Chatper 6: The Blended Case of Indexiphors

1. Indexiphors compared to indexicals and logophors

In the previous two chapters, I considered logophoric pronouns and shifted indexicals, giving them a largely unified analysis. Both involve the licensing of ghostly DPs in the CP periphery of an embedded clause. These DPs are controlled by an argument of the matrix verb and bind a special type of pronoun inside the embedded clause. The primary difference is the features that the ghostly DP has: the Sp involved in indexical shift is intrinsically [+1], whereas the lOp involved in logophoric constructions is not [+1] but [+log] (or [0log] in some languages). Against this background, there has been interesting reports of a kind of blended case that has elements of both these constructions. For example, in the African language Donno Sɔ a logophor in the embedded subject position triggers what is otherwise first person agreement on the embedded verb if and only if it is coreferential with the higher subject.

(1) Donno Sɔ (Culy 1994: 122, 123; Deal 2020: 107)

*a. (Mi) bojɛ-**m**.*
1SG go-“1SG”
“I’m going.”

*b. Oumar [**inyemɛ** jɛmbɔ paza bolu-**m**] miñ tagi.*
Oumar LOG sack.DEF drop left-“1SG” 1SG.ACC informed
“Oumar$_i$ informed me that he$_i$ had left without the sack.”

Similarly, the anaphoric item *tanu* in the Dravidian language Telugu can trigger first person agreement on T when it is coreferential with the immediately superordinate subject. This is seen in (2a); compare the normal cases of agreement in a simple root clause in (2b).

(2) Telugu (Messick 2023: 138 (1))

*a. Raju [**tanu** parigett-ææ-**nu** ani] cepp-ææ-Du.*
Raju 3SG run-PST-1SG C say-PST-M.SG
"Raju said that he ran."

*b. **Neenu** parigett-ææ-**nu**. **Raju** parigett-ææ-**Du.***
I run-PST-1SG Raju run-PST-M.SG
"I ran." "Raju ran."

Looking at the subject pronominal by itself, one would classify (1b) and (2a) as logophoric or LD-anaphoric constructions, grist for Chapter 5. Looking at the agreement on the verb, we would classify them as indexical shift constructions, the topic of Chapter 4. Given this combination of logophoric and indexical appearances, I find Amy Rose Deal's (2020: 110) blended term "indexiphor" to be felicitous.[1] This is also called "monstrous agreement", after David Kaplan's notion of a monstrous operator that shifts first and second person pronouns (Sundaresan 2012, Sundaresan 2018, Messick 2023); I mix that terminology in now and then as well.

One would certainly hope that a theory that accounts for both indexical shift and logophoricity in a unified way would have something to say about indexiphors as well. It would be very strange if it did not. Indexiphoric constructions could also provide the opportunity to learn more about the typology of ghostly DPs in the CP periphery: what their features are and how they relate to the features of the elements they bind. That is the first task for this chapter, in which I undertake to incorporate the essentials of Messick's (2023) analysis of indexiphoric phenomena into the current framework.

A further detail about indexiphoric constructions in both Donno Sɔ and Telugu is that the overt logophoric/anaphoric element can be omitted, in a kind of pro-drop. This is shown in (3) for Telugu; see Culy (1994: 115 (5b)) for Donno Sɔ.

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[1] However, I use this as a descriptive term for a logophoric pronoun that triggers first (or second) person agreement, in approximately the sense of Deal's earlier work. I do not adopt Deal's (2020: §5.4) theory of this type of agreement, although my thoughts in this chapter are indebted to hers in many ways.

(3) Telugu (Messick 2023: 145 (17))
*Kamala Siita too [(pro) ee pariikSa paasu awwagala-**nu** ani] cepp-in-di?*
Kamala Sita with I?? which test pass can-1SG that say- PST-3SG.F
"Which test did Kamala$_i$ tell Sita that she$_i$ could pass?"

Taken by itself, this version of the sentence looks just like an indexical shift construction, with what seems to be a first person null pro. Given this, we can ask more generally, when pro triggers first person agreement, is the null element fundamentally an indexical like 'I' or is it an indexiphor more like *tanu*? The literature contains certain examples of first person pro that are troubling for the theory of indexical shift, in that they look like counterexamples to Shift Together. For example, Mishar Tatar seems to have indexical shift with a first person pro but not with overt pronoun like 'I' or 'me' (Podobryaev 2014). More subtly, first person *pro* behaves a bit differently in indexical shift contexts from overt *ham* 'I' in Magahi in a way that Alok and I were not able to explain fully in previous work (Alok 2020, Alok and Baker 2022). In this chapter, I investigate the hypothesis that these seeming anomalies fall into place better if we think of pro as being a null indexiphor rather than a null indexical in these languages, as well as in Amharic (Schlenker 1999, Schlenker 2003, Anand 2006, Deal 2020). Throughout the chapter, crucial work will be done by the Person Licensing Constraint, (re)introduced in Chapters 3 and 4, and we will learn more about its parameterization.

2. Leading Ideas

From a theoretical perspective, I approach this topic by way of Messick's (2023) analysis of Telugu, and his comments on some other languages. Messick's leading idea is that indexiphoric agreement happens when a pronoun has a bundle of mixed, even contradictory phi-features—for example when a subject pronoun is, roughly speaking, both [+1] and [-1]. The [+1] feature value causes the allomorph of agreement on T to be the same as what T shows when it agrees with an ordinary first person pronoun. At the same time, the [-1] feature value causes the allomorph that gets inserted for the pronoun itself to be the same as some other third person (or second person) element from the language's repertoire of vocabulary items.

Another important aspect of Messick's analysis is that these unusual feature bundles arise only if the pronoun is bound by a kind of ghostly

DP operator. He simply calls this DP "Op_{ani}", named after the complementizer *ani* that licenses it in Telugu, although he clearly has in mind a parallel with how logophoric pronouns and shifted indexicals have been analyzed in other languages. The result is that indexiphoric behavior only appears in embedded clauses (usually complement clauses) where the indexiphor is bound by an operator that is (in my terms) controlled by the subject of the matrix verb. I want to keep these ideas, grounding them within my own theory.

What does the current work contribute to understanding this phenomenon? On my view, even ordinary first person pronouns like 'I' and 'me' having the feature [+1] is related to their being bound by an operator, the [+1] operator Sp. Similarly, lOp licenses an ordinary logophoric pronoun in African languages and shares with it (or is nondistinct with it in) a [+log] feature. One wants the indexiphoric phenomenon to fit well into this range of possibilities.

In broad theoretical terms, a pronoun gets its grammatical features in one of two ways. One possibility is that a feature is intrinsic to the pronoun, inserted with it from the lexicon at the beginning of the syntactic derivation. Another possibility is that a feature is inherited from its binder, a DP or functional head. Both ideas have been in the literature in various forms for a long time. Both are present in Kratzer (2009), for example. Many cases seem like they can be handled either way. A few cases may work better one way rather than another. For example, logophoric pronouns in Ibibio need to be bound by lOp. But it is not true that lOp gives [+log] to every pronoun that it binds, in that lOp can also bind [-log] pronouns in Ibibio (§5.5.3). So [±log] can apparently be specified on pronouns intrinsically in Ibibio. In contrast, lOp cannot bind a plain pronoun in Edo. In this language, it would be possible to say that a pronoun always gets [+log] by inheritance, if and only if it is bound by lOp. Similar possibilities hold for more standard phi-features, including [+1] and [+2]. For example, there is reason in Slave to say that a pronoun is [+1] if and only if it is bound by the closest Sp; otherwise it is third person (see Baker 2008: §4.3; I review this below). Other instances of [+1] might be inherent on the pronoun, as in Kratzer (2009) and other work.

With these possibilities in mind, I hypothesize that unusual bundles of features like those that give rise to indexiphors are what happens when a pronoun gets a mixture of feature values from these two routes—when a pronoun's intrinsic features are different from its inherited features. Some such cases may be ruled out as being semantically

incoherent in some way. However, others may be tolerated by the grammar and even given a distinctive realization. For example, indexiphoric *inyemɛ* in Donno Sɔ or *tanu* in Telugu could be intrinsically [+3, -1, +log] but then they get an additional first person feature by inheritance, as a result of being bound by a ghostly DP from the lOp/Sp family.[2] It could make sense to say that the new features received by inheritance go in an outer layer built around a core consisting of the intrinsic features: e.g,. [[-1, +3, +log] +1] for *tanu* in (2). I call *indexiphoric* any linguistic item that is associated with both a participant feature like [+1] and a logophoric feature like [+log], whether it is a pronoun (as here), an operator, or an agreement morpheme. When an external head agrees with a structured bundle like this, it naturally picks up features from the outer layer, the one it sees first when it looks into the DP from the outside. These outer features are the ones added to the pronoun from its binder, in this case [+1]. In contrast, when the pronoun itself is spelled out, the first vocabulary item that gets inserted is the ordinary third person pronoun, assuming that vocabulary insertion proceeds cyclically, from the bottom up, so that it sees the [-1, +3, (+log)] layer first. On these assumptions, the example in (2) from Tamil has the analysis in (4).

(4) Raju say [[Op:+1] that [[[pro: +3, -1, +log] +1] T[+1] run]]

control binding+inheritance Agree :**Syntax**

PF:**Vocab insertion:** →*tanu* →*-nu*

The goal of setting things up in this way is to make it nonaccidental which features show up in the T-agreement and which show up on the pronoun itself. Looking across the cases discussed here and in related work, it seems to be systematic that the form of the pronoun shows the inherent features of the pronoun itself, whereas functional heads agree with the features that the pronoun receives contextually, by virtue of appearing in a certain environment. Messick (2023: 177) points out this generalization but does not capture it organically. However, I will

[2] The view that I am aiming for here contrasts with that of Deal (2020), adopted also by Messick (2023). Deal assumes that indexiphors bear a different kind of first person feature, one sensitive to indices or contexts, whereas I claim that they have a normal first person feature used in combination with other features.

not put much additional weight on this distinction between intrinsic features and inherited features, leaving this as an optional part of the analysis, which readers can decide whether to take on board or not.

In addition to these elements, there will be much reason to make use of the Person Licensing Condition (PLC) of Baker (2008: 126), introduced into this work in §3.4.5 and §4.4. My original idea was that a big part of what is syntactically special about first and second person pronouns as opposed to third person pronouns is that the participant pronouns are ultimately bound by Sp and Ad, which in root clauses denote the speaker of the sentence and the addressee (Speas and Tenny 2003). We saw that this relationship is subject to a relativized minimality type condition, such that no other DP with the same feature comes between the participant pronoun and its anchor. This accounts for certain locality effects that only participant pronouns are subject to. In §4.4, this was stated as in (5). (I revise this below.)

(5) *Person Licensing Condition* (to be revised)
   a. A [+1] feature on a pronoun that does not otherwise have a grammatically assigned semantic value must be licensed by the pronoun being locally bound by the closest c-commanding element that is [+1].
   b. A [+2] feature on a pronoun that does not otherwise have a grammatically assigned semantic value must be licensed by the pronoun being locally bound by the closest c-commanding element that is [+2].

These conditions apply to both inherent instances of [+1] and [+2] that are on the pronoun from the beginning and inherited instances that are added by the pronoun being bound by a suitable operator. Recall also from §4.4 that the PLC applies to elements that do not have a fixed semantic value: to ordinary pronouns in A-positions and to uncontrolled but embedded instances of Sp and Ad, but not to Sp*/Ad* in the root clause or to instances of Sp and Ad that undergo obligatory control.

Among other things, the PLC was introduced to account for the local nature of indexical shift: not only must ‘I’ be bound by Sp and ‘you’ by Ad, they must be bound by the closest Sp and Ad, with closeness defined in the usual way, using c-command. This gives the properties of Shift Together and Local Determination (No Intervening Binder) which Anand (2006) and Deal (2020) capture by context overwriting.

In Baker (2008: 130-133), I motivated the PLC with data like (6) from Slave (Rice 1989: 1274; see also §4.4 of this work).[3] Here 'me', a proleptic object in the matrix clause, is locally bound by Sp*, so it refers to the speaker and is [+1]. As an indexical shift language, Slave also allows Sp in the complement of 'want', where it is controlled by the matrix subject 'nurse'. Therefore, a pronoun inside the embedded clause referring to the nurse is also [+1], since it is locally bound by the embedded Sp. What is particularly interesting here is that the embedded clause also has a pronoun that refers to the speaker of the sentence as a whole, namely the object of 'see'. This pronoun cannot be [+1], despite referring to the speaker; rather it is a [-1] third person form. This is in accordance with (5a). The object of 'see' is bound by Sp* (and the matrix object, which is bound by Sp*), but it is not bound by the closest [+1] element. Rather, there is another [+1] element, the embedded Sp, which is closer to the object of 'see' (it c-commands that object and is c-commanded by Sp* and the matrix object) and this closer Sp does not bind the object of 'see'. Hence [+1] is not licensed on this object pronoun.[4]

(6) Slave (Rice 1989: 1274)
a. Judóné ri nurse [Teddy gho beghárayuhdá] sudeli?
when Q nurse Teddy about 1SG.OPT.see.**3SG.O**]
3SG.want.1SG.O
"When does the nurse$_k$ want of me$_{Sp*}$ that she/I$_k$ see me/her$_{Sp*}$ about Teddy?"

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[3] In Baker (2008), like other work, I took it for granted that Slave had genuine indexical shift. At the end of this chapter, I suggest that it may have indexiphors instead of true shifted indexicals. However, it is historically accurate to say that the Slave patterns motivated the PLC. Moreover, given that the PLC restricts indexiphoric constructions in much the same way that it does indexical shift constructions, this is not inaccurate in the current context either.

[4] In general, a third person pronoun in the scope of indexical shift can refer either to Sp* or to some other person in the discourse (like a normal third person pronoun), according to Rice. However, the proleptic object of 'want' needs to be coreferential with some pronoun inside the complement of 'want' (cf. stilted English allows *?I want of John that he come early*, but worse is *#I want of John that Mary come early*). This constraint forces the third person embedded object pronoun to refer to the speaker (Sp*) in (6).

b. When Q [Sp*$_i$ C [nurse$_k$ want me$_i$ [Sp$_k$ C [pro[+1]$_k$ see pro$_i$**[*+1]** about Teddy.]]]

Data like this provide the initial motivation for the PLC. In this chapter, I show that the PLC is also a useful tool for analyzing indexiphors and their interactions with one another and with ordinary indexicals. I argue that there are other operators in addition to Sp and Ad that have the features [+1] and [+2], such that they can license those features on bound pronouns. These relationships are subject to the PLC as well. However, I add that operators can differ in the "strength" with which they hold their [+1] and [+2] features, leading to a refinement of the PLC. There will be room for a dash of parametrization at this point, which enables us to account for some crosslinguistic variation when it comes to Shift Together effects.

These are the main ideas that are in play in this chapter as I add indexiphors into the mix and seek to understand their theoretical implications. The challenge will be to fill in the details to best account for particular cases in particular languages. I will have to be careful with exactly what combinations of features specific pronouns and operators have. I begin with two clear cases of indexiphoricity, Donno Sɔ and Telugu, with some comments on Aqusha Dargwa and Tamil. Once we have a good hold on the phenomenon from these clear cases, I turn to languages in which only null pro is indexiphoric: Mishar Tatar, Amharic, and Magahi. This chapter continues the theme of parameterization begun at the end of Chapter 5, as I fit several languages with blended or intermediate properties into the framework.

3. Indexiphors with indexiphoric agreement in Donno Sɔ (and Dargwa)

Donno Sɔ (DS) is a good language to start with. I take it as the baseline case of indexiphoricity (following Deal 2020), discussing other languages as variations on the theme. As a West African language, DS has bona fide logophoric pronouns. Culy (1994) shows that they have the normal properties of such, as described and analyzed in Chapter 5; see also Heath (2016) for further grammatical information. DS's logophoric pronoun is prominently involved in the indexiphoric phenomenon, as seen in (1). Expanding on the description in §6.1, in matrix clauses, first person pronouns trigger the ending *-N* (/*-m*) on the verb, but other pronouns and DPs do not.

(7) Donno Sɔ (Heath 2016: 147)
a. tombo-o-**ŋ** ‘I jumped’
b. tombo-o-w ‘you jumped’
c. tombo-e-*Ø* ‘he/she jumped’, etc.
(e→o by vowel harmony)

However, agreement looks quite different in embedded clauses. Here, any pronoun can trigger *-N* on the verb if and only if it is coreferential with the immediately superordinate subject. This includes the logophoric pronoun, but also plain third person pronouns, and even second person pronouns. This special use of so-called first person agreement is required in DS (Heath 2016: 304).

(8) Donno Sɔ (Heath 2016: 147)
*a. Mi [da:ŋa-**ŋ**] gi-y-ŋ.*
1SG sit:ST-LOG.S say-PFV-1SG
“I said that I am sitting.”

*b. Nju ja: [yɛ:-jɛ-**ŋ**] gi-y-w.*
what cause come-IPFV-LOG.S say-PFV-2SG
“Why did you say that you were coming?”

*c. Se:du [**njemɛ/wo** yɛl-li-**ŋ**] gi-y-Ø.*
Sedou LOG/3SG.S come-PFV.NEG-LOG.S say- PFV-3SG
“Sedou$_i$ said that he$_i$ didn’t come.”

These are the indexiphoric cases. We want to say roughly that a pronoun acquires a [+1] feature in addition to its intrinsic features if and only if it is bound by some kind of lOp, which in turn is controlled by the matrix subject. The binder cannot be equated with Sp, because then we would have full-fledged indexical shift, and the embedded subject would be ‘I’ in all cases, which it is not in (8c).

An embedded first person pronoun can trigger *-N* on the verb, as in (8a), but only if ‘I’ is coreferent with the matrix subject. Otherwise, even ‘I’ does not trigger *-N*; I call this the *disagreement* phenomenon. (This is the way in which DS is most different from Telugu.) It is illustrated by the pair in (9). The logophoric pronoun that is coreferential with the matrix subject triggers “first person” agreement on the embedded verb, but the first person pronoun referring to the speaker (Sp*) does not.

(9) Donno Sɔ (Culy 1994: 123, Deal 2020: 108).

*a. Oumar [**ma** jɛmbɔ paza boli-**Ø**] miñ tagi.*
Oumar 1SG sack.DEF drop left-3SG 1SG.OBJ informed
"Oumar$_i$ informed me$_{sp*}$ that I$_{sp*}$ had left without the sack."

*b. Oumar [**inyemɛ** jɛmbɔ paza bolu-**m**] miñ tagi.*
Oumar LOG sack.DEF drop left-"1SG" 1SG.OBJ informed
"Oumar$_i$ informed me$_{sp*}$ that he$_i$ had left without the sack."

One way of looking at this is that even a first person pronoun needs to receive some kind of feature from being bound by lOp in order to trigger *-N* agreement: it needs to be [[+1, -3] +log]]. Both [+1] and [+log] together condition the vocabulary item *-N* for agreement on T, as stated in (10).[5] This combination of features qualifies *-N* as being an indexiphoric agreement marker.

(10) Agr→ *-N* / [+1 +Log]

Surveying these examples, we see that the ghostly DP operator in DS can give [+1] to a third person logophoric pronoun, as in (8c) and (9b), it can give [+log] to a first person pronoun in (8a), and it can give both [+1, +log] to a second person pronoun, as in (8b). Given the common assumption that binders transmit their own phi-features to their bindees, it is plausible to assume that the operator itself has both the feature [+1] and the feature [+log]—that it is a kind of hybrid of Sp and lOp. This is an indexiphoric operator, then, and I refer to it as

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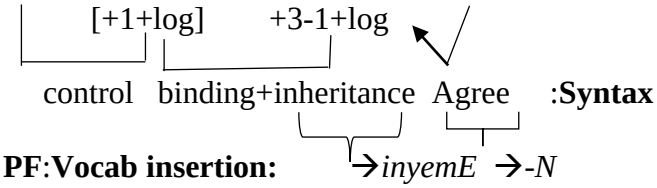
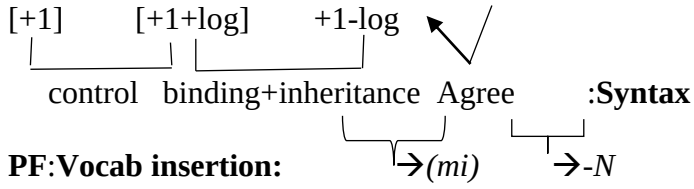
[5] An alternative would be to say that a first person pronoun does not trigger *-N* in an embedded clause because it gets an outer layer with the feature [+3] from some kind of operator in a sentence like (9a). This outer [+3] layer then triggers third person agreement on T (-Ø). (See Messick (2023: 176) for a proposal like this.) Descriptively, this sounds plausible enough, and it would have some advantages. For example, one would not have to posit a 1lOp in matrix clauses, as proposed just below. But I take this view to be conceptually implausible. It is reasonable to say that [+1] and [+2] elements are bound by designated operators, in part because normally all first person pronouns in the same clause need to be coreferential, and similarly for (nondemonstrative) second person pronouns. But that is patently not true for ordinary third person pronouns. It seems implausible to say that there is a series of third person operators—not necessarily controlled by any matrix argument—each of which binds one of the several noncoreferential third person pronouns that a sentence might contain.

1lOp. This gives representations like (11). (11a) is the normal indexiphoric case (essentially the same as (4)), (11b) is the first person indexiphoric case, and (11c) is the first person disagreement case.

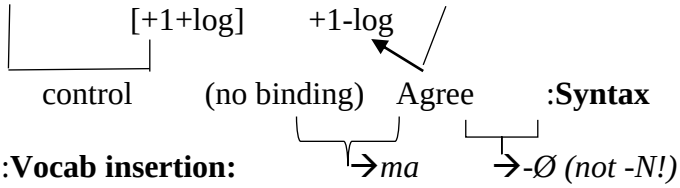
(11) a. S say [1lOp that [[[pro] +1] T[+1+log] run]]



b. pro say [1lOp that [[[pro] +log] T[+1+log] come]]



c. Oumar say [1lOp that [[[pro] T[+1-log] come]]



Now that we have added these assumptions for the sake of embedded clauses, we need to reconsider (1a), repeated here as (12), and say why an ordinary first person pronoun does trigger *-N* in a matrix clause. What is the difference between (9a), which does not have *-N*, and (12) which does have *-N*?

(12) Donno Sɔ (Culy 1994: 122, Deal 2020: 107).
(Mi) bojɛ-m.
1SG go-"1SG"
"I'm going."

The logic of my assumptions implies that matrix clauses have 1lOp too. This works if we say that this unembedded 1lOp can be bound by Sp* in the matrix clause, there being no other candidate for controlling it in this environment. Positing this additional element has little other effect grammatically or semantically, but it does crucially give the

first person subject pronoun the feature [+log], so it can trigger -*N* agreement. The representation is in (13).[6]

(13) Sp* (sa) [1lOp [[[pro] +log] T[+1+log] go]]
[+1] [+1+log] +1-log
control binding Agree :**Syntax**
PF:**Vocab insertion:** →*mi* →*-N*

In considering these matters, we need to make sure that the analysis of DS allows for indexiphoricity but not full-blown indexical shift. What then is wrong with (14) in this language, with either Sp or 1lOp in the complement clause, controlled by the subject of the matrix clause?

(14) Donno Sɔ (inferred, see also (9)).
a. **Se:du* ***[ma*** *yɛl-li-**ŋ**]* *gi-y-Ø.*
Sedou 1SG come-PFV.NEG-LOG.S say-PFV-3SG
("Sedou$_k$ said that he/I$_k$ didn't come.})

b. *[Sp*$_i$ Seydou$_k$ say [1lOp$_k$/Sp$_k$ C [I$_k$:+1 T not come]]]

Part of the answer is simply that Sp (and Ad) cannot appear in embedded clauses in DS, as in English and other garden-variety non-indexical-shift languages. But something more needs to be said about why (14b) is bad with 1lOp in the periphery of the embedded CP. We know that 1lOp exists in this language, since it has logophoric pronouns, and we know that it is [+1] because it can give that feature to pronouns that it binds, causing them to trigger indexiphoric agreement. We also know that 1lOp can bind a first person pronoun, as it does in (8a), analyzed in (11b), where it gives 'I' the [+log] feature it needs to trigger -*N* agreement on T. But even though 1lOp is [+1] and can bind 'I', it evidently is not sufficient to license 'I', the way that Sp is. To account for this, I revise the PLC so that it

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[6] We could think of this in neoperformative terms, after Speas & Tenny 2003. Root clauses with sa have a tacit predicate like "I hereby say (to you) that…". Sp* is the specifier of the sa head that has the force of 'say', as before, and 1lOp is the specifier of the complement of sa, with Sp* controlling 1lOp. In this way, the use of -*N* agreement in (12) reduces to the use of -*N* agreement in (8a).

distinguishes between stronger and weaker holders of the [+1] feature. First, I stipulate that 1lOp and indexiphors (pronouns that are inherently [+log] and derivatively [+1]) are *weak bearers* of the [+1] feature, whereas Sp and first person indexicals (pronouns that are inherently [+1]) are *strong bearers* of the [+1] feature. Then I state the PLC as (15), saying that a pronoun with a participant feature must be licensed by something that is at least as strong a bearer of that feature as it is.

(15) *Person Licensing Condition* (revised, final)
a. A [+1] feature on a pronoun X that does not otherwise have a grammatically assigned semantic value must be licensed by the pronoun being locally bound by an element Y such that Y is the closest c-commanding DP that is at least as strong a bearer of [+1] as X is.
b. A [+2] feature on a pronoun X that does not otherwise have a grammatically assigned semantic value must be licensed by the pronoun being locally bound by an element Y such that Y is the closest c-commanding DP that is at least as strong a bearer of [+2] as X is.
c. Stronger bears of [+1]: Sp, 'I', 'me'…
Weaker bearers of [+1]: 1lOp, a [[+log] +1] pronoun….
Stronger bears of [+2]: Ad, 'you'…
Weaker bearers of [+2]: 2AdOp, a [[+addr] +2] pronoun….

Now (14) with 1lOp is ruled out by (15a) as desired. The only [+1] binder of the embedded subject 'I' is 1lOp, and that is not as strong a bearer of [+1] as 'I' is. The idea is simply that 1lOp is strong enough to license an indexiphor but not a full indexical; only Sp (or another indexical) can do that. I do not fully commit to a particular conception of "strength of bearing a feature" that undergirds (15c). One intuition could be that the [+log] feature of 1lOp dilutes its [+1] feature, making it a less pure bearer of [+1] than Sp is. Another possible intuition is that 1lOp has an uninterpretable version of the [+1] feature (see below), whereas Sp has an interpretable one, and interpretable features are stronger than uninterpretable ones.[7]

[7] However exactly we think of feature strength in the PLC, we need it to have a degree of flexibility, so that (15c) admits of some parameterization. I argue below in §6.7 that Sp and 1lOp are equally strong bearers of [+1] in Magahi to

These ideas have been developed and exemplified using the [+1] feature, but (15) also makes the analogous changes for elements that bear the [+2] feature. This theoretical symmetry will be supported below, although fewer data are relevant, since addressee operators are not as common as logophoric operators (see §5.4). The alert reader may also realize that putting the strength requirement into (15) where I did will also affect how intervention works. I return to this more than once below.

There is also a converse to (14) to consider: whereas 'I/me' must be bound by Sp, the third person logophoric pronoun apparently cannot be. Thus 'I' is possible in (8a) repeated as (16a), but the logophoric pronoun evidently is not.

(16) Donno Sɔ (Heath 2016: 303).

*a. Mi [(*njemɛ) da:ŋa-**ŋ**] gi-y-ŋ.*
1SG LOG sit:ST-LOG.S say-PFV-1SG
"I said that I am sitting."

b. *[Sp*$_k$ [I$_k$ say [1lOp$_k$ C [pronoun$_k$:[[+log]+1]] T sit]]]

A simple and familiar reason why (16a) is bad would be because the logophor is a third person element, and as such it cannot take a first person pronoun as its antecedent. But this is not quite so easy now, given that the logophor is not only third person; it can also be first person when bound by 1lOp, as shown by the agreement it triggers on the verb. Why isn't its acquired [+1] feature enough to make (16a) possible? Each individual piece of the representation in (16b) is known to be possible. 1lOp can bind a logophor in the subject position, making it [+1], and 'I' can control 1lOp, as in (11b), the analysis of (8a). Nor is there any violation of the PLC here. But the pieces do not add up in this case. To cover this gap, I propose a blocking account: 'I' is possible as the subject of the embedded clause in (16), with the same meaning, and when 'I' is possible it blocks weaker/more general elements like the logophor. This is stated in (17).

(17) If an inherently [+1] (or [+2]) pronoun is possible in a given position in a syntactic structure with a particular meaning, it

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account for a difference between it and other indexiphoric languages.

blocks the use of an inherently [-1] (or [-2]) pronoun in that structure with that meaning.

More could presumably be said about (17) and its relationship to other blocking principles like "Maximize Presupposition" in the semantic/pragmatic literature on pronouns and their phi-features. However, I do not pursue that here, focusing instead on the core syntactic issues.[8] (17) also rules out a sentence like *inyemɛ jɛmbɔ paza bolu-m* ('LOG sack drop leave-1LOG.S) meaning 'I dropped the sack' as a root clause, while allowing it as a complement clause as in (9b).

DS allows indexiphoric behavior in which a pronoun in a CP complement clause that is not intrinsically [+1] triggers [+1] agreement not only with logophoric pronouns, but also with ordinary third and second person pronouns, as shown in (8b,c). We can assume that the plain third person pronoun is [-1, -2, +3, -log]. As in Ibibio and Yoruba, the logophoric operator in DS can bind plain pronouns as well as logophoric ones. Since the ghostly DP in DS is 1lOp, this endows the plain pronoun with an outer layer of features, giving [[-1, -2, +3, -log] +1, +log]. This does not affect vocabulary insertion for the pronoun, which initially sees only the inner layer, but it does affect agreement, which initially sees the outer layer. This differs from the logophor case only in what vocabulary item gets inserted for the pronoun itself.

The case of a second person pronoun as the embedded subject with a second person pronoun as the matrix subject is similar. It has the representation in (18), where now we need to take Ad* into account. Here 1lOp binds the subject of the clause selected by C, as in other indexiphoric cases, giving the subject a new layer of features, visible for agreement on T. This time, however, the controller of 1lOp is

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[8] Note that (17) is stated over syntactic structures, not surface strings. It is not always true that a logophor/LD-anaphor cannot be used when a first person pronoun can be. For example, Aqusha Dargwa allows both 'Ali said that I am late' and 'Ali said that self is late' (see (26), from Ganenkov (2022)). The difference is that Dargwa allows either Sp or 1lOp to be in an embedded CP, so there are two different syntactic structures with the same surface string, one licensing 'I' and the other licensing 'self'. (It is always a tricky matter with blocking stories to say exactly what is and is not in the comparison class. That is a task I am not undertaking in not pursuing (17) further.) (17) might also play a role in saying why a logophoric pronoun cannot have a first person pronoun as its ultimate antecedent in Ibibio and Ewe, something not explained in §5.5.

'you', a pronoun with a [+2] feature, This feature in turn is licensed by being locally bound by Ad*. This matrix subject then licenses [+2] on the embedded subject in accordance with the PLC, since it binds the embedded subject (indirectly, via 1lOp), it is as strong a bearer of [+2] as the embedded subject is, and there is no other equally strong [+2] element that intervenes. Therefore, the embedded subject in (18) may be 'you'. And since it may be 'you', it must be 'you', given (17).

(18) Ad*$_i$ [you $_i$ say [1lOp $_i$ C [you T+1,+log] come]]
[+2] [+2] [+1+log] [[+2] +1, +log]
Agree
binding control binding+inheritance →*-N*

Next we can turn to more complex structures, with double embedding. As in other languages, a logophoric pronoun does not necessarily need to refer to the immediately superordinate subject; rather, it can refer to a higher subject, as in (19).

(19) Donno Sɔ (Heath 2016: 304).
Se:du *[u wa [(pro)* ***njemɛ****-ŋ da-da:-dɛ-ŋ] gi-y-Ø] gi-y-Ø.*
Seydou 2SG QUOT 2SG LOG-ACC AUG-kill-IPFV-LOG.S say-PFV-3SG say-PFV-3SG
"Seydou$_i$ said that you$_{ad*}$ said that you$_{ad*}$ will kill him$_i$."

This implies that there is a 1lOp controlled by *Seydou* in Spec CP of the complement of the higher 'say'. This can bind and license the logophor in the lowest clause, even over an intervening 1lOp controlled by 'you' in the periphery of the lowest clause.[9] (We know a second 1lOp is there because of the indexiphoric *-N* agreement triggered by 'you' on the lowest verb.) But then consider (20a), with a third person pronoun as the lowest subject. This is possible, referring to the highest subject, but crucially *-N* agreement is not triggered on the verb in this case. This contrasts minimally with (20b), where the pronoun in the lowest clause is coreferential with the subject of the next highest clause; here *-N* agreement is possible, indeed required.

[9] Note that I am assuming that DS has only 1lOp, not a simple lOp in addition. If DS allowed for lOp as well as 1lOp, then (all things being equal) the logophoric pronoun *njemɛ* could be used in subject position without triggering first person -N agreement on the verb in an example like (8c). This seems not to be the case.

(20) Donno Sɔ (Heath 2016: 304).

*a. Se:du [[u wa [wo wa yɔgu wɔ-(*ŋ)] gi-y- Ø] gi-y-Ø.*
Seydou 2SG QUOT 3SG QUOT nasty be-(*1.LOG.S) say-PFV-3SG say-PFV-3SG
"Seydou$_i$ said that you said that he$_i$ is nasty."

b. Se:du [[u wa [(pro) yɔgu wɔ-(ŋ)] gi-y- Ø] gi-y- Ø.*
Seydou 2SG QUOT you nasty be-1.LOG.S say-PFV-3SG say-PFV-3SG
"Seydou said that you said that you are nasty."

c. Seydou$_i$ said [1lOp$_i$ that [you$_k$ said [1lOp$_k$ that [[[he$_i$]***+1**] be nasty]]]].

Why isn't (20a) possible with *-N* on the lowest verb? We know from (19) that 1lOp is possible in the intermediate Spec CP, controlled by *Seydou*. We also know that it can bind the third person pronoun in the lowest clause (recall that 1lOp can bind plain pronouns as well as logophoric ones, as shown by (8c)). There is no reason to think that this should be possible for an object as in (19), but not for a subject as in (20a). So a syntactic structure like (20c) is possible in principle. What apparently cannot happen is that the higher 1lOp cannot give [+1] to its bindee at a distance, over another instance of 1lOp in the Spec CP of the lowest clause. (This 1lOp must be obligatory, since *-N* agreement is obligatory on the lowest verb in (20b) and in the simpler two-clause sentences in (8).)

In fact, this restriction follows already from the PLC in (15), given that 1lOp (like Sp) is a bearer of the [+1] feature and thus a potential licenser of [+1] on a pronoun that it binds. Indeed, there is a similarity between the locality of indexiphoricity that we see in DS in (20), involving 1lOp and pronouns triggering monstrous agreement, and the locality of indexical shift that we see in Slave in (6). It makes sense, then, for the PLC-based account to generalize from its original home in indexical shift to the related topic of indexiphors.1lOp in DS is distinct from Sp; it does not license full-blown indexical shift, but only indexiphors, as we have seen. However, one of its features is [+1], which it can impart to its bindee, subject to the condition in (15a). In (20a) there is a second 1lOp bearing the [+1] feature between the 1lOp controlled by *Seydou* and the pronoun that depends on it in the lowest clause. This potential intervener is as strong a bearer of

[+1] as the pronoun and its potential licenser are: all three are weak bearers of [+1] according to (15c). Therefore, the higher 1lOp cannot license [+1] on the lowest subject pronoun in this structure. (20a) can be contrasted with logophoricity in Ibibio in an example like (21).

(21) Ibibio (Afranaph)
Okon a-diongo ke Edem a-ke-bo ke imọ i-mi-sop idem.
Okon 3SG-know that Edem 3SG-PST-say that LOG 3.LOG-PERF-fast body
"Okon$_i$ knows that Edem$_k$ said that he$_{i,k}$ is smart."

Recall that Ibibio has special agreement on T with a logophor. This can be seen on the most embedded verb in (21), which bears the prefix *i-* as opposed to normal third person singular *a-*. (21) shows that this special agreement happens even if the antecedent of the logophor is the higher of the two superordinate subjects. But crucially special agreement in Ibibio is just [+log] agreement (or perhaps default agreement; see Baker and Willie 2010); it is not agreement that is related to the first person feature in any way. (First person singular agreement in Ibibio is *N-*.) Only [+1] and [+2] person features are subject to the special locality condition built into the PLC; [+log] is not. In other words, there is no "LLC" for logophors; they must be licensed by being bound by a logophoric operator, but there is no relativized-minimality-type condition on that licensing.[10]

Next, we can consider for DS the possibility of having an indexiphoric pronoun inside an island, and other NOC environments. Heath (2016: 305) reports that one does not get special logophoric phenomena inside a relative clause, even when the subject of the relative clause is

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[10] An interesting question that arises is what happens with cases in which 1lOp in DS tries to impart [+log] to a first person pronoun over another 1lOp, as in a structure like (i).

(i) I said-N that Seydou said that I be-(N??) nasty.

Heath (2016) does not discuss this situation. Given the discussion of (21) in Ibibio, I might predict this to be possible. If so, great. However, a reasonable extrapolation from the data given is that *-N* is ungrammatical on the lower verb in (i). In that case, one might suppose that when the feature [+log] is packaged with [+1], as it is with 1lOp in DS, then it inherits the locality conditions on feature licensing that are characteristic of [+1], becoming subject to the PLC.

coreferential with the next highest subject, as in (22). Hence (22) has the plain pronoun *wo*, not the logophor. (There is no subject-verb agreement inside relative clauses in DS (Heath 2016: 229), so we cannot expect to see indexiphoric *-N* agreement here in any case.)

(22) Donno Sɔ (Heath 2016: 305)
Se:du [kide kan-u bɛ-j-a: ***wo*** *se:=gɔ] kan-i-Ø.*
Seydou thing do-CHAIN get-IPFV-PST 3SG have=DEF do-PFV-3SG
"Seydou$_i$ did what he$_i$ could do."

This implies that there cannot be a 1lOp in Spec CP of the relative clause controlled by *Seydou*. From a typological standpoint, this is what we expect, given that logophors are not licensed in this position in Ibibio, and indexical shift is not licensed in Magahi. From the theoretical point of view, this is not a context in which an operator undergoes OC, according to the GOCS. Similarly, adjunct clauses that have their own subjects do not generally show signs of indexiphoricity or logophoricity.[11] For example, the 'since' clause in (23) has an ordinary pronoun as its subject, not a logophor, and it does not trigger *-N* agreement despite being coreferential with the matrix subject.

(23) Donno Sɔ (Heath 2016: 260)
Be yel-e-Ø ne, ŋa: ŋa:-n-ni.
3PL come-PFV-3.PTCP LOC meal eat-PFV.NEG-3PL
"Ever since they came, they haven't eaten."

Like lOp, then, 1lOp in DS is not licensed in syntactic positions that do not allow for obligatory control.

The apparent exception to this generalization is that 1lOp must be allowed in root clauses, in order to account for the possibility of *-N* agreement in simple examples with first person subjects, like (12) under the analysis in (13). But even here, 1lOp is not free to

[11] Good adjunct clauses to test this seem to be rather limited though. Many adjunct clauses in English correspond to clause chaining constructions in DS, where the adjunct may not have its own grammatical subject. Others are built out of relative clauses, which we know not to allow logophoric phenomena. The one example I found of indexiphoric agreement in an adjunct clause is (474) of Heath (2016: 299), an example with the gloss 'He does like he'll hit-N you.' That is fine if the embedded clause is a low VP-level adjunct in this case.

participate in a syntactically unconstrained form of non-obligatory control. It is not possible in DS for a logophoric pronoun in a root clause to trigger -*N* agreement on the verb and to take a third person antecedent in discourse the way that *zibun* in Japanese can. For example, nothing like 'Sedu was upset. Log/he had.lost-*N* the money' is attested in Heath (2016). 1lOp is possible in a root clause, but only if it is bound by the Sp* of the root clause, such that the pronoun it binds refers to the speaker of the sentence. This is formally parallel to Sp* in saP in a root clause binding Sp in Spec FinP of the same clause in my analysis of Magahi. I assume that this obligatory binding of one ghostly DP by another in the same CP periphery can count as a form of obligatory control. It certainly fixes an interpretation for 1lOp by LF, as required by the principle of Full Interpretation.

Since 1lOp must undergo obligatory control, which does not happen in high adjunct clauses, we expect that extraposition of a CP complement should not create new possibilities for indexiphoric phenomena in DS—in contrast to Magahi, where it makes indexical shift optional and Japanese where it opens up the possibility of super-LD readings for *zibun*. This prediction is correct. If CP extraposition was a way to avoid OC in DS, then (20a) with -*N* on the lowest verb could be possible after all, with the analysis in (24). (Here I imagine leftward CP extraposition like in Tamil and Japanese, since CP-verb order is maintained.) CP extraposing to adjoin to TP plus being interpreted in this higher position would mean that the lower 1lOp is not obligatorily controlled by 'you', the subject of the intermediate clause. This could then allow it to be bound by 1lOp1, which is the closest c-commanding DP that shares the [+1] features with 1lOp2, consistent with the PLC. Then 'he' bound by 1lOp2 would ultimately be coreferential with *Seydou*, the controller of 1lOp1, which binds 1lOp2. Then 'he' could get a [+1] feature locally from its binder 1lOp2, so it could trigger -*N* agreement on T in the lowest clause.

(24) *Seydou$_i$ said [1lOp1$_i$ that [[1lOp2$_i$ that [[he$_i$]+1 be-*N* nasty]]...
...you said --]].
movement
control binding binding+transmission

However, (20a) shows that the analysis in (24) must also be ruled out. In this, 1lOp again behaves more like SoK and lOp than like Sp/Ad and zOp in Japanese in that it needs to undergo OC and cannot get an antecedent in some other way, such as binding after extraposition.

It might seem a bit surprising that 1lOp fits into the typology of ghostly DP operators in this way. My hypothesis has been that having more features is what allows some Ops to survive to LF without undergoing OC. The intrinsic features of the Op then allow it to get a suitable interpretation at LF, even when it does not get features and an interpretation from the syntax via obligatory control. Now 1lOp has a relatively large feature bundle, given that it can give both the features [+1] and [+log] to pronouns that it locally binds. However, it is crucially only interpretable features that count for making an Op able to forego OC, because only they contribute to giving the Op and its bindees an interpretation at the LF interface. I already assumed that [+log] is an uninterpretable diacritic feature in languages like Ibibio, Ewe, Yoruba, and Edo; it only serves to trigger the insertion of certain special vocabulary items, which then can serve as a visible signal that a certain pronoun is bound by a certain operator. This is presumably true of the [+log] feature in DS as well. To get the desired result, I propose that the [+1] feature of 1lOp is also uninterpretable, a [-int] clone of the familiar [+1] feature that is interpretable on pronouns in languages like English. Intuitively, the grammatical system we see in DS involves coopting of what is historically a first person feature to become a formal feature that reduces the ambiguity of a structure by using semi-arbitrary instances of feature matching among pronouns guaranteed to have the same referent, like [+n] in the pronoun system of Abe (see Koopman & Sportiche 1989).

Finally, consider the behavior of [+2] elements in DS's indexiphoric system. Heath (2016: 281) points out that, like first person pronouns, second person pronoun subjects in complement clauses participate in the disagreement construction: they do not trigger normal second person agreement on the embedded verb.[12] This is seen in (25a).

(25) Donno Sɔ (Heath 2016: 278, 281, 288)

*a. Se:du [**u** wa **yɛl-ɛ**] gi-y-Ø.*
Seydou 2SG QUOT come-PFV say-PFV-3SG
"Seydou said that you (sg) have come." (Not: *yɛl-ɛ-w*, come-PFV-2SG)

[12] In contrast, the third person plural subject of an embedded clause can trigger 3PL agreement (optionally) on the embedded verb in DS (Heath 2016: 281). Like cases with *-N*, this shows that agreement on T does happen in complement clauses in DS, even though *person* agreement has special properties.

b. [Ma-a yɛ-ǰɛ ma] tub-ɛ-Ø.
1SG-QUOT come-IPFV Q ask-PFV-3SG
"He asked whether I was coming." (not: *yɛ-ǰɛ-ŋ*)

This disagreement behavior is parallel to the behavior of the first person pronoun in (9a) and (25b), and invites a parallel explanation. Apparently, it is not automatic that 'you' triggers [+2] agreement on the verb. Like 'I', it needs to be reinforced by some kind of logophoric feature to do this. I therefore propose that DS also has a kind of AdOp, parallel to the operator that binds special addressee pronouns in African languages like Mupun and Tikar (see §5.4). I call this version of AdOP *2AdOp*, and propose that it bears the features [+2, +addr], another indexiphoric combination of features, parallel to 1lOp bearing [+1, +log]). (The possibility of such an element was foreseen in (15b).) The agreement affix *-w* is also indexiphoric, triggered by the features [+2 +addr], not just [+2]. Since 'you' in (25a) is not anteceded by a matrix goal, the controller of 2AdOp, it does not get [+addr]. Therefore, *-w* agreement cannot be inserted. In matrix clauses, 2AdOp is controlled by Ad*, just as 1lOp is controlled by Sp*. Thus 'you' as the matrix subject is bound by 2AdOp as well as Ad*, so it gets [+addr] as well as [+2]. As a result, it does trigger *-w* on the verb. This account is parallel to the treatment of first person pronouns in matrix and embedded clauses in DS. It also makes some predictions about what might happen when a pronoun in the CP complement of a verb like 'tell' is coreferential with the goal of 'tell', but sadly Heath (2016) does not discuss systematically what happens in such cases.[13] The analysis is tentative until these can be checked.

This indexiphoric pattern of agreement is also found in Aqusha Dargwa, a Nakh-Daghestanian language of the Caucasus studied by Ganenkov (2022). Indeed, everything that DS allows, Dargwa allows as well, replicating these patterns in a language is not related to DS genetically or areally. (But see fn. 18 on the locality of [+1] transfer in

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[13] One prediction is that second person agreement should appear on the embedded verb when 'you' is coreferential with 'you' as the matrix goal, in an example like "Seydou told you that you were-*(2SG) late." Here the embedded 'you' is bound by 2AdOp controlled by matrix 'you' as well as by Ad*, giving it [+addr] as well as [+2]. This would be the second person analog of (8a). There could also be predictions about what happens when a third person pronoun is coreferential with the matrix goal. I must leave these matters to future research.

Dargwa.) Dargwa is a bit more complex, however, in that it allows other possibilities as well. For example, it allows full-fledged indexical shift of first and second person pronouns, as well as indexiphoric agreement with logophoric (LD-anaphoric) third person elements. Thus (26a) and (26b) exist side by side in this language.

(26) Aqusha Dargwa (Ganenkov (2022): (10a), (8), (14)))

a. *ʔ**alis** hanbikib [**nu** q'an iub-ra ili].*
Ali thought.3 I late (M.SG)became-1 that
"Ali$_i$ thought that he/I$_i$ was late."

b. *ʔ**alis** hanbikib [**sa-j** q'an iub-**ra** ili].*
Ali thought.3 self-M.SG late (M.SG)became-1 that
"Ali$_i$ thought that (him)self$_i$ was late."

Within my framework, this means that Sp and Ad can appear in the periphery of an embedded clause in Dargwa, like in Magahi, whereas DS is like English in forbidding this. When Sp and Ad are in CP complements, they undergo control by matrix arguments, just as 1lOp and 2AdOp do. The end result is very similar, but embedded Sp allows a pronoun with inherent [+1] features to appear in a structure like (14a) in accordance with the revised PLC, since Sp is as strong a bearer of [+1] as the inherently [+1] pronoun is, and similarly for second person pronouns bound by embedded Ad. The structure with controlled Sp and the one with controlled 1lOp are quasi-independent, and can coexist in a single language (and neither blocks the other; cf. fn. 8). It is very possible that there could be interesting interactions between the two in more complex examples—for example, ones with transitive embedded clauses and two indexicals or indexiphors in the embedded clause, or doubly embedded clauses suitable for studying locality effects. However, Ganenkov (2022) does not give data or analyses relevant to investigating this.[14]

[14] Another difference between DS and Aqusha Dargwa is that Dargwa also has what Ganenkov describes as a "normal" phi-feature mode of agreement alongside the "logophoric" (monstrous, indexiphoric) mode of agreement discussed in the text. In the phi-feature mode of agreement, pronouns in embedded clauses simply trigger the agreement one would expect based on their behavior in matrix clauses. One way to think about this, compatible with Ganenkov's discussion, is simply that two different grammars coexist in the minds of Dargwa speakers, an English-like one and a DS like one, and they can use either

Here is a brief comparison between my analysis and Ganenkov's for those interested in the details of theory comparison. There are many important similarities. First, we both assume that pronouns get additional features by being bound by logophoric elements in the periphery of the embedded clause, and that those additional features affect what vocabulary items are inserted for agreement. We both posit two kinds of binders: one for indexical shift cases and one for indexiphoric cases. (Only the indexiphor binder is a DP for Ganenkov; the indexical binder is the complementizer *ili* itself, but it is not clear that this is an important difference.) We both allow bound pronouns to bear multiple features; Ganenkov gives them two indices, an individual index and a context index, whereas I allow them to have two layers of phi-features. Although the accounts are parallel, the differences in implementation might matter as to what larger theory they naturally embed in. (I have an explicit theory of other related phenomena, whereas Ganenkov's implementation arguably stays closer to common assumptions, especially the assumption that a pronoun and its binder must match in features.) But the biggest difference is that Ganenkov posits two distinct features as well as two distinct binders: [LOG] given to bindees of the C head (shifted indexicals) and [ATTITUDE HOLDER] given to bindees of the DP in Spec CP (indexiphors). He then has two distinct rules for inserting the "first person" agreement affix *-ra*: one that references the features [1sg Log] (like mine) and a different one that references the feature [ATTITUDE HOLDER]. (Indeed, there are three *-ra*s if you count the phi-feature mode of agreement, where presumably [+1] by itself conditions *-ra*.) In contrast, I have a single feature set [+1, +log] that conditions all instances of *-ra*. Two distinct operators license this feature on their bindees, Sp and 1lOp, but the disjunction is not stipulated; rather it follows from both operators having [+1] as part of their make up (whereas another feature value distinguishes them: 1lOp is [+1 +log] and Sp is [+1, -/0log].) My more unified approach is supported by the view that 1lOp and Sp are the same fundamental kind of thing—both are DPs in the CP periphery—and both are

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to produce or parse individual sentences. Ganenkov mentions that the DS-like grammar is the more common and preferred option, and that a closely related language allows only this option. The other possibility is that the optionality is built into individual pieces of the analysis; for example, the "first person" agreement affix *-ra* form might get inserted in the context [+1, (+log)]. I tentatively assume the first option (if indeed they are different once each is spelled out in detail), and put aside Dargwa's other mode of agreement.

subject to the same principles of generalized control theory. This could ultimately support a generalization like “an operator is [+1] only if it gets an agent/initiator semantic role from C”, which links the features it gives to its bindee to the range of matrix elements that can control it. In contrast, the two binders are very different kinds of elements for Ganenkov. He does not syntactically constrain the antecedent of the [ATTITUDE HOLDER] element, like Charnavel (2019, 2020), and he has the [LOG] element refer to the semantic context, as in the Anand/Deal theory of indexical shift. Therefore, I claim that my approach is conceptually more unified: it has something more organic to say about why the same agreement morpheme is triggered in both indexical shift and indexiphoric cases. This point is reinforced by my developing argument that Sp and 1lOp both obey the PLC in (15); this should constitute more subtle syntactic evidence that they bear the same feature. For example, (6) in Slave and (20) in DS are here claimed to be two instances of the same locality phenomenon, spanning the indexical-indexiphor distinction.

4. Indexiphors with person agreement in Telugu (and Tamil)

4.1. First person cases

The most fully-described indexiphoric construction is the one in Telugu and Tamil, studied by Messick (2023) and Sundaresan (2012, 2018) (respectively). I also have a Telugu-speaking colleague, so I focus on it with a few comparative remarks on Tamil. Indexiphoricity in Telugu is like that in DS and Aqusha Dargwa in most syntactic respects, but there is a nontrivial morphological difference: the “first person” agreement morphemes in Telugu are triggered simply by the feature [+1] rather than by the special indexiphoric feature bundle [+1, +log] as in DS and Aqusha Dargwa in its logophoric mode.

The basic facts of Telugu are as follows. Subjects in a complement CP that are coreferential with the immediately superordinate subject can trigger what looks like first person agreement. This is true of the (LD) anaphoric element *tanu* and of the second person pronoun, as seen in (27a,b); it also extends to other third person pronouns in dialects in which their coreference with the matrix subject is not blocked by the possibility of using *tanu* ((27c)). Telugu allows this indexiphoric construction in the CP complements of all known attitude verbs (‘believe’, ‘think’, ‘say to self’, ‘hear’, ‘found out’, ‘see that’, ‘be

surprised that', 'feel happy'), whereas in Tamil it is restricted to the verb 'say' and for some speakers 'think'. Key examples are:

(27) Telugu (Messick 2023: 161 (66a), 145 (16), 145 (18a))

*a. Raju [**tanu** parigett-aa-**nu** ani] nammut-aa-Du.*
Raju 3SG run-PST-1SG that believe-PST-M.SG
"Raju$_i$ believed that he$_i$ ran." (also possible with *parigett-aa-Du* M.SG)

*b. [**Nuvvu** parigett-æ-**nu** ani] nuvvu čepp-æ-vu.*
2SG run-PST-1SG that 2SG say-PST-2SG
"You$_i$ said that you$_i$ ran." (also possible *parigett-ə-**vu*** 2SG)

*c. %Ravi [**vaaDu** ettu unnaa-**nu**] anukunnaa-Du.*
Ravi he height be-1SG thought- 3SG.M
"Ravi$_i$ thought that he$_i$ was tall."

The important first-order difference between Telugu/Tamil and DS and Aqusha Dargwa is that there is no disagreement construction in the Dravidian languages: a first person pronoun in the subject position of the embedded clause triggers *-nu* agreement on the embedded verb even if it is not coreferential with the superordinate subject, as shown in (28). This contrasts with DS, where "first person" *-N* is not triggered in this environment. (The impossibility of 'I' referring to Raju here also shows that Telugu does not allow full-blown indexical shift; see Messick (2023) for discussion.)

(28) Telugu (Messick 2023: 144 (14b))

Raju [neenu ee aratipanD-lu tinn-aa-nu ani] cepa-leedu.
Raju 1SG any banana-PL eat-PST-1SG that say-NEG.3SG
"Raju$_i$ did not say that $I_{sp*,*i}$ ate any bananas."

A straightforward way to account for this is to say that the *-nu* allomorph of T-agreement is triggered by only the [+1] feature in Telugu/Tamil. T need not get an additional feature like [+log] from 1lOp in order for this form to be inserted.

(29) Agr → *-nu* / T [+1,-SG] (See Messick 2023: 157 (55))

This difference simplifies the analysis of simple root clauses: in

Telugu, they can have just Sp* binding 'I' in the root clause, without positing an Op from the logophoric family in the root clause as well.[15]

We do however want to keep the idea that anaphoric *tanu* and other non-first-person pronouns get a feature by being bound by some kind of operator that allows them to trigger *-nu* agreement only in this syntactic environment. In the context of this study, what is the feature, and what specifically is the operator? Messick simply calls the operator Op_{ani}, in honor of it being found inside CPs headed by the C *ani*. That was enough to get his research going, but I am seeking a principled typology of such operators. The Op cannot simply be Sp. If that were true, Telugu would have full-fledged indexical shift, but it does not, as shown by the fact that 'I' cannot refer to Raju in (28). We thus need something like what we said for DS: 'I' needs to be bound by Sp, and the Op in CP complements is not Sp, although it has a similar syntax and overlapping features. Indeed, it is attractive to say that the relevant Op gives *tanu* and other bound pronouns the feature [+1] because the Op itself is [+1]. (Messick does not make this explicit connection between the features of "Op_{ani}" and the special kind of [+author] feature that it bestows on its bindee.) Therefore, I propose that the relevant Op in Telugu is also 1lOp, with the same [+log, +1] features that 1lOp has in DS. This is consistent with the observed facts, even though the [+log] feature has no visible effect on a first person pronoun in Telugu, given the simple vocabulary insertion rule in (29). (It might, however, play a role in dialects that allow (27a) but not (27c): one can say that *tanu* can be [+log], so it is bindable by 1lOp whereas plain pronouns are [-log] and cannot be bound by 1lOp. Other dialects have slightly different feature values

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[15] Another difference between indexiphoricity in Telugu and DS is that monstrous agreement with a pronoun that refers to the superordinate subject is required in DS, whereas it is optional in Telugu. I tentatively assume that this is because *tanu* can be bound by either of two operators in Telugu: 1lOp, which gives its bindee a [+1] feature, or EmpOp (like zOp in Japanese), which does not. As we will see, nonindexiphoric *tanu* (like *zibun*) is possible in contexts of NOC, including high adjuncts, sentential subjects, and matrix clauses. It is plausible to analyze this on a par with Japanese—although the full behavior of LD anaphoric *tanu* deserves its own study. In contrast, 1lOp is the only operator that can bind logophors in DS. (This does not cover the fact that monstrous agreement is required also in 'You said that you will come' in DS but is optional in Telugu.)

for these pronouns.)[16]

Telugu's indexiphoric construction shows the same clause-level locality restriction that DS's does. In a doubly embedded complement clause, *tanu* can refer to the highest subject, but this does not license indexiphoric agreement with *tanu* on the lowest verb. Thus (30) is parallel to (20) from DS (see also Sundaresan (2018) for Tamil).

(30) Telugu (Messick 2023: 162 (69), Sreekar Raghotham p.c.)

*a. Ravi [**Rani** [**tanu** bayaludeer-æ-nu ani] čepp-in-di ani] čepp-æ-Du.*
Ravi Rani 3SG leave-PST-1SG that say-PST-3SG.F that say-PST-3SG.M
"Ravi$_i$ said that Rani$_k$ said that she$_{k,*i}$ left."

*b. **Ravi** [Rani [**tanu** bayaludeer-æ-Du ani] čepp-in-di ani] čepp-æ-Du.*
Ravi Rani 3SG leave-PST-3.M.SG that say-PST-3.F.SG that say-PST-3.M.SG
"Ravi$_i$ said that Rani$_k$ said that he$_i$ left."

This shows that 1lOp only gives [+1] to a pronoun that it binds if there is no other [+1] element (here another instance of 1lOp) between them—another case of the PLC at work. See (20c) above for a more detailed structure and discussion. This fits well if the feature that the operator is adding to the pronoun is indeed [+1], not merely [+log]

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[16] An alternative to consider is that Op$_{ani}$ in Telugu is simply lOp. It gives [+log] to its bindee, but [+log] is a complex feature that has a subfeature in common with [+1]. Perhaps [+log] is [+subj, -speech act] and [+1] is [+subj, +speech act]. (Compare Messick's features [+/-author, +/-C], C invoking "context".) Then it is the [+subj] feature shared by lOp and Sp that triggers *-nu* as agreement. One reason that I do not pursue this line is that this version does not automatically generalize to other first person affixes in Telugu. Messick shows that all affixes used as first person agreement in matrix clauses can also be used monstrously with logophoric *tanu* in a complement clause, including 1PL *-mu*, 1SG *-ni* used on predicate nominals, and 1PL *-mu* used on predicate nominals. This generalization is not captured by the alternative theory, where it seems that one vocabulary item could be sensitive to [+subj] and another one to [+subj +speech act], giving item-by-item variation. In contrast, the version discussed in the text in which 1lOp gives [+1] to pronouns that it binds predicts correctly that any vocabulary insertion rule that references [+1] will be used monstrously.

(see fn. 16), given that purely logophoric features are not subject to this kind of locality (see (21) from Ibibio).

There is a Telugu-specific detail that confirms the role of the PLC in this. Messick (2023) claims that 1lOp cannot be present in the CP complement of a noun in Telugu. Indexiphoric agreement is thus impossible in an example like (31).

(31) Telugu (Messick 2023: 166 (80))
*Raju [[tanu gelic-aa-Du/*nu anee] pukaaru] vinn-aa-Du.*
Raju 3SG win-PST-3SG.M/*1SG that.COND rumor hear-PST-3SG.M
"Raju$_i$ heard the rumor that he$_i$ won."

Presumably this is a stipulated selectional property. It seems to be language-specific, in that logophors are possible in this sort of structure in Ibibio, as is C-agreement in Lubukusu and indexical shift in Magahi. Messick then shows that this ban extends to nouns that are the main predicate of their clause, like 'know'. (Note that *telusu* does not bear tense or agreement morphology, as finite verbs do in Telugu.)

(32) Telugu (Messick 2023: 165 (77))
*Ravi-ki [tanu parigett-ææ-Du/*nu ani] telusu.*
Ravi-DAT [3SG run-PST-3SG.M/*1SG that] know(ledge)
"Ravi$_i$ knew (has knowledge) that he$_i$ ran."

Now consider what happens when a sentence like (32) is embedded under a normal attitude verb to create a doubly embedded structure that is largely comparable to (30). In this case, indexiphoric agreement is possible when *tanu* refers to the subject of the highest clause.

(33) Telugu (Messick 2023: 166 (82))
Ravi [Rani-ki [tanu bayaludeer-ææ-nu ani] telusu ani] čepp-ææ-Du.
Ravi Rani-DAT [3SG leave-PST-1SG that] know that say-PST-3SG.M
"Ravi$_i$ said that Rani$_k$ knew that he$_{i,*k}$ left."

The structure of (33) is roughly (34). This shows that 1lOp can give

[+1] to *tanu* at a considerable distance in absolute syntactic terms.[17] What it cannot do is transfer [+1] across another [+1] 1lOp—a relativized form of minimality, as Messick argues. Fortunately, my PLC is indeed that type of minimality.[18]

(34) Ravi$_i$ said [1lOp$_i$ C [Rani$_k$-DAT (be) knowledge...
[+1 +log] ...[-- C [self$_i$ T leave]]]]
[+log]→[+1]

This reasoning implies that having a 1lOp in CP of the complement of a verb must be obligatory in Telugu; otherwise, LD monstrous agreement should be possible in (30a) as well.[19]

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[17] This example also strongly suggests that the inheritance of [+1] and [+2]—and more generally the licensing of those features by the PLC—is not restricted by the Phase Impenetrability Condition, since it happens over two clause boundaries in (33). Other examples in Telugu and other languages confirm this, with 1lOp, Sp, and Ad adding or licensing [+1] or [+2] across phase boundaries. This is arguably nothing different from the familiar fact that bound pronouns need to be compatible in features with their bindees across phase boundaries.

[18] Ganenkov (2022) argues that LD indexiphor licensing across an intervening clause is possible in Dargwa, apparently making that language different from all the others considered in this chapter. His example is given in (i), where the LD reflexive *sa-j* in the lowest clause triggers 1SG *-ra* on the verb when it is coreferential, not with the subject of the intermediate clause, but with the subject of the highest clause, *Rasul*. (Gender matching requires this interpretation.)

(i) Aqusha Dargwa (Ganenkov 2022 (31))
Rasulli *ib* *[Madina-s* *habikilri* *[**sa-j*** *uhna* *kaili* *sa-j-**ra*** *ili]*
Rasul said.3 Madina-DAT thought.3 self-M.SG inside put AUX-M.SG-1 that
'Rasul$_i$ said the Madina was thinking that he$_i$ had gotten arrested.'

However, note that the subject of the intermediate clause in (i) is dative. This means that (i) is more like (33) in Telugu than like (30). As such, it might fall under Messick's analysis too. If so, no modification of the PLC is needed for Dargwa.

[19] If we adopt the proposal that Telugu has EmpOp as well as 1lOp as a possible binder of *tanu* (see fn. 15 and fn. 22), then one needs to add a little more to nail down this effect. One needs to say that EmpOp is like 1lOp in preventing a higher 1lOp from transferring [+1] to a lower bindee. This would not be a PLC effect, since EmpOp is not [+1]. However, it follows if *tanu* as an anaphor needs

Nominal predicates have dative subjects in Telugu, as can be seen in (32) and (33). Some of them, such as *i/tam* 'like/liking' can also have direct objects, which get nominative case and trigger agreement on T, as in Icelandic and other languages. This can be used to show that triggering monstrous agreement has nothing to do with being a subject per se, but only with being in a context where agreement is available to reveal the conflicting phi-feature values. (35) shows that agreement with a logophorically-bound nominative object can be indexiphoric in Telugu. ('Liking' here is negated so that verbal agreement has a chance to show up in the embedded clause.)

(35) Telugu (Messick 2023: 152 (40a))
Raju [Rani-ki ***tanu*** *i/tam-lee-**nu*** *ani] čepp-œœ-Du.*
Raju Rani-DAT 3SG like-NEG-1SG that say-PST-3SG.M
"Raju$_i$ said that Rani$_k$ does not like him$_i$."

I assume, then, that 1lOp transfers [+1] to any pronoun that it binds in the embedded clause, but where this shows up visibly depends on language-particular details of agreement. This is parallel to the fact that logophoric pronouns can appear anywhere inside an embedded clause in Ibibio and shifted indexicals can appear anywhere inside an embedded clause in Magahi. The subject position happens to be the one most likely to trigger agreement crosslinguistically, but it need not be the only one. See also Misha Tatar and Amharic below.

Next consider the theoretically important possibility of an indexiphor coexisting in the same clause with a first person indexical like 'me'. In Telugu and Tamil, there is no interference between the two. For example, in (36) 'me' referring to Sp* is possible as the object of the embedded clause, even when *tanu* in the subject position triggers 1SG agreement without referring to Sp* (see Sundaresan 2018 on Tamil).[20]

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to be bound by an operator inside the same CP (EmpOp in the imagined structure) and 1lOp in a higher CP cannot be the antecedent for this EmpOp, because the two have different features.

[20] Sreekar Raghotham reports that he prefers non-monstrous agreement on the embedded verb 'saw' in (36), but monstrous 1SG agreement is also grammatical.

(36) Telugu (Sreekar Raghotham, p.c.)
Ram [tanu nannu market-lo coos-æ-nu ani] čepp-æ-Du.
Ram 3SG 1SG.ACC market-in see-PST-1SG that say-PST-3SG.M
"Ram$_i$ said that he$_i$ saw me$_{sp*}$."

Sundaresan (2012, 2018) takes indexiphoric agreement in Tamil to be a type of indexical shift, the shifting of a null pronoun in the specifier of a perspectival phrase that binds *tanu* in the subject position. Thus, for her the Tamil version of (36) is a kind of Shift Together violation, where the perspectival pro is shifted, but the overt object pronoun 'me' is not. This leads her to weaken Shift Together by saying that languages can stipulate which elements are shiftable and which are not. My interpretation is different, following roughly Deal (2020). The idea (compatible also with Messick's theory) is that indexiphoric *tanu* is bound not by Sp but by a distinct element 1lOp which happens to fall under some of the same principles. It is possible, then, for 1lOp to bind one pronoun in the embedded clause and Sp to bind another one, as in the representation in (37).

(37) Sp*$_i$ Ram$_k$ say [1lOp$_k$ that [tanu$_k$ T:1sg see me$_i$]]
→[+1]

Indeed, African languages like Ibibio allow a logophor referring to the higher subject in the same clause as a first person pronoun referring to Sp* with no difficulty.

(38) Ibibio (Afranaph, Willie Willie)
Okon a-ke-bo ke Edem a-ke-n-nọ mi:n nwet abangake imọ.
Okon 3SG-PST-say that Edem 3SG-PST-1SG.O-give me book about LOG
"Okon$_i$ said that Edem$_k$ gave me$_{sp*}$ a book about him$_i$."

However, (36)/(37) does raise an issue that (38) does not. 1lOp is a distinct element from Sp, so they can bind different pronouns, causing them to have different referents. But unlike lOp, 1lOp shares the [+1] feature with Sp. Therefore, the possibility arises of (37) violating conditions that refer specifically to the [+1] feature, such as the PLC. Indeed, (37) does violate the preliminary version of PLC that I gave in (5): the [+1] feature on 'me' needs to be licensed by its binder Sp*, but between them are other elements that are [+1] but do not bind 'me'—namely 1lOp in Spec CP of the complement clause and its bindee *tanu,* the subject of the embedded clause. Fortunately, the final

version of the PLC in (15) already resolves this difficulty by making a distinction between strong and weak bearers of the [+1] feature. ‘Me’ in the embedded object position of (37) counts as a strong bearer of [+1]. The closest bearer of [+1] to it that is also strong is Sp*; 1lOp and *tanu* do not count, because they are weak(er) bearers of the [+1] feature. And Sp* does in fact bind ‘me’ in (37). Therefore, this sentence passes the official, revised version of the PLC, as desired.

Messick (2023) observes that there is one situation in which there is interference between having a first person indexical and an indexiphor in the same clause. This is when the indexical c-commands the indexiphor. This can arise when the predicate of the embedded clause selects a dative subject, as in (39) (otherwise an observable indexiphor has to be the subject, and nothing else in the clause will c-command it). Indexiphoric agreement is barred in (39) when the dative subject is first person ‘I’, although not when it properly contains a first person pronoun like ‘my’.

(39) Telugu (Messick 2023: 163 (72b), (73))
*Raju [naa kukka-ku/*naaku tanu iʃtam-lee-nu ani] čepp-æ-Du.*
Raju 1SG.GEN dog-DAT/*1SG.DAT 3SG like-NEG-1SG that say-PST-3SG.M
“Raju$_i$ said that my$_{sp*}$ dog/*I$_{sp*}$ do(es) not like him$_i$.”

These details also follow from the final version of the PLC in (15). The question is whether 1lOp in the Spec CP of the CP complement of ‘say’ can license [+1] on the nominative object of the psych predicate ‘like’. In principle it can (see the discussion of (35) above), but we have to check the intervention condition in the PLC. If the dative subject as a whole is [+1] intrinsically (bound by Sp*), then it counts as a DP that c-commands the nominative object and does not c-command 1lOp, nor does it bind the nominative object on the intended reading. Crucially, ‘I’ is a stronger bearer of [+1] than 1lOp and *tanu* are. Therefore, the PLC is violated in this case, explaining the ungrammatical alternative in (37). If, however, the intrinsically [+1] element is properly contained inside the dative subject, then it does not c-command the nominative object, and no intervention effect arises. This confirms two details of the PLC. First, it shows that we must check intervening pronouns in A-positions as well as intervening operators, both of which can be [+1] (or [+2]). Second, it shows that a [+1, -log] element can disrupt the licensing relationship between two [+1, +log] elements. In other words, a DP does not have to be identical

in features to a binder to block an antecedent from licensing person features on its bindee; it just needs to have features that are as strong as those of the binder.

From a general perspective, building a binary strong-weak distinction into an intervention condition like (15) means that there are four potential intervention patterns to consider (assuming that the binder and the bindee are the same in strength): strong-strong-strong, weak-weak-weak, weak-strong-weak, and strong-weak-strong. The prediction is that only the last of these configurations will allow the participant feature on the pronoun to be licensed over the potential intervener, since only there is the potential intervener weaker than the pronoun and its binder. We have now seen at least one instance of all four of these logical possibilities, as summarized in (40). And indeed only in the last of them is it grammatical for the binder to license a [+1] feature on the bindee.

(40) a. *Sp_i … Sp_k … me_i. Slave indexical shift, (6)[21]
str str str

b. *1lOp$_i$ … 1lOp$_k$ … self$_i$+1 indexiphors in DS, (20), (30)
wk wk wk

c. *1lOp$_i$ … me$_k$ … self$_i$+1 dative subject in Telugu, (39)
wk str wk

d. Sp$_i$ … 1lOp$_k$/self$_k$+1 … me$_i$ indexiphor+me, (36)/(37)
OK: str wk str

4.2. Second person cases

Next let us consider the behavior of [+2] elements in Telugu and Tamil. The PLC in (15) allows for the possibility of a [+2] operator 2AdOp as well as 1lOp, and we discovered some indirect reason to say that this exists in DS. Now I ask whether the grammar of Telugu

[21] Once I reanalyze Slave as having indexiphors in §6.7, it is not the right example for (40a). But the badness of (73) in Magahi with an overt subject pronoun illustrates this case, as do similar examples in Zazaki and other languages.

makes use of this as well. The visible effect of 2AdOp in DS was to account for why 'you' in embedded clauses does not trigger second person agreement on T. That is not a concern in Telugu, since T in this language is sensitive to person features only, not to a combination of person features and logophoric features, assuming that we generalize (29) to second person (Agr → *-vu* / T [+2, -SG]; this contrasts with the second person analog of (10) in DS: Agr → *-w* / T [+2, -SG, +addr].) In fact, there is evidence that Telugu does not use 2AdOp, just as many African languages with logophoric pronouns do not make use of AdOp to license addressee pronouns. Messick (2023: §4.1) observes that there is no monstrous second person agreement in Telugu, analogous to what is found in first person. One could imagine such agreement happening in a sentence like (41), where the matrix goal controls 2AdOp, which then transfers [+2] to a bound pronoun without licensing a fully shifted overt second person pronoun. However, this kind of monstrous agreement does not happen.[22]

(41) Telugu (Messick 2023: 171 (96))
*Rani Raju too [tanu gelic-aa-Du/*vu ani] čepp-in-di.*
Rani Raju with 3SG win-PST-3SG.M/*2SG that say-PST-3SG.F
"Rani$_i$ told Raju$_k$ that he$_k$ won."

This is not too surprising in that the object-controlled ghostly DP operators are rarer crosslinguistically than the subject-controlled ones.

Tamil (the Kongo dialect) seems to be different from Telugu in this respect. McFadden (2020) shows that this language allows shifted allocutive agreement in complement clauses, as in (42a). However, it does not allow shifted overt second person pronouns ((42b)). Indeed, McFadden and Sundaresan (2022) show that an unshifted second person pronoun is possible inside a CP with shifted allocutive marking, as in (42c).

[22] That *tanu* is possible in (41) referring to the matrix goal without monstrous agreement shows that it is more flexible as to its LD antecedents than *zibun* is in Japanese or logophoric *imo* is in Ibibio. So is NOC PRO in English. It may be, then, that there is some other operator, akin to zOp, which can bind *tanu* and undergoes NOC—but that one doesn't give [+1] or [+2] to its bindee. See also fn 15. I leave this topic to future research.

(42) Tamil (McFadden 2020: (43), (46); M&S 2022: (48b))

*a. Maya Leela-ʈʈæ [taan pooʈʈi-le ʤejkkæ-poo-r-een-**ŋgæ**-nnû] so-nn-aa.*
Maya Leela-LOC 3SG contest-LOC win-go-PRS-1SG-AL-C say-PST-3SG.F.
"Maya$_i$ told Leela$_k$ that she$_i$ would win the contest." (Maya is polite to Leela)

b. Maya Leela-ʈʈæ [nii ʤejkkə-poo-r-æ-nnu] so-nn-aa.
Maya Leela-LOC you win-go-PRS-2SG-C say-PST-3SG.F
"Maya$_i$ told Leela$_k$ that you$_{ad*,*k}$ would win."

c. Raman taattaa-kiʈʈæ [Maya onn-æ paa-tt-aa-ŋgæ-nnû] so-nn-aan
Raman grandpa-LOC Maya you-ACC see-PST-3SG.F-AL-C say-PST-3SG.M
"Raman$_i$ told Grandpa$_k$ that Maya saw you$_{ad*,*k}$." (Raman is polite to grandfather)

Example (42b) shows that Tamil does not allow controlled Ad in CP complements, the way that Magahi does. But in (42a,c), the embedded verb agrees with something that is controlled by the matrix goal, which refers to the only respected person in the relevant situation. What could be the target of this agreement, if not Ad? 2AdOp is a plausible answer.[23] On this view, some C-type head like Fin in Tamil can agree with both Ad* in a matrix clause and 2AdOp in an embedded clause. Given this, (42c) shows that having 2AdOp present does not prevent Ad* from licensing the [+2] feature on 'you', even though 2AdOp intervenes between them. This is a second person analog to (36) for first person. This line of reasoning confirms that it was right to generalize the more nuanced version of the PLC in (15) so that it applies to second person cases as well as first person ones.[24]

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[23] Perhaps 2AdOp is present and controlled by the matrix goal if and only if 1lOp is present and controlled by the matrix subject, an analog of Shift Together for indexiphoric operators. That would account for the cooccurrence of indexiphoric agreement and shifted allocutivity observed by McFadden in (42a).

[24] Now we might predict that Tamil will allow the equivalent of (41), even though Telugu does not. McFadden & Sundaresan do not say whether (42b) becomes possible with the second-person-triggering pronoun referring to the matrix goal if that pronoun is a null pro or anaphoric element like *taan* in subject position

4.3. The external distribution of indexiphoric clauses

Returning to Telugu, we can go on to investigate the larger distribution of 1lOp in the language, to see if it can appear in CPs that are not complement clauses. The general answer seems to be no. For example, indexiphoric agreement is not possible in high adjuncts that allow for subject agreement (although LD anaphoric *tanu* is).[25]

(43) Telugu (Messick 2023: 162 (68), Sreekar Raghotham, p.c.)
*a. Ravi [tanu paDDaa-Du/*nu kaabati] raa-leedu.*
Ravi 3SG fell-3SG.M/*1SG because come-NEG.3SG
"Ravi$_i$ did not come because/since he$_i$ fell."

*b. [Tanu lottery gelic-ææ-Du/*nu an-te], Ravi kotta illu knot-aa-du.*
3SG lottery win-PST-3SG.M/*1SG C-COND Ravi new house buy-PST-3SG
"If he$_i$ wins the lottery, Ravi$_i$ will buy a new house."

Similarly, indexiphoric agreement is not possible in a CP subject:

(44) Telugu (Sreekar Raghotham, p.c.)
*[Tanu inti-ki veLL-alee-Du/*nu an-ee-di] Sreekar-ni baadapeTT-in-di.*
3SG house-to go-cannot-3SG.M/*1SG C-REL-3SG.N Sreekar-ACC sadden-PST-3SG.N
"That he$_i$ could not go home saddened Sreekar$_i$."

The verb in a relative clause in Tamil happens not to bear agreement (it is a nonfinite/participle form), so we cannot detect indexiphors in them. But we can round out the NOC paradigm by considering *tanu* in matrix clauses. Messick (2023) reviews data showing that *tanu* is

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rather than the overt second person pronoun. If this is not possible, I might have to stipulate that *taan* and/or pro are [-addr], so they cannot be bound by 2AdOp.

[25] Messick (2023: 161 (67)) cites an example from Rahul Balusu with the same meaning as (43a) but with the C *ani* and indexiphoric agreement. This fits my theory if the version with *ani* is a low, VP-attached adjunct, allowing OC.

possible in matrix clauses with a discourse antecedent for whom the speaker has empathy, as in (45). However, this use of *tanu* cannot trigger monstrous agreement, so (45) is ruled out with *-nu*, even in a discourse context that allows root-clause *tanu*.

(45) Telugu (Messick 2023: 143 (11))
*Tanu parigett-ææ-Du/*nu.*
3SG run-PST-3SG.M/*1SG
"He ran."

This range of data shows that 1lOp needs to undergo OC in Telugu, like 1lOp in DS and lOp in Ibibio. This property is stable across these two different language families. 1lOp might have two+ features, but it is low on interpretable features. Therefore, it needs to be controlled by something within the next highest phase, the superordinate vP.[26]

4.4. Indexiphors and the T/Agree condition

One very interesting feature of the Telugu indexiphoric construction is that it is subject to the T/Agree condition—the first construction to show this behavior since Chapter 2. In this respect, it is like upward C-agreement in African languages, but unlike indexical shift or canonical logophoric constructions. Looking over Messick's data, (46) stands out as a significant generalization about Telugu.

(46) NP X can be the antecedent for a non-first-person pronoun that triggers first person agreement only if T agrees with X.

One case that illustrates this is the fact that the source phrase of 'hear' cannot be the antecedent for an indexiphor triggering monstrous agreement, although it blocks the experiencer from anteceding it.[27]

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[26] Again, it is notable that LD anaphoric *tanu* itself is possible in all these environments, as long as it triggers third person agreement rather than first person agreement. In this, it looks rather like *zibun* in Japanese. This suggests again that it can be bound by EmpOp (empathy operator), which can undergo NOC, getting an antecedent in a syntactically unconstrained manner. This can also account for why monstrous agreement is optional in Telugu; see fn. 15.

[27] It is possible for the experiencer and the source to be split antecedents for a plural

(47) Telugu (Messick 2023: 167 (85), (86))
*Raju Rani-nunDi [tanu gelic-aaDu/indi/*aanu ani] vinn-aa-Du.*
Raju Rani-ABL 3SG won-PST.3SG.M/3SG.F/*1SG that hear-PST-3SG.M
"Raju$_i$ heard from Rani$_k$ that he$_i$/she$_k$ won."

In terms of its thematic role, the source phrase can control 1lOp, as it can Sp, lOp, and zOp. However, since it has oblique case, T cannot agree with it, eliminating it as a possible antecedent for an indexiphor.

Similarly, Messick shows that the causee of a productive causative cannot antecede an indexiphor, although the causer can.

(48) Telugu (Messick 2023: 168 (88))
Ravi Raju-to [tanu parigett-œœ-nu ani] čepp-inc-œœ-Du.
Ravi Raju-INS 3SG run-PST-1SG that say-CAUS-PST-3SG.M
"Ravi$_i$ made Raju$_k$ say that he$_{i,*k}$ ran."

Messick conjectures that the causee does not have the right fine-grained semantic role to be the controller of the operator in a specifier of the CP headed by *ani* (it is not a full-fledged agent). While that may be true in some lexicalized cases, it is unlikely to hold in all cases. What is true is that the causee bears oblique case and thus cannot trigger agreement on T. Therefore, the T/Agree Condition rules out indexiphoric agreement with *tanu* referring to Raju in (48).

A third case in point is dative subject constructions. The dative subject

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version of *tanu* triggering 1PL agreement on the lower verb, as in (i).

(i) Telugu (Messick 2023: 168 (87))
Raju Rani-nunDi [taamu gelic-aa-mu ani] vinn-aa-Du.
Raju Rani-ABL 3PL won -PST-1PL that hear-PST-3SG.M
'Raju$_i$ heard from Rani$_k$ that they$_{i+k}$ won.'

This is optimistically compatible with my analysis below. The experiencer and the source could control 1lOp together as an instance of split control, like that found with verbs like *propose* in English (Landau 2013: 172-174). 1lOp can then bind the anaphor and endow it with a [+1] feature. I then need to state Agree-Copy such that T agreeing with *one of* the controllers in the matrix clause is enough to activate a new round of Agree-Copy that includes the embedded T. That should be possible, but I do not undertake revising the definitions to implement it here.

in Telugu never triggers agreement on T, and it also can never antecede an indexiphor.[28] According to Messick's view, some such cases are ruled out by the fact that the predicate that takes a dative subject is a nominal, together with the stipulation that nominals do not select CPs with 1lOp in Telugu. However, Messick mentions that dative subjects do not antecede indexiphors even in low adjunct clauses headed by *ani*, as seen in (49a), whereas a nominative subject can antecede an indexiphor in this kind of adjunct, as seen in (49b).

(49) Telugu (Messick ms, 2023: 161 (67)

*a. Ravi-ki [tanu paDD-aa-Du/***nu** ani] koopam wac-in-di.*
Ravi-DAT 3SG fell-PST-3SG/*1SG that angry become-PST-3SG.F
"Ravi$_i$ became angry because/since he$_i$ fell."

*b. Rao [tanu paDD-aa-**nu** ani] raa-leedu.*
Rao 3SG fall-PST-1SG that come-NEG.3SG
"Rao$_i$ did not come because/since he$_i$ fell."

This contrast cannot plausibly be attributed to selection, since adjunct clauses are not selected by the main predicate. (49a) is thus another testament to the T/Agree Condition at work in Telugu.[29]

At first glance, it is a bit surprising that the indexiphor construction obeys the T/Agree Condition, since indexiphors are more closely related to indexical shift and logophoricity than to upward C-agreement, the construction that led us to the T/Agree Condition in Chapter 2. However, the indexiphor construction is like upward C-agreement in that it crucially involves agreement: it is the apparent

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[28] Based on the limited data available, Aqusha Dargwa seems to be different from Telugu in this respect. Its verb 'think' takes a dative subject, but the subject can still antecede an LD reflexive triggering first person agreement, as in many of Ganenkov's (2022) examples. I do not speculate as to what precise parameter underlies this difference in the T/Agree Condition between Dargwa and Telugu .

[29] Messick (2023: 168 (89)) also shows that the possessor of the subject cannot antecede an indexiphor in an example like 'Raju's letter says that *tanu* won(*1sg).' This could also be attributed to the T/Agree Condition, since possessors are not agreed with in Telugu. However, a more basic reason is that the possessor cannot enter into an OC relationship with 1lOp because it is not an argument of the matrix verb 'say'.

mismatch between features on the pronoun and features on the agreeing head that characterizes the construction. Upon closer consideration, it makes sense that it would fall under this condition given the analysis that I gave in §2.5, revised slightly in §3.3.2. The key principle underlying the T/Agree Condition is the version of Agree-Copy (distinct from Agree-Link) repeated in (50).

(50) Agree-Copy:
If head H points to DP and H is [+Agree-Copy], then phi(DP) is copied onto all heads linked to DP by pointers.

With this in mind, I propose a derivation like (51) for a canonical indexiphoric example like 'Raju said that *tanu* ran-1sS' (=(2a)). When T initially agrees with *tanu* (or *pro*, or 'you') in the embedded clause, the C-space has not been constructed yet, as in (51a). Therefore, 1lOp is not there to bind *tanu* yet, and *tanu* has only its intrinsic features: [+log, -1, +3, Sg]. Initial Agree between T and *tanu* then copies only those features, which would not trigger the first person vocabulary item *-nu*. Next the CP is constructed, 1lOp merges in, binds the indexiphor, and transfers the [+1] feature to it, as in (51b). However, Agree-Copy between the subject *tanu* and the embedded T does not automatically reapply. Next the matrix VoiceP is built, and with it an argument is introduced that controls 1lOp, as in (51c). Still Agree-Copy does not reapply. If the controller is an oblique nominal, like a source phrase or the causee of a causative, matters effectively stop there: *tanu* is possible with these DPs as antecedents, but first person agreement morphology does not show up on the embedded verb. In contrast, if the controller has unmarked/nominative case, then when the matrix T merges into the structure it agrees with the controller of 1lOp, as in (51d). This T is a primary agreer, triggering not only Agree-Link but also Agree-Copy. This means that the phi-features of the NPs in the web of syntactic relationships that involve 'Raju' the goal of Agree are transferred to the functional heads that are linked to them by Agree-Link. This happens between T and the subject in the matrix clause, of course. But it also applies to T and the subject in the embedded clause. That embedded subject is now [+1], so [+1] is copied onto the embedded T as well, as in (51e). This allows *-nu* to be inserted on T at PF, resulting in monstrous agreement.

(51) a. [$_{TP}$ *tanu* T [run]]
[+3,-1,+log] [+3,-1,+log]
Agree-Link, Agree-Copy

b. [$_{CP}$ 1lOp *ani* [$_{TP}$ *tanu* T [run]]]
[+1,+log] [[+3,+log]+1] [+3,-1,+log]
binding+feature transfer

c. [$_{voiP}$ Raju Voi [say [$_{CP}$ 1lOp *ani* [$_{TP}$ *tanu* T [run]]]]
[+3,-1] [+1,+log] [[+3,+log]+1] [+3,-1,+log]
control: agent-to-agent

d. T [$_{voiP}$ Raju Voi [say [$_{CP}$ 1lOp *ani* [$_{TP}$ *tanu* T [run]]]]]
[+3,-1] [+1,+log] [[+3,+log]+1] [-1,+log]
Agree-Link

e. T [$_{voiP}$ Raju voi say [$_{CP}$ 1lOp *ani* [$_{TP}$ *tanu* T [run]]]]]
[+3,-1] [+3,-1] [+1,+log] [[+log]+1] [+3**,+1**,+log]
Agree-Copy

This analysis is parallel in most respects to the one I gave to explain the T/Agree Condition on upward C-agreement, except that here the early Agree relationship is between the embedded subject and T rather than between a ghostly DP (SoK) and C. Other differences are arguably matters of interpretation more than substantive changes. I assumed before that the control relationship between the argument of the matrix verb and the ghostly operator in the periphery of CP counts as creating a pointer for phi-feature inheritance relationships. Now we see that feature inheritance between the ghostly operator and its bindee must count as well, so that the matrix T and the embedded T count as pointing to "the same DP" in the relevant abstract (chain-like) sense.[30] We also see here that the matrix argument can control the

[30] However, we have seen that a normal DP in argument position binding a pronoun does not count as creating a pointer visible for Agree-Copy. Perhaps the difference is that an Op binding a pronoun has a licensing function, legitimizing

ghostly operator without the two of them sharing phi-feature values in cases where both participants in the control relationship are already specified for phi-features. This is not new; we know this to be possible from the control of Sp and Ad in indexical shift constructions. But a consequence of this for Agree-Copy is that two distinct DPs that are connected via a web of pointers can have different phi-features, as is the case in (51). It thus needs to be clarified that agreement-bearing heads like T copy the phi-features of the DPs to which they are most closely linked when Agree-Copy applies. As a result, the same application of Agree-Copy in (51e) places the features [+3, -1] on the matrix T and places the feature [+1] on the embedded T. (52) is a reformulation of Agree-Copy that makes these points explicit.[31]

(52) Agree-Copy
If H points to DP1 and H is +Agree-Copy, then for all pairs $<H_x, DP_x>$ such that DP_x is linked to DP1 (reflexively) and H_x is Agree-linked to DP_x, copy the phi-features of DP_x onto H_x.

This completes my analysis of two paradigm cases of indexiphoricity, Donno Sɔ and Telugu, showing how to implement Messick's analysis within my broader framework for analyzing logophoric and indexical shift constructions across languages. Now I move on to less obvious cases—ones where the indexiphor is a null pronoun—showing how

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features like [+1] and [+log] on the pronoun, whereas in ordinary cases of pronoun binding the pronoun and its features are licensed independently of whether it is bound by a DP higher in the structure or not.

[31] In the African languages, there was one case in which a subject that does not trigger visible agreement on T nevertheless can be the antecedent for upward C-agreement. This was the subject of an infinitival verb in (say) an object control construction. The same "exception" holds for (46) in Telugu: monstrous agreement is possible in (i) with *tanu* bound by 1lOp, which is controlled by the PRO subject of 'say-INF'. For Lubukuku, I claimed that infinitival T enters into Agree with its subject. This "null agreement" is syntactically real, and activates Agree-Copy, even though it is not realized by phi-feature-varying forms at PF. This assumption about infinitival T works for (i) as well.

(i) Telugu (Sreekar Raghotham, p.c.)
Ravi Sita-ni [[tanu tondaragaa vastaa-n ani] čeppa-m-ani] čeppa-œœ-du.
Ravi Sita-ACC [[3SG quickly come-1SG that] say-INF-that] say-PST-3SG.M
$Ravi_i$ told $Sita_k$ [PRO_k to say [that she_k'd come quickly]]."

this resolves apparent problems for Shift Together as a key generalization about indexical shift, in the spirit of Deal (2020).

5. Silent indexiphors in Mishar Tatar

I turn next then to the Turkic language Mishar Tatar (MT), described and analyzed by Podobryaev (2014). This language has complicated the literature on indexical shift in two ways. First, it is said that null pronouns shift in this language, but overt pronouns do not. This is seen in (53). (A question-phrase with matrix scope is included to rule out the possibility of these being direct quotations.)

(53) Mishar Tatar (Podobryaev 2014: 84 (202), (203))

a. Alsu [(pro) kaja kit-te-m diep] at'-tɤ?
Alsu *pro* where go.out-PST-1SG that say-PST
"Which place did Alsu_i say that he/$\text{I}_{i,sp*}$ went?"

b. Alsu [min kaja kit-te-m diep] at'-tɤ?
Alsu I where go.out-PST-1SG that say-PST
"Which place did Alsu_i say that $\text{I}_{sp*,*i}$ went?"

Second, a shifted null pronoun can occur in the same clause as an unshifted overt pronoun, as shown in (54).

(54) Mishar Tatar (Podobryaev 2014: 86)

Alsu [(pro) ber kajčan da mina bag-m-a-s-mɤn diep] bel-ä.
Alsu (pro.1) one when PRT I.DAT look.at-NEG-ST-POT-1SG that know-ST.IPFV
"Alsu_i knows that she/I_i would never look at me_{sp*}."

This looks like a counterexample to the principle of Shift Together, which holds so consistently in languages like Zazaki, Nez Perce, and Magahi. This and arguably similar facts from Tamil led Sundaresan (2018) to say that individual pronouns in a language can be lexically specified as to whether they can undergo indexical shift or not, denying the context overwriting theory of Anand (2006) and Deal (2020). Such sentences are thus a challenge to a clean understanding of Shift Together phenomena and their theoretical import.

However, following Deal (2018, 2020) and Messick (2023), we can analyze these examples as involving indexiphors rather than true

indexical shift. Crucial to these examples is the fact that the subject pronouns trigger agreement on T so they can undergo pro-drop, whereas objects do not trigger agreement and are not pro-dropped. Given that the subject is pro-dropped in (53a) and (54), we do not know by inspecting its form exactly what features it has. Its features can only be seen indirectly on T, and by now we know that the features on T do not always match the ones seen on the pronoun. One view about what the pro-dropped element is in (53a) (Podobryaev's) is that it is an indexical, nondistinct from 'I'. But an alternative view (Messick's) is that it is a null logophor (or LD anaphor), more like *tanu* in Telugu. On this second view, the subjects in (53a) and (54) are bound by 1lOp, not by Sp, which is the binder of the overt object pronoun. Then there is no Shift-Together violation in (54) after all. Rather, we see again that a logophor can co-occur with an indexical, adding now that it can be a funny-looking logophor—one that is hard to recognize as such. The analysis of (54) is in (55); it is the same as (37) for Telugu except for the lexical items that have been inserted.

(55) Sp*$_i$ Alsu$_k$ say [1lOp$_k$ that [pro$_k$ T:1SG not look.at me$_i$]]
[+1+log] [[+log]→+1]
Agree
control binding+inheritance
Vocabulary insertion: → Ø →*-mIn*

In these terms, Podobryaev's generalization that null pronouns shift in MT but overt pronouns do not translates into saying that the null pronoun pro can realize a pronoun with the features [+log, +1] but the overt first person pronouns cannot; they can only be inserted for a node with the features [+1, -log]. This allows 1lOp to bind pro but not overt first person pronouns. That is the formal respect in which pro in MT is like *tanu* in Telugu.

Messick supports the indexiphoric view of MT by pointing out that it also allows an overt second person pronoun to trigger first person agreement ((56a)), as DS, Telugu, and Dargwa do, and that it allows an overt first person pronoun to not trigger first person agreement—the disagreement construction found in DS and Dargwa ((57b)).

(56) Mishar Tatar (Podobryaev 2014: 108 (271), 106)

*a. Sin Marat-ka [**sin** Alsu-nɤ sü-ä-**m** diep] at'-tɤ-ŋ.*
you Marat-DAT you Alsu-ACC love-ST.IPFV-1SG that say-PST-2SG
"You$_{ad*}$ told Marat that you $_{ad*}$ love Alsu."

b. Roza [min kit-te diep] bel-ä.
Roza I leave-PST(3SG) that know-ST.IPFV
"Roza knows that I left."

I follow this indexiphoric approach to MT too, adding it to the mix of languages that we can use to understand what is universal about these constructions and what is subject to crosslinguistic variation.[32]

It is diagnostically significant that the pro-shift construction in MT has the same characteristic clause-level locality that we have seen for indexiphoric constructions in DS and Telugu. In a doubly-embedded sentence like (57), a first-person-agreeing pro cannot refer to the highest subject past the intermediate subject. Podobryaev admits that he cannot fully explain this within his indexical shift analysis.

(57) Misha Tatar (Podobryaev 2014: 108)

*#**Alsu** [(pro) [(**pro)** mine sü-ä-**m** diep] at'-ɤ-r-lar diep] kurk-a.*
Alsu pro.3PL pro.1SG me.ACC love-ST.IPFV-1SG that tell-ST-POT-PL that be.afraid-ST.IPFV
("Alsu$_i$ is afraid that they$_k$ will say that she$_i$ loves me$_{sp*}$.")

Here 'me' must be bound by Sp* and refer to the speaker. Then Condition B implies that the first-person-agreeing pro in the lowest clause must not be bound by Sp*, such that it too refers to the speaker. Rather, it must be bound by a 1lOp. But it cannot be bound by the 1lOp in the lowest clause, by number mismatch, since the controller of that 1lOp is plural 'they'. So it would have to be bound by the 1lOp in the Spec CP of the complement of 'be afraid'. But this higher 1lOp

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[32] Podobryaev (2014: 88) shows that there is no appearance of indexical shift in a nominalized clause as opposed to a finite clause with C=*diep*. In my terms, this shows that 1lOp is not licensed in the periphery of a nominalized clause, but only in a true CP. This is also true for full-fledged indexical shift in Magahi, Uyghur and Sakha.

cannot license [+1] on pro[+log] over the lower 1lOp (which must be obligatory) by the PLC. (57) shows that the ghostly DP operator in MT cannot license [+1] over another instance of the same operator, whereas (54)/(55) shows that Sp* can license [+1] over an instance of this other operator. Taken together, these facts show that the operator in MT is a licenser of [+1] features, but a weaker one than Sp. This is precisely the profile of 1lOp within my system.

One handy fact about MT is that indexiphoric pro is licensed not only in the subject of finite clauses but also as the possessor of a DP. There is what looks like indexical shift in (58a), parallel to what we saw in (53). The reason MT allows this is simply that it has rich agreement on nouns (technically on a D/Poss head that shows up suffixed to the noun) and this agreement, like agreement on T, can license pro.[33] This seemingly shifted (really indexiphoric) possessor can also exist in the same clause as an unshifted overt object pronoun, as seen in (58b).

(58) Mishar Tatar (Podobryaev 2014: (215), 105 (261))

*a. Alsu [irtägä [(**pro**) sestra-**m**] kil-ä-r diep] at'-tɤ.*
Alsu tomorrow *pro* sister-1SG come-ST-POT that say-PST
"Alsu$_i$ said that her/my$_{i,sp*}$ sister would come tomorrow."

b. Alsu [[(pro) sestra-m] mine kür-de diep] at'-tɤ.
Alsu *pro* sister-1SG me.ACC see-PST that say-PST
"Alsu$_i$ said that her/my$_i$ sister saw me$_{sp*}$."

This is not hard to account for on the current view. I already said that 1lOp can bind a pronoun in any position inside the clause it has scope over, just like Sp and lOp can, and it can transfer features to that pronoun. In the case of 1lOp, the complex feature bundle that it creates on its bindee may not be seen in most environments. But the added [+1] feature can be seen wherever agreement is there to make it visible. In MT, that includes possessor positions as well as subject positions. Examples like (58) point toward the current approach over

[33] In contrast, if the subject 'my sister' is marked accusative in (58a), pro$_{1st}$ can only refer to Sp*, not Alsu. Podobryaev says that this is because the accusative subject has raised above the indexical-shifting operator (see Shklovsky & Sudo 2014). My version of this analysis is that the accusative subject has raised above 1lOp, which therefore cannot bind the pronoun inside it to give it a [+1] layer. (See however Major (2022), who challenges this sort of analysis for Uyghur.)

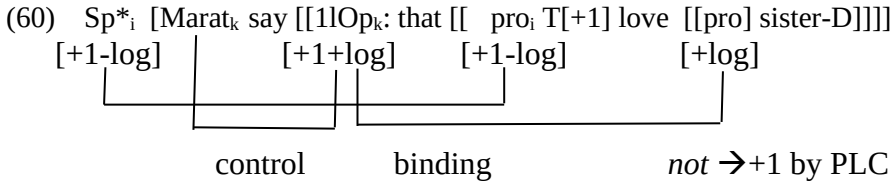
an alternative that tries to treat (53a) as having something like direct control of the null subject of the embedded clause by the matrix subject—a form of control not mediated by ghostly DP operators. This alternative idea is basically the view that control of PRO can happen in finite clauses in these languages, with PRO exceptionally triggering first person agreement. This has some initial plausibility, to the extent that most of the anomalous cases for Shift Together involve the highest subject in the clause as the locally shifted element. But this alternative does not extend naturally to (58), given that controlled PRO is not normally possible as the possessor of a DP subject.

Podobryaev (2014: 105) also discusses the example in (59), which has both a subject first-person-triggering pro and a possessor first-person-triggering pro, the former c-commanding the latter. This case is interesting for me because it bears on the details of the PLC. Podobryaev says that this example has three possible readings. That is more than strict Shift Together would allow (which would be just two readings) but less than an unconstrained system would allow (which would be four possible readings).

(59) Mishar Tatar (Podobryaev 2014: 105)
Marat [(pro) [(pro) sestra-m-nɤ] sü-ä-m diep] at'-tɤ.
Marat pro pro sister-1SG-ACC love-ST.IPFV-1SG C say-PST
a. "Marat$_i$ said that I$_{sp*}$ love my$_{sp*}$ sister."
b. "Marat$_i$ said that he$_i$ loves his$_i$ sister."
c. "Marat$_i$ said that he$_i$ loves my$_{sp*}$ sister."
d. Not: "Marat$_i$ said that I$_{sp*}$ love his$_i$ sister."

This pattern follows nicely from the PLC. The acceptable non-shift-together reading in (59c) shows that pro (in this case, the one in possessor position) can have an inherent [+1] feature and be bound directly by Sp* as well has having its indexiphoric usage. With this intrinsically first person pro, (59c) is possible for the same reason that (54)/(55) is: Sp* can bind and license a [+1,-log] pronoun over a 1lOp and the indexiphoric pronoun it binds, which are weaker bearers of the [+1] feature. One way of analyzing (59a), then, is that it simply has two inherently [+1] pronouns, which cannot shift (because Sp cannot be controlled in embedded clauses in MT, like DS and Telugu), no different from English. (59b) has two indexiphors, both bound (directly or indirectly) by 1lOp, which is in turn controlled by 'Marat', and both getting [+1] by inheritance from their binder. The new question is why (59d) is impossible as a reading for this sentence. The

PLC provides an answer. Here the subject pro has to be inherently [+1], bound by Sp* rather than 1lOp, whereas the possessor pro has to be a [+log] indexiphor, bound by 1lOp and inheriting [+1] and possibly [+log] from it. But the PLC blocks the inheritance of [+1] in this case: an inherently [+1] element (the subject) c-commands the possessor, is c-commanded by 1lOp and is a stronger bearer of [+1] than those elements are. The asymmetry between (59c,d) speaks again to the strength difference between Sp and 'I/me/pro[+1]' on the one hand and 1lOp and an indexiphor/pro[+log] on the other. 'I/pro[+1]' blocks 1lOp from licensing [+1] on the possessor indexiphor, but the subject indexiphor does not block Sp from licensing [+1] on the possessor indexical. The structure of (59d) is (60).



The details of the PLC thus carry over to this new language and to a somewhat different configuration. Anand (2006) and Deal (2020) treat asymmetries like this as a subtype of *de re* blocking, a rather murky semantic constraint with its origins in Percus and Sauerland's (2003) study of how pronouns are used in dream reports. For me, they can be attributed to the PLC, the same core principle that gets the "Local Determination" effect within my system.[34]

Finally, we can consider briefly the behavior of [+2] elements in MT.

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[34] The question arises as to what happens when there are two first person pros in the embedded clause, neither of which c-commands the other, in a sentence like 'Marat is afraid that pro.1SG's sister loves pro.1SG's brother.' My theory predicts that four readings should be available, with either pro.1SG referring to Marat and either one referring to Sp*. This is because either pro can have [+1] intrinsically, either one can be [+log] bound by 1lOp; the intervention condition of the PLC only applies when there is c-command between the potential intervener and the licensee. This prediction is correct for Amharic; see (64) below. For MT, Podobryaev (2014: 105 (261)) reports that the relevant sentence is only two ways ambiguous, with both pros referring to Marat or both referring to Sp*. I hope that this is due to the pragmatics of the example; the parallelism between 'pro's sister' and 'pro's brother' may make more accessible readings in which the pros are coreferential. My prediction is that playing around with the details of the example and its context would bring out all four readings.

Podobryaev (2014) presents MT as a language that has symmetry in the behavior of [+2] elements and [+1] elements. For example, in (61) the null pronoun that triggers second person agreement on the embedded verb can refer to the matrix goal ‘Marat’. Nevertheless, it can coexist in the same sentence with an overt second person pronoun ‘you’, which cannot shift, but must refer to Alsu, the addressee of the sentence as a whole (made explicit by a vocative).

(61) Mishar Tatar (Podobryaev 2014: 86 (211))
Alsu, min Marat-ka [(pro) ber kajčan da sine kür-m-ä-s-seŋ diep] at’-tɤ-m.
Alsu I Marat-DAT pro one when NEG.PRT you.ACC see-NEG-ST-POT-2SG C say-PST-1SG
“Alsu$_{ad*}$, I told Marat$_i$ that he/you$_i$ would never see you$_{ad*}$.”

Since the second person elements in (61) behave in a way that is parallel to the behavior of first person elements in a sentence like (54), a parallel analysis is called for. Ad cannot be controlled in an embedded clause, so overt ‘you’ cannot shift. But 2AdOp can be there; it can bind pro as a null “addressee pronoun”, endowing it with a [+2] feature that gets copied onto T by Agree (compare Messick 2023: 172-173). This gives what looks like indexical shift for the null pronoun only. (Technically, pro can be [+addr] as well as [+log], whereas overt second person pronouns only realize the bundle [+2, -addr].) Then it is compatible with the PLC for Ad* to license [+2] on ‘you’ even when the weaker [+2] elements 2AdOp and pro[+addr, +2] intervene. MT, then, is a language that clearly supports having parallel theories for [+1] and [+2] elements, as expressed in (15).

We have seen, then, that MT uses its null pronouns as indexiphors, whereas its overt pronouns can only be used as true indexicals. I close this section by considering whether this is a coincidence. Is there a reason why pro is a more natural realization of an indexiphoric feature bundle than an overt pronoun is? One factor could have to do with the syntax-semantics interface: often a pronoun that functions as a variable locally bound by an operator, such as a resumptive pronoun in a *wh*-construction, has to be a weak pronoun. Since indexiphoric pronouns have layered feature bundles that only arise as the result of the pronoun being bound by a particular type of operator, they may tend to be weak pronouns, and pro is the weakest of all pronouns. In contrast, the overt pronouns of a pro-drop language like MT typically do not qualify as weak pronouns. Another factor might be more morphological in nature. Indexiphors have unusual combinations of

features, not noticeable in simple one-clause structures. Their limited distribution might mean that it is hard to learn special forms for them, so systems that have specialized vocabulary items for this case will be rare. However, if pro-drop is possible in a particular position, then no vocabulary item needs to be inserted, and tensions about which item is the best fit are neatly avoided. In other words, Ø might be able to count as the realization of an indexiphor "for free" in languages and syntactic positions that allow it. Some combination of these two factors could account for why null pronouns tend to be indexiphors and overt pronouns tend not to be, rather than the other way around—a tendency that can be seen in Magahi as well.

6. Indexiphors along with indexical shift in Amharic

As my second to last case study in indexiphoricity, I consider Amharic, a Semitic language spoken in Ethiopia. Like Mishar Tatar, this has often been considered to have true indexical shift. Indeed, it was the first language discussed in these terms, by Schlenker (1999, 2003) based on data like (62) from Leslau (1995). Anand (2006) presents additional data from Amharic based on his own consultant work, which fills out the picture in significant ways. Anand argues that Amharic has logophors that are homophonous with first person pronouns and that trigger the same agreement morphemes. Deal (2020) discusses it as having indexiphors as well as indexicals proper, both triggering the same agreement. Again, I follow this strain of research, showing how it fits into my framework.

(62) Amharic (Schlenker 2003: 68)
*John [(**pro**) jɨəgna n-**ññ**] yɨl-all.*
John pro$_{1st}$ hero be-1SG say-AUX.3SG.M
"John$_i$ says that he/I$_{i,sp*}$ am a hero."

At its core, Amharic is very much like Mishar Tatar with respect to logophoricity and indexical shift. The overt versus covert pronoun distinction has not been emphasized for Amharic the way that Podobryaev does for MT, but it needs to be kept in mind that pronominal subjects, objects, and possessors are all expressed as affixes on the verb or noun in Amharic, so they could be instances of pro licensed by agreement, or clitics related to the theta-position by Agree (Kramer 2014, Baker and Kramer 2018). Therefore, as in MT,

we cannot tell by direct inspection what is in an argument position; it could be a null indexical, but it could also be a null logophor triggering indexiphoric agreement. Crucially, Amharic does allow apparent Shift Together violations, as in Schlenker's example from Leslau (1995) in (63). This is why Shift Together does not trace back to Schlenker, but rather has its origins in Anand and Nevins (2004).

(63) Amharic (Leslau 1995: 779)
John [(pro) (pro) al-ɨttazzəzə-ññ] alə.
John pro pro NEG.1SG-obey.IPFV-1SG.O say.PFV.3SG.M
"John$_i$ says that he/I$_i$ will not obey me$_{sp*}$." not: "John$_i$ says that I$_{sp*}$ will not obey me$_i$."

Example (63) is like (36) in Telugu/Tamil and even more like (54) from MT; it thus invites the same analysis. We can say that the subject of the embedded clause in (63) is an indexiphor, bound by 1lOp in the CP complement of 'say', which is controlled by the matrix subject 'John'. In contrast, the object of the embedded clause is an indexical with intrinsic [+1] features, bound and licensed by Sp* in the matrix clause. Once again, the indexiphor referring to the matrix subject has to be the subject of the embedded clause and the indexical referring to Sp* has to be the object, not vice versa.[35] Anand (2006: 101) and Deal (2020: 116) attribute this asymmetry to *de re* blocking, but for me it is a consequence of the PLC. Sp* can license [+1] on the object across 1lOp and the indexiphoric subject, because those are weak bearers of [+1]. In contrast, 1lOp cannot license [+1] on the object across a [+1, -log] subject, because that is a stronger bearer of [+1] than 1lOp is. The relevant structures are perfectly analogous to (55) and (60) above. This restriction on which pronoun is the indexiphor holds only when there is c-command between the two pronouns. When one trigger of [+1] agreement is the possessor of the subject and the other is the direct object, then either one (or both) can be interpreted as an indexiphor referring to the matrix subject and either one (or both) can be interpreted as an indexical referring to Sp*. This correctly gives four readings for the variant of (63) given in (64).

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[35] This asymmetry has also been observed in certain New Guinean languages. See Deal (2020: 116-117) and references cited there.

(64) Amharic Anand's (2006: 101)

John [[(pro) lɨj-e] (pro) ay-ɨttazzəzə-ññ] alə.
John *pro* son-1SG *pro* NEG.1SG-obey.IPFV-1SG.O say.PFV.3SG.M
"John$_{i}$ says that his/my$_{i,sp*}$ son will not obey him/me$_{sp*,i}$."
(four readings)

Therefore, Amharic fits well as another language that has covert indexiphors.

(64) implies that in Amharic even the direct object can be an indexiphor, with both [+1] and [+log] features. That must be the case when (64) means 'John$_{i}$ says that my son will not obey him$_{i}$.' The fact that the possessor refers to the speaker shows that true indexical shift has not happened in the complement clause. Then the fact that the object corefers with the matrix subject *John* shows that it gets its [+1] feature from being bound by 1lOp, which is controlled by *John*. This reinforces the theme that indexiphors can in principle appear anywhere in the clause where agreement (or clitic doubling) can reveal the indexiphoric feature bundle. In Amharic, that includes object positions as well as subject position and possessors, Amharic having more head-marking than the other languages considered here.

Having established Amharic as a language with indexiphors, we can poke around to see what variations on the indexiphoric theme it presents. The first point is that it shows no signs of the disagreement construction attested in Donno Sɔ, Dargwa, and Mishar Tatar. In those languages, first and second person subjects inside the CP complement that are not coreferential with an argument of the matrix clause do not trigger [+1] or [+2] agreement on the embedded verb. But there is no indication of this happening in Amharic. For example, (62) has the same first person agreement on the embedded verb whether the subject 'I' refers to Sp* or to the matrix subject, unlike DS. For me, this implies that the insertion of agreement morphemes in Amharic is sensitive only to [+1] and [+2], not to those features bundled with features like [+log] and [+addr]. Amharic is like Telugu and Tamil in this respect, rather than like the other indexiphoric languages.

The next detail is that Anand (2006) and Deal (2020: 117-118) argue that Amharic has true indexical shift in addition to indexiphoricity. This can be deduced from (65) with two levels of clausal embedding.

(65) Amharic (Anand 2006: 101)

Bill [John [(pro) (pro) al-ɨttazzəzə-ññ] alə] alə.

Bill John I me NEG.1SG-obey.IPFV-1SG.O say.PFV.3SG.M say.PFV.3SG.M

a. "Bill$_i$ says that John$_k$ says that he$_k$ will not obey me$_{sp*}$."
b. *"Bill$_i$ says that John$_k$ says that he$_i$ will not obey me$_{sp*}$."
c. "Bill$_i$ says that John$_k$ says that he$_k$ will not obey him$_i$."

Condition B of the Binding theory rules out any possibility of 'I' and 'me' in the lowest clause being coreferential. The possible reading in (65a) is like (63) in the relevant respects, just further embedded as a complement clause. The badness of the reading in (65b) shows again the locality of the indexiphoric effect: the immediately superordinate subject *John* can license [+1] on a logophoric pronoun in the lowest clause, but the more remote subject *Bill* cannot. This is like (20) in Donno Sɔ, (30) in Telugu, and (57) in Mishar Tatar. It is a result of the PLC: 1lOp in the periphery of the middle clause cannot license [+1] on the lowest subject past the 1lOp in the periphery of the lowest clause. Against this background, it is the possibility of (65c) that implies that Amharic has indexical shift as well as first person indexiphoricity. The subject in the lowest clause triggering [+1] agreement while referring to the intermediate subject John in the presence of another [+1]-triggering pronoun with a different referent must be an indexiphor. Hence 1lOp must be present in the lowest CP and it must be controlled by 'John'. How then can the [+1] pro in object position of the lowest clause refer to the higher subject Bill? It cannot do so by being an indexiphor, given the strict clause-level locality of the indexiphoric effect. In terms of my theory, this too would involve 1lOp licensing [+1] on a pronoun over another 1lOp, in violation of the PLC. So the object of the lowest clause must be a true indexical—a stronger bearer of [+1] than 1lOp and the indexiphoric pro subject. But it is a shifted indexical, since it refers to Bill, not Sp*. Therefore, Amharic has both shifted indexicals and indexiphors. In theoretical terms, Amharic is a language that allows Sp as well as 1lOp to be present in complement CPs and controlled by an argument of the verb that selects the CP. Sp in an embedded clause can license [+1] on a pronoun at a greater distance than 1lOp can, over an intervening 1lOp, as we have seen several times for instances of Sp* in the matrix clause. The interpretation in (65c) is analyzed in (66).

(66) Sp* $Bill_i$ say [Sp_i that [$John_k$ say [1lOp_k that [pro_k[[+log]+1] not-obey pro_i[+1, -log]]]]]

In allowing indexical shift as well as indexiphoricity, Amharic can be compared to Aqusha Dargwa, which shows the two options more transparently, as in (67). Here the pronoun referring to the matrix subject *Ali* and triggering [+1] agreement on the verb can be the indexical *nu* 'I' or the LD anaphor *sa-j* 'self'. My claim is that Amharic is like Dargwa, except that in Amharic the LD anaphor-logophor must be pronounced as Ø and the indexical can be.

(67) Aqusha Dargwa (Ganenkov (2022): (10a), (8), (14))) (=(26))
*ʔ**alis** hanbikib [**nu/sa-j** q'an iub-ra ili].*
Ali thought.3 I/self-M late (M.SG)became-1 that
"Ali_i thought that he_i/I_i was late."

I also predict that (65) cannot mean '$Bill_i$ said that $John_k$ said that he_i will not obey him_k', with the indexical and the indexiphor switched. That should be ruled out by the PLC, just as the second reading of (63) is. Although Anand (2006: 101) is not totally explicit about this, he says that (64) has only two possible readings and this is not one of the two that he gives. (I also believe that his and Deal's theories make the same prediction as mine does on this point.)

The other parameterized property to check is how Amharic treats [+2] items: does it make use of 2AdOp as well as 1lOp or not? Anand's evidence implies that it does not. He and Deal (2020) claim that Amharic allows true indexical shift of second person pronouns, but not second person indexiphoricity. This is based on examples like (68) and (69), to be contrasted with (63) and (64) above.

(68) Amharic (Anand 2006: 101)
**John Bill [[(pro) (pro) at-ɨttazzəzə-ɨh] alə-w.*
John Bill pro pro NEG.2SG-obey-IPFV-2SG.O say.PFV.3SG.M-3SG.M.O
("$John_i$ said to $Bill_k$ that you_k will not obey you_{ad*}.")

(69) Amharic (Anand 2006: 101)

John Bill [[(pro) lɨj-ih] (pro) ay-ɨttazzəzə-ih] alə-w.
John Bill pro son-2SG pro NEG.3SG-obey.IPFV-2SG.O say.PFV.3SG.M-3SG.M.O

a. "John$_i$ told Bill$_k$ that your$_{ad*}$ son will not obey you$_{ad*}$."
b. "John$_i$ told Bill$_k$ that his$_k$ son will not obey him$_k$."
c. * "John$_i$ told Bill$_k$ that his$_k$ son will not obey you$_{ad*}$."
d. * "John$_i$ told Bill$_k$ that your$_{ad*}$ son will not obey him$_k$."

Here we do see Shift Together behavior, where two pros both triggering second person agreement cannot be given different readings: either both refer to the matrix goal or both refer to the addressee of the sentence as a whole. This shows up in (69) as the possibility of having two interpretations rather than four. In (68), it shows up as full ungrammaticality, since having the two pronouns refer to the same person violates Condition B. This implies that there are not two distinct [+2] binders in Amharic; the language has controllable Ad in embedded clauses packaged together with Sp, but not a distinct 2AdOp.[36] Amharic is minimally different from Mishar Tatar in this; MT does allow apparent Shift Together violations with second person as well as with first person (see (61)), pointing to the presence of 2AdOp in MT. Rather, Amharic is like Telugu, which has first person but not second person indexiphoricity (see (41)).[37]

Overall, Amharic fits well within the space of possibilities defined by this study. Like MT, it is a language with more subtle indexiphoricity, found with the null pro rather than with overt elements like logophors or LD anaphors. However, it differs from MT in the same secondary

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[36] The badness of (68) indicates that the controlled operator in the CP complement is Ad, not 2AdOp. If it was 2AdOp, then the PLC would allow the matrix Ad* to license [+2] on the object over it. (I assume Ad* is present in all languages.)

[37] Challenging learnability questions could arise here, as to whether children get the data needed to distinguish an Amharic-like language from a Mishar Tatar-like language in this respect. I do not speculate on this. I also leave to future research questions about how third person pronouns interact with indexical shift and indexiphoricity. Anand (2006: 112-113) reports that there are situations in which a third person pronoun cannot refer to the matrix subject when it is in a clause that could have indexical shift/indexiphoricity. This seems similar to the Magahi facts discussed in §4.4.3 and is hopefully amenable to a similar analysis.

parameter settings that distinguish Telugu from Donno Sɔ and Aqusha Dargwa among the languages with more obvious indexiphors.

7. Completing the analysis of Magahi

I have another motive for pushing the analysis of indexiphoric constructions beyond clear cases like Donno Sɔ and Telugu into the realm of disguised cases like Mishar Tatar and Amharic. This gives me an opportunity to fill out the description and clean up the analysis of indexical shift in Magahi, which provided the bulk of my new data on indexical shift in Chapter 4. It turns out that in Magahi there are some differences between overt and covert pronouns with respect to Shift Together phenomena. These differences resisted a fully satisfying analysis in previous work by Alok and myself (Alok 2020, Alok and Baker 2022). We now have the opportunity to understand them in terms of Magahi being like Amharic in having a null [+1] indexiphor as well as full-fledged indexical shift. Indeed, in most respects, Magahi has the same parameter settings as Amharic does. However, one additional parameter in the formulation of the PLC needs to be added to complete the account.

We know that Magahi has full indexical shift, as discussed at length in Alok and Baker (2018), Alok (2020), and Chapter 4 above. With overt pronouns, it uniformly obeys Shift Together, both in examples with two pronouns that have the same person features and in examples with two pronouns that have different person features. For example, in the complement of a dyadic verb like ‘think’ a shifted overt first person pronoun is incompatible with a second person pronoun or allocutive marking.

(70) Magahi (fieldwork, Deepak Alok)

*a. Santee-aa soch-l-ai ki **ham toraa** dekh-l-i.*
Santee-FM think-PFV-3.NH.S that I you.NH.ACC see-PFV-1.S
“Santee$_i$ thought that I$_{sp*,*i}$ saw you$_{ad*}$.”

*b. Santee-aa soch-l-ain ki **ham** Ram-ke dekh-l-i-**ain**.*
Santee-FM think-PFV.3.NH.S-AL.HH that I Ram-ACC see-PFV-1.S-AL.HH
“Santee$_i$ thought that I$_{sp*,*i}$ saw Ram.” (said to a teacher)

This is a form of Shift Together. The first person pronoun can only be shifted to refer to the matrix subject ‘Santee’ if any second person

elements are also shifted, but ‘think’ does not have a goal argument that that second person can shift to. However, examples like (70) are possible with apparent i-shift if the subject is pro-dropped, as in (71).

(71) Magahi (fieldwork, Deepak Alok)

*a. Santee-aa soch-l-ai ki **(pro) toraa** dekh-l-i.*
Santee-FM think-PFV-3.NH.S that I you.NH.ACC see-PFV-1.S
“Santee$_i$ thought that he/I$_{i,\ sp*}$ saw you$_{ad*}$.”

*b. Santee-aa soch-l-ain ki **(pro)** Ram-ke dekh-l-i-**ain**.*
Santee-FM think-PFV.3.NH.S-AL.HH that I Ram-ACC see-PFV-1.S-AL.HH
“Santee$_i$ thought that he/I$_{i,sp*}$ saw Ram.” (said to a teacher)

In (71a), the first person element gets its value from one situation, that of the thinking event, whereas the second person pronoun seems to get its value from another situation, that of the speech act of uttering the whole sentence (compare Deal 2020: 65). This seems problematic for the way that I derived Shift Together from fundamental principles involving the obligatoriness of obligatory control in Chapter 4.

In the context of this chapter, we have a new way of thinking about this issue: pro in (71) could be an indexiphor bound by 1lOp rather than a true first person indexical bound directly by Sp, and that could be why it interacts with other indexicals differently. Although I did not discuss exactly this combination for a clear indexiphoric language, the analog of (71a) in Telugu is (72), and it is grammatical: one can have monstrous [+1] agreement with *tanu* together with an unshifted instance of ‘you’ in the embedded clause.

(72) Telugu (Sreekar Raghotham, p.c.)

Ram [tanu ninnu market-lo coos-ää-nu ani] cepp-ää-Du.
Ram 3SG you.ACC market-in see-PST-1SG that say-PST-3SG.M
“Ram$_i$ said that he$_i$ saw you$_{ad*}$ in the market.”

So there is an opportunity here. However, a barrier to this analysis is that a first person *pro* cannot cooccur with an unshifted overt first person pronoun in a sentence like (73) any more that overt ‘I’ can.

(73) Magahi (fieldwork, Deepak Alok)
*Santee-aa soch-l-ai ki **(ham)** hamraa dekh-l-i.*
Santee-FM think-PFV-3.NH.S that I me.ACC see-PFV-1.S
("Santee$_i$ thought that I$_{i,sp*}$ saw me$_{sp*,i}$.")

In contrast, the equivalent of (73) in Amharic, MT, and Telugu is possible with *pro* or *tanu* in the embedded subject position and an overt first person object. Therefore, an indexiphoric analysis will require some parametrization at this point. This is what I explore in this final section.

The basic analysis of the contrast between (70) and (71) in Magahi can go as follows. Sp and Ad come as a package, both licensed by projections of the same Fin head as discussed in §4.5.4. As a result, one is controlled if and only if the other is. That is the source of Shift Together in Nez Perce, Zazaki, Uyghur—and also Magahi with overt pronouns. However, 1lOp is independent of this package; it is not yoked together with Ad in the way that Sp is. Let us assume that 1lOp is licensed by a different head in Magahi, a higher one; I call it simply C. Then (71a) can have the representation in (74), with a pro being locally bound by 1lOp and receiving [+1] and [+log] features from it.

(74) Sp*$_n$ Ad*$_k$ Santee$_i$ thinks [1lOp$_i$ C // [Sp$_n$ Ad$_k$ Fin...
...[pro$_i$[+log,+1] saw you$_k$]]]

We know that in Magahi there must be an Ad in the embedded CP along with 1lOp; otherwise it would be too far away from Fin in the embedded clause to trigger allocutive agreement on Fin in (71b). If Ad and Sp always go together, then Sp is there too. Now to get the observed effect, we need to say that *Santee* controls 1lOp, but Ad does not need to be controlled because it has interpretable intrinsic features; instead it can be bound by Ad* and refer to the addressee of the sentence as a whole. To accomplish this in the terms I used to analyze the optionality of indexical shift in §4.5.2, we can say that FinP can be extraposed stranding C in Magahi. If so, then, 1lOp is in a context of obligatory control, whereas Ad can be is taken out of that context by extraposition.[38] Then pronouns bound by these two ghostly DPs do not

[38] Note that *ki* 'that' must be a realization of Fin rather than C, since it always appears extraposed with the rest of the embedded clause, after the matrix verb. Given §4.5.3, an alternative would be that a nominalizing head appears between

have to shift together in a constrained way.

In contrast to *pro*, the overt pronoun *ham* 'I' in (70) can only realize the features [+1, -log]. Therefore, it cannot be bound by 1lOp, but only by Sp. Unlike 1lOp, Sp is projected in the same functional projection as Ad, namely FinP. Syntactic processes like extraposition (or nominalization) can in principle come between two distinct functional heads, like C and Fin, but not between two "segments" of the Fin projection (i.e. between Fin1 and Fin2). Therefore, Sp and Ad are either both in a context of OC and undergo control or neither of them does, and the pronouns bound by these operators must shift together. The overt 'I' in (70) is possible with a shifted reading only if the subject of 'think' controls Sp, which implies that the goal of 'think' controls Ad. But 'think' has a null goal (the addressee of a thinking event is no one), so second person elements inside the complement clause are impossible in this version.[39] This accounts for the contrast between (70) and (71) using the idea that pro can be an indexiphor in Magahi but *ham* cannot be.

If indexiphoricity is crucially involved in the possibility of Shift Together violations like (71) in Magahi, then we predict that this effect should be quite local. Consider the sentence in (75a), with (75b) as a comparison. In (75a), the first person *pro* in the lowest clause can refer to the closest superordinate subject *Bantee*, or to the speaker of the whole sentence, but it cannot refer to the higher subject *Santee*.[40] In contrast, (75b), with the same overall syntactic structure but no second person pronoun in the lowest clause, does allow the first person pro to refer to Santee as well as to Bantee or Sp*.

C and FinP in Magahi, but the extraposition version is easier to justify in terms of the surface morphosyntax of Magahi.

[39] This approach can subsume the results that Alok and Baker (2022) report concerning "honorificity shift" with third person pronouns in complement clauses in Magahi, as long as we stipulate is that the index borne by Hon(orific) heads in Magahi can be bound by Sp but not by 1lOp.

[40] If the verbs are reversed in (75a) to give 'Santee said that Bantee thinks that …', Santee is still dispreferred as the referent of pro_{1st}, but it is not entirely impossible. Its marginal acceptability can be attributed to the possibility of 'say' (unlike 'think') taking a covert goal argument that refers to Ad*, which triggers a vacuous indexical shift.

(75) Magahi (fieldwork, Deepak Alok)

a. Santee-aa soch h-ai ki Bantee-aa kahk-ai ki (pro) toraa bajaar-me dekh-l-i.
Santee-FM think be-3.NH.S that Bantee-FM said-3.NH.S that (pro) you.ACC market-in see-PFV-1.S
"Santee$_i$ thinks that Bantee$_k$ said that I$_{k,*i,sp*}$ saw you$_{ad*}$ in the market."

b. Santee-aa soch h-ai ki Bantee-aa kahk-ai ki (pro) Ram-ke bajaar-me dekh-l-i.
Santee-FM think be-3.NH.S that Bantee-FM said-3.NH.S that (pro) Ram-ACC market-in see-PFV-1.S
"Santee$_i$ thinks that Bantee$_k$ said that I$_{k,i,sp*}$ saw Ram in the market."

This pattern is predicted by the indexiphoric analysis. Pro in (75a) could in principle be bound by a logophoric operator that is more than a clause away, in the periphery of the complement of 'think', but that 1lOp cannot license [+1] on its bindee over a 1lOp or Sp in the periphery of the complement of 'say'. Therefore, the reading of (75a) with the seer being Santee is possible with a third person pro(noun) in the lowest clause (as in English), but not with a first person-agreeing pro. The only difference between (75a) and (75b) is that in (75b) 'you' in the lowest clause is replaced by a third person nominal 'Ram'. Since there is no 'you' in (75b), no Shift Together issue is posed by this version of the sentence. Here *Santee* could control Sp in the Spec CP of the complement of the higher verb 'think', which in turn would bind pro in the lowest clause with an intrinsic [+1] feature. This parse of the sentence commits it to having a referentially defective Ad in the Spec of the CP complement of 'think', by Shift Together. However, that is harmless in (75b), because there is no second person element in the embedded clause which would be bound by the defective Ad. So *pro$_{1st}$* referring to the highest subject *Santee* is possible in (75b), unlike (75a). (75a) confirms that the licensing of what must be an indexiphor in Magahi is subject to the same clause-level locality that we have seen in the other languages.[41]

[41] Like Telugu and DS, Magahi only has agreement with subjects, not objects or possessors. As a result, indexiphoric pro is only visible in the subject position. This limits the ability to study *de re* blocking effects in this language.

A surprising fact about these apparent Shift Together violations in Magahi is that they can happen under a dyadic verb like ‘think’ or ‘say’ but not under a triadic verb like ‘tell’.[42] Under ‘tell’, first-person-agreeing pro shifts together with a second person pronoun just as overt ‘I’ does. This is seen in (76).

(76) Magahi (fieldwork, DeepakAlok)

a. Santee-aa Bantee-aa-ke kahl-ai ki (pro) toraa dekh-l-i.
Santee-FM Bantee-FM-DAT told-3.NH.S that pro you.NH.ACC see-PFV-1SG
“Santee$_i$ told Bantee$_k$ that he/I$_i$ saw him/you$_{k,*ad*}$” or
“Santee$_i$ told Bantee$_k$ that I$_{sp*}$ saw you$_{*ad*,*k.}$”

b. Santee-aa Bantee-aa-ke kahl-ai ki (pro) Ram-ke dekh-l-i-au/#ain.
Santee-FM Bantee-FM-DAT told-3.NH.S that pro Ram-ACC see-PFV-1SG-AL.NH/#AL.HH
“Santee$_i$ told Bantee$_k$ that he/I$_{i,sp*}$ saw Ram.” (If pro$_{1st}$=Santee, allocutive on embedded V reflects Santee’s relationship to Bantee.)

At a minimum, my theory can stipulate this as a lexical property. We can say that ‘think’ selects a CP headed by a C that licenses 1lOp, but ‘tell’ does not. ‘Tell’ only selects a CP that licenses Sp/Ad—as all finite clauses do in Magahi. It is possible that that is all there is to this.

Suppose, however, that this contrast between dyadic and triadic verbs turns out to be systematic, both across the Magahi lexicon and across languages.[43] Do we have a chance at a deeper explanation within this

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[42] This way of putting it is a bit simplified. ‘Say’ and ‘tell’ are the same verb in Magahi, which optionally selects a goal argument. Without a goal argument, ‘say’ can behave like ‘think’, allowing apparent violations of Shift Together. With an overt goal argument, Shift Together is uniformly obeyed. Moreover, ‘say’ can take an implicit goal argument, which usually refers to the speaker, but can refer to some other salient person in the speech context under the right circumstances. This gives rise to additional Shift Together readings where pro/‘I’ refers to the matrix subject and ‘you’ refers to the covert goal (e.g. meaning ‘me’), to confuse the unwary Magahi-ist.

[43] Magahi does have other triadic verbs suitable for comparing with ‘tell’, including ‘ask’, ‘convince’, and ‘hear’. Our examples using them all respect Shift

framework of assumptions? Perhaps. With the literature on serial verb constructions and verb compounding in mind, suppose that verbs in Magahi must select Cs that match them in argument structure. 'Think' selects a subject argument but not an object (other than the clause). So does the C that licenses 1lOp, given that Magahi does not have 2AdOp (see below). Therefore 'think' and the 1lOp-licensing C match in argument structure. However, 'tell' does not match the 1lOp-licensing C in argument structure. 'Tell' does, however, match a Sp+Ad licensing C head in argument structure, since that C is also triadic. From this it would follow that indexical shift is possible under 'tell' but it does not license an indexiphor in its complement, which is what gives rise to apparent violations of Shift Together.

Then we would have to go back to the question of why full indexical shift of overt first person pronouns is possible in the complement of 'think'. Can 'think' also select a Sp+Ad licensing C, despite not matching that C in argument structure? Perhaps not—but here it is relevant that the Sp+Ad-licensing C (Fin) does not need to be selected by a verb in Magahi in any case. This sort of C is also possible in adjunct clauses, relative clauses, and matrix clauses, as well as in the complement of any verb. Magahi shows this most clearly in that allocutive agreement is possible in this whole range of clauses, showing that Ad can be present. We can then conjecture that 'think' can appear in a CP recursion structure like [think [1lOp C1 [Sp Ad C2 [TP]]]], where 'think' selects 1lOp directly, but a Sp-Ad layer is possible below that, as it is in finite clauses throughout Magahi.

This discussion of differences between 'tell' and 'think' assumed that Magahi is like Telugu and Amharic in not having 2AdOp in its grammar. This is likely enough on statistical grounds, in that AdOp is not very common in the African languages that have logophoric pronouns. But can we confirm this internally to Magahi? Suppose for the sake of argument that Magahi does have 2AdOp as well as 1lOp. We would expect to see the effects of this primarily under a verb like 'tell'. Argument structure matching would allow 'tell' to select a C that licensed both 1lOp and 2AdOp. Then we would expect that an example like (77) could be possible with a pro triggering second person on the verb getting a shifted reading so that it refers to the matrix goal *Bantee* and overt 'me' getting an unshifted reading where it refers to Sp*—the converse of (76a). This would be the result of pro

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Together, but we have not run them through a full range of tests.

in the subject position being bound by 2AdOp controlled by the matrix goal, pro receiving [+2] from that Op, and ‘me’ simply being bound by the closest Sp. This is not possible: pro_{2nd} in this structure has to shift together with ‘me’, just as its overt counterpart must. Therefore the hypothetical representation with 2AdOp in (77b) is out.

(77) Magahi (fieldwork, Deepak Alok)

a. Santee-aa Bantee-aa-ke kahl-ai ki (pro) hamraa dekh-l-eN.
Santee-FM Bantee-FM-DAT told-3.NH.S that pro me-ACC see-PFV-2.NH.S
“$Santee_i$ told $Bantee_k$ that he/you_k saw him/$me_{i,*sp*}$.” (also: “$Santee_i$ told $Bantee_k$ that you_{ad*} saw me_{sp*}.”

b. Sp_i Ad_k $Santee_m$ told $Bantee_n$ [1lOp_m 2AdOp_n C [Sp_i Ad_k Fin [pro_n[+addr+2] saw me_i[+1-log]]]]

This asymmetry between first person pro and second person pro shows that there is no 2AdOp available in Magahi. In this respect, Magahi is more like Amharic than it is like Mishar Tatar.

Up to this point, the data we have discussed shows that first-person-agreeing *pro* in Magahi behaves recognizably like indexiphors in other languages. Now we come to one important difference. As mentioned above, (73) (repeated here as (78)) is bad in Magahi, just as the version with overt ‘I’ is bad. In Magahi, it is impossible for two [+1] pronouns in the same clause to refer to different people, even when one of them could be an indexiphor. In other words, indexiphoric *pro*[+log, +1] does not have to shift together with a second person pronoun, but it does have to shift with a first person.

(78) Magahi (fieldwork, Deepak Alok)

Santee-aa soch-l-ai ki (ham**) hamraa dekh-l-i.*
Santee-FM think-PFV-3.NH.S that I me.ACC see-PFV-1.S
(“$Santee_i$ thought that $I_{i,sp*}$ saw $me_{sp*,i}$.”)

In contrast, the analog of (78) is grammatical in Telugu, Mishar Tatar, and Amharic. So, if my whole line of analysis is on the right track, there must be a locus of parameterization here.

I find room for the necessary parameterization in the statement of the PLC, which governs the licensing of [+1] features. Broadly speaking, the PLC restricts having first person elements with different referents

in the same domain. (78) certainly falls within that sphere of influence. More specifically, the PLC says that a [+1] operator cannot license [+1] on a pronoun when another [+1] element intervenes between them. (78) fits this description: it has the configuration: Sp_i … $1lOp_k$ … *pro*[+log,+1]$_k$ … pronoun[+1-log]$_i$. In other languages, this representation is allowed; I have captured that by stipulating that 1lOp and *pro*[+log] are weaker bearers of [+1] than Sp and inherently first person pronouns are. But suppose that this difference in strength varies parametrically, with (79) holding in Magahi rather than (15c).

(79) In Magahi, Sp, 1lOp, *pro*[+log], and intrinsically first person pronouns are equally strong bearers of [+1].

This implies that Sp cannot license [+1] on the object pronoun in the structure of (78) over the intervening 1lOp, even though this is possible in other languages. Given this parameterization, the PLC rules out (78) in Magahi on a par with other Shift Together violations, as desired. That completes the account of indexical shift in Magahi.

Another language that might well have the parameter setting in (79) is Slave (Rice 1989). Previous work, including mine, has considered Slave to be a language with true indexical shift. However, it has some special properties that have arguably skewed the discussion, particularly when it comes to the possibility of mixed context effects and exceptions to Shift Together; see §4.5.4 for discussion. In particular, examples like (80) are possible in Slave, whereas they are not possible in Uyghur, Nez Perce, or with an overt subject pronoun in Magahi (see (70)).

(80) Slave (Rice 1989: 1279 (41))
William *neghǫ̨ʔeníetǫ̨* *hadi.*
William 1.SG.S.have.love.for.2.SG.O 3.S.say
"William$_i$ says that he/I$_i$ has love for you$_{ad*}$."

However, the analog of (80) is possible in Magahi with indexiphoric pro rather than an overt indexical pronoun as the embedded subject, as shown in (71a). Indeed, (80) in Slave probably also has a null pronoun subject licensed by rich agreement on the verb, given that pronominal subjects are expressed by affixes on the verb in this language. (Slave has no analog of (80) with an overt independent pronoun to compare to pro, the way that Magahi has.) It is very possible, then, that the

embedded subject in (80) is an indexiphoric pro as well.[44] Slave is also like Magahi in that apparent Shift Together violations like (80) are possible under dyadic verbs like 'say' and 'want' but not under triadic verbs like 'tell' (see Rice 1989: 1277-1278, compared with Magahi (76)). The reason Deal (2020) does not see Slave as an indexiphoric language could be because Slave apparently does not have examples in which two first-person agreeing elements in the same clause have different referents—nothing like the 'John$_i$ says that (I$_i$) will not obey me$_{sp*}$' examples which are found in Donno So, Telugu, Mishar Tatar, or Amharic. (Rather Slave uses sentences of the form 'John$_i$ says that I$_i$ will not obey him$_{sp*}$' to express this; see (6) above.[45]) However, Magahi has evidence of indexiphoric behavior without allowing this type of apparent Shift Together violation as well; see (73)/(78). The parameterization of the PLC in (79) accounts for this in Magahi, and it could also be used in Slave to give the same results. This is the analysis that I assume pending further investigation.

I for one will feel more confident about the parameter in (79) once we find languages with more obvious indexiphors that are like Magahi in this respect: languages in which 'Ali said that Log saw-1SG me' with a visible indexiphor is ruled out. (Having deeper theoretical insight into the nature of complex bundles of person features could also help.) But in the meantime, (79) is the best way I have found to bring the idiosyncratic-looking properties of sentences with first-person pro in Magahi into the fold. This also clears the way to maintaining Shift Together as a stronger, more exceptionless principle of true indexical shift than would otherwise be possible, supporting §4.5 above.

8. Conclusion

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[44] In Slave, the first person element that refers to the subject of the matrix clause appearing along with a second person pronoun referring to Ad* does not have to be in the embedded subject position (see, for example, Rice (1989: 1279 (40)), reproduced in my Chapter 4). This is consistent with the fact that all kinds of pronouns are expressed by affixes on governing heads in Slave, so it can have indexiphoric pro in any syntactic position.

[45] Note also that Rice's (1989: 1280) rules for "direct discourse" interpretation allow for a first person pronoun to refer to the matrix subject in a clause in which a second person pronoun refers to Ad* (like (80)), but not for this to happen in a clause in which another first person pronoun refers to Sp*.

In this chapter, I have considered how to fit indexiphors into my overall analysis—pronominal elements that look like logophors or LD anaphors (or null pro!), but which trigger first or second person agreement on an agreeing head. Since indexiphoric constructions look like a blend of indexical shift and logophoricity, something that aspires to be a unified theory of those two phenomena should cover indexiphoricity as well. I have shown how this can be accomplished, arguing that indexiphoricity is the result of pronouns being bound by ghostly DP operators like 1lOp and 2AdOp. 1lOp is basically a hybrid of Sp (which is [+1]) and lOp (which is [+log]) into a single operator that has both features [+1, +log]. Similarly, the rarer 2AdOp is a hybrid of Ad [+2] and the rarer AdOp [+addr] into one element with the features [+2, +addr]. These operators can then give features to the pronouns that they bind, making a logophor/LD-anaphor [+1] (or [+2]) and in some languages (those with disagreement) making an indexical like 'I' [+log]. These added features then influence how functional heads agree with the bound pronouns, depending on the specific vocabulary items that a language has. The theoretical costs of this increase in empirical coverage are basically two. First, I allow operators to bind pronouns which they do not necessarily match in features, sometimes resulting in an additional layer of phi-features being built around a core pronoun. Second, I generalize the Person Licensing Constraint, previously used for indexical shift constructions (among others), so that it distinguishes between weak holders of a participant feature and strong holders of the participant feature. This change to the PLC has consequences both for basic licensing and for intervention. It pays dividends in allowing a syntactic explanation for both facts that have been attributed to Local Determination and facts that have been attributed to *de re* blocking in the analyses of Anand (2006) and Deal (2020). Finally, some languages have null indexiphors rather than overt ones. Once this is taken into account, a range of counterexamples to the Shift Together property of true indexical shift disappear. This clears the way to have a theory based on obligatory control, from which a strong version of Shift Together follows, as developed at the end of Chapter 4.

Table 6-1 summarizes the fine-grained parameters that characterize the various indexiphoric patterns that were discussed in this chapter. We discovered six parameters: (i) whether logophoric pronouns can be overt or only null (pro), (ii) whether agreement is sensitive to [+log] features (creating disagreement patterns) or only to [+1] and [+2], (iii) whether the language has 2AdOp, causing indexiphoric

behavior with second person pronouns, or only 1lOp influencing first person pronouns, (iv) whether the language allows for true indexical shift as well as indexiphors, (v) whether the language has agreement on heads other than T, capable of revealing indexiphors in syntactic positions other than subject, and (vi) whether the Person Licensing Condition distinguishes weak from strong bearers of the [+1] and [+2] feature or not. The last parameter is perhaps the most theoretically significant one, determining whether the language allows apparent violations of Shift Together or not. No two languages have exactly the same parametric profile, indicating that there is a fair variety of indexiphoric systems. However, each parameter value is attested in more than one language; none of them is sui generis to a single language. Moreover, for the binary-valued parameters (all but (v)), each one is such that it is the only parameter that distinguishes some pair of languages, implying that none of the parameters is redundant. This suggests that this parametric system has approximately the right descriptive power for the attested phenomena.

Parameter:	**DS**	**AD**	**T/T**	**MT**	**Amh**	**Mag**	**Slv**
+log pronouns can be overt, not just null	Yes	Yes	Yes	No	No	No	(No)
Agreement is for +log as well as +1	Yes	Yes	No	Yes	No	No	No
Has 2AdOp as well as 1lOp	Yes	Yes?	N/Y	Yes	No	No	?
Has indexical shift as well as indexiphors	No	Yes	No	No	Yes	Yes	N/A
agrees with NPs other than subject	No	?	Nom obj	Poss'r	All	Nom obj	All
PLC distinguishes weak and strong [+1]	Yes	?	Yes	Yes	Yes	No	No

Key: DS=Donno Sɔ, AD=Aqusha Dargwa, T/T=Telugu/Tamil, Amh=Amharic, Mag=Magahi, Slv=Slave

Table 6-1: Parameters of indexiphoricity