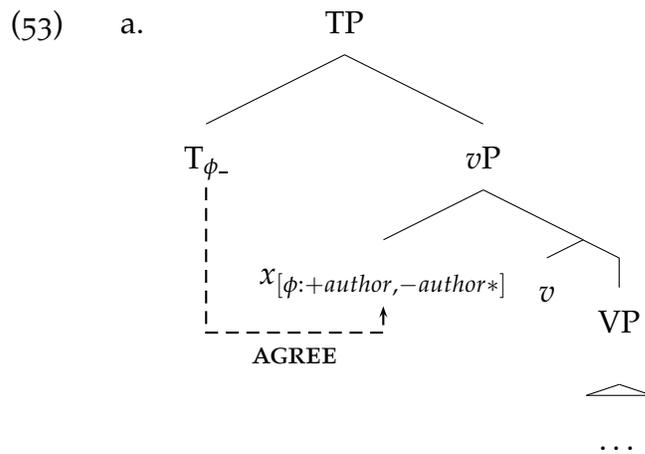
- (51) a. $*[+author, -author*]_T$
 b. $-author* \rightarrow \emptyset / [_ _ +author]$

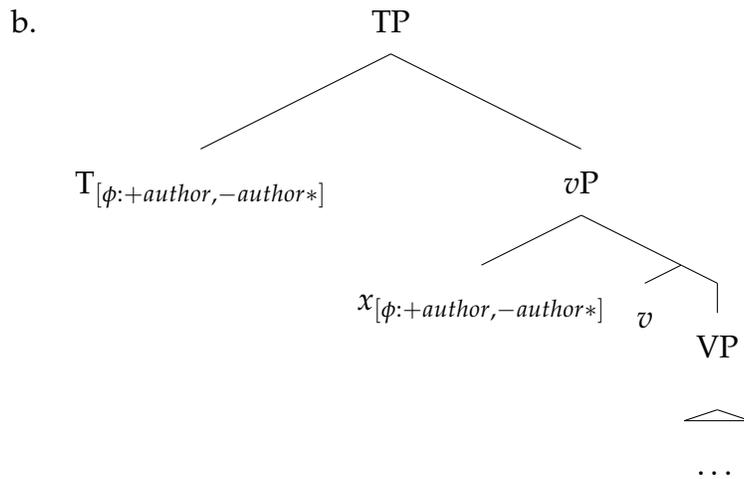
2.3.2 Sample derivation

Let us again take Donno S₀ as a test case. The relevant example is repeated in (52).

- (52) Oumar inyeme jemb_o paza bolum miñ tagi
 Oumar LOG sack.DF drop left.1SG 1SG.OBJ informed
 ‘Oumar told me that he had left without the sack’

In the syntax, the ϕ probe searches within its c-command and finds the logophor. The logophor’s features are copied onto the probe as shown in (53).





Once the structure is sent to the morphological component, the markedness constraint in (51b), repeated here in (54), will trigger the impoverishment of the [-author*] feature, whereby the [-author*] is deleted from the representation leaving only the [+author] remaining to be spelled out by the vocabulary insertion rules.

- (54) a. * [+author, -author*]_T
 b. -author* → ∅ / [___ +author]

After the impoverishment operation, vocabulary insertion occurs. The relevant VI rules for Donno S_o are given in (56).

- (55) a. [+author, -author*] ↔ inyeme
 b. [+author] / ___ T ↔ -um

Compare this to languages like Ewe and Ibibio. As we have seen previously, Ewe has a logophoric pronoun; however, it completely lacks agreement morphology. The relevant example is repeated in (56).

- (56) kofi be yè-dzo
 Kofi say LOG-leave
 ‘Kofi_i said that he_i left’

The analysis presented here accounts for Ewe by once again having the logophor be the spellout of the [+author, -author*]; however as there is no agreement morphology in Ewe, there is no ϕ -probe on T and hence there is no need for the markedness constraint, as the marked feature combination never occurs on T.

Ibibio on the other hand does have both logophors and verbal agreement morphology. In the case where a logophor controls agreement, a special logophoric agreement morphology is used (Newkirk 2014). Relevant examples are provided in (57).

- (57) a. álé bò ké ènyé á-mà kòt ñgwèt
 3SG-PST say C 3SG 3SG-PST read book
 ‘He_i said that he/she_j read the book.’
- b. álé bò ké ímO ì-mà kòt ñgwèt
 3SG-PST say C LOG LOG-PST read book
 ‘He_i said that he_i read a book’

The difference between Donno So and Ibibio in this system is the activation of the markedness constraint in (54b). In Donno So the constraint is active, hence the impoverishment operation occurs to repair the marked representation. In Ibibio, however, the markedness constraint is deactivated and hence the impoverishment operation does not take place and both the pronoun and the agreement morphology are spelled out as logophoric.

Finally, we saw that in languages like Telugu and Nuer, it is possible for third person pronouns to also have the ability to control first person agreement. The relevant data are repeated in (58) and (59).

- (58) Rani [_ntanu] exam pass ajj-aa-[n]-ani] nam-mu-tundi.
 Rani [3SG exam pass happen-PAST-1SG-COMP] believe-PAST-F.SG
 ‘Rani believes that she passed the exam.’

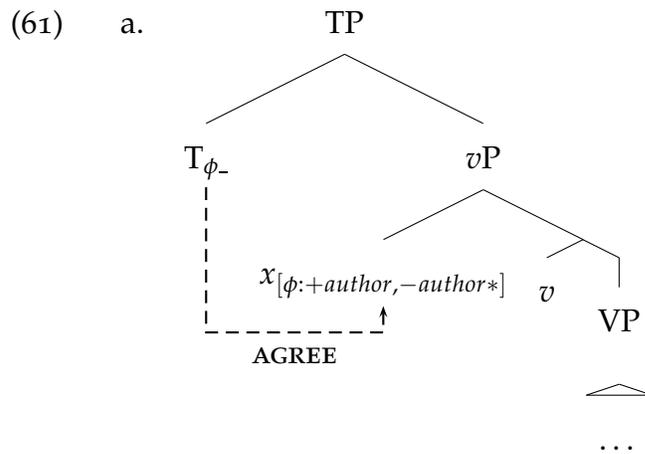
- (59) John c-ε wee [jɛn] c-[a] Mary
 J.NOM AUX.PERF-3SG say.PERF.PART [he.NOM] AUX.PERF-[1SG] M.OBJ
 nɛɛn].
 see.PERF.PART]
 ‘John said that he saw Mary.’

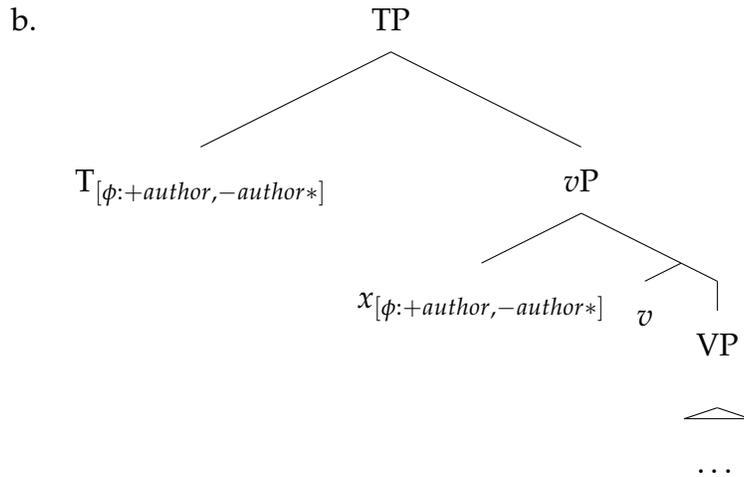
These data can also be captured by the system developed here. In this case, the markedness constraint is not contextualized to the feature bundle on T, and the impoverishment rules for the pronoun and the agreement morphology target different features. This is shown in (60). In (60a) we have the same impoverishment rule that we have had before, where the [-author*] feature is deleted on the T ϕ

probe. (60b) is a new impoverishment rule which deletes the [+author] feature from the feature bundle of the pronoun.

- (60) a. $*[+author, -author^*]$
 b. $-author^* \rightarrow \emptyset / [_ _ +author] _ _ T$
 c. $+author \rightarrow \emptyset / [_ _ -author^*] _ _ pro$

Agreement occurs in the exact same way as we have seen before, where the ϕ probe on T copies the features of the pronoun onto itself.





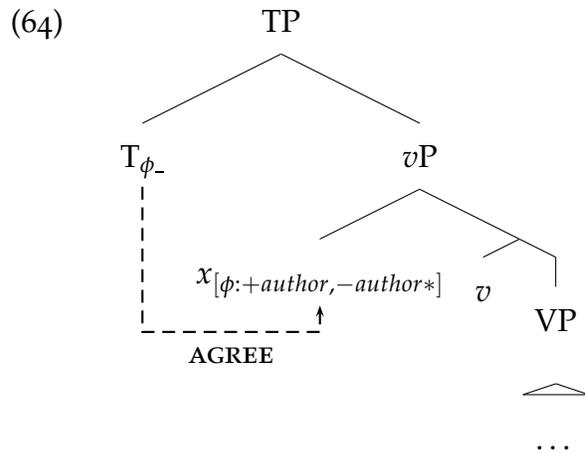
In the morphological component, the impoverishment rules in (60) apply and remove the features from the pronoun and the agreement morphology. Vocabulary insertion then occurs. The relevant VI rules for Telugu are given in (62).

- (62) a. $[-\text{author}^*]_{\text{pro}} \leftrightarrow \text{t}\text{anu}$
 b. $[\text{+author}]_T \leftrightarrow \text{-nu}$

Now recall that in Telugu, we can also have the verb control third person agreement morphology and still have a *de se* interpretation. The relevant example is repeated in (63).

- (63) Raju tanu $\text{parigett}\text{-}\text{æ}\text{æ}\text{-Du}$ ani $\text{cepp}\text{-}\text{æ}\text{æ}\text{-Du}$
 Raju 3SG run-PAST-M.SG COMP say-PAST-M.SG
 'Raju said that he ran.'

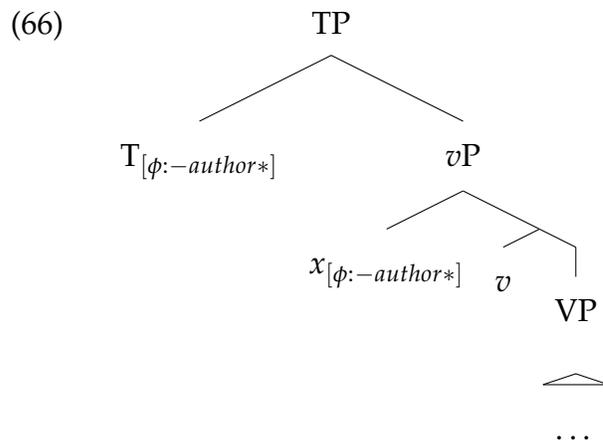
Monstrous agreement is thus optional in Telugu. The optionality of monstrous agreement can also be captured in the system developed here. There are two ways to account for the data in (63). One way is to assume that the embedded pronoun in (63) only ever has a [-author*] feature making it the only possible feature to be copied onto T via agreement. Another possible solution is to allow for valuation of agreement to be fed by impoverishment. As laid out in section 2.2.1, following Arregi & Nevins (2012); Bhatt & Walkow (2013); Smith (2015), it is possible for valuation to take place in the syntax proper or it can take place in the mapping from the syntax to PF. One way to account for (63) would then be to have valuation occur after impoverishment. As an illustration, first agree matching occurs between the pronoun and the ϕ probe on T in the syntax, as before.



Valuation of the ϕ probe is then delayed here until after spell out to the interfaces. As before, the [+author] feature is deleted via the impoverishment rule in (60c), repeated below.

(65) $+AUTHOR \rightarrow \emptyset / [_ _ -AUTHOR^*]_{pro}$

Once the [+author] feature is deleted from the pronoun, the valuation occurs, copying the features to the ϕ probe on T. As the [+author] feature has been deleted, only the [-author*] is copied onto T. As only the [-author*] feature is copied onto the ϕ , when the vocabulary insertion rules occur, the feature will surface as third person agreement morphology.



2.4 indexical shift

The above system also accounts for indexical shift. Schlenker (2003a,b) accounts for indexical shift by allowing for differences in the feature inventories of different languages. Unlike languages with logophors, which have [+author*] that obligatorily indexes the author of the current context and [+author] that can index authors of a context other than the current utterance context, Schlenker argues

that languages with indexical shift only have [+author] features. When these features occur in matrix clauses, they can refer to the author of the current utterance, but when embedded under a context introduced by a speech or attitude verb they again have the ability to index the author of that context as well. So in the Zazaki example like (67), the [+author] feature on the embedded pronoun εz picks out the author of the context embedded under the attitude verb.

- (67) H ε seni_j va k ε εz_j d ε wletia
 Hes ε n.OBL said that I rich.be-PRES
 ‘Hesen said that he was rich.’

Another way to accommodate this language type into the current system is to assume the same feature inventory as we did previously with both [+author] and [+author*], but have different impoverishment rules than for the languages discussed previously. Like in Telugu and Nuer, the feature bundle in question is then marked in all contexts. The difference is that the impoverishment repair targets the same feature in both the pronoun and the agreement morphology: namely the [-author] feature. Since the impoverishment rule leaves only the [+author*] feature, when it comes to vocabulary insertion, first person morphology is inserted for the pronoun and the agreement morphology.

- (68) a. *[+author, -author*]
 b. -author* $\rightarrow \emptyset$ / [___ +author]_T (if applicable)
 c. -author* $\rightarrow \emptyset$ / [___ +author]_{pro}

2.5 english like languages

The final language type I will discuss in this typology is English (and languages like it). In such languages, the embedded pronoun and agreement morphology both surface as third person.

(69) John said he is smart.

We can account for English with the morphological rules in (70). The feature combination in question is marked in (70) and an impoverishment rule deletes features from both the pronoun and the agreement morphology. As seen in (70b) and (70c), the feature deleted from both bundles is the [+author] feature. This leads to only having the [-author*] available for vocabulary insertion on both the pronoun and the agreement morphology, hence both surface as third person.

- (70) a. * [+author, -author*]
 b. +author $\rightarrow \emptyset$ / [___ -author*]_T (if applicable)
 c. +author $\rightarrow \emptyset$ / [___ -author*]_{pro}

(70) thus captures languages like English.

However, a different approach will become available to us to account for English in chapter 4. We will see that both logophors and Indexical shift are tied to the presence of certain complementizers. As an illustrative example, examine (71) and (72) from Danyi Ewe (O'Neill 2016). In (71) the complement is intro-

duced by the *bɔ́* complementizer under the verb *sə* and the logophor is licensed, but in (72) the complement under *sə* is not introduced by *bɔ́* and the logophor is ungrammatical.

(71) Kofí sə bɔ́ Áma dzu-yi
 Kofi hear COMP Áma insult-LOG
 ‘Kofi heard Ama insulted him.’

(72) Kofí sə Áma dzu-í/*yi
 Kofi hear Ama insult-3SG/*LOG
 ‘Kofi heard Ama insulted him.’

As we will see in chapter 4, the pattern of data found in (72) and (71), where the use of the logophor is tied to the use of a special complementizer, is very common cross-linguistically. If a language were not to have access to this special complementizer, then recourse to English like pronoun and agreement morphology would be the only option in that language. As we will see in chapter 4, this type of approach, where the difference between languages like English and languages like Ewe with respect to the realization of the pronoun and agreement morphology in the constructions under consideration lies in different complementizers may, in fact, be favored over the account based on (70). I will put off further discussion until then.

2.6 other agreement shifts

In the previous section, I have argued for a system which can account for all the reported variation in how languages express *de se* attitudes. I now turn my attention to how languages express *de re* attitudes, specifically *de re* attitudes about the current speaker. Investigations of such constructions will lead us to refinements of the current system.

One of the core proposals of the previous section was that pronouns interpreted *de se* in attitude environments have complex person feature values: [+author, -author*]. The intuition behind this analysis is that the pronoun denotes the author of the embedded attitude/speech act, but is not the author of the current speech act. With this in mind, let us now examine (73). In (73), a speaker is reporting an attitude John has about him or her. Since the pronoun refers to the author of the current speech act, a first person form is used.

(73) John believes that I am rich.

In our system, however, the embedded pronoun should also have complex person features. As the pronoun is referring to the author of the current speech act context, it does not refer to the author of the embedded attitude context, so we expect it likewise to have [+author*, -author] person features. A question then arises whether languages ever morphologically indicate that this pronoun has

such a feature set.¹⁰ Surprisingly, there are languages that do morphologically mark this feature combination. Although not commonly reported, there are language where the first person pronoun can optionally control third person (i.e., -author) agreement in such cases. The Golin (Papuan) example in (74) and the Mishar Tatar example in (75) illustrate this. In (74), the embedded clause contains two first person pronouns. The subject first person pronoun refers to the author of the current speech act, while the object is a shifted first person pronoun and refers to the attitude holder. The first person pronoun in subject position should control agreement on the embedded verb, but instead of first person agreement morphology, we see third person agreement morphology.

- (74) yal i na na si-m-u-a di-n-g-w-e
 man TOP 1SG 1SG strike-3-REP-DIST say-3-AS-3-PROX
 ‘He_i said I hit him_i’ (Lounghnane 2005: 147)

- (75) Roza min kit-te diep bel-ä
 Roza 1SG leave-PAST C know-ST.IPFV
 ‘Roza knows that I left.’ (Podobryaev 2014)

In (74) we see two embedded first person pronouns. The one in subject position (i.e., agreement controlling position) refers to the current speaker. The other first person pronoun is shifted and refers to the attitude holder. The agreement controlled by the non-shifted first person pronoun, however, is third person. Like-

¹⁰Schlenker (2003a) briefly acknowledges that such languages are predicted by this system.

wise, in (75), the embedded pronoun does not control first person agreement, but rather controls (null) third person agreement.

This type of data can be integrated into the current system. The pronouns in (74) and (75) have the feature bundle [+author*, -author], which is the mirror image of the feature bundle we used for logophors ([-author*, +author]). This feature bundle indicates that the pronoun refers to the author of the current speech act, but not the author of the context embedded under the speech or attitude verb.

Following the analysis from the previous section, we can model this apparent mismatch in agreement as another case of subset agreement. First, Agreement in the syntax copies the feature bundle of the pronoun onto the ϕ -probe. As in Telugu and Nuer, the impoverishment rules target different features on the pronoun and T, as shown in (76). The impoverishment rule in (76b) deletes the [+author*] feature on the pronoun leaving only the [-author] feature to be spelled out by the vocabulary insertion rules. The rule in (76c), on the other hand, deletes the [-author] feature on the pronoun, leaving only the [+author*] feature to be spelled out by the vocabulary insertion rules.

- (76) a. *[+author*, -author]
 b. +author* $\rightarrow \emptyset$ / [___ -author]_T
 c. -author $\rightarrow \emptyset$ / [___ +author*]_{pro}

This analysis also accounts for why the third person agreement option disappears when the attitude holder is a first person pronoun, as shown in (77).

- (77) *Min Maratka [min kit-te diep] at'ɾ
 1SG Marat.DAT [1SG leave-PST C] tell-PST
 Intended: 'I told Marat that I left.'

Since the attitude holder is both the author of the embedded attitude and the matrix speech act, the embedded pronoun is not [+author*, -author], but rather [+author*, +author]. Since the pronoun does not have a [-author] feature, the impoverishment rule in (76b) is not active and cannot delete the [+author*] feature, hence the pronoun in (77) can never control third person agreement.

2.7 limits on the typology

With the addition of languages such as Telugu and Nuer, the typology of indexical shift languages must accommodate languages where only the agreement morphology “shifts”. A question arises whether there is a language that shows the opposite behavior of Telugu and Nuer. In other words, is there a language where only the pronoun “shifts” while the agreement morphology remains unshifted? The morphology would look like the examples in the previous section where a first person pronoun controls third person agreement (so something like *John said that I is a hero*); however the pronoun would refer to the attitude holder and not the current speaker. A typological investigation found no such language. It seems then that there is a true gap in the typology here. This is shown visually in the table below.

Shift?	Pronoun Yes	Pronoun No
Agreement Yes	Amharic	Telugu
Agreement No	*	English

Table 3: Shift Typology

With the system we have in place, such a language could be generated with the following impoverishment rules. In (78a), the rule deletes the [-author] feature from the pronoun while leaving [+author] feature. The rule for the agreement morphology in (78b) does the opposite. The [+author] feature is deleted leaving only [-author*].

- (78) a. $-author^* \rightarrow \emptyset / [_ _ +author]_{pro}$
 b. $+author \rightarrow \emptyset / [_ _ -author^*]_T$

I will only speculate here as to why the rules in (78) apparently do not seem to operate in any language. Recall from section 2.2.1 the discussion of gender on first person pronouns in Serbo-Croatian. The relevant data is repeated in (79). The first person pronoun *ja* here controls gender agreement even though it does not surface with gender features itself.

- (79) a. Ja sam otišla no posao
 I am gone.FEM.SG to work
 'I have gone to work' (said by a woman)
- b. Ja sam otišao na posao
 I am gone.MASC.SG to work
 'I have gone to work' (said by a man)

(79) was accounted for by allowing the pronoun to have both gender and person features in the syntax; however the gender features from the pronoun are deleted before vocabulary insertion occurs.

- (80) a. *Features in the syntax*: [+author -addressee \pm masc]
 b. *Impoverishment rule*: \pm gender $\rightarrow \emptyset$ / [+author ___]_{pro}
 c. *Vocabulary insertion*: [+author -addressee] \leftrightarrow ja

Assuming that this is the way to handle the examples in (79), where the gender feature deletes to repair a markedness constraint, a question arises why this cannot happen with the person feature, i.e., why person apparently cannot delete to repair the markedness constraint (which would give us a non-existent language type).

Noyer (1997) suggests that features are ordered in a hierarchy, such that features low on the hierarchy are more likely to be the target of impoverishment rules than features on the high end of the hierarchy. Noyer also proposes the hierarchy in (81). Since Person features are higher on the hierarchy than gender, gender features are the target of impoverishment.

- (81) Person > Number > Gender

A similar analysis can be used for the problem of the typology shown in table 2.7. I propose that for pronominal elements the ‘*’ person features (i.e., features that index the current utterance context) are more prominent on the hierarchy than

non-‘*’ person features (i.e., features that index the context embedded under the attitude verb). As the non-‘*’ person features are lower on the hierarchy, they will be the target of impoverishment.

(82) *Pronouns*: Person* > Person

The opposite holds for the features on T. I suggest that the ‘*’-person morphology is lower on the hierarchy and hence the target of the impoverishment.

(83) *Agreement*: Person > Person*

In work currently in preparation, I explore independent motivation for these types of hierarchies based on investigations of person interaction phenomena, including person case constraint (PCC) and direct-inverse marking, when embedded in speech and attitude verbs. Consider in this respect the data discussed in Ganenkov (2016) for the Nakh-Daghestanian language Dargwa. Ganenkov shows that Dargwa displays inverse-direct marking on the verb (84). In (84a) we have a third person subject acting on a first person object and we find the inverse marker *u* on the verb. In (84b) however, we have a first person subject acting on a third person object and we see the direct marker *i* on the verb.

(84) a. *rasul-li nu r-urc-u-ra*
 Rasul-ERG I F-catch.IPF-INV-1
 ‘Raul will catch me.’

- b. nu-ni rursi r-urc-i-s
 I-ERG girl F-catch.IPF-DIR-1
 'I will catch the girl.'

The distribution of direct and inverse marking is commonly captured with the use of hierarchies. Based on the data in Dargwa matrix clauses, I posit the hierarchy in (85). When the argument aligns with the hierarchy as in (84b), direct marking is used, but if the argument alignment does not follow the hierarchy, inverse marking is used.

- (85) First > Third

Ganenkov shows that things change under speech and attitude verbs. Thus, the embedded clause in (86) has a third person long distance anaphor as its subject acting upon a first person object. Based on what we have seen in (84a), we would expect inverse marking on the verb, but, surprisingly, we find direct marking.

- (86) rasul-li-s hanbik-ib sune-ni nu w-irʔawirg-i-s ili
 Rasul-OBL-DAT seem.PF-PST ANAPH-ERG I M-deceive.PF-DIRECT-1 COMP
 'Rasul thought that he would deceive me.'

This surprising use of direct marking begins to make sense when we take into account the hierarchy in (83). Under the theory developed in this chapter, although the subject surfaces morphologically as a third person anaphor, underlyingly it has a [+author] feature as it is the author of an embedded attitude context. The

object, which surfaces as a first person pronoun, has a [+author*] because it refers to the author of the matrix context. Just as we have seen above regarding verbal agreement morphology in languages like Telugu and Nuer, direct marking in Dargwa privileges the non-‘*’ person features over the *-person feature when embedded under a speech or attitude verb.

The hierarchy in (83) makes a number of other predictions regarding the interaction among shifted indexicality/logophoricity and the PCC and direct-inverse marking. I will leave the investigation of these predictions for future research.

2.8 comparison to previous analyses

2.8.1 *Sundaesan (2012)*

Since this chapter attempts to cover data somewhat similar to Sundaesan (2012), I will briefly compare the two analyses in this section.

Sundaesan (2012) treats monstrous agreement as a sub type of the phenomenon known as the anaphor agreement effect (AAE) (Rizzi 1990), stated in (87).

(87) Anaphors do not occur in syntactic positions construed with agreement.

Sundaesan treats Tamil *taan* as a long distance reflexive anaphor, hence subject to (87). Sundaesan further assumes that the left periphery of complements of verbs of communication contains a perspective phrase that contains a null pronoun in its specifier. In the case of monstrous agreement, this null pronoun has

- (89) àbù papà tlim εbè àlózì iḡèz morotó.
 AUX father say that 1SG-go-NEST 3SG Moroto
 ‘The father said that he was going to Moroto.’

- (90) íkítacapi iḡèz ìwɔn
 weed.CAUSE 3SG 1INCL
 ‘He will cause us to weed.’

More evidence for the present analysis comes from investigation of plural embedded pronouns. Recall that logophoric embedded pronouns have associative plural semantics. This allows for the pronoun itself to be plural but its antecedent to be singular. If the agreement controller in Monstrous agreement is the pronoun, we would expect that agreement target should show plural agreement in such cases, but if the agreement is with the perspectival center *pro* we would expect it to not be plural. What we see in (91) for Nuer is in such cases where the pronoun has a different number feature from its antecedent, the agreement target tracks the feature of the pronoun and not the antecedent, suggesting that the pronoun itself is the controller of agreement.

- (91) John ce wee [kɛn] ca-[kɔ] Mary
 J.NOM AUX.PERF-3SG say.PERF.PART [they.NOM] AUX.PERF-[1PL.EXCL] M.OBJ
 nɛɛn].
 see.PERF.PART]
 ‘John said that they saw Mary.’

Finally, Sundaresan's analysis cannot be extended to the other agreement shifts in Mishar Tatar and Golin. Recall that in these languages an embedded first person pronoun that refers to the current speaker of the actual utterance can control third person agreement. The relevant example from Golin is repeated in (92).

- (92) yal i na na si-m-u-a di-n-g-w-e
 man TOP 1SG 1SG strike-3-REP-DIST say-3-AS-3-PROX
 'He_i said I hit him_i'

Under the analysis presented in this chapter, monstrous agreement in languages like Telugu and Nuer and the agreement shifting in Golin and Mishar Tatar receive a unified analysis. The data in (92) are difficult to incorporate into Sundaresan's system, however. Sundaresan accounts for monstrous agreement by having the agreement probe ignore the features of the embedded subject and instead agree with a null pronoun. The probe is able to ignore the subject because it is an anaphor. In examples like (92), however, the subject is not anaphoric, so the agreement probe should not be able to ignore it, hence leaving such mismatches unaccounted for in this system.

2.8.2 *Shift Operators*

In this section I discuss the shift operator analyses of indexical shift.

The shift operator of Anand (2006) was primarily created to account for indexical shift in Zazaki and other languages. Under this theory, *de se* readings of logophors are derived via different LFs than indexical shift. The way indexical shift is obtained in this theory is through manipulation of a context parameter of the interpretation function by a null operator. Indexical expressions are directly referential on the context parameter of the interpretation function. The denotation of the operator of Anand & Nevins (2004) is given in (93).

$$(93) \quad \llbracket OP_{\forall}[\alpha] \rrbracket^{c,i} = \llbracket \alpha \rrbracket^{i,i}$$

This means that all indexical expressions in the scope of the operator will not be evaluated with respect to the context parameter c but instead be interpreted relative to the new index parameter. For languages with indexical shift, this operator will sit atop the embedded clause and change the context parameter of its complement, allowing for indexical expressions to refer to the non-actual context. This is shown in the schematic in (94).

$$(94) \quad \underbrace{[\dots\dots]}_{non-shifted} \quad [OP_{\forall} \underbrace{[\dots\dots]}_{shifted}]$$

Since this operator only manipulates the context to which the indexical is evaluated, it is unclear how to account for the fact that only agreement shifts in languages like Telugu and Nuer given that agreement is thought to be inconsequential for semantics. One way to go about remedying this is to posit that the agreement morpheme itself is an indexical and does make a semantic contribu-

tion. For example, the Telugu first person agreement morpheme *-nu* could have a meaning like the one in (95). The morpheme would first compose with the verb phrase predicate and introduce the presupposition that the individual that satisfies that predicate includes the author of the context parameter.

$$(95) \quad \llbracket nu \rrbracket^{c\mathcal{S}} = \lambda P. \lambda x. x \text{ includes the author of } c. P(x)$$

The context that the morpheme is dependent on could then be manipulated by the operator just like other indexicals. This solution, however, faces a number of conceptual and empirical problems.. First, it must make the assumption that agreement morphemes make contribution to the interpretation which goes against most conventional wisdom on how features on verbs are interpreted. Second, it is unclear if the agreement morpheme on the verb can shift why other indexicals cannot shift in Telugu. Perhaps a way around this problem would be to assume that the Telugu pronouns *tanu* and *neenu* move out of the embedded clause, above the shift operator, as shown in (96). If this were the case, then the pronoun could be evaluated with respect to the actual context, but the agreement would be shifted since it stays in the scope of the operator.

$$(96) \quad \underbrace{[\dots \overset{\text{tanu}}{t}_j \dots]}_{\text{non-shifted}} [OP_{\forall} \underbrace{[t_j \dots V + agr \dots]}_{\text{shifted}}]$$

This type of analysis is used to account for asymmetries in shifting in Uyghur by Shklovsky & Sudo (2014) (see also chapter 4 for discussion), so it may seem like a plausible analysis for Telugu as well. This analysis makes the prediction

that *tanu* should be moved out of the embedded clause. The location of *tanu* in the structure relative to adverbials, however, indicates that it still stays in the embedded clause. This is shown in (97). In (97), the adverbial, *ninna*, modifies the embedded verb, indicating that it must be in the embedded clause. The pronoun *tanu* appears lower than the adverb indicating, that it too is part of the embedded clause.

- (97) raaju ninna tanu parigett-ææ-nu ani cepp-ææ-Du
 Raju yesterday 3SG run-PAST-1SG COMP say-PAST-M.SG
 ‘Raju said that he ran yesterday.’

Since the subject stays in the embedded clause and inside the scope of the shift operator, it is predicted to shift along with the agreement morpheme. This is not what we find, however.

2.9 remaining issues

Before concluding, I would like to address some potential hurdles a unified treatment of logophors and shifted indexicals; namely the *Shift Together* constraint and the difference between logophors and shifted indexicals in the ability to take long distance antecedents.

The *Shift Together* constraint was proposed in Anand & Nevins (2004) and Anand (2006). The constraint is given in (98).

(98) All indexicals within a speech-context domain must pick up reference from the same context.

(98) limits the possible interpretations of utterances with multiple indexical expressions. As shown by Zazaki (99), the two indexical elements must both refer to the utterance context or to the embedded context. (99) lacks the interpretations where one element refers to one context and the other element refers to the other.

(99) Rojda Bill-ra va kε εz to-ra miradiša
 Rojda Bill-to said that I you-to angry.be-PRES
 ‘Rojda said to Bill that she is angry at him.’
 ‘Rojda said to Bill that I am angry at you.’
 #‘Rojda said to Bill that I am angry at him.’
 #‘Rojda said to Bill that she is angry at you.’

Under the analysis presented here, it is difficult to enforce the constraint in (98) without a stipulation. However, *Shift Together* does not seem to be a universal constraint on indexical shift as there are well-known counterexamples to it, such as the Amharic example in (100) cited from LaTerza et al. (2015), but originally noted in Leslau (1995). In (100), one of the first person pronouns refers to the current speaker and the other refers to the attitude holder, in violation of (98).

(100) mäskot-u al-ikkäfät-illiññ al-ä
 window-DEF NEG-open.IMP.1SG.S-1SG.O say.PF-3MSG.S

Literal: ‘The window_i said I_i will not be opened for me_s’ (The window wouldn’t open for me)

So it appears that *Shift Together* is not an inviolable constraint cross-linguistically. I leave open exactly what causes the variation in *Shift Together* cross-linguistically.

The final issue to be discussed in this section concerns the difference between logophors and shifted indexicals in the ability to take long distance antecedents. Based on examples like (101) from Edo, Baker (2008) argues that logophors can take long distance antecedents. Both the matrix subject Ozo and the intermediate subject Uyi can act as an antecedent for the logophor in the most embedded clause.

- (101) Òzó ròró wẹ̀ẹ̀ Uyi tá wẹ̀ẹ̀ Adesuwa bàá írẹ̀n òhó¹ghé
 Ozo thinks that Uyi say that Adesuwa accuse LOG of.lying
 ‘Ozo_i thinks that Uyi_j said that Adesuwa accused him_{i/j} of lying.’

Shifted Indexicals, on the other hand, are claimed to not be able to take long distance antecedents. Observe the Slave example in (102), again taken from Baker (2008). In (102), the shifted indexical can only refer to the closest attitude holder, Susan; it cannot refer to the matrix attitude holder John.

- (102) John Susan tle goi aohde eniwe adi
 John Susan Norman Wells 1S.OPT.go 3S.want 3S.say
 ‘John said that Susan wants (Susan/*John) to go to Norman Wells.’

Again, it turns out that this constraint on indexical shift is not universal. LaTerza et al. (2015) show that shifted indexicals can take long distance antecedents. In (103), there are two first person pronouns in the most embedded clause. One refers to the intermediate attitude holder, but crucially the other *can* refer to the long distance matrix attitude holder.

- (103) Kābbädä mäskot-u al-ikkāfāt-illiññ al-ä
 Kebede window-DEF NEG-open.IMP.1SG.S-1SG.O say.PF-3MSG.S
 al-ä
 say.PF-3MSG.S
 Literal: 'Kebede said the window said I will not be opened for him.'
 (Kebede said that the window will not open for him)

This suggests that shifted indexicals can take long distance antecedents. I leave open exactly how to account for the variation in the availability of shifted indexicals to take long distance antecedents.

2.10 wrapping up

In this chapter, the typology of shifting the phenomena was presented, which includes languages where a third person pronoun can control first person agreement in speech and attitude reports. An analysis of the typology of shifting phenomena was presented, where the crosslinguistic variation in the domain under consideration is accounted for in the morphological component. The lynchpin of

the analysis was Schlenker's insight that logophoric pronouns are the spell out of the feature bundle [+author, -author*]. This chapter builds off this insight to account for the observed typology in terms of language specific morphological operations that can delete one of the two features in certain contexts. This analysis was expanded to account for languages that allow for first person pronouns to control third person agreement in speech and attitude reports. Finally, the limits of the typology were discussed: specifically, a previously unobserved typological gap was noted and ways to approach it were discussed.

MINIMIZE DE SE PRONOUNS

In the last chapter, I reviewed and discussed the strategies that languages use to express *de se* attitudes. The typology discussed in chapter 2 included a number of different language types in this respect: languages that employ indexical shift, languages that employ logophors with and without first person agreement, and those that employ third person pronouns with and without first person agreement. In this chapter I will present a generalization that cuts across these different language types discussed in chapter 2. The empirical conclusion of this chapter is summarized in (1).

- (1) If the DP is construed *de se*, then use the smallest possible pronoun available.

The chapter will first review evidence for the generalization in (1) and then show that the generalization can be derived from an independent economy constraint: *Minimize DP!* and a preference for *de se* interpretations. The chapter will conclude

with discussion of further typological predictions of the analysis. The analysis predicts a typological gap which indeed does not seem to be realized.

3.1 overt vs covert pronouns

I will begin with observations that in some languages that have overt and covert pronouns, only covert pronouns are used to express *de se* attitudes. This generalization cuts across the language types discussed in the previous chapter (i.e., it occurs in languages with and without indexical shift).

3.1.1 *Overt vs covert in non indexical shift languages*

Patel-Grosz (2014b) presents data from Kutchi Gujarati which shows that there is an overt/covert distinction with respect to their ability to be interpreted *de se*: covert pronouns must be interpreted *de se* while overt pronoun must be interpreted *de re*. This is demonstrated in (2) and (3). In (2), a scenario based on the Percus & Sauerland (2003) scenario discussed in section of 2.1.4 of chapter 2. (2a) and (2b) can only be judged as true if the embedded pronoun can be interpreted *de se*. As shown in the judgments, the example with the overt pronoun (2a) is false, indicating that it does not have a *de se* interpretation; the example with a covert pronoun (2b), on the other hand, is judged true, indicating that it can have a *de se* interpretation.

(2) Drunk election candidates are watching campaign speeches on TV and do not recognize themselves in the broadcast. Valli, the only confident one, thinks “I’ll win” but does not recognize himself in the broadcast. Chump and Raj, both depressed, think “I’ll lose” but are impressed by the speeches that happen to be their own and are sure “that candidate” will win. Llama, also depressed, happens to be impressed not by his own speech but by Valji’s.

- a. Khali Valji maan-e ke i jeet-se
 only Valji believe-3SG.PRES that he win-FUT.3SG
 ‘Only Valji believes that he will win.’ FALSE!
- b. Khali Valji maan-e ke *pro* jeet-se
 only Valji believe-3SG.PRES that *pro* win-FUT.3SG
 ‘Only Valji believes that he will win.’ TRUE!

Patel-Grosz goes on to show that covert pronouns *must* be interpreted *de se* by employing the scenario in (3). The scenario is constructed in such a way that (3a) and (3b) are only true if the sentence can receive a non-*de se* interpretation. As indicated by the judgements, the example with the overt pronoun (3a) is true, indicating that it has a non-*de se* interpretation, while the one with the covert pronoun in (3b) is judged false, indicating that it only has a *de se* interpretation.

(3) A group of drunk election candidates watching campaign speeches on television do not recognize themselves in the broadcast. Valli and Lalji, the two confident ones, think “I’ll win,” but do not recognize themselves

in the broadcast. Chime and Raj, both depressive, think “I’ll lose” but are impressed by the speeches that happen to be their own and are sure “that candidate” will win.

- a. Harek manas maan-e ke i jeet-se
 every man believe-3SG.PRES that he win-FUT.3SG
 ‘Every man believes that he will win.’ TRUE!
- b. Harek manas maan-e ke *pro* jeet-se
 every man believe-3SG.PRES that *pro* win-FUT.3SG
 ‘Every man believes that he will win.’ FALSE!

3.1.2 Indexical shift languages

Interestingly, we find the same type of distinction in Turkish (Şener & Şener 2011) and Mishar Tatar (Podobryaev 2014). However, unlike Kutchi Gujarati, these languages are also indexical shift languages, meaning that *de se* attitude is indicated with first person morphology in Turkish and Mishar Tatar. This is demonstrated for Turkish in (4) and Mishar Tatar in (5). In (4a) and (5a), the embedded pronoun is covert *pro* that controls first person agreement morphology and can refer to either the attitude holder (i.e., Seda or Alsu) or the current speaker. In (4b) and (5b), however, overt first person pronouns *ben* and *min* are used and can only refer to the current speaker; they cannot refer to the attitude holder.

- (4) a. Seda [*pro* sınıf-ta kal-di-m] san-iyor
 Seda [*pro* class-LOC flunk-PAST-1SG] believe-PRES
 ‘Seda beleives that I flunked.’ ‘Seda beleives that she flunked.’
- b. Seda [ben sınıf-ta kal-di-m] san-iyor
 Seda [1SG class-LOC flunk-PAST-1SG] believe-PRES
 ‘Seda beleives that I flunked.’
 #‘Seda beleives that she flunked.’ (Şener & Şener 2011)
- (5) a. Alsu [*pro* kaja kit-te-m diep] at'-tɣ
 Alsu [*pro* where go.out-PST-1G COMP] say-PST
 ‘Which place did Alsu say I went?’
 ‘Which place did Alsu say she went?’
- b. Alsu [min kaja kit-te-m diep] at'-tɣ
 Alsu [1SG where go.out-PST-1G COMP] say-PST
 ‘Which place did Alsu say I went?’
 #‘Which place did Alsu say she went?’ (Podobryaev 2014)

The existence of a overt/covert asymmetry thus cuts across the (non)indexical shift divide. I will however, show that the two phenomena can be accounted for in a uniform manner. In the following sections, I build off of Patel-Grosz’s analysis to account for the data noted in this section as well as other *de se* interpretations.

3.1.3 *An analysis via obliteration?*

At face value, the data noted in the previous section can be integrated into the system developed in the previous chapter via the repair mechanism of *obliteration* (Arregi & Nevins 2012). Unlike impoverishment, which only deletes one of the features in order to repair a marked structure, obliteration removes the entire syntactic node from the representation. This is schematized in (6). Take a marked feature representation with $+\alpha F$ and $+\beta F$. An impoverishment operation in (6a) removes one of the two features. Obliteration in (6b) on the other hand deletes the entire terminal node.

- (6) a. $[+\alpha F +\beta F] \rightarrow +\beta F$
 b. $[+\alpha F +\beta F] \rightarrow \emptyset$

The data above could then be a case where the marked feature structure on the embedded pronoun is repaired via obliteration. As obliteration removes both features from the representation, there is no pronoun that can be inserted, resulting in the pronoun surfacing as null. The relevant properties for such an analysis are given in (7).

- (7) a. $*[+\text{author}, -\text{author}^*]$
 b. $[+\text{author}, -\text{author}^*]_{pro} \rightarrow \emptyset$

While such an analysis would work for the data above, we will see that the asymmetry at work here is not one of overt/covert pronouns but of smaller/larger pronouns. In the following sections we will see that clitic and even sometimes full pronouns can be read *de se*. These data cannot be accounted for by the obliteration analysis as there is vocabulary insertion of an overt vocabulary item.

3.1.4 *Clitic vs full pronouns*

In addition to discussing Kutchi Gujarati, Patel-Grosz (2014b) discusses *de se* interpretations in Austrian Bavarian. While Bavarian does not have referential null subjects, it does allow for full (8a) and clitic (8b) personal pronouns and also demonstrative pronoun (8c) subjects.

- (8) a. das ea kummit
 that he comes
 ‘that he comes’
- b. das’a kummit
 that=he comes
 ‘that he comes’
- c. as dea kummit
 that DEM comes
 ‘that he comes’

Patel-Grosz shows that in order for a pronoun to be interpreted *de se* in embedded contexts, it must be the clitic, mirroring the overt covert distinction we have seen in the previous sections. Patel-Grosz uses a dream scenario to tease apart the differences between full pronouns and clitics. Take, for illustrative purposes, the English example in (9). In (9), the second occurrence of *I* embedded under dream can be read two ways. It can be read as the *dream-self*, i.e., the neighbor who speaker is dreaming that he or she is. This corresponds to the *de se* reading. The other reading involves the pronoun referring to the actual speaker, i.e., the person doing the dreaming. This corresponds to a *de re* reading.

(9) I dreamt that I was my neighbor and that I was rich.

Now observe the Austrian Bavarian example in (10). In this example, a first person clitic pronoun is used as the second embedded pronoun. Unlike (9), this pronoun can only be read *de se*, meaning that it obligatorily refers to the *dream-self* neighbor.

(10) I høab traamt, das i mei Nøachba bin und das'e reich bin
 I have dreamed that I my neighbor am and that=_{CL} rich am
 'I dreamed that I am my neighbor and that I (=my neighbor) am rich.'

Compare (10) with the minimally different example in (11). Instead of a clitic pronoun, a full pronoun is used in (11). This example is likewise unambiguous, but in this example only the *de re* reading is available where the pronoun can only refer to the actual speaker and not the dream-self.

- (11) I h ab traamt, das i mei N achba bin und das i reich bin
 I have dreamed that I my neighbor am and that I_{Full} rich am
 ‘I dreamed that I am my neighbour and that I (=actual speaker) am rich.’

So just as we saw with null vs overt pronouns in Turkish, Mishar Tatar and Kutchi Gukarati, there is an asymmetry between clitics and full pronouns in their ability to be read *de se* in Austrian Bavarian.

3.1.5 Full NPs vs pronouns

The final distinction I discuss concerns full NPs vs pronouns in Vietnamese. It is reported that Vietnamese has a more lax version of condition C of the binding theory than a language like English (Lasnik 1989). While one R-expression cannot c-command a co-referent R-expression within the same clause in both Vietnamese and English (12), an R-expression can bind another R-expression across clauses in Vietnamese, but not in English (13).¹

- (12) a. *John likes John.

¹In certain registers in English, examples like (13a) become more acceptable. For example, in a courtroom setting, the utterance in (i) seems acceptable.

- (i) The defendant denies that the defendant was there that night.

- b. ငွေ့ၤ ငွေ့ၤ ငွေ့ၤ
 John likes John
 Intended: 'John likes himself.'

- (13) a. *Rodica believes that Rodica is short.
 b. Rodica tin la Rodica lun.
 Radical believe that Rodica short
 'Radical believes that Rodica is short.' (Bui 2016)

Interestingly, while it is perfectly grammatical to have the co-referent R-expression refer back to the attitude holder, such utterances do not have a *de se* reading. In order for an utterance to receive a *de se* interpretation a pronoun subject must be used in the place of the R-expression. This is shown again using the test with *only*. The judgement is that the utterance with the embedded R-expression is false (14a), indicating it lacks the *de se* reading, In order to express the *de se* reading pronoun *ni* must be used, as shown in (14b).

- (14) Drunk election candidates are watching campaign speeches on TV and do not recognize themselves in the broadcast. Petr, the only confident one, thinks "I'll win" but does not recognize himself in the broadcast. Chris and Michael, both depressed, think "I'll lose" but are impressed by the speeches that happen to be their own and are sure "that candidate" will win. David, also depressed, happens to be impressed not by his own speech but by Petr's.

- a. Chi Petr tin la Peter se thang.
 only Petr believe that Petr FUT win
 ‘Only Petr believes that Petr will win.’ FALSE!
- b. Chi Petr tin la ni se thang.
 only Petr believe that 3SG FUT win
 ‘Only Petr believes that he will win.’ TRUE! (Bui 2016)

A similar constraint governs epithets in English. Unlike regular R-expressions, epithets seem to be exempt from Condition C (see Dubinsky & Hamilton 1998 for examples). Compare the two examples in (15). In (15a), a c-commanded coreferential R-expression triggers a Condition C violation, as expected. However, a co-referential epithet in the same structural position is perfectly acceptable (based on Dubinsky & Hamilton’s examples).

- (15) a. ??John_i ran over a man (who was) trying to give John_i directions.
 b. John_i ran over a man (who was) trying to give [the idiot]_i directions.

Even though epithets do not seem to be governed by Condition C, they have a limited distribution in attitude reports. Based on data in (16), Dubinsky & Hamilton conclude that epithets are “antilogophoric” (i.e., they cannot be read *de se*). In (16a), the epithet cannot be read *de se*, hence the sentence is unacceptable. In (16b), John is no longer the attitude holder, hence the epithet is no longer read *de se* and the sentence is acceptable.

- (16) a. *John_i said [the idiot]_i lost a thousand dollars on the slots.

- b. It was said of John_i that [the idiot]_i lost a thousand dollars on the slots.

Based on the data discussed in this section, I claim that when there are two grammatical options to express a *de se* attitude, the form of the *de se* element must be the smallest of the two options.

Above, we have seen constraints with regard to the availability of the *de se* interpretation between overt and covert pronouns; full pronouns and clitics; and R-expressions and pronouns. As discussed in the next section, the former are often analyzed as being structurally richer than the latter (see e.g., Cardinaletti & Starke 1999; Patel-Grosz 2014b; Schlenker 2005b). The analysis proposed in the next section will capitalize on that.

3.2 analysis

In this section I will provide an analysis of the observations provided in the previous section. The crucial constraint that will let us account for these observations states that we should use the smallest possible DP when there are two competing options.

3.2.1 *Minimize DP!*

Patel-Grosz & Grosz (to appear) (henceforth PG&G) attempt to account for the distributional differences between personal (PER) and demonstrative (DEM) pronouns in German. While at first glance, it appears that PER and DEM have similar distributions, close inspection reveals several differences. The condition *Minimize DP* is used to account for those differences (for similar proposals see Chomsky (1981); Cardinaletti & Starke (1999); Schlenker (2005b); Katzir (2011)).²

(17) *Minimize DP!*

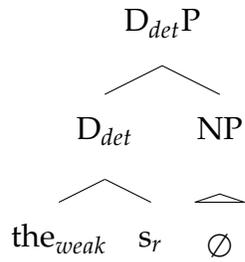
An extended NP projection α is deviant if α contains redundant structure, i.e. if

- (i) there is an extended NP projection β that contains fewer syntactic nodes than α ,
- (ii) β is grammatical and has the same denotation as α (= Referential Irrelevance), and
- (iii) using α instead of β does not serve another purpose (= Pragmatic Irrelevance)

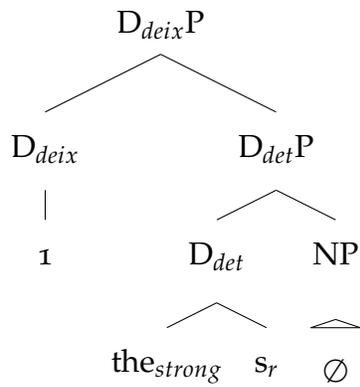
²This type of constraint falls under a larger umbrella of economy of representation constraints that intend to prohibit unnecessary syntactic projections (see Bošković & Messick (2017) for discussion).

In addition to this constraint, PG&G assume that demonstrative pronouns contain additional structure, i.e., they contain more structure than personal pronouns. Their structures are given in (18).

(18) a. personal pronouns



b. demonstrative pronouns



3.2.2 *Minimize DP in action**Emotivity*

Given the structures in (17) and (18), a DEM pronoun is ruled out when there is a singular possible referent for the pronoun, as in (19). Since DEM is structurally richer than PER, *Minimize DP!* prefers PER over DEM here.

- (19) Gestern hatte Paul eine gute Idee. Er/??Der beschloss, Maria in die
 yesterday had Paul a good idea PER/DEM decided Maria in the
 Oper einzuladen
 opera to.invite
 'Yesterday Paul had a good idea. He decided to invite Maria to the opera.'

However, this effect can be obviated if the sentence is an exclamation with an emotive component (20). This also follows from *Minimize DP!* as the use of the demonstrative pronoun here has Pragmatic Relevance in (20) (namely that the speaker has some emotional connection to Paul).

- (20) Gestern hatte Paul eine gute Idee. Er/Der hat einfach immer die
 yesterday had Paul a good idea PER/DEM has simply always the
 besten Ideen!
 best ideas
 'Yesterday Paul had a good idea. He simply always has the best ideas!'

Disambiguation

A DEM pronoun cannot refer to an aboutness topic, as shown in (21), again because of the competition with a personal pronoun.

- (21) a. Hans₁ wollte mit Paul₂ joggen, aber er_{1/2} war krank
 Hans wanted with Paul jog but he was sick
 'Hans wanted to go running with Paul but he was sick,'
- b. Hans₁ wollte mit Paul₂ joggen, aber der₂ war krank
 Hans wanted with Paul jog but he was sick
 'Hans wanted to go running with Paul but he was sick,'

DEM pronouns thus have the ability to disambiguate; their acceptability in fact appears to be tied to their ability to disambiguate. This disambiguating function of DEM voids *Minimize DP!* because in such cases DEM has pragmatic relevance. An additional example of this is given in (22).

- (22) a. Peter₁ war so nervös, dass er₁ einen Nachbarn gebeten hat,
 Peter was so nervous that he a neighbor asked has
 seine_{1/2} / dessen₂ Geräte ausstecken.
 his / DEM's electronic.devices unplug
 'Peter was so nervous that he asked a neighbor to unplug his electronic devices.'

- b. Ich war so nervös, dass ich einen Nachbarn gebeten hat, seine₂ /
 I was so nervous that I a neighbor asked has his /
 ??dessen₂ Geräte auszustechen.
 DEM's electronic.devices unplug
 'I was so nervous that I asked a neighbor to unplug his electronic
 devices.'

Register

Finally, the use of DEM also signals shifts in register. The relevant judgment here is that the use of DEM signals familiarity or informality (see (23)). *Minimize DP!* is once again voided because the use of DEM pronoun has a pragmatic effect.

- (23) a. Sie hat mie erzählt, dass sie bald in Urlaub fährt
 She has me told that she soon in vacation drives
 'She told me that she's going on vacation soon.'
- b. Die hat mie erzählt, dass sie bald in Urlaub fährt
 DEM has me told that she soon in vacation drives
 'She told me that she's going on vacation soon.'

3.2.3 *Prefer de se*

In addition to the *Minimize DP!* constraint presented in the previous section, I also assume that there is a constraint that privileges *de se* readings over non-*de se* readings (see Patel-Grosz 2014a; Schlenker 2005a for similar proposals)

- (24) Whenever an element in an attitude report is co-referential with the attitude holder, prefer the *de se* construal over the *de re* construal.

As will be discussed in the next section, *Minimize DP!* along with (24) covers the patterns that we have observed in the previous sections. *Minimize DP!* enforces the use of the smallest possible pronoun. It varies across languages what the smallest possible pronoun is (due to independent factors); in Kutchi Gujarati and Misha Tatar, it is a null pronoun; in Austrian Bavarian, it is a clitic, and in Vietnamese, it is a pronoun. As discussed in the following section, failure to use the smallest possible pronoun results in a violation of *Minimize DP!* and hence a *de se* interpretation is not available.

3.2.4 *Minimize DP! and De se*

With these two constraints, we can now account for the data presented at the beginning of this chapter. Let us begin with the data from Kutchi Gujarati and Mishar Tatar. Although the latter is an indexical shift language and the former

is not, in both languages there is a preference for null pronouns to express *de se*. The relevant examples are repeated below in (25) for Mishar Tatar and (26) for Kutchi Gujarati.

- (25) a. Alsu [*pro* kaja kit-te-m diep] at'-tʏ
 Alsu [*pro* where go.out-PST-1G COMP] say-PST
 'Which place did Alsu say I went?'
 'Which place did Alsu say she went?'
- b. Alsu [min kaja kit-te-m diep] at'-tʏ
 Alsu [1SG where go.out-PST-1G COMP] say-PST
 'Which place did Alsu say I went?'
 #'Which place did Alsu say she went?'
- (26) a. Khali Valji maan-e ke i jeet-se
 only Valji believe-3SG.PRES that he win-FUT.3SG
 'Only Valji believes that he will win.' NON-DE SE
- b. Khali Valji maan-e ke *pro* jeet-se
 only Valji believe-3SG.PRES that *pro* win-FUT.3SG
 'Only Valji believes that he will win.' DE SE

This follows from *Minimize DP!*. Recall that *Minimize DP!* necessitates that the smallest nominal element possible is used to express a given meaning. To express a *de se* meaning in (25) and (26), the languages have available to them either an overt or covert pronoun. It has been argued that null pronouns are structurally deficient as compared to overt pronouns (Cardinaletti & Starke 1999; Despić 2011;

Patel-Grosz 2014b). This then means that *Minimize DP!* forces the use of the null pronoun in such situations.³

This also accounts for the clitic vs full pronoun asymmetry found in Austrian Bavarian. Remember that clitic pronouns must be read *de se* while full pronouns give rise to a non-*de se* interpretation. The relevant data are repeated in (27).

- (27) a. I h ab traamt, das i mei N achba bin und das'e reich bin
 I have dreamed that I my neighbor am and that= I_{CL} rich am
 'I dreamed that I am my neighbour and that I (=my neighbor) am rich.'
- b. I h ab traamt, das i mei N achba bin und das i reich bin
 I have dreamed that I my neighbor am and that I_{Full} rich am
 'I dreamed that I am my neighbour and that I (=actual speaker) am rich.'

Like null pronouns, clitic pronouns are typically thought to be deficient as compared to full pronouns (Cardinaletti & Starke 1999; Bošković 2002; Déchaine & Wiltschko 2002; Despić 2011; Patel-Grosz 2014b). This again means that *Minimize*

³Note that the data in (26) are slightly different than the data for German presented in the previous section. In German, it was possible for the demonstrative pronoun and the personal pronoun to appear in the same constructions however the distribution of covert and overt pronouns in (26) is completely complimentary. This suggests that *Minimize DP!* needs to be strengthened to account for (26) (or the scope of (24) needs to be broadened). See Schlenker (2005b) for a slightly different formulation of *Minimize DP!* that he uses to account for Condition C for a possible solution to this.

DP! will chose clitics over full pronouns for the *de se* reading as they have the less structure.

Finally, we have also seen that in languages like Vietnamese, in order to express a *de se* reading, a pronoun needs to be used even though it is otherwise possible to use an R-expression. Again the data are repeated in (28).

- (28) a. Chi Petr tin la Peter se thang.
 only Petr believe that Petr FUT win
 ‘Only Petr believes that Petr will win.’ NON-DE SE
- b. Chi Petr tin la ni se thang.
 only Petr believe that 3SG FUT win
 ‘Only Petr believes that he will win.’ DE SE

This once again follows from *Minimize DP!* as it has been argued that R-expression nominals contain more structure than pronouns (Postal 1969; Déchaine & Wiltschko 2002; Schlenker 2005b; Moskal 2015).

To summarize the discussion in section 3.2.4, this section provided an analysis of the generalization given in (29).

- (29) If the DP is construed *de se*, then use the smallest possible pronoun available.

It was shown that (29) follows from a general preference for structurally deficient elements over elements that contain more structure. This constraint cuts across whether a language has indexical shift or not and also whether the elements

being compared are overt vs covert pronouns, full vs clitic pronouns, or full R-expressions vs pronouns.

Before concluding this chapter, the next section lays out a further typological prediction of the proposed analysis.

3.2.5 *A predicted gap*

Minimize DP! accounts for the observed data presented in this chapter. It also makes a novel typological prediction about what elements can be interpreted *de se*. In the realm of indexical shift it would predict the table below.

Shift?	Overt Yes	Overt No
Covert Yes	Amharic	Mishar Tatar
Covert No	*	Kutchi Gujarti

Table 4: Overt vs Covert

Again, we find that only three of the four cells in the possible typology are represented, with a language that only shifts overt pronouns without also shifting covert pronouns not being expected to exist. Let us capture this with the descriptive generalization in (30).

- (30) In a language with both overt and covert pronouns, if overt pronouns are shiftable then covert pronouns are also shiftable.

We expect to have languages where covert pronouns shift but overt ones do not, but given *Minimize DP!* constraint, we do not expect to find the opposite, which

would be a language that violates (30). To the best of my knowledge, such a language indeed has not been reported to exist.

This typology is intriguingly similar to the one found for bound pronouns. Montalbetti (1984) notes that for many languages, in order for the pronoun to receive a bound interpretation, it must be covert. This is demonstrated for Spanish in (31). In (31a), a covert pronoun is used and it can be interpreted as bound, but in (31b) with an overt pronoun, the bound variable interpretation is unavailable.

- (31) a. Nadie cree que él es inteligente
 Nobody believes that he is intelligent
 ‘Nobody_i believes that he_{j/*i} is intelligent.’
- b. Nadie cree que *pro* es inteligente
 Nobody believes that *pro* is intelligent
 ‘Nobody_i believes that he_{i/j} is intelligent.’

While many languages appear to show the pattern illustrated in (32), to my knowledge, there is no language that displays the opposite pattern where in order to be interpreted as bound, the pronoun must be overt. This typological gap parallels the gap in table above where there is no language that shifts overt but not covert pronouns.

Montalbetti's observation concerning the binding asymmetry between covert and overt pronouns also extends to the clitic vs. full pronoun distinction.⁴ Thus, Montalbetti notes that an object clitic can receive a bound interpretation (32a), but a full pronoun in a clitic doubling construction cannot (32b) (see also Despić 2011 for the same observation in Serbo-Croatian, where there is no clitic doubling).

- (32) a. Muchos estudiantes_i creen que Juan los_i vio
 Many students believe that John them_{clitic} saw
 'Many students_i believe that John saw them_i.'
- b. Muchos estudiantes_i creen que Juan los vio a ellos_{i/j}
 Many students believe that John them_{clitic} saw them_{strong}
 'Many students_i believe that John saw them_{j/*i}.' (Montalbetti 1984)

We then also expect a similar indexical shift typology for languages with clitics. *Minimize DP!* allows for a language to only shift clitics, but not shift full pronouns. A language with clitics where full pronouns shift, but clitics do not, however, is predicted to not exist. I am unaware of a language that would show such a shifting asymmetry.

⁴It should, however be noted that there are analyses that assume that a null *pro* co-occurs with clitics (see Bošković 2016b; Jaeggli 1986; Sportiche 1996; Uriagareka 1995).

3.3 wrapping up

In this chapter, i presented data that support the generalization in (33).

- (33) If the DP is construed *de se*, then use the smallest possible pronoun available.

An analysis of the generalization in (33) was presented built off an independent constraint: *Minimize DP!*. Not only does the analysis account for the generalization in (33), but it also makes a novel prediction about the limits of cross-linguistic variation in this area.

 COMPLEMENTIZERS AND PRONOUNS

In the previous chapters, I investigated the form of embedded pronouns from a cross-linguistic perspective. More specifically, I investigated how languages mark logophoric or *de se* attitudes. I classified languages into 5 types: languages like English (1a) that do not indicate logophoric attitudes with any special morphology, languages like Ewe (1b) that use special logophoric pronouns, languages like Zazaki (1c) that have indexical shift, and languages like Tamil (1d) that have logophors that control first person agreement morphology. Additionally, I provided new data from Telugu (2) that has third person pronouns that control first person agreement morphology.

- (1) a. John said that he is rich.
 b. kofi be e-dzo
 Kofi say 3SG-leave
 ‘Kofi_i said that he_k left’

- c. Hɛseni_j va kɛ ɛz_j dɛwletia
 Hesən.OBL said that I rich.be-PRESS
 ‘Hesən said that he was rich.’
- d. Murukeesan taan var-r-eeen-nnũ so-nn-aarũ
 Murugesan LOG come.PRES-1SG-COMP say-PAST-3MSG
 ‘Murugesan said that he would come.’
- (2) Rani [ʔanu exam pass aɟj-aa-n-ani] nam-mu-ʔundi.
 Rani [3SG exam pass happen-PAST-1SG-COMP] believe-PAST-F.SG
 ‘Rani believes that she passed the exam.’

The languages types are summarized in the table below.

Language	<i>de se</i> marking
English	Third person pronoun
Amharic, Zazaki	Indexical shift
Ewe, Yoruba	Logophor
Donno So, Tamil	Logophor with first person agreement
Telugu, Nuer	Third person pronoun with first person agreement

Table 5: Typology of embedded pronouns and agreement morphology

While the preceding chapters have established the variation that we find in embedded pronouns and agreement morphology across languages, this chapter will focus on the type of variation we witness within a single language.

As mentioned briefly in chapter 1, languages differ regarding which verbs and complementizers license indexical shift and logophors (Culy 1994, Sundaresan 2012). However, the variation witnessed across languages is not free; in particular,

it is constrained by the hierarchy in (3) regarding the type of predicates that licenses indexical shift and logophors within their clausal complements. The hierarchy states that predicates on the right side of the spectrum will not license indexical shift or logophors unless predicates on the left also do so in any given language.

- (3) SPEECH > THOUGHT > KNOWLEDGE > DIRECT PERCEPTION

This hierarchy was first proposed by Culy (1994) to account for the distribution of logophors, but Sundaresan (2012) has recently argued that (3) also makes correct predictions for the distribution of Monstrous Agreement in Tamil and also other cases of indexical shift. Thus, we have languages with indexical shift like Amharic where shifting occurs under verbs meaning *say* but not verbs meaning *think*, as shown in (4). While in (4a) the embedded first person morphology may refer to the attitude holder, this is not possible in (4b) (Anand 2006).

- (4) a. John j̣iəgna nə-ññ̃ yil-all
 John hero be.PF-1S0 3M.say-AUX.3M
 ‘John says that he is a hero.’
- b. John j̣iəgna nə-ññ̃ yiSəll ig-all
 John hero COP.PRES-10 think.IMPERF-3SM
 ‘John thinks that I am a hero.’

Uyghur, on the other hand, allows for shifting to occur under verbs of saying, belief, and direct perception (Sudo 2012). This is shown in (5).

- (5) a. Ahmet *pro* kim-ni jaxshi kör-imen di-di
 Ahmet *pro* who-ACC well see-IMPERF.1SG say-PAST.3
 ‘Who did Ahmet say that he likes?’
- b. Ahmet *pro* kim-ni jaxshi kör-imen dep bil-du
 Ahmet *pro* who-ACC well see-IMPERF.1SG COMP believe-IMPERF.3
 ‘Who did Ahmet believe that he likes?’
- c. Ahmet Aygül-din *pro* qaysi imtihan-din öt-tim
 Ahmet Aygül-from *pro* which test-from pass-PAST.1SG COMP
 dep angla-di
 hear-PAST.3
 ‘Which test did Amhet hear from Aygül that he passed?’

As I will show in this chapter, the form of the complementizer that introduces the embedded clause also plays an important role in the licensing of indexical shift and logophors. The evidence to this effect comes from a correlation between certain complementizers and the presence of indexical shift or logophoric pronouns that holds cross linguistically, as well as a generalization established by Shklovsky & Sudo (2014) according to which the structural height of the pronoun relative to the complementizer determines whether or not a shifted interpretation is possible.

The chapter is structured as follows: first, I establish the link between the complementizer and the possibility of indexical shift and logophors. Next I review the data in Shklovsky & Sudo (2014) that indicate that the relative height of the pronoun affects its ability to shift in Uyghur. I then present my analysis.

4.1 complementizers and pronouns

4.1.1 *Complementizers and indexical shift*

A factor that plays a role in the licensing of indexical shift and logophors that we have not discussed so far is the type of the complementizer that introduces the relevant clause. Sudo (2012) and Shklovsky & Sudo (2014) note that in Uyghur, there are two complementation patterns. In (6) the complement clause is introduced by the complementizer *dep*. This complementizer is a form of *di*, which is the verb that means *to say* in the language. In (6a), the verb itself is *di* and the complementizer no longer appears in the left periphery of the embedded clause; such cases allow indexical shift.

- (6) a. Ahmet *pro* kim-ni jaxshi kör-imen di-di
 Ahmet *pro* who-ACC well see-IMPERF.1SG say-PAST.3
 ‘Who did Ahmet say that he likes?’
- b. Ahmet *pro* kim-ni jaxshi kör-imen dep bil-du
 Ahmet *pro* who-ACC well see-IMPERF.1SG COMP believe-IMPERF.3
 ‘Who did Ahmet believe that he likes?’

The other form of complementation in Uyghur involves a nominalized clause. Importantly, in such cases, indexical shift is not possible. As shown in (7), the first person pronoun in the embedded clause can only refer to the current speaker; it cannot refer to the attitude holder, which was possible in (6).

- (7) Ahmet [mening kit-ken-lik-im-ni] di-di.
 Ahmet [1SG.GEN leave-TEL-NMLZ-1SG-ACC] say-PAST.3
 ‘Ahmet said that I left’ / #‘Ahmet said that he left.’

As Sudo (2012:202) notes, the *dep* complementizer cannot occur in such nominalized clauses. This is also the case in the related language of Mishar Tatar (Podobryaev 2014), as shown in (8) and (9).¹ Example (8) involves a finite embedded clause introduced by the *say* complementizer and the shifted reading is available. In the nominalized complement in (9), on the other hand, indexical shift is not possible.

- (8) Alsu [*pro* kaja kit-te-m diep] at'-tɣ
 Alsu [*pro* where go.out-PST-1G COMP] say-PST
 ‘Which place did Alsu say she went?’
- (9) Marat alsu-ga [*pro* kil-gän-em-ne] at'-tɣ.
 Marat Alsu-DAT [*pro* come-NMLZ-1SG-ACC] tell-PST
 ‘Marat told Also that I came.’ / #‘Marat told Also that he came.’

Polinsky (2015) presents a similar pattern in the Nakh-Dagestian language Tsez. Polinsky notes that Tsez allows for indexical shift in finite clausal complements marked by the enclitic =λin (glossed as QUOT), as shown in (10). A direct

¹Recall from Chapter 3. that Mishar Tatar only allows indexical shift with null pronouns, so indexical shift in these examples is indicated by the agreement on the embedded verb.

quote analysis of Tsez is ruled out by (11), where an embedded wh-word *šebi* can take scope into the matrix clause.

(10) Irbahin-ä [di ʕayibiyaw yol=λin] eλi-x.
 Ibrahim-ERG [1SG.ABS wrong/foolish bePRS-QUOT] say-PRS
 ‘Ibrahim says that he is wrong.’

(11) Irbahin-ä [d[ä]-r šebi r-iy-x-ānu=λin]
 Ibrahim-ERG [1SG.LAT whatABS.IV IV-know-PRS-NEG-QUOT]
 eλ-ä?
 say-PST.WIT.INTERR
 ‘What did Ibrahim say that he did not know?’

Again, =λin is diachronically related to the verb eλ, which means *say*.

As in Uyghur, indexical shift occurs in finite embedded clauses but cannot occur in nominalized embedded clausal complements. Compare in this respect (12) and (13). (12) is a finite clause introduced by =λin and indexical shift is possible. In (13), however, the embedded clausal complement is nominalized (and not marked by =λin), and indexical shift cannot occur.

(12) Žoy-ä nelo-qo-r [babi-y-ä di Ø-egir-si=λ]
 lad-ERG DEM.nI-POSS-LAT [father-ERG 1SG.ABS(.I) I-send-PST.WIT.QUOT]
 esi-n
 tell.PST.NWIT
 ‘The youngster told her that the father had sent him.’

- (13) Žoy-ä nelo-qo-r [babi-y-ä di Ø-egä-ru-li]
 lad-ERG DEM.nI-POSS-LAT [father-ERG 1SG.ABS(.I) I-send-PST.PTCP-NMLZ
 esi-n
 tell.PST.nWIT
 ‘The youngster told her that the father sent me.’

We find a similar pattern in Amharic, Anand (2006) notes that there is no indexical shift in the scope of the verb meaning *think* in Amharic. However, indexical shift does become possible in the scope of the verb if the complement is introduced by a complementizer that is a form of the verb meaning *say*, as shown in (14).

- (14) John žiəgna nə-ññ bilo y-amn-allə
 John hero COP.PRES-1O saying-3S 3MS-believe-be.3MS
 ‘John believes that he is a hero.’

Wechsler (2014) similarly discusses data from Dani (Papuan), originally documented in Bromley (1981). In Dani, a participial form of the verb meaning *say* introduces purposes clauses. In such clauses, indexical shift is possible, as shown in (15).

- (15) paik wasik- ylvk wakama
 forest.animal 1SG.HORT.KILL say.PTPL 3SGM.came
 ‘He has come to kill forest animals.’

Finally, Telugu complements that allow for monstrous agreement are introduced by the complementizer *ani*, which again is a form of the verb *an* which means to say.

- (16) a. raju _ṛtanu parigett-_{ṛṛ}ææ-Du ani cepp-_{ṛṛ}ææ-Du
 Raju 3SG run-PAST-M.SG COMP say-PAST-M.SG
 ‘Raju said that he ran.’
- b. raani _ṛtanu exam pass ajj-aa-n-ani nam-mu-_ṛtundi
 Rani 3SG exam pass happen-PAST-1SG-COMP believe-PAST-F.SG
 ‘Rani believes that she passed the exam.’
- c. raani [_ṛtanu exam pass ajj-aa-n-ani] _ṛtelusu-_ṛkun-di.
 raani [3SG exam pass happen-PAST-1SG-COMP know-REFL-F.SG
 ‘Rani found out she passed the exam’
- d. raani [_ṛtanu exam pass ajj-aa-n-ani] santošanga un_ṛdi.
 raani [3SG exam pass happen-PAST-1SG-COMP] happy COP
 ‘Rani is happy that she passed the exam’

Having discussed the role of the complementation (more precisely, the role of the complementizers) in indexical shift, I now turn to the role of complementation in the licensing of logophors.

4.1.2 *Complementizers and Logophors*

Say complementizers have likewise been noted to play a role in the licensing of logophors in a number of languages (see Sells 1987, Culy 1994). For example, the logophoric pronoun in Mundang can appear in embedded speech reports, but cannot occur in relative clauses (see (17)), while the logophor in Tuburi can occur in both environments, as shown by the examples in (18) (see Sells 1987).

- (17) a. à fá mò ?I zǐ nē
 3SG say you see LOG Q
 ‘He asked if you saw him.’
- b. à fá mò hí dìb má kàl mè nē
 3SG say you know man REL surpass me Q
 ‘He asked, ‘Do you know a man who is taller than me?’”
- (18) a. à ríŋ wò gā tí sã:rã tǐ sã:rã
 pro say PL COMP head LOG hurt LOG
 ‘They said that they had headaches.’
- b. à Dĩk tí mãy mã:gã se kón sú: mònò
 pro think about girl REL LOG see yesterday REL
 ‘He is thinking about the girl he saw yesterday.’

Sells (1987) suggests that the difference may be caused by the fact that the complementizer that introduces logophoric clauses in Tuburi also introduces relative clauses. Similar findings were noted by Clements (1975) for Ewe, where a special

complementizer *bó* (again a form of a verb meaning *say*) is used to introduce clauses that allow logophors. This has recently been investigated in depth for the Danyi dialect of Ewe by O’Neill (2016). O’Neill shows that logophoric pronoun *yi* can occur in clauses introduced by *bó*, as shown in (19).

- (19) a. Kofí gbl’ɔ́ bó yi ɖu dzi
 Kofi say COMP LOG course win
 ‘Kofi says that the he won.’
- b. Kofí sɔ́bó yi ɖu dzi
 Kofi hear COMP LOG course win
 ‘Kofi thinks that the he won.’
- c. Kofí na bó yi ɖu dzi
 Kofi know COMP LOG course win
 ‘Kofi knows that the he won.’
- d. Kofí kp’ɔ́ bó yi ɖu dzi
 Kofi see COMP LOG course win
 ‘Kofi sees that the he won.’

The *bó* complementizer is necessary for the logophor to occur. Compare in this respect (20) and (21). In (20), a purpose clause is introduced by the *bó* complementizer and the logophor is licensed. In (21), on the other hand, there is no *bó* in the *before* clause, and the use of the logophor is disallowed.

- (20) Kofí dzé g’ɔ́m ɖù-ɖù bó yi ná tasí sigá jojó
 Kofi start gum chew.PROG COMP LOG FUT stop cigarette smoke.PROG

'Kofi started chewing gum in order to quit smoking.'

- (21) Kofí dólá dzé g'óm d̀ù-d̀ù káφí w`ə-à/*yi ná tasí sigá
 Kofi must start gum chew.PROG before 3SG-FUT/*LOG FUT stop cigarette
 jojó
 smoke.PROG

'Kofi must start chewing gum before he will quit smoking.'

We find the same pattern even with the exact same embedding predicate. In (22), the complement is introduced by the *bá* complementizer under the verb *sə* and the logophor is licensed, but in (23) the complement under *sə* is not introduced by *bá* and the logophor is ungrammatical.

- (22) Kofí sə bá Áma dzu-yi
 Kofi hear COMP Áma insult-LOG
 'Kofi heard Ama insulted him.'

- (23) Kofí sə Áma dzu-í/*yi
 Kofi hear Ama insult-3SG/*LOG
 'Kofi heard Ama insulted him.'

These data indicate that complementizers play a prominent role in the licensing of indexical shift and logophors. Inmportantly, it appears that it is the same type of complementizer, one that is related to the verb meaning *say* in a given language, that plays a role in the licensing of both indexical shift and logophors.

4.2 pronouns above complementizers don't shift

Another piece of evidence that complementizers are playing a role in shifting concerns the fact that the structural height of the pronoun determines whether it will shift; in particular, pronouns that occur below the complementizer shift, while those that are located above the complementizer do not shift. This was demonstrated by Shklovsky & Sudo (2014) for Uyghur and by Podobroyaev (2014) for Mishar Tatar.

Regarding Uyghur, Shklovsky & Sudo first show that embedded subjects in Uyghur can surface with either (null) nominative or accusative case, as shown in (24).

- (24) Ahmet [profesor-(ni) ket-ti] di-di
 Ahmet [professor-ACC leave-PAST.3] say-PAST.3
 'Ahmet said that the professor left.'

They then observe that when the first person pronoun occurs with nominative case, the pronoun can shift, as in (25a), but if the pronoun occurs with accusative case, then the shifted reading is unavailable, as in (25b).

- (25) a. Ahmet [men ket-tim] di-di
 Ahmet [1SG.NOM leave-PAST.1G] say-PAST.3
 'Ahmet said that he left.'

- b. Ahmet [meni ket-ti] di-di
 Ahmet [1.SG.ACC leavePAST.3] say-PAST.3
 'Ahmet said that I left.'

Parallel observations have been made for the related language Mishar Tatar by Podobryaev (2014). Recall that in Mishar Tatar, only null elements shift, so to explore the possibility of a nominative/accusative asymmetry, Podobryaev uses possessor constructions which allow for person concord within the nominal. Just as Shklovsky & Sudo found for Uyghur, in Tatar, nominative subjects allow for the shifted interpretation (26), while accusative subjects do not (27).

- (26) Alsu [irtägä [pro sestra-m] kil-ä-r diep] at'-tɣ
 Alsu [tomorrow [pro sister-1SG] come-ST-POT C] tell-PST
 'Alsu said that her sister would come tomorrow.'
- (27) Alsu [irtägä [pro sestra-m-nɣ] kil-ä-r diep] at'-tɣ
 Alsu [tomorrow [pro sister-1SG-ACC] come-ST-POT C] tell-PST
 'Alsu said that my sister would come tomorrow.' / #'Alsu said that her sister would come tomorrow.'

Importantly, these authors demonstrate that accusative subjects are higher in the structure than nominative subjects. Shklovsky & Sudo's (2014) first argument to this effect regarding Uyghur comes from binding. They note that while accusative subjects can be reflexives and be bound by the matrix subject, as in (28a), this is not possible with nominative subjects, as in (28b).

- (28) a. men_i [peqet $\check{o}z_i$ -em-ni-la nan ye-men] di-dim
 1SG [only REFL-1SG-ACC-only bread eat-IMPf-1SG] say-PAST.1SG
 'I said that only I eat bread.'
- b. men_i [peqet $\check{o}z_i$ -em- \emptyset -la nan ye-men] di-dim
 1SG [only REFL-1SG-NOM-only bread eat-IMPf-1SG] say-PAST.1SG
 'I said that only I eat bread.'

(28a) indicates that the accusative marked subject is in the binding domain of the antecedent matrix subject. (28b) on the other hand is ungrammatical because the nominative subject is apparently outside of the binding domain of the matrix subject, hence the example violates Principle A of the binding theory.

Shklovsky & Sudo give a similar argument from Principle B of the binding theory: while a nominative embedded subject pronoun can co-refer with a matrix subject (29a), an accusative subject cannot (29b).

- (29) a. men_i [peqet men_i -la nan ye-men] di-dim
 1SG [only 1SG.NOM-only bread eat-IMPf-1SG] say-PAST.1SG
 'I said that only I eat bread.'
- b. * men_i [peqet $meni_i$ -la nan ye-men] di-dim
 1SG [only 1SG-ACC-only bread eat-IMPf-1SG] say-PAST.1SG
 Intended: 'I said that only I eat bread.'

Many current approaches to the binding theory take the binding domain to be phase-constrained, where the edge of a phase belongs to the higher binding domain (see e.g., Bošković (2016a) and references therein). Under such an account,

the facts just discussed indicate that accusative subjects move at least as high as the embedded clause specifier of CP. What will be important for our purposes is that they are higher than the complementizer.

Having discussed the role of the form of the complementizer and the height of the pronoun relative to the complementizer in the licensing indexical shift and logophors, in the next section I present an analysis of the facts discussed above.

4.3 analysis

Recall from chapter 2 that person features are indexicals that make reference to the context parameter on the interpretation function. A [+author] feature, as in (30), introduces a presupposition that the pronoun must include the author of the context c .

$$(30) \quad \llbracket +author \rrbracket^{c,g} = \lambda x. x \text{ includes the author of } c.$$

Matrix clauses were then assumed to have a λ -binder ranging over contexts at the top, binding the context variables like the one in (30). This meant that matrix clauses were functions from contexts to truth values. A truth value was generated via the rule in (31) where the utterance context was applied to that function.

$$(31) \quad \phi \text{ is true with respect to context } c \text{ and assignment } g \text{ if and only if } \llbracket \phi \rrbracket^{c,g}(c) = 1.$$

Now recall that in our treatment of embedded pronouns, we treated embedded clauses as also being functions from contexts to truth values. We then had speech and attitude verbs be quantifiers over context, as in (32). This allowed us to have the context variables in person features like (30) bound by this embedded context. This had the effect of having the [+author] feature not pick out the speaker of the current utterance context, but rather the author of the embedded context (i.e., the attitude holder).

- (32) a. $\llbracket \text{believe} \rrbracket^{c,s} = \lambda p_{\langle k,t \rangle} . \lambda x_e . \forall c' \in \text{DOX}(x, c_w) [p(c')]$
 b. $\text{DOX}(x,w) = \{ c : c \text{ is compatible with what } x \text{ believes in } w \text{ and } x = c_a$
 $\quad \quad \quad \}$

It was crucial to the analysis of both logophors and indexical shift that the context variable in the person feature can be bound by an embedded context. If the embedded clause did not introduce a new context then neither should be possible, as the only context available would be context introduced in the matrix clause. In the case of logophors, as they have both a [+author] and [-author*] feature, if the context variable in both those features were bound by the matrix context λ , it would necessarily result in a contradiction, as the presupposition would require that the pronoun both include and not include the author of the same context. A similar problem occurs with indexical shift. If there were no embedded context, the context variables again could only be bound by the matrix context, making a shifted interpretation impossible.

Importantly, this gives us a new way to account for the distribution of logophors and indexical shift. The preceding section showed us that logophors and indexical shift are only possible in clauses that are introduced by a *say* like complementizer. We can capture their distribution by having *only* clauses introduced by the *say* complementizer be functions from context to truth values. We can accomplish this with a rule like (33) (see also a suggestion by Schlenker (2011)). The rule in (33) states that for a clause ϕ introduced by a *say* complementizer, the interpretation returns an abstraction over contexts on top of the denotation of ϕ (such clauses are then of type $\langle k,t \rangle$).

$$(33) \quad \llbracket C_{say} \ \phi \rrbracket^{c,g} = \lambda c. \llbracket \phi \rrbracket^{c,g}$$

Clauses that are not introduced by a *say* complementizer are of a different type. Instead of functions from contexts to truth values, they are functions from worlds to truth values (type $\langle s,t \rangle$). This captures the fact that neither logophors nor indexical shift are possible in such clauses, as there would be no embedded abstraction over context, and thus all context variables would be bound by the matrix context.

$$(34) \quad \llbracket C_{\emptyset} \ \phi \rrbracket^{c,g} = \lambda w. \llbracket \phi \rrbracket^{c,g}$$

As the rules in (33) and (34) result in the clauses being of different types, $\langle k,t \rangle$ and $\langle s,t \rangle$ respectively, this necessitates attitude verbs being semantically ambiguous so that they can compose with both types of complementizers. In order to

compose with the clause created by the rule in (33), we need attitude verb like the one in (32b) where there is quantification over contexts, repeated below in (35). To compose with a clause created by the rule in (34), we need a classic attitude verb denotation where it quantifies over possible worlds, as in (36).

- (35) a. $\llbracket \textit{believe} \rrbracket^{c,s} = \lambda p_{\langle k,t \rangle} . \lambda x_e . \forall c' \in \text{DOX}(x, c_w) [p(c')]$
 b. $\text{DOX}(x, w) = \{ c : c' \text{ is compatible with what } x \text{ believes in } w \text{ and } x = c_a \}$
- (36) a. $\llbracket \textit{believe} \rrbracket^{c,s} = \lambda p_{\langle s,t \rangle} . \lambda x_e . \forall w' \in \text{DOX}(x, w) [p(w')]$
 b. $\text{DOX}(x, w) = \{ w : w' \text{ is compatible with what } x \text{ believes in } w \}$

We can now also explain why pronouns above the complementizer do not shift. As they are higher than the binder introduced by the complementizer in that case, they cannot be bound by the embedded context. As a result, [+author] features must pick out the author of the current matrix context.

- (37) $\underbrace{[\dots]}_{\textit{non-shifted}} \text{ [COMP } \underbrace{[\dots]}_{\textit{shifted}} \text{]}]$

Allowing the complementizers themselves to introduce the embedded context thus enables us to account for a number of generalizations regarding the distribution of logophors and indexical shift both cross linguistically and within a single language.

4.3.1 *The verbal hierarchy and English*

The postulation of ambiguity in attitude verbs may seem inelegant, but it gives us a possible partial explanation of the hierarchy of attitude verbs repeated below in (38). Recall that cross-linguistically, verbs on the left of the scale are more likely to allow for logophors and indexical shift than verbs on the right of the scale.

(38) SPEECH > THOUGHT > KNOWLEDGE > DIRECT PERCEPTION

One way to capture the fact that within a language, some verbs do not allow for logophors or indexical shift is to have them only come in the semantic variant in (36b). As they can only compose with clauses of type $\langle s,t \rangle$, they can never embed an abstraction over contexts, and hence logophors and indexical shift are impossible.

English does not allow for either indexical shift or logophors inside embedded clauses. As shown in (39), in order to express a *de se* attitude in a finite clause, a third person pronoun is used.

(39) John said that he is smart.

As outlined in chapter 2 (see section 2.5), one way of handling this language type within the current system would be through the impoverishment rules in (40). The embedded pronoun and agreement morphology in (39) would have both a [+author] and [-author*] feature. The markedness constraint in (40a) would

trigger deletion of the [+author] feature on both the pronoun and the agreement with the rules in (40b) and (40c).

- (40) a. * [+author, -author*]
 b. +author $\rightarrow \emptyset$ / [___ -author*]_T (if applicable)
 c. +author $\rightarrow \emptyset$ / [___ -author*]_{pro}

The discussion in the previous section opens up a new avenue to account for English: English does not have the right complementizer to allow for indexical shift or logophors. As we have seen cross-linguistically, a complementizer related to the verb meaning *say* is necessary for both logophors and indexical shift, but no such complementizer exists in English. Under this analysis, the morphological constraints and the rules in (40) are not necessary, as the feature bundle is not possible without the *say* complementizer introducing an embedded context.

The locus of variation in the domain under investigation among languages is then located at two points: the variation between languages with logophors and languages with indexical shift is located in the mapping of syntax to PF with respect to language specific morphological operations; the variation between those two language types and a language like English, which does not employ either logophors or indexical shift, is located in difference in the lexicon of the languages (i.e., it is a lexical difference). Languages like Ewe and Uyghur have complementizers that make logophors and indexical shift possible. English, on the other hand, lacks such a complementizer.

4.4 wrapping up

This chapter has discussed the role of the complementizer and the height of the relevant pronoun relative to the complementizer in the licensing of indexical shift and logophors. We have seen that the two phenomena behave in the same way in the relevant respect. An analysis was proposed that places much of the burden in the licensing of indexical shift and logophors in the complement itself, namely in the complementizers introducing the embedded context. This has enabled us to capture the role of particular complementizers in the licensing of logophors and indexical shift, as well as the fact that pronouns that move above the complementizer do not shift. Under the proposed analysis, cross-linguistic variation with respect to the availability of indexical shift and logophors is captured in part through morphological operations applying in the mapping of syntax to PF and in part through lexical differences.

CONCLUSION AND ADDITIONAL CONSEQUENCES

5.1 summary of the dissertation

In this dissertation I investigated the form and meaning of embedded pronouns and agreement morphology in the domain of *de se* speech and attitude reports from a cross-linguistic perspective. I first reviewed the known cross-linguistic variation in this domain including indexical shift, logophors, and logophors with first person agreement morphology. I then introduced data from Telugu and Nuer, establishing the existence of a novel language type where a third person pronoun controls first person agreement morphology. An analysis of this variation was also presented. It was argued that all the variation in question can be captured with language specific morphological operations that take place during the mapping of syntax to PF. It was shown that the proposed analysis also accounts for additional mismatches found in Mishar Tatar and Golin, as well

as makes novel predictions about person interaction phenomena such as person case constraint and direct-inverse languages.

I then examined an additional constraint on embedded pronouns. It was shown that in many languages when a nominal element is read *de se*, the smallest possible element available must be used. This constraint was found in languages with indexical shift, such as Turkish and Mishar Tatar as well as languages that do not display indexical shift, such as Kutchi Gujarati, Austrian Bavarian, and Vietnamese. It was argued that this restriction follows from a more general constraint on nominal elements, namely *Minimize DP!*. The proposed analysis not only accounts for the data, but also makes a novel prediction about the type of elements that can undergo indexical shift.

Finally, the role of complementation in indexical shift and logophors was investigated. It was shown that indexical shift and logophors are licensed in the same environments. It was established that logophors and indexical shift occur in complements introduced by a complementizer etymologically related to the verb *say*. The correlation between this complementizer and the ability to license indexical shift and logophors was captured by positing that it is the complementizer that introduces the embedded context that makes indexical shift possible.

Before concluding I would like to briefly discuss two avenues for future research, one involving the associative plural semantics of embedded pronouns and its relation to partial control and the other involving the use of conflicting feature values for agreement and 3/4 paradigms, with an investigation of quantifier partitives.

5.2 associative plurals and partial control

Chapter 2 established a system of embedded pronouns and agreement morphology with much of the emphasis put on singular pronouns. In this section, I briefly discuss plural embedded pronouns (see also Sells 1987, Schlenker 2003a, LaTerza et al. 2014 for some discussion of embedded plurals). The discussion in this section will also have a number of interesting consequences for theories of the associative plural generalization and partial control.

As noted briefly in chapter 2, plural embedded pronouns appear to have associative plural semantics. This means that a plural pronoun can be used to refer to a group of multiple attitude holders, but also to any group of individuals that includes the attitude holder. This is true of languages with logophors, languages with indexical shift (the example below is from Turkish) and languages with agreement shifting (the example below is from Nuer) (see chapter 2 for discussion of these language types).

- (1) a. wur sat nə n nas dʊn
 he said that I beat LOG-PL
 ‘He said that I beat them (including him)’
- b. wur sat nə n nas mo
 He said that I beat them.
 ‘He said I beat them.’ (Frajzyngier 1985)

- (2) Ali [hasta-lan-di-z biz] de- di
 Ali [sickPASS-PST-1PL 1PL] say-PST
 ‘Ali said that they got sick.’ (Deniz Özyildiz p.c.)

- (3) a. John kεnε Peter ci-kε wee [kεn]
 J.NOM and P.NOM AUX.PERF-3PL say.PERF.PART [they.NOM]
 ca-kɔ Mary nεεn].
 AUX.PERF-1PL.EXCL M.OBJ see.PERF.PART]
 ‘John and Peter said that they saw Mary.’
- b. John ce wee [kεn] ca-kɔ
 J.NOM AUX.PERF-3SG say.PERF.PART [they.NOM] AUX.PERF-1PL.EXCL
 Mary nεεn].
 M.OBJ see.PERF.PART]
 ‘John said that they saw Mary.’

In chapter 2 (see section 2.2.4), I used the data in (1b), to argue that logophors have [+author] feature, as it has been argued that only indexical pronouns have associative plural semantics (Bobaljik 2008, Wechsler 2010).

While first and second person singular pronouns refer to the speaker and the addressee of an utterance respectively, plural first and second person pronouns do not refer to groups of speakers or addressees but instead to groups that include the speaker or the addressee. In English, first person plural pronouns can refer to any group that includes the speaker, as shown in (4).

- (4) a. We are the champions! (unison) (*speakers*)

- b. We want you to come to dinner. (*speakers + others*)
- c. Shall we go? (*speakers + addressee*)
- d. Can't we all get along? (*speakers + addressee + others*)

Likewise, plural second person pronouns can refer to a group of addressees or a group that includes the addressee.

- (5) a. You should behave yourselves (*addressees*)
- b. How do you guys handle promotions in philosophy? (*addressees + others*)

For languages that have an INCLUSIVE/EXCLUSIVE distinction, the pronoun that is used in (4a) and (4b) would be different from the one used in (4c) and (4d). The example below is from Indonesian (Wechsler 2010).

- (6) a. *multiple speakers* OR *speakers + others*: *kami*
- b. *speakers + addressee* OR *speakers + addressee + others*: *kita*

Consider now the kind of variation that is found in this respect cross linguistically. With the basic numerical system where 1 means speaker, 2 means addressee and 3 means other, 7 "meta-persons" are in principle possible. However the largest attested inventory is only a four way distinction. Based on this, Bobaljik (2008) proposes the following universals:

- (7) Person universals

- a. As restrictions on contrasts
 - U₁. No language distinguishes [1+1] from [1+3]
 - U₂. No language distinguishes [2+2] from [2+3]
 - U₃. No language distinguishes among [1+1+2], [1+2+2] and [1+2+3]
- b. As restrictions on forms
 - U₁. No language has a special morpheme for (true) [1PL]¹
 - U₂. No language has a special morpheme for (true) [2PL]
 - U₃. No language has a special morpheme for a comprehensive person [1+2+3]

These are absolute universals and not statistical trends. Interestingly, the behavior of first and second person pronouns mirrors the embedded plural pronoun data. The plural embedded pronouns discussed earlier all look like regular plural pronouns despite having only singular antecedents. A way of thinking about this is in terms of a universal restriction on form as given in (8).

- (8) No language has a plural logophor that takes a singular antecedent that is morphologically different than the plural logophor that takes a plural antecedent.

Just as there is no language that distinguishes [1+1] from [1+3], the restriction in (8) states that no language distinguishes a plural embedded pronoun consisting

¹A “true” first person plural pronoun would be a pronoun that refers to a plurality that is entirely made up of speakers.

5.3 conflicting feature values in quantifier partitives

of [attitude holder + attitude holder] from [attitude holder + others]. The generalization in (8) thus provides strong evidence of the close relationship between logophors and indexical pronouns argued for throughout this dissertation.

Interestingly, the only other pronoun that appears to show associative plural semantics is PRO in partial control constructions, demonstrated in (9). In (9a), the complement clause contains a distributive predicate that would require a nonatomic subject, as shown in (9b). This suggests that PRO in such cases is plural despite the fact that the controller in these cases is singular.

- (9) a. John_i agreed to PRO_{i+others} meet 7:00 to discuss the plans.
b. #John met at 7:00.

This is exactly the same situation that we have seen earlier where a logophor or other embedded pronoun can have a singular antecedent. There are however a number of differences between PRO and other embedded pronouns (see Landau (2016a) and Pearson (2016) for recent discussion) that would need to be accounted for if a unified analysis is to be adopted.

5.3 conflicting feature values in quantifier partitives

A crucial aspect of the analysis of embedded pronouns adopted to in this thesis is that they have conflicting person feature values. Interestingly, this makes them similar to the notion of *imposters* in Collins & Postal (2012). An imposter is a nominal element that appears morphologically third person but is used to refer

to the speaker or hearer of the current utterance. For example in (10), the subject NP *daddy* can be used to refer to the speaker (for instance if he is talking to his young daughter).

(10) Daddy is tired right now.

English quantifier partitive phrases (QPP) appear to be a breed of imposter that has not been investigated rigorously. Note that QPPs with first person P-complements can, as in (11), control either singular or plural agreement.

(11) Each of us is/are responsible.

These phrases also have the ability to bind either third person pronouns or first person plural pronouns if the P-complement is first person plural.

(12) Each of us did his/our best.

What makes them look like imposters is the characteristic 3/4 pattern we find when we attempt to have a QPP control agreement and bind a pronoun simultaneously. It is possible for both the agreement and the bound pronoun to be third person singular (13a); it is also possible for them to both be first plural (13b). If there is a mismatch between the agreement and the bound pronoun, it can only be the agreement expressing third person agreement and the pronoun first person (13c). The opposite combination where the agreement is first person plural and the pronoun third person is not available (13d).

- (13) a. Each of us is doing his best.
 b. Each of us are doing our best.
 c. Each of us is doing our best.
 d. *Each of us are doing his best.

This is actually a very general 3/4 pattern found in hybrid nouns like *imposters*. Thus, it is found with British English nouns like *committee* (Smith 2013).

In British English, it is possible for collective nouns like *committee* to control either singular or plural agreement and to bind either singular or plural anaphors. Just as we saw in (13), in cases where a collective noun controls agreement and binds an anaphor, only one mismatch is allowed (14c), while the other is not (14d).

- (14) a. The committee has voted to give itself a raise.
 b. The committee have voted to give themselves a raise.
 c. ?The committee has voted to give themselves a raise.
 d. *The committee have voted to give itself a raise.

Interestingly, Russian nouns like *vrač* 'doctor' (Corbett 1991) show the same pattern but with different features. *vrač* is a morphologically masculine noun but can control feminine or masculine agreement when its referent is female. In the examples in (15), *vrač* is controlling agreement on the verb as well as the adjective. Again, if the agreement is uniform across both the adjective and the verb, as in (15a) and (15d), then the utterance is acceptable. In the cases where the two

mismatch (15b)-(15c), only one is possible, namely the one where the adjective is masculine and the verb feminine.

- (15) a. Nov-yj vrač-ъ prišěl-ъ
 new-M.NOM.SG doctor-NOM.SG arrived-M.SG
 ‘New doctor arrived.’
- b. Nov-yj vrač-ъ prišěl-a
 new-M.NOM.SG doctor-NOM.SG arrived-F.SG
 ‘New doctor arrived.’
- c. *Nov-aja vrač-ъ prišěl-ъ
 new-F.NOM.SG doctor-NOM.SG arrived-M.SG
 ‘New doctor arrived.’
- d. Nov-aja vrač-ъ prišěl-a
 new-F.NOM.SG doctor-NOM.SG arrived-F.SG
 ‘New doctor arrived.’

Finally we see the same pattern with the Hebrew noun *be'alim* ‘owner’ (Landaу 2016b). Though always morphologically plural, it has the ability to control singular agreement when it refers to only one individual. When there are two agreement targets, we again see the now familiar 3/4 pattern where both uniform agreement options are available ((16a) and (16b)), but only one mismatch is possible (16c), while the other is not (16d).

5.3 conflicting feature values in quantifier partitives

- (16) a. ha-be'al-im ha-kodem maxar et ha-makom lifney šana
the-owner-PL the-previous.SG sold.3SG ACC the-place before year
'The previous owner sold the place a year ago.'
- b. ha-be'al-im ha-kodem-im maxru et ha-makom lifney šana
the-owner-PL the-previous-PL sold.3PL ACC the-place before year
'The previous owners sold the place a year ago.'
- c. ?ha-be'al-im ha-kodem-im maxar et ha-makom lifney šana
the-owner-PL the-previous-PL sold.3SG ACC the-place before year
'The previous owner sold the place a year ago.'
- d. *ha-be'al-im ha-kodem maxru et ha-makom lifney šana
the-owner-PL the-previous.SG sold.3PL ACC the-place before year
Intended: 'The previous owner(s) sold the place a year ago.'

Many authors have suggested that the 3/4 pattern can be accounted for if there are conflicting features within the controlling DP (Wechsler & Zlatić 2000, 2003; Pesetsky 2013, Smith 2015, Landau 2016). If these analyses are on the right track, they indicate that English QPPs like (11) also having conflicting features. Taken together with the analysis of logophors and other embedded pronouns in this dissertation, this points to a world where conflicting feature values occur more often and in more languages than previously thought.

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