Chapter 6: The Blended Case of Indexiphors

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6.1 Introduction: Indexiphors as compared to logophors and indexicals

In the previous two chapters, I have considered logophoric pronouns/LD anaphors and shifted indexicals, giving them a largely unified analysis. Both involve licensing ghostly DPs in the CP periphery that are controlled by an argument of the matrix verb and that bind a special type of pronoun inside the embedded clause. The primary difference, I have argued, is in the features that the ghostly DP has: the Sp involved in indexical shift is intrinsically [+1] whereas the LogOp involved in logophoric constructions is not [+1] but is [0log] or [-log]. Against this background, there has been some interesting literature in the past years on a kind of blended case. 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 immediately higher subject.

(1)   a.   (Mi) bojɛ-**m**.   (Culy 1994: 122; Deal 2020: 107)
                1SG   go-"1SG"
                'I'm going.'

        b.   Oumar [**inyemɛ** jɛmbɔ   paza bolu-**m**] miñ   tagi.   (Culy 1994: 123)
                Oumar LOG   sack.DEF drop left-"1SG" 1SG.OBJ informed
                'Oumar_i informed me that he_i had left without the sack.'

Similarly, the anaphoric item *tanu/taan* in the Dravidian languages Telugu and Tamil can trigger first person agreement on the embedded 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.

(2)   a.   Raju   [**tanu** parigett-ææ-nu   **ani**] cepp-ææ-Du.(Messick 2023: 138 (1))
               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, the grist for chapter 5. Looking at the agreement on the verb, we would classify these as indexical shift constructions, the topic of chapter 4. Given this blend of logophoric and indexical appearance, I find Amy Rose Deal's (2020: 110) blended term

'indexiphor' to be felicitous.[1] This is also called "monstrous agreement" after 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 for color. 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 indexiphor 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.

(3)   Kamala Siita too [(*pro*) ee pariikSa paasu awwagala-**nu** ani] cepp-in-di?
        Kamala Sita with   which test   pass   can-1SG   that say- PST-3SG.F
        'Which test did Kamala tell Sita that she could pass?' (Messick 2033: 145 (17))

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 fundamentaly 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 as 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 also 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).

6.2 Leading ideas

From a theoretical perspective, I want to 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 behavior happens when a pronoun has a bundle of mixed, or even contradictory phi-features—for example when a pronoun is, roughly speaking, both [+1] and [-1] simultaneously. 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 of the pronoun that gets inserted to be the same as some other third person (or second person) element in the language's repertoire of vocabulary items.

   Another 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}, after the

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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 previous work. I do not adopt the theory of this type of agreement proposed in Deal (2020: section 5.4), although my thoughts in this section are much indebted to hers.

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 a version of these ideas, grounding them within my own work.

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 a designated operator, the [+1] operator Sp. Similarly, LogOp licenses an ordinary logophoric pronoun in African languages and shares with it (or at least is nondistinct with it in) a [+log] feature. One then wants the indexiphoric phenomenon to fit well into this range of possibilities.
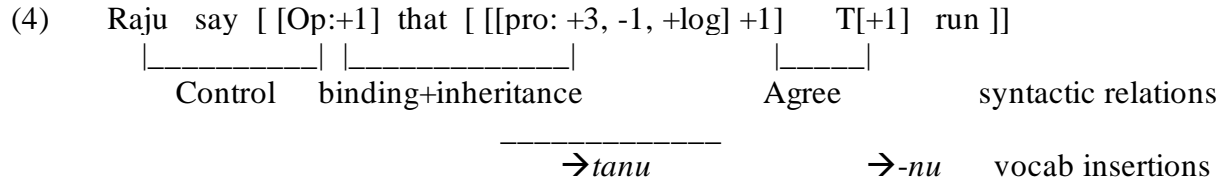
In broad theoretical terms, a pronoun gets its grammatical features in one of two ways. One possibility is that a feature is intrinsic to the pronoun, inserted with it from the lexicon at the beginning of the syntactic derivation. Another possibility is that it is inherited from its binder, a DP or functional head. Both ideas have been in the literature for a long time, in one form or another. 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 LogOp. But it is not true that LogOp gives [+log] to every pronoun that it binds, in that LogOp can bind [-log] pronouns as well in Ibibio. So [±log] can apparently be specified on pronouns intrinsically in Ibibio. In contrast, LogOp cannot bind a plain pronoun in Edo. In this language, it would be possible to say that a pronoun always gets its [+log] by inheritance, if and only if it is bound by LogOp. Similarly, 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: Sec. 4.3; I review this below). Other instances of [+1] might be inherent on the pronoun, however, as in Kratzer (2009) and other work.

With these kinds of possibilities in mind, I propose the hypothesis 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 in tension with its inherited features. [2] 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 a first person feature as well by inheritance, as a result of being bound by an operator in the LogOp/Sp family. [3] It could, then, 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). When an external head agrees with a structured bundle like this, it naturally picks up features from the outer layer—the one that 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,

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[2] See also chapter 3 for brief discussion of nominals with intrinsic third person features receiving additional first person features from a C-like head in Tigrinya (Spadine 2020). Perhaps this happens even in English imperatives, as discussed there.

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

the first vocabulary item that gets inserted is the ordinary third person pronoun, assuming that vocabulary inserting proceeds cyclically, from the bottom up, so that it sees the [-1, +3, (+log)] layer first. On these assumptions, the canonical examples in (2) from Tamil has a syntactic analysis like (4).

(4)   Raju   say [[Op:+1] that [[[pro: +3, -1, +log] +1]   T[+1]   run]]
            |_____| |_____| |_____|
             Control   binding+inheritance   Agree   syntactic relations

                         _____
                         →*tanu*   →*-nu*   vocab insertions

The goal of setting things up in this way is to make it nonaccidental which features show up on T-agreement and which show up on the pronoun itself. Looking across the known 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. This is a generalization that Messick (2023: 177) points out but does not capture in an organic fashion. However, I will not put much other weight on this distinction between intrinsic features and inherited features, leaving this part of the analysis as a version of the core analysis which readers can take on board or not, as they see fit.

In addition to these elements, there will be much reason to make use of the Person Licensing Condition (PLC) of Baker (2008: 126), brought into this work already in Section 4.xx. My idea at the time was that a big part of what is syntactically special about first and second person pronouns as opposed to third person is that they are ultimately bound by Sp and Ad, which in root clauses denote the speaker of the sentence and the addressee (Speas and Tenny 2003). 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, accounting for certain locality effects that only participant pronouns are subject to. This was stated in chapter 4 with the formulation in (5). (I will 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 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 bound by the closest c-commanding element that is [+2].

In keeping with the previous paragraph, 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 being bound by a suitable operator. Recall also from chapter 4 that the PLC is restricted to ordinary elements that do not have a fixed semantic value: to ordinary pronouns in A-positions and uncontrolled but embedded instances of Sp and Ad, but not to Sp*/Ad* or to instances of operators the 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 (One) and Local Determination (No Intervening Binder) which Anand (2006) and Deal (2020) get by context overwriting. In Baker (2008: 130-133) I motivated the PLC with data like (6) from Slave (Rice 1989: 1274; see also Chapter 4 of this work for related discussion).[4] 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 such element. Rather, there is another [+1] element, namely 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.[5]

(6) 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$_i$ that she/I$_k$ see me/her$_i$ about Teddy?'

     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 originally motived 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 pronouns, and those relationships are subject to the PLC as well. However, operators can differ in the "strength" with which they hold their [+1] and [+2] features, leading to a refinement of the PLC. There will also be room for a dash of parametrization at this point, to account for a degree of crosslinguistic difference when it comes to Shift Together One effects.

     These then are the main ideas that are in play in this chapter, as I add indexiphors into the picture and try to understand their theoretical implications. The challenge will be to fill in the details to best account for particular cases in particular languages. In particular, I have to be careful with exactly what combinations of features particular pronouns and operators have. I begin with two clear cases of indexiphoricity, Donno Sɔ and Telugu, with some additional comments on Aqusha Dargwa and Tamil. Once we have a good hold on the phenomenon from

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[4] 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 (or in addition to) 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.

[5] 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 complememt 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 pushes the third person embedded object into being used to refer to the speaker in (6).

clear cases, I turn to languages in which only null pro is indexiphoric: Mishar Tatar, Amharic, and Magahi.

6.3 Donno Sɔ

Donno Sɔ (DS) is a good place to start. As a West African language, it has a logophoric pronouns; Culy (1994) shows that it has essentially the normal properties of such, as described and analyzed in chapter 4; see also Heath (2016) for further grammatical information. This logophoric pronoun is prominently involved in the indexiphoric phenomenon, as seen in (1). Expanding on the description in section 5.1, in matrix clauses, first person pronouns trigger the ending *-N* (/-*m*), but other pronouns and DPs do not.[6]

(7) a. tombo-o-ŋ 'I jumped'
     b. tombo-o-w 'you jumped'
     c. tombo-e-Ø 'he/she jumped.'
         (e→o by vowel harmony; Heath 2016: 147)

In contrast, in embedded clauses, 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) a. Mi   [da:ŋa-**ŋ**]   gi-y-ŋ.   (Heath 2016: 303)
         1SG   sit:STAT-LOG.S say-PFV-1SG
         'I said that I am sitting.'

     b. Nju   ja: [yɛ:-jɛ-**ŋ**]   gi-y-w.   (Heath 2016: 303)
         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. (Heath 2016: 303)
         Sedou   LOG/3SG.S   come-PFV.NEG-LOG.S say- PFV-3SG
         Sedou said that he (=Sedou) 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 LogOp, 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. That is clearly not what is in the subject position in (8c).

An embedded first person pronoun can trigger *-N* on the verb, as in (8a)—but even in this case this happens only if 'I' is coreferent with the matrix subject. Otherwise, even it does not trigger *-N*; we can 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 coreferent with the matrix subject triggers "first person" agreement on the embedded verb, but the first person

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[6] Note that the second person plural is *-yN* with a low tone, distinct from first person/logophoric *-N,* which is toneless.

pronoun referring to the speaker but not the matrix subject does not (Culy 1994: 123, Deal 2020: 108).

(9)   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.'
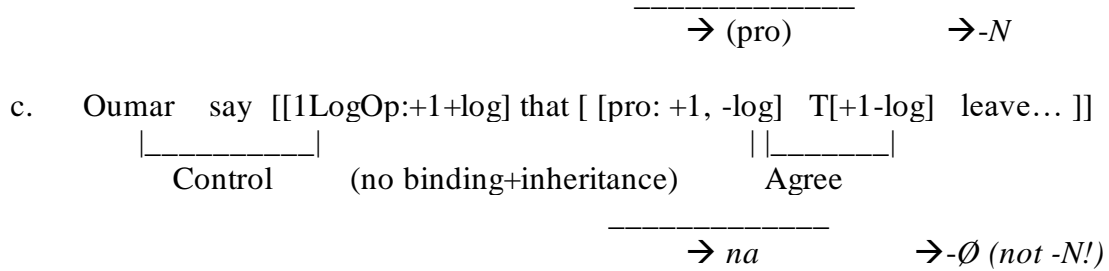
One way of looking at this is that even a first person pronoun needs to receive some kind of feature from being bound by LogOp in order to trigger -*N* agreement: it needs to be [[+1, -3 +log]]. Both [+1] and [+log] together condition the vocabulary item -*N* for agreement on T. [7]

(10)   Agr→ -*N* / [+1 +Log]

Surveying all 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 can transmit their own phi-features to their bindees, it is plausible then to assume that the operator itself has both the feature [+1] and the feature [+log]— a kind of hybrid of Sp and LogOp,. I call this new kind of operator *1LogOp*. 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.   Seydou say [[1LogOp:**+1**+log] that [[[Log: +3, -1, +log] **+1**] T[+1+log] come]]
            |_____| |_____| |_____|
                 control   binding+inheritancee   Agree
                                         _____
                                         → inyemE   →-*N*

      b.   pro[+l]   say [[1LogOp:+1**+log**] that [[[pro: +1, -log] **+log**] T[+1+log] come]]
            |_____| |_____| |_____|
                 Control   binding+inheritancee   Agree

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[7] A conceivable alternative is to say that first person pronoun does not trigger -*N* in an embedded clause because it gets an outer layer with [+3] from some kind of operator in a sentence like (9a), and the outer [+3] layer triggers third person agreement on T (-Ø). (See Messick (2023: 176) for a proposal similar to this.) Descriptively, this sounds plausible enough, and it could have some advantages. For example, one would not have to posit a 1LogOp in matrix clauses as proposed just below. But I take this view to be theoretically/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 second person pronouns (absent contrastive focus and pointing gestures, anyway). But that is patently not true for ordinary third person pronouns (although it may be true for specialized ones, like the *n*-class pronouns in Abe, discussed near the end of chapter 5). 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 or more of the several third person pronouns that a sentence might have. (Note that Messick himself does not say where the unusual feature bundle comes from in the disagreement cases.)

                           _____
                           → (pro)   →-*N*

    c.   Oumar   say [[1LogOp:+1+log] that [[pro: +1, -log] T[+1-log] leave…]]
                |_____| | |_____|
             Control   (no binding+inheritance)   Agree

                                    _____
                                 → *na*   →-*Ø (not -N!)*

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

The logic of my assumptions implies that matrix clauses have 1LogOp too. This works if we say that this unembedded 1LogOp can be bound by Sp* in the matrix clause, there being no other candidate for controlling it in this environment. Positing this additional element then 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).

(13)   Sp*$_i$ 1LogOp$_i$:+1+log [I[[+1] +log]$_i$ T[+1,+log] came].
         |_____| |_____| |_____|
       Control(?)   binding+inheritancee   Agree

                        _____
       Spell out: → *(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 a structure like (14) in this language, with either Sp or 1LogOp in Spec CP of the complement clause and controlled by the subject of the matrix clause?

(14)   a.   #Se:du   [**ma**   yɛl-li-**ŋ**]   gi-y-Ø.   (inferred, see also (9))
            Sedou   1SG   come-PFV.NEG-LOGS say-PFV-3SG
           (not as: 'Sedou$_k$ said that I$_k$ didn't come.')

    b.   *[Sp*$_i$ Seydou$_k$ say [1LogOp$_k$/Sp$_k$ C [I$_k$:+1(+log) 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 1LogOp rather than Sp in the periphery of the embedded CP. We know that 1LogOp 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, resulting in indexiphoric

agreement. We also know that 1LogOp 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 1LogOp 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 distinguishes between stronger and weaker holders of the [+1] feature. First, let us stipulate that 1LogOp 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, -log]) are *strong bearers* of the [+1] feature. Then I state the PLC as saying that a pronoun with a participant feature must be licensed by something that is as at least as strong a bearer of that feature as it is. This gives us the PLC in (15).

(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]: 1LogOp, a [[+log] +1] pronoun….
       Stronger bears of [+2]: Ad, 'you'…
       Weaker bearers of [+2]: 2AddrOp, a [[+addr] +2] pronoun….

Now (14) with 1LogOp is ruled out by (15a) as desired: the only binder of the embedded subject 'I' is 1LogOp, and that is not as strong a bearer of [+1] as 'I' is. The idea is simply that 1LogOp 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 (15). One intuition could be that the [+log] feature of 1LogOp dilutes its [+1] feature, making 1LogOp a less pure bearer of [+1] than Sp is. Another possible intuition is that 1LogOp has an uninterpretable version of the [+1] feature (see below), whereas Sp has an interpretable one, and interpretable features are stronger than uninterpretable ones.[8]

So far, these ideas have been stated 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 less data is relevant, since "addressee operators" are not as common as logophoric operators (see section 5.4). The alert reader may also realize that putting the strength requirement into (15) where I did will affect how intervention works as well; this is also something that I return to 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.

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[8] But however exactly we think of feature strength in the PLC, I want it to have a degree of flexibility, so that (15c) admits of some parameterization. I argue below that Sp and 1LogOp are equally strong bearers of [+1] in Magahi to account for a difference between it and other indexiphoric languages.

(16) a. Mi [(*njemɛ) da:ŋa-**ŋ**] gi-y-ŋ. (Heath 2016: 303)
        1SG   LOG   sit.STAT-LOG.S say-PFV-1SG
        'I said that I/*LOG am sitting.'

    b. *[Sp*$_k$ [I$_k$ say [1LogOp$_k$ C [pronoun$_k$:[[+log]+1]] T be sitting]]]

The quick 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 things are not quite that easy now, given that the logophor is not only third person—it can also be first person when bound by 1LogOp, as shown by the agreement it triggers on the verb. Why isn't its acquired [+1] feature enough to make (16a) possible? In fact, each individual piece of the representation in (16b) is known to be possible: 1LogOp can bind a logophor in the subject position, making it [+1], and 'I' can control 1LogOp, 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 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, keeping the focus on the core morphosyntactic issues. [9] (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 matrix clause, while still allowing (9b) with this in a complement clause.

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 logophoric operator in DS is 1LogOp, 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

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[9] Note crucially that (17) is stated crucially over syntactic structures, not over 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 allows both 'Ali said that I am late' and 'Ali said that self is late' (see (26), from Ganenkov (2022)). The difference is that Aqusha allows either Sp or 1LogOp 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'. (Of course 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 what a logophoric pronoun cannot have a first person pronoun as its ultimate antecedent in Ibibio and Ewe, something not explained near the end of Chapter 5. This does not explain why a logophoric pronoun can have a second person pronoun as its antecedent in these languages, however, unless the parenthesized material in (17) is left out, by stipulation.

inner layer, but it does affect agreement, which initially sees the outer layer. This case 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 1LogOp 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 1LogOp is '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 emdedded subject in accordance with the PLC, since it binds the embedded subject (indirectly, via 1LogOp), 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*$_i$[+2] [you$_i$ [+2] say [1LogOp$_i$[+1+log] C [you[[+2] +1, +log] T+1,+log] come]].
       |_____| |_____| |_____| |_____|
          Binding   control   binding+inheritance   Agree   →-*N*

Now we can consider 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)   **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-1LOG.S say-PFV-3SG say-PFV-3SG
       'Seydou$_i$ said that you$_{ad*}$ said that you$_{ad*}$ will kill him$_i$ (=Seydou).' (Heath 2016: 304)

This implies that there is a 1LogOp 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 1LogOp controlled by 'you' in the periphery of the lowest clause.[10] (We know the second 1LogOp is there because of the *-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.

(20)   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 said that you said that he is nasty.'   (Heath 2016: 304)

       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.'   (Heath 2016: 304)

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

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[10] Note that I am assuming that DS has only 1LogOp, not a simple LogOp in addition. If DS allowed for LogOp as well as 1LogOp, 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), and this seems not to be the case.

Why isn't (20a) possible with *-N* on the lowest verb? We know from (19) that 1LogOp 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 1LogOp can bind plain pronouns as well as logophoric ones, as shown by (8c) above). There is no reason to think that this should be possible for an object, as in (19) but not as subject as in (20a). So a syntactic structure like (20c) is possible in principle. Apparently, what cannot happen is that the higher 1LogOp cannot give [+1] to its bindee at a distance, over another instance of 1LogOp in the Spec CP of the lowest clause. (This 1LogOp 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 result follows already from the PLC in (15), given that 1LogOp (like Sp) is a bearer of the [+1] feature and 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 1LogOp and pronouns triggering monstrous agreement, and the locality of indexical shift in Slave in (6). It makes sense, then, to generalize the PLC-based account from its original home in indexical shift to the related topic of indexiphoricity. 1LogOp 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). However, in (20a) there is a second instance of 1LogOp bearing the [+1] feature in between the 1LogOp 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 1LogOp cannot license [+1] on the lowest subject pronoun in this structure. (20a) can be contrasted with normal logophoricity in Ibibio in an example like (21).

(21)   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.' (Afranaph)

Recall that Ibibio has a kind of 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 related to the first person feature in 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, not [+log]. 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.[11]

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[11] An interesting question that arises here is what happens with cases in which 1LopOp in DS tries to impart [+log] to a first person pronoun over another 1LogOp, 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 is that *-N* is ungrammatical on the lower verb in (i). If so, one might suppose that when the feature [+log] is packaged with [+1], as it is with 1LogOp in DS,

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 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) 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-3sS
      'Seydou$_i$ did what he$_i$ could do.'   (Heath 2016: 305)

This implies that there cannot be a 1LogOp in Spec CP of the relative clause controlled by *Seydou*. From the standpoint of comparative grammar, this is what we expect, given that logophoricity licensing is not licensed in this context 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 subject do not in general show signs of indexiphoricity/logophoricity.[12] For example, the 'since' clause in (23) has an ordinary pronoun as its subject, not a logophor, and it does not trigger -*N* agreement on the verb despite being coreferential with the matrix subject.

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

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

The apparent exception to this generalization is that 1LogOp 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, 1LogOp is not free to participate in a syntactically unconstrained form of non-obligatory control. It is not possible in DS for a logophoric (or ordinary) 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's (2016) discussion. 1LogOp is possible in a root clause, then, but only if it is bound by 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

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then it inherits the locality conditions on feature licensing that are characteristic of [+1], becoming subject to the PLC.

[12] Good adjunct clauses to test this seem rather limited though. On the one hand, there are plenty of clause chaining constructions where the adjunct may not have its own grammatical subject. On the other hand, plenty of adjunct clauses are built out of a relative clause (with postposition), 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. (It could conceivably even be a complement of a version of the verb 'do' that means 'pretend', given that Heath makes the rather specific remark that indexiphoric agreement happens "if the 'as though …' clause is subordinated to a main verb expressing a protagonist's intention to pretend.")

periphery can count as a form of obligatory control. Certainly it fixes an interpretation for 1LogOp by LF as required for full interpretation.

Since 1LogOp must undergo obligatory control, which does not happen in high adjunct position, we expect that extraposition of a CP complement should not create any 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 CP extraposing to adjoin to TP plus being interpreted in this higher position would mean that the lower 1LogOp is not obligatorily controlled by 'you', the subject of the intermediate clause. This could then allow it to be bound by 1LopOp1, which is in fact the closest c-commanding DP that shares the [+1] features with 1LogOp2, so this would be consistent with the PLC. Then 'he' bound by 1LogOp2 would ultimately refer to Seydou, the controller of 1LogOp1, which binds 1LogOp2 and 'he' can get a [+1] feature locally from its binder 1LogOp2, so it could trigger *-N* agreement on T in the extraposed lowest clause.

(24)   *Seydou$_i$ said [1LogOp1$_i$ that [1LogOp2$_i$ that [[[he$_i$]+1] verb-N]] [you said --]]].
                                                      |——————————————————————————————|

However, (20a) shows that the analysis in (24) must also be ruled out. Here again 1LogOp behaves more like SoK and LogOp than like Sp/Ad and zOp in Japanese (also nOp in Abe) in needing to undergo OC and not being able to get an antecedent in some other way.

This way of fitting 1LogOp into the typology of ghostly DP operators may seem a bit surprising. My hypothesis has been that having more features is what allows some Ops to survive to LF without undergoing OC. Then the intrinsic features of the Op allows 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 1LogOp 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 forgo immediate control, 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, whereas another pronoun may not be. This is presumably true of the [+log] feature in DS as well. Now to get the desired result, I propose that the [+1] feature of 1LogOp is also uninterpretable, a [--uninterpretable] clone of the familiar [+1] feature that is interpretable on pronouns in languages like English. Intuitively, the sort of system we see in DS involves is the 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 and Sportiche 1989, also chapter 5 above).

Consider now the behavior of [+2] elements within this kind of indexiphoric grammatical system. A detail about agreement in DS sheds some light on this. 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 agreement on the

embedded verb (unless perhaps they are coreferential with something in the matrix clause).[13] This is seen in (25a).

(25) a. Se:du [**u** wa **yɛl-ɛ**] gi-y-Ø. (Heath 2016: 278, 281)
Seydou 2SG QUOT come-PFV say-PFV-3SG
'Seydou said that you (sg) have come.' (Not: yɛl-ɛ-w, come-PFV-2SG)

b. [Ma-a yɛ-jɛ ma] tub-ɛ-Ø (Heath 2016: 288)
1SG QUOT come-IPFV Q ask-PFV-3SS
'He asked whether I was coming.' (not: yɛ-jɛ-ŋ)

This disagreement behavior is parallel to the behavior of the first person pronoun in (9a) and (25b), and invites a parallel explanation. 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 ensure this. I therefore claim that DS also has a kind of AddrOp, parallel to the operator that binds special addressee pronouns (as opposed to logophoric pronouns) in African languages like Mupun and Tikar (see section 5.4). I call this version of AddrOP *2AddrOp*, and propose that it bears the features [+2, +addr], parallel to 1LogOp bearing [+1, +log]). (The possibility of such an element was foreseen in (15b).) The agreement affix *-w* is then triggered by the features [+2 +Addr], not just [+2]. Since 'you' in (25a) is not anteceded by a matrix goal, the natural controller of 2AddrOp, it does not get [+Addr]. Therefore, *-w* agreement cannot be inserted. In matrix clauses, 2AddrOp is controlled by Ad*, just as 1LogOp is controlled by Sp*. Thus 'you' as the matrix subject is bound by 2AddrOp as well as Ad*, so it gets [+Addr] as well as [+2], and 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 unfortunately Heath (2016) does not discuss systematically what happens in such cases. [14] (Heath (2016: 281) writes that "original second and third person pronominals are reset in accordance with the deictic structure of the current speech event" but he does not spell out exactly what this amounts to.)

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

[14] One clear prediction is that second person agreement should be obligatory on the embedded verb when 'you' is coreferential with 'you' as the matrix goal, as sketched in (i), because then it will be bound by 2AddrOp 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) with first person.

(i) Seydou told you that you were-*(2SG) late.

The other possible prediction concerns what happens when a third person pronominal is coreferential with the matrix goal, as in (ii). Presumably DS does not have a dedicated addressee pronouns like Mupun's, but if some third person pronoun takes on this function in syncretic fashion, it might be able to trigger so-called second person agreement, parallel to the way that 'he' triggers first person agreement in (8c). I must leave these matters to future research.

(ii) Seydou$_i$ told Oumar$_k$ that he$_k$ was-(2SG?) late.

This indexiphoric pattern of facts is also found in the Aqusha Dargwa, a Nakh-Daghestanian language of the Caucasus studied by Ganenkov (2022). Indeed, everything that DS allows, Aqusha allows as well, replicating these patterns in a language is not related to DS genetically or areally. (But see note 17 on the locality of [+1] transfer in Aqusha.) The facts of Aqusha are a bit more complex, however, in that it optionally allows other possibilities as well. For example, it allows full-fledged indexical shift of both first and second person pronouns, as well as indexiphoric agreement with logophoric/LD-anaphoric third person (and second person) elements. Thus (26a) and (26b) exist side by side in this language.

(26)   a. ʔ**alis** hanbikib [**nu** q'an iub-ra   ili]   (ex (10a))
          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] (ex (8), (14))
          Ali   thought.3 self-M.SG late (M.SG)became-1 that
          'Ali$_i$ thought that he/self$_i$ was late.'

Within my framework, this simply means that Sp and Ad can appear in the periphery of an embedded clause in Aqusha, 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 1LogOp and 2AddrOp 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 1LogOp are quasi-independent, and can coexist in a single language (and neither blocks the other; cf. note 6). 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.[15]

      Here is a brief comparison between my analysis and Ganenkov's. There are many similarities. The two theories are similar in that 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 also 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 functional head C *ili* itself, but it is not clear that this is an important difference.) We also both allow bound

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[15] Another difference between DS and Aqusha is that Aqusha also has what Ganenkov describes as a "normal" phi-feature mode of agreement alongside its "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 Aqusha speakers, an English-like one and a DS like one, and they can use either to produce or parse particular 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), putting Aqusha's other "mode" of agreement aside.

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 specific 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 perhaps 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 "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 bundle [+1, +log] that conditions all instances of *-ra*. Two distinct operators license this feature on their bindees, Sp and 1LogOp, 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: 1LogOp is [+1 +log] and Sp is [+1, -/0log].) My more unified approach is supported by the view that 1LogOp and Sp are the same fundamental kind of thing—both DPs in the CP periphery— and both are 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-like 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, in that 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 1LogOp both obey the PLC in (15), which constitutes 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.

6.4 Telugu (and Tamil)

The most fully described indexiphoric construction is the one in Telugu and Tamil studied by Messick (2023) and Sundaresan (2012, 2018), respectively. I focus on Telugu with a few comparative remarks on Tamil. Indexiphoricity in Telugu is like that in DS and Aqusha in most respects. 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; it also extends to other third person pronouns in dialects in which coreference with the matrix subject is not obviated by the possibility of *tanu*. In Telugu, this indexiphoric construction is possible in the CP complements of all known attitude verbs (e.g. 'believe', 'think', 'say to self', 'hear', 'found out', 'see that', 'be surprised that', 'feel happy'), although in Tamil it is restricted to the verbs 'say' and (for some speakers) 'think'. Key examples are:

(27)   a.   Raju   [**tanu** parigett-aa-**nu** ani]   nammut-aa-Du.   (Messick 2023: 161 (66a))

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-ææ-**nu** ani] nuvvu čepp-ææ-vu.(Messick 2023: 145 (16))
2SG run-PST-1SG that 2SG say-PST-2SG
'You$_i$ said that you$_i$ ran.' (also possible with *parigett-əə-vu* 2SG)

c. %Ravi [**vaaDu** ettu unnaa-**nu**] anukunnaa-Du. (Messick 2023: 145 (18a))
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/Aqusha is that there is not a 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) Raju [neenu ee aratipanD-lu tinn-aa-nu ani] cepa-leedu. (Messick 2023: 144 (14b))
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 the subject in order for the relevant form to be inserted.

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

This difference simplifies the analysis of simple root clauses as well; they can have just Sp* binding 'I' in the matrix clause, without positing an Op from the logophoric family in the matrix clause as well.[16]

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 Op that allows them to trigger -*nu* agreement only in this syntactic environment, as in Messick's analysis. 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 him started, but I am seeking a principled typology of such operators. The Op cannot simply

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[16] 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: 1LogOp, 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, like 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 more study). In contrast, 1LogOp seems to be the only operator that can bind logophors in DS. (In Telugu/Tamil, I want to say that a CP complement can have 1LogOp or EmpOp but not both.) (Note that this account 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.)

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). So we want 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 related features. In this connection, it would be nice 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 the "Op$_{ani}$" and the special kind of [+author] feature that it gives to its bindee.) Therefore, I propose that the relevant Op in Telugu is also 1LogOp, with the same [+log, +1] features that 1LogOp 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) with *tanu* but not (27c) with a plain pronoun: one can say that *tanu* can be [+log], so bindable by 1LogOp whereas plain pronouns are [-log] and cannot be bound by 1LogOp. Other dialects would have slightly different feature values for the various pronouns.)[17]

Importantly, Telugu's indexiphoric construction shows the same clause-by-clause locality restriction that DS's does. In a doubly nested 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) a. Ravi [**Rani** [**tanu** bayaludeer-ææ-nu ani] čepp-in-di   ani] čepp-ææ-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.'   (Messick 2023: 162 (69)).

      b. **Ravi** [Rani [**tanu** bayaludeer-ææ-Du ani] čepp-in-di   ani] čepp-ææ-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.'   (Sreekar Raghotham, p.c.)

This shows that 1LogOp only gives [+1] to a pronoun that it binds if there is no other [+1] element (here another instance of 1LogOp) 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 (a version of) [+1], not merely [+log], given that purely logophoric features are not subject to this kind of locality in Ibibio (see (21)).

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

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[17] An alternative to consider is that Op$_{ani}$ in Telugu is simply LogOp. 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 LogOp and Sp that triggers -*nu* as agreement. The 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], an instance of item-by-item variation. In contrast, the version discussed in the text in which 1LogOp gives [+1] to pronouns that it binds predicts that any VI rule that references [+1] will be used monstrously. This consideration looks like it will extend to other indexiphoric languages too, at least those morphologically rich enough to have several first person agreement morphemes.

(31) 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.'   (Messick 2023: 166 (80))

Presumably this is a stipulated selectional property, as Messick suggests. 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) Ravi-ki [tanu parigett-ææ-Du/*nu ani] telusu. (Messick 2023: 165 (77))
     Ravi-DAT [3SG run-PST-3SG.M/*1SG that] know(ledge)
     'Ravi$_i$ knew (had 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) 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 (had knowledge) that he$_{i,*k}$ left.'   (Messick 2023: 166 (82))

The structure of (33) is roughly (34). This shows that 1LogOp can give [+1] to *tanu* at a considerable distance in absolute syntactic terms.[18] What it cannot do is transfer [+1] across

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[18] 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). This long distance feature transfer in the absence of a closer operator can also be seen with adjunct clauses like the one inside the CP adjunct in (i) from Telugu.

(i)   a.   Ravi [[tanu lottery gelic-ææ-nu an-te],   kotta illu   kont-aa-nu   ani] čepp-ææ-Du
             Ravi [[3SG lottery win-PST-1SG C-COND], new   house buy-PST-1SG that say-PST-3SG.M
             `Ravi$_i$ said that if he$_i$ wins the lottery, he$_i$ will buy a new house.' (Sreekar Raghotham, p.c.)

       b.   Ravi$_i$ said [1LogOp$_i$ that [[$_{CP}$ --if [tanu$_i$ T+1 wins lottery]] pro$_i$ T+1 buy new house]]

Here the only place a 1LogOp can be is in the periphery of the CP complement of 'say'; it cannot be in the periphery of the conditional clause, because it could not undergo OC there (see (44b) and associated discussion). However, this 1LogOp can give [+1] to *tanu* used as the subject of the adjunct clause (as well as to the pro subject of the complement clause), which should be inside a distinct CP phase.

Other evidence points in the same direction. For example, we see below that 1LogOp in Mishar Tatar and Amharic can transfer [+1] to pronouns it binds inside VP (the object) and inside DP (the possessor), despite D and active v/Voice being probable phase heads. As for Sp and Ad, they can license [+1] and [+2] on 'I' and 'you' at any distance in languages where Sp and Ad cannot be found in embedded clauses (languages without full indexical shift). Of course, the idea that bound pronouns need to be compatible in features with their bindees across phasal boundaries is arguably nothing new.

another [+1] 1LogOp—a relativized form of minimality, as Messick argues. My PLC is indeed that type of minimality.[19]

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

This reasoning implies that having a 1LogOp in CP of the complement of a verb must be obligatory in Telugu; otherwise LD monstrous agreement should be possible in (30a).[20]
      Nominal predicates have dative subjects in Telugu, as can be seen in (32) and (33). Some of them, such as *iʃtam* '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 intrinsic properties of being a subject per se, but only with being in a context where agreement is there to reveal the conflicting phi-feature values. Thus (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)   Raju [Rani-ki   tanu iʃtam-lee-nu   ani] čepp-ææ-Du.
        Raju   Rani-DAT 3SG like-NEG-1SG that say-PST-3SG.M
        'Raju$_i$ said that Rani$_k$ does not like him$_i$.' (Messick 2023: 152 (40a))

I assume, then, that 1LogOp can in principle transfer [+1] to a pronoun that it binds anywhere in the embedded clause, although 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. It so happens that the subject position is the one most likely to

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[19] Ganenkov (2022) argues that LD indexiphor licensing across an intervening clause is possible in Aqusha, apparently making that language different from 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 next highest clause, but with the subject of the highest clause, *Rasul*. (Gender matching requires this interpretation.)

(i)   **Rasul**$_{li}$ ib [Madina-s habikilri [**sa-j**   uhna kaili sa-j-**ra**   ili] (ex (31))
       Rasul   said.3 Madina-DAT thought.3 self-M.SG inside put   AUX-M.SG-1 that
       'Rasul said the Madina was thinking that he (=Rasul) had gotten arrested.'

However, note that the subject of the intermediate clause in (i) is dative (not glossed by Ganenkov). This means that (i) is more like (33) in Telugu than like (30) in Telugu, and as such it might fall under Messick's analysis too. In that case, no modification of the PLC is needed for Aqusha. The prediction would be that if a true verb with a nominative subject anchored the intermediate clause of (i), indexiphoric agreement would not be possible on 'got arrested.' This remains to be tested.

[20] If the proposal that Telugu has EmpOp as well as 1LogOp as a possible binder of *tanu* is adopted (see notes 14 and 21), then one needs to add a little more to nail down this effect. Then one needs to say that EmpOp is like 1LogOp in disrupting a higher 1LogOp 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 (like *zibun*) needs to be bound by an operator inside the same CP (EmpOp in the imagined structure) and 1LogOp in a higher CP cannot be the antecedent for an NOCed EmpOp, the two having different features. *[But if tanu is anaphoric, and LD anaphora reduces to local anaphora a la Charnavel, (34) at least stretches the range of what local anaphora can do…]*

trigger agreement crosslinguistically, but it need not be the only one. We will see this again in Mishar Tatar and Amharic.

Next consider the 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* (for Tamil, see Sundaresan 2018).

(36)   Ram [tanu   nannu   market-lo coos-ææ-nu ani] čepp-ææ-Du.   (Telugu)
         Ram 3SG   1SG.ACC market-in   see-PST-1SG that say-PST-3SG.M
         'Ram_i said that he_i saw me_{sp*}.'   (Sreekar Raghotham, p.c.)[21]

Sundaresan (2012, 2018) considers indexiphoric agreement in Tamil to be a type of indexical shift, namely 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. She is thus led to weaken Shift Together by saying that a given language can stipulate which elements are shiftable and which are not. My interpretation is different, following roughly the idea of Deal (2020). The idea (compatible also with Messick's theory) is that indexiphoric *tanu* is bound not by Sp but by a distinct element 1LogOp which happens to fall under some of the same principles. It is possible, then, for 1LogOp 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 [$1LogOp_k$ that [$tanu_k$ T:1sg see me_i]]
                                   →+1

And 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)   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.'   (Afranaph) <mark>[new ex?]</mark>

However, (36)/(37) does raise an issue that (38) does not. 1LogOp is a distinct element from Sp, so they can bind different pronouns, giving them different referents. But unlike LogOp, 1LogOp 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. And 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 that do not bind 'me'—namely 1LogOp in Spec CP of the complement clause and its bindee *tanu,* the subject of the embedded clause. However, the final version of the PLC in (15) already resolves this potential difficulty by making a distinction between strong and weak bearer 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 equally strong is Sp*; 1LogOp and *tanu* do not count, because they are weak(er) bearers of the

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

[+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 ruled out 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 the indexiphor will 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)   Raju [naa   kukka-ku/*naaku   tanu iʃtam-lee-nu ani] čepp-ææ-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$_i$.'   (Messick 2023: 163 (72b), (73))

This also follows from the final version of the PLC in (15). The question is whether 1LogOp 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 1LogOp, nor does it bind the nominative object on the intended reading. And crucially 'I' is a stronger bearer of [+1] than 1LogOp and *tanu* are. Therefore the PLC is violated in this case, explaining the bad 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 special case 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 intervene 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 as strong features as the binder.

From a general perspective, when 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$_i$.   *str-str-str, Slave indexical shift, see (5).
       b.   1LogOp$_i$ … 1LogOp$_k$ … self$_i$+1   *wk-wk-wk, indexiphors in DS, (20), (30)
       c.   1LogOp$_i$ … me$_k$ … self$_i$+1   *wk-str-wk, see (39)
       d.   Sp$_i$ … 1LogOp$_k$/self$_k$+1 … me$_i$ OK: str-wk-str, see (36)/(37)

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 2AddrOp as well as 1LogOp, and we saw some reason to think that this exists in DS. Now I ask whether this is something that the grammar of

Telugu makes use of as well. The visible effect of 2AddrOp for DS was to account for why 'you' in embedded clauses does not necessarily trigger second person agreement on T. That is not a concern in Telugu, since T in this language is sensitive only to person features, not to a combination of person features and logophoric features, as in DS (generalizing (29) to second person, and contrasting it with (10) and its analog for second person in DS). In fact, there is positive evidence that Telugu does not make use of 2AddrOp, just as many African languages with logophoric pronouns do not make use of AddrOp to license addressee pronouns. Messick (2023: sec 4.1) argues for this, observing that there is no monstrous second person agreement in Telugu, analogous to what is found in first person. One could imagine this happening in a sentence like (41), where the matrix goal controls 2AddrOp, 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)   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.'   (Messick 2023: 171 (96))

This is not surprising in that the object-controlled ghostly DP operators are rarer crosslinguistically than the subject-controlled ones (except perhaps for Ad).

     Tamil (the Kongo dialect) may 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).

(42)   a.   Maya Leela-ʈʈæ [taan pooʈʈi-le dʒejkkæ-poo-r-een-**ŋgæ-**nnû] so-nn-aa. (ex (43))
             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 polite to Leela)

       b.   Maya Leela-ʈʈæ [nii dʒejkkə-poo-r-æ-nnu] so-nn-aa.   (ex (46))
             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 (ex (48b))
             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 polite to grandfather)

An example like (42b) shows that Tamil does not allow controlled Ad in CP complements, the way that Magahi does. But in (42a,c), the embedded verb is agreeing with something that is controlled by the matrix goal, which refers to the only respected person in the relevant situation.

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[22] That *tanu* is possible in (41) referring to the matrix goal albeit 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 12. I leave this topic to future research.

What is the target of this agreement, if not Ad? 2AddrOp is a plausible answer.[23] On this view, some C-space head like Fin in Tamil can agree with both Ad* in a matrix clause and 2AddrOp in an embedded clause. Given this, (42c) shows that having 2AddrOp present does not prevent Ad* from licensing the [+2] feature on 'you', even though 2AddrOp 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) to include second person cases as well as first person ones.[24]

Returning to Telugu, we can go on to investigate the larger distribution of 1LogOp in the language. Can it 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) a. Ravi [tanu paDDaa-Du/*nu   kaabati] raa-leeḏu.
Ravi 3SG   fell-3SG.M/*1SG   because   come-NEG.3SG
'Ravi_i did not come because/since he_i fell.'   (Messick 2023: 162 (68))

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.'   (Sreekar Raghotham, p.c.)

Similarly, indexiphoric agreement is not possible in a CP subject, as shown in (44).

(44) [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 could not go home saddened Sreekar.' (Sreekar Raghotham, p.c.)

The verb in a relative clause in Tamil happens not to bear agreement (it is a nonfinite/participle form), so we cannot recognize an indexiphor here. But we can round out the NOC paradigm by considering *tanu* in matrix clauses. Messick (2023) reviews data showing that *tanu* is 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 that (45) is ruled out with *-nu,* even in a discourse context that allows matrix-clause *tanu*.

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

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[23] Perhaps then 2AddrOp is present and controlled by the matrix goal if and only if 1LogOp is present and controlled by the matrix subject, an analog of Shift Together 2 for indexiphoric operators. That would account for the cooccurrence of indexiphoric agreement and shifted allocutivity observed by McFadden in (42a). (McFadden's preliminary description of these facts is not complete enough for me to feel sure about this, however.)

[24] Now we might predict that Tamil will allow the equivalent of (41), even though Telugu does not. Unfortunately, McFadden and 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 rather than the overt second person pronoun. If this is not possible, I might have to stipulate that *taan* and pro are [-Addr], so they cannot be bound by 2AddrOp.

[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; I give that example as (49b) below. This fits my theory if the version of this sentence with *ani* is a low, VP-attached adjunct (or conceivably some kind of complement clause), hence a context for OC.

'He ran.'

Apparently, then 1LogOp needs to undergo OC in Telugu, like 1LogOp in DS and LogOp in Ibibio. This property is stable across these two quite different language families/areas. 1LogOp might have a fairly rich feature content, but it is low on interpretable features, and thus it needs to be controlled by something within the next highest phase, the immediately superordinate vP.[26]

One more point to make about the Telugu indexiphoric construction is that this construction turns out to be subject to the T/Agree condition that we saw in Chapter 2. In this, it is like upward C-agreement in African languages, but unlike indexical shift or the 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 X triggers agreement on T.

One case in point 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 being an antecedent (which it can be in the absence of a source phrase).[27]

(47)   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.'(Messick 2023: 167 (85), (86))

In terms of its thematic role, the source phrase should be able to control 1LogOp, as it can Sp, LogOp, and zOp. However as a DP with oblique case, T cannot agree with the source argument, eliminating it as a possible indexiphoric antecedent. Similarly, Messick shows that the causee of a productive morphological causative cannot antecede an indexiphor, although the causer can.

(48)   Ravi Raju-to   [tanu parigett-ææ-nu ani] čepp-inc-ææ-Du.
        Ravi Raju-INS   3SG   run-PST-1SG   that say-CAUS-PST-3SG.M

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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, a generalization of zOp to another language), 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 note 14.

[27] Interestingly it is possible for the experiencer and the source to be split antecedents of a plural version of *tanu* triggering 1pl agreement on the lower verb, as in (i).

(i)   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.'   (Messick 2023: 168 (87))

This is optimistically compatible with my analysis below. The experiencer and the source could control 1LogOp together as an instance of split control, like that found with verbs like *propose* in English—a type of OC, according to Landau (2013: 172-174). 1LogOp can then bind the anaphor and endow it with a [+1] feature, as usual. One then needs to state Agree-Copy such that T agreeing with *one of* the controllers in the matrix clause is adequate 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.

'Ravi$_i$ made Raju$_k$ say that he$_{i,*k}$ ran.'   (Messick 2023: 168 (88))

Messick conjectures that the causee does not have the right fine-grained semantic role to be the controller of the operator in Spec of the CP headed by *ani* (it is not a full-fledged agent). While that may be true in some more lexicalized cases, it is unlikely to be true in all cases. What is certainly true is that the causee bears oblique case and therefore cannot trigger agreement on T, so the T/Agree condition does rule out indexiphoric agreement in (48) with *tanu* referring to Raju. A third case in point is dative subject constructions. The dative subject in Telugu never triggers agreement on T, and it can also never antecede an indexiphor. According to Messick's view that I adopted above, 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 1LogOp in Telugu. However, Messick mentions that dative subjects do not antecede indexiphors even in low adjunct clauses headed by *ani*, as seen in (49a). In contrast, a nominative subject can antecede an indexiphor in this kind of adjunct, as shown in (49b).

(49)   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.'   (Messick draft)

       b.   Rao [tanu paDD-aa-nu ani] raa-lee<u>d</u>u.
             Rao   3SG   fall-PST-1SG that come-NEG.3SG
             'Rao$_i$ did not come because/since he$_i$ fell.'   (Messick 2023: 161 (67))

This contrast cannot plausibly be attributed to selection. Therefore, (49a) is another testament to the T/Agree Condition being at work in Telugu indexiphoricity. (44) above also shows that an experiencer object with accusative case—not a possible goal for agreement from T—cannot antecede an indexiphor, consistent with (46), although this particular example is also ruled out for the control-theoretic reasons discussed above.[28]

At first glance, the fact that the indexiphor construction obeys the T/Agree Condition is a bit surprising, since indexiphors seems more closely related to indexical shift and logophoricity than to upward C-agreement, the construction that originally motivated 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 mismatch between features on the pronoun and features on the agreeing head that characterizes the construction, after all. Upon closer consideration, it makes sense that it would fall under this condition given the analysis that I gave in Chapter 2, extended slightly in Chapter 3. The key principle underlying the T/Agree Condition is the version of Agree-Copy (as 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.

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[28] Messick (2023: 168 (89)) 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 a possessor cannot enter into an OC relationship with 1LogOp, since it is not an argument of the matrix verb (with limited apparent counterexamples in some languages attributed to metonymy).

Making use of this, 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, 1LogOp is not there to bind *tanu* yet, and *tanu* has only its intrinsic features, e.g. [+log, -1, +3, Sg]. Initial Agree between T and *tanu* then only copies those features, which do not trigger the vocabulary item *-nu*. Next when the CP is constructed, 1LogOp 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 vP/VoiceP is built, and with it an argument is introduced that controls 1LogOp, as in (51c). Still Agree-Copy does not reapply. If the controller is an oblique like a source phrase of 'hear' or the causee of a causative, matters effectively stop there: *tanu* is possible with these DPs as antecedents, but first person morphology does not show up on the embedded verb. In contrast, if the controller is not oblique but has unmarked/nominative case, then when the matrix T merges into the structure it agrees with the controller of 1LogOp, 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 reapplies 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, and the result is monstrous agreement.

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

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

       c. [$_{vP}$ Raju v say [$_{CP}$ 1LogOp *ani* [$_{TP}$ *tanu*   T   [run]]] Control of 1LogOp
          [+3,-1]   [+1,+log]   [[+3,+log]+1] [+3,-1,+log]   by agent

       d. T [vP Raju v say [$_{CP}$ 1LogOp *ani* [$_{TP}$ *tanu*   T   [run]]]   Agree-Link (T)

              [+3,-1]   [+1,+log]   [[+3,+log]+1] [+3,-1,+log]
            Agree   control   Op-binding   Agree

       e. T [vP Raju v say [$_{CP}$ 1LogOp *ani* [$_{TP}$ *tanu*   T   [run]]]   Agree-copy (T)
          [+3,-1] [+3,-1]   [+1,+log]   [[+3,+log]+1] [+3,**+1**,+log]

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 the ghostly DP itself (SoK) and C.[29] 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 counted 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. We also see here that the matrix argument can control the ghostly operator without the two of them sharing phi-feature values in cases where both participants in the control relationship are already specified independently for phi-features. This is not new; we already know this to be possible from the control of Sp and Ad in indexical shift and shifted allocutive constructions. But a consequence of this for Agree-Copy is that two distinct DPs in 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 they are most closely linked to by Agree-Link when Agree-Copy applies. Therefore, the same application of Agree-Copy in (51d,e) places [+3,-1] on the matrix T but [+1] on the embedded T. (52) is a reformulation of Agree-Copy that makes these points explicit.[30]

(52)   Agree-Copy
        If H points to DP1 and H is +Agree-Copy, then for all pairs $\langle H_x, DP_x \rangle$ 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 the indexiphoric phenomenon, DS and Telugu, showing how to implement Messick's analysis within my broader framework for studying 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 this might resolve apparent problems for Shift Together as a key generalization regulating indexical shift, in the spirit of Deal (2020).

6.5 Subtle indexiphoricity: Mishar Tatar

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[29] In contrast, based on the limited data available, the indexiphoric constructions in Aqusha do not seem to be subject to the T/Agree Condition (Ganenkov 2022). The verb 'think' takes a dative subject, but its subject can still antecede an LD reflexive triggering first person agreement, as in most of Ganenkov's examples. Ganenkov also gives one example in which the genitive possessor of 'news' is the antecedent for an indexiphor inside the (extraposed) CP complement of 'news'. I do not speculate as to what the parametric difference between Aqusha and Telugu might be.

[30] In the African languages, we saw 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 verbs in (say) an object control construction. The same "exception" to the descriptive statement in (46) seems to hold in Telugu: monstrous agreement is possible in (i) with *tanu* bound by 1LogOp, which is controlled by the PRO subject of 'say-inf' (which in turn is controlled by the matrix object of 'tell').

(i)   Ravi Sita-ni [PRO [tanu tondaragaa vastaa-n   ani] čeppa-m-ani] čeppa-ææ-du
         Ravi Sita-ACC [PRO [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.' (Sreekar Raghotham, p.c.)

For Lubukuku, I claimed that infinitival T enters into Agree with its subject (possibly part of licensing PRO as 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. The same assumption about infinitival T works for (i) as well.

Let us 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 related 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) (Podobryaev 2014: 84 (202), (203)).

(53) 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 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 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) Alsu [(pro)   ber kajčan da   mina bag-m-a-s-mɤn   diep] bel-ä.
      Alsu (pro.1st) one when   PTL I.DAT look.at-NEG-ST-POT-1SG that   know-ST.IPFV
      'Alsu$_i$ knows that she/I$_i$ would never look at me$_{sp*}$.' (Podobryaev 2014: 86)

This looks like a counterexample to the principle of Shift Together (One), which holds strongly 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 indexiphoricity rather than true indexical shift. Crucial to these examples is the fact that the null subjects trigger agreement on T so they can undergo pro-drop, whereas objects do not trigger agreement and are not pro-dropped. But given that the subject is pro-dropped in (53a) and (54), we do not know by inspecting its form exactly what its features are. We only see its features indirectly on T, and by now we know that the features on T do not match the ones seen on the pronoun in an interesting range of cases. 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 1LogOp, 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, and it can be a funny-looking logophor—one that is hard to recognize as such. The analysis of (54) is in (55)— the same as (36)/(37) in Telugu except for the lexical items inserted.

(55) Sp*$_i$ [Alsu$_k$ say [[1LogOp$_k$:+1+log] that [[pro+3,+log] +1] T[+1+log] not-look-at me$_i$]]
          |_____| |_____| |_____|
              Control   binding+inheritancee   Agree

_____
$\rightarrow$ Ø $\rightarrow$ *-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 be born with the features [+log, -1] but the overt first person pronouns are intrinsically [+1, -log]. This allows 1LogOp to bind pro but not overt first person pronouns (unless 1LogOp itself is controlled by a first person pronoun). 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 Aqusha do, and that it allows an overt first person pronoun to not trigger first person agreement ((56b))—the disagreement construction that is found also in DS and Aqusha do.

(56) a. Sin Marat-ka [**sin** Alsu-nɣ 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.' (Podobryaev 2014: 108 (271))

      b. Roza [min kit-te   diep] bel-ä.
          Roza I   leave-PST(3SG) that   know-ST.IPFV
          'Roza knows that I left.'   (Podobryaev 2014: 106)

I follow this indexiphoric approach to MT too, and add it into the mix of languages that we can use to understand what is universal in these constructions and what is subject to crosslinguistic variation.[31]

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 an intervening clause. Podobryaev (2014: 108) acknowledges that he cannot fully explain this fact in terms of his indexical shift analysis.

(57) #**Alsu** [(pro) [(**pro)**   mine sü-ä-**m**   diep] at'-ɤ-r-lar   diep] kurk-a.
      Alsu   pro.3PL pro.1SG I.ACC love-ST.IPFV-1SG that tell-ST-POT-PL that be.afraid-ST.IPFV
      (Intended: '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 1LogOp. But it cannot be bound by 1LogOp in the lowest clause, by number mismatch, since 'they' the controller of that 1LogOp is plural. So it must be bound by 1LogOp in the Spec CP of the complement of 'be afraid'. But this cannot license [+1] on pro[+log] over the lower 1LogOp (which again must be obligatory) by the PLC. (57) shows that the Op in MT cannot license [+1] over another instance of the same Op, whereas

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[31] 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 1LogOp 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, although logophoricity in Ibibio is more tolerant in this respect.

(54)/(55) shows that Sp can license [+1] over an instance of this other Op. Taken together, these facts show that the Op in MT is a [+1] licenser, but a weaker one than Sp. These are precisely the properties of 1LogOp with respect to the PLC in my system.

One special fact about MT is that [[+log] +1] pro is licensed not only in the subject of finite clauses but also as the possessor of a DP. Thus there is what looks like indexical shift in (58a), parallel to what we saw in (53). The reason MT allows this and some other languages do not 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 also licenses *pro*.[32] This seemingly shifted" (really logophoric) possessor can also exist in the same clause as an unshifted overt object pronoun, as seen in (58b).

(58) 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.' (Podobryaev 2014: (215))

      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 my$_i$ sister saw me$_{sp*}$.' (Podobryaev 2014: 105 (261))

This is not hard to account for on the current view. I already said that 1LogOp can bind a pronoun in any position inside the clause it has scope over, just like Sp and LogOp can, and it can transfer features to that pronoun. In the case of 1LogOp, the complex feature bundle that it creates on its bindee may not be seen in most environments. But it can be seen wherever agreement is there to make it visible. In MT, that happens to include possessor positions as well as subject positions. Examples like (58) point toward the current approach over an alternative (seriously considered by me, at one point) that tries to treat (53a) as having something like direct control of the null subject of the embedded clause by the matrix subject (or by another suitable matrix argument)—a form of control not mediated by ghostly DP operators. This alternative idea basically amounts to the view that control of PRO can happen in finite clauses in these languages, with PRO exceptionally triggering first person agreement (rather than a logophoric pronoun doing so). This has some 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 that alternative does not extend naturally to (58), given that controlled PRO is not normally possible as the possessor of a DP.

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)   Marat [(pro) [(pro) sestra-m-nɤ]   sü-ä-m   diep] at'-tɤ.

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[32] 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 and Sudo 2014). My version of this analysis that the accusative subject has raised above 1LogOp, which therefore cannot bind the pronoun inside it, giving it a [+1] layer.

Marat   pro   pro   sister-1SG-ACC love-ST.IPFV-1SG comp 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 1LogOp 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 1LogOp, which is in turn controlled by 'Marat', and both getting [+1] by inheritance from 1LogOp. The interesting question, then, is why (59d) is impossible as a reading for this sentence. The PLC provides an answer. Here the subject *pro* would have to be inherently [+1], bound by Sp* rather than 1LogOp, whereas the possessor *pro* has to be taken as a [+log] indexiphor, bound by 1LogOp and inheriting [+1] 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 1LogOp 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 1LogOp and an indexiphor/pro[+log] on the other hand. 'I/pro[+1]' blocks 1LogOp 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).

(60)   Sp*$_i$ [Marat$_k$ say [[1LogOp$_k$:+1+log] that [[pro$_i$ +1,-log] T[+1] love [[pro+log]   sister-D]]]]
           |_____| |_____X_____| |_____|
              Control   binding+inheritancee   *NOT→+1* Agree

It is good that the details of the PLC carry over to this new language and 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 systematically attributed to the PLC, the same core principle that gets the "Local Determination" effect within my system.[33]

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[33] The question now arises, what happens when there are two first person pros in the embedded clause, neither of which c-commands the other. I would predict that four readings should be available, since either pro can have [+1] intrinsically, either one can be [+log] bound by 1LogOp, and the intervention condition of the PLC only applies when there is c-command between the potential intervener and the licensee. We see in (64) below that this prediction is correct for Amharic. For MT, Podobryaev (2014: 105 (261)) briefly discusses such a sentence in (i), saying that it only has two readings, the two that obey Shift Together.

(i)   Marat [[(pro) sestra-m] [(pro) brat-ɤm-nɤ] sü-ä-m   diep] kurk-a.
    Marat   pro sister-1SG pro brother-1SG-ACC love-ST.IPFV that be.afraid-ST.IPFV
    a. 'Marat is afraid that my sister loves my brother.'

Finally, we can consider briefly the behavior of [+2] elements in MT. Podobryaev (2014) presents MT as a language that has symmetry between 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 (here made explicit as a vocative).

(61)   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 npcl you.acc see-neg-st-pot-2sg comp say-pst-1sg.
        'Alsu$_{ad*}$, I told Marat$_i$ that he/you$_i$ would never see you$_{ad*}$.'

Since these facts are 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 2AddrOp 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 are [-addr].) Then it is compatible with the PLC for Ad* to license [+2] on 'you' even when the weaker [+2] elements 2AddrOp and pro[[+addr]+2] potentially intervene. MT, then, is a language that supports having parallel theories for [+1] and [+2] elements, as expressed in (15).

I close this section with a brief reflection on why pro might be a more natural realization of indexiphors than conventional pronouns are. 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.[34] Since indexiphoric pronouns have layered feature bundles that only arise as the result of a 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 found in simple one-clause structures. This 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 one 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

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b.   'Marat$_i$ is afraid that his$_i$ sister loves his$_i$ brother.'
c.   #'Marat$_i$ is afraid that his$_i$ sister loves my brother.'
d.   #'Marat$_i$ is afraid that my sister loves his$_i$ brother.'

I do not doubt the judgment, but I'm betting (hoping) that it is due to the pragmatics of the example. The parallelism between 'X's sister' and 'X's brother' may make more accessible readings in which the pro's in those expressions are coreferential. My prediction would be that playing around with the examples and the context that they are uttered in would make all four readings possible in principle.

[34] However, logophoric pronouns are a striking counterexample to this tendency. They are bound by an operator (LogOp) but they are often phonologically strong pronouns, in contrast to the plain pronouns which may be clitics. See Pulleybank (1986) and Adesola (2005) for discussion of this in Yoruba. It also holds in Edo and Baatonum, although not in Ibibio, where both logophoric pronouns and plain pronouns count as strong forms.

of these two factors could be why null pronouns tend to be indexiphors and overt pronouns tend not to be, rather than the other way around—a tendency that we will see in Magahi as well.

6.6 More subtle indexiphoricity: Amharic

Next let us consider Amharic, a Semitic language spoken in Ethiopia. Like Mishar Tatar, this has traditionally been considered an indexical shift language. Indeed, it is the first language discussed in these terms, by Schlenker (1999, 2003) based on data like (62) from Leslau (1995). Anand (2006) then presented additional data from Amharic based on his consultant work, which fills out the picture in significant ways. Anand argued that Amharic has logophors that are homophonous with first person pronouns and that trigger the same agreement morphemes, and Deal (2020) discusses it as having indexiphors as well as indexicals proper, both triggering the same agreement. Again, I follow this strain of research.

(62) John [(**pro)** jɨəgna n-**ññ**] yɨl-all.   (Schlenker 2003: 68)
      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 the argument positions: 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 much cited example from Leslau (1995) in (63). This is why the Shift Together constraint does not trace back to Schlenker, but rather has its origins in Anand and Nevins (2004).

(63) John [(pro) (pro) al-ittazzəzə-ññ]   alə.   (Leslau 1995: 779)
      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, and thus invites the same analysis. We can say that the subject of the embedded clause in (63) is an indexiphor, bound by 1LogOp 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] Again, Anand (2006: 101) and Deal (2020: 116) attribute this asymmetry to *de re* blocking, but for me it is an effect of the PLC: Sp* can license [+1] on the object across 1LogOp and the indexiphoric subject, because those are weak bearers of [+1]. In

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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.

contrast, 1LogOp cannot license [+1] on the object across a [+1, -log] subject, because that is a stronger bearer of [+1] than 1LogOp is. The relevant structures are perfectly analogous to (55) and (60) above. Moreover, the restriction on which pronoun is the indexiphor holds only when there is c-command between the two pronoun positions. 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 Anand's (2006: 101) variation on (63) given in (64).

(64)　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 indexiphoric. 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 refers to the matrix subject John shows that it gets its [+1] feature from being bound by 1LogOp, which is controlled by *John*. This reinforces the theme that indexiphors can in principle appear anywhere in the clause where agreement (or clitic doubling) is present to 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 in detail here.

　　　Having established Amharic as a language with indexiphoric pheneomena, we can poke around a bit more to see what variations on the indexiphoric theme it presents. The first such point is that it shows no signs of the disagreement construction attested in Donno Sɔ, Aqusha, 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 sign of this happening in Amharic. 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 logophoric 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 in fact has true indexical shift in addition to indexiphoricity. This can be deduced from the example in (65) with two levels of clausal embedding (Anand 2006: 101).

(65)　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
　　　lit. 'Bill said that John said that I will not obey me.'
　　　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: 1LogOp in the periphery of the middle clause cannot license [+1] on the lowest subject past the 1LogOp 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 1LogOp must be present in the lowest CP and it must be controlled by 'John'. How then can the [+1] pro in object position refer to the higher subject Bill? It cannot do so by being an indexiphor, given the strict clause-level locality of the indexiphoric effect, as seen in (65b). In terms of my theory, this too would involve 1LogOp licensing [+1] on a pronoun over another 1LogOp in violation of the PLC. So the object of the lowest clause must be a true indexical in this case—a stronger bearer of [+1] than 1LogOp and the indexiphoric pro subject. But it is a shifted indexical, since it refers to Bill, not Sp*. Therefore, Amharic has shifted indexicals as well as indexiphors. In theoretical terms, Amharic is a language that allows Sp (as well as 1LogOp) to be present in complement CPs and to be controlled by an argument of the verb that selects the CP. Crucially, Sp can license [+1] on a pronoun at a greater distance than 1LogOp can, doing this over an intervening 1LogOp, as we have seen several times for instances of Sp in the matrix clause. The interpretation in (65c) thus has the structure in (66).

(66)   Sp* Bill$_i$ say [Sp$_i$ that [John$_k$ say [1LogOp$_k$ that [pro$_k$[+log] not-obey pro$_i$[+1, -log]]]]]
                                                                                    →+1

In allowing indexical shift as well as indexiphoricity, Amharic can be compared to Aqusha, which shows the two options more transparently, as in (67) where 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'. The claim is that Amharic is just like Aqusha, except that the LD anaphor/logophor must be and the indexical can be pronounced as Ø (pro).

(67)   ʔaḻis   hanbikib   [sa-j/nu   q'an iub-ra   ili]   (=(26))
       Ali   thought.3   self-M/1SG late (M.SG)became-1 that
       'Ali thought that he (=Ali) 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 2AddrOp as well as 1LogOp 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)   *John Bill [[(pro) (pro) at-ittazzəzə-ih]   alə-w.   (Anand 2006: 101)

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)   John Bill [[(pro) lɨj-ih] (pro) ay-ittazzəzə-ih]   alə-w.   (Anand 2006: 101)
        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 strong 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 in this case. 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 2AddrOp.[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 2AddrOp in that language. Rather, Amharic is in this respect like Telugu, which also has first person indexiphoricity 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 pronoun pro rather than with overt elements like logophors or LD anaphors. However, it differs from MT in the same secondary parameter settings that distinguish Telugu from Donno Sɔ and Aqusha among the more obvious indexiphor languages.

6.7 Completing the account of Magahi

I have another motive for pushing the analysis of indexiphoric constructions beyond clear cases like Donno Sɔ and Telugu and 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 chapters 4. It turns out that in Magahi there are some differences between overt and covert pronouns with respect to Shift Together phenomena. These differences have resisted a fully satisfying analysis in previous work by Alok and myself (see especially Alok 2020, Alok and Baker 2022). We now have a new opportunity to understand them in terms of Magahi being like Amharic in having a null [+1]

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

[37] It seems like challenging learnability questions could arise here, as to whether children get the data to distinguish an Amharic-like language from a Mishar Tatar-like language in this respect. However, I do not speculate further 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 a clause that could have indexical shift/indexicality (see also Schlenker 1999, 2003). This seems similar to the Magahi facts discussed in section 4.3 and is hopefully amenable to a similar analysis, but I have not investigated this in detail (and do not have a complete paradigm).

indexiphor as well as full-fledged indexical shift. Indeed, in most respects, Magahi has the same parameter settings as Amharic does. However, I argue that one new parameter in the formulation of the PLC needs to be added to complete the account.

We know by now 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 type 1 (two pronouns with the same person features) and type 2 (pronouns with 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) 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 the Shift Together 2 effect. The first person pronoun can only be shifted to refer to the matrix subject Santee if second person elements are also shifted, but 'think' does not supply a goal argument that second person can shift to. In contrast, examples like (70) are possible with what looks like indexical shift if the first person subject is pro-dropped, as in (71).

(71) 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$_{i,sp*,*i}$ 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 I$_{sp*,*i}$ saw Ram.' (said to a teacher)

In (71a), the first person element seems to get 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). It seems problematic for the way that I derived Shift Together from fundamental principles involving the obligatoriness of obligatory control at the end of Chapter 4.

In the context of this chapter, we have a new way of thinking about this issue: maybe *pro* in (71) is an indexiphor bound by 1LogOp rather than a true first person pronoun bound by Sp, and that is 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* along with an unshifted instance of 'you' in the embedded clause.

(72) Ram [tanu ninnu   market-lo coos-əə-nu ani] cepp-əə-Du.
      Ram 3SG   you.ACC market-in see-PST-1SG that say-PST-3SG.M
      'Ram said that he saw you in the market.'   (Sreekar Raghotham, p.c.)

So there is an opportunity here. However, an apparent 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) *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, Mishar Tater, and Telugu is possible with *pro* or *tanu* in the embedded subject position and an overt first person object. Therefore an indexiphoric account will require some parametrization at this point, potentially teaching us more about indexiphoric constructions. 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 in a package, both licensed by projections of the same Fin head. As a result, one is controlled if and only if the other is. That is the source of Shift Together 2 in Nez Perce, Zazaki (Uyghur)—and also Magahi with overt pronouns; see Section 4.5 for discussion. However, it is reasonable to say that 1LogOp somewhat independent of this package; it is not yoked together with Ad in the way that Sp is. Let us assume that 1LogOp is licensed by a different head in Magahi, a higher one, call it simply C. Then (71a) can have the representation in (74), with a [+log] pro being locally bound by 1LogOp and receiving a [+1] feature from it.

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

We know that in Magahi (at least) there must be an Ad in the embedded CP along with 1LogOp; otherwise it would be too far away from Fin in the embedded clause to trigger allocutive agreement in (71b). If Ad and Sp always go together, then Sp is there too (although that assumption is crucial here). Now to get the observed effect, we need to say that *Santee* controls 1LogOp, 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 talk about the optionality of indexical shift in some languages, we can say that FinP can be extraposed stranding C in Magahi, and/or that the FinP complement of C can be nominalized by a covert nominal head. If so, then, 1LogOp is still in a context of obligatory control, whereas Ad can be is taken out of the syntactic environment of OC by the process of nominalization and/or extraposition. Then pronouns bound by these two ghostly DPs do not have to shift together in a constrained way.

In contrast to *pro*, the overt pronoun *ham* 'I' in (70) is [+1, -log]. Therefore, it cannot be bound by 1LogOp, but only by Sp. Unlike 1LogOp, Sp is projected in the same functional projection as Ad, namely FinP. Syntactic processes like extraposition and nominalization can in principle come between two distinct functional heads, like C and Fin, but not between two "segments" of the Fin projections. Therefore, Sp and Ad are either both in a context of OC and undergo control or neither of them do, 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' does not have a goal,

so second person elements are impossible in this version.[38] This accounts for the contrast between (70) and (71) using the idea that *pro* can be an indexiphor in Magahi.

If indexiphoricity is crucially involved in the possibility of Shift Together 2 violations like (71) in Magahi, then this effect should be quite local. Consider then 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.[39] In contrast, (75b), with the same gross 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*.

(75) a. Santee-aa soch h-ai   ki Bantee-aa kahk-ai   ki (pro) toraa   bajaar-me
          Santee-FM think be-3.NH.S that Bantee-FM said-3.NH.S that (pro) you.ACC market-in
          dekh-l-i.
          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) toraa   bajaar-me
          Santee-FM think be-3.NH.S that Bantee-FM said-3.NH.S that (pro) you.ACC market-in
          dekh-l-i.
          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. As a logophoric element, *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 1LogOp cannot license [+1] on its bindee over another instance of 1LogOp 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 'say', 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 'say', 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) thus

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[38] This approach can also subsume the results that Alok and Baker (2022) report concerning "honorificity shift" with third (and second) person pronouns in complement clauses in Magahi. What needs to be said (stipulated) is that the index borne by Hon(orific) heads can be bound by Sp but not by 1LogOp in Magahi.

[39] 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. If that covert goal argument is understood as referring to Ad*, then the crucial reading of a sentence like (75a) is an instance of Shift Together after all: pro$_{1st}$ is shifted to Santee the agent of 'say' and 'you' is shifted to the goal of 'say'—a vacuous shift, given that the goal of 'say' is understood as 'you', by hypothesis.

confirms that the licensing of what must be an indexiphor in Magahi is subject to the same strict clause-level locality that we have seen in the other languages.[40] <mark>(add structure? xx)</mark>

A rather 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'.[41] Under 'tell', first-person-agreeing pro shifts together with a second person pronoun just as much as overt 'I' does. This is seen in (76).

(76) 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$_{k,*ad*}$.'
          '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$_i$ saw Ram.'
          (If pro$_{1st}$=Santee, allocutive on embedded V reflects Santee's relationship to Bantee.)

At a minimum, this theory can stipulate this as a lexical property. We can say that 'think' selects a CP headed by a C that licenses 1LogOp, 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 contrast.

Suppose, however, that this contrast between dyadic and triadic verbs turns out to be systematic, both across the Magahi lexicon and across languages.[42] Do we have a chance to explain it better, within this 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 1LogOp, given that Magahi does not have 2AddrOp (on this, see below). Therefore 'think' and the 1LopOp-licensing C match in argument structure. However, 'tell' does not match the 1LogOp1-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 the only thing that can give rise to apparent violations of Shift Together.

Now we would have to go back 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 then it is

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

[41] 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.

[42] Magahi does have other triadic verbs suitable for comparing with 'tell'. Our examples using them all respect Shift Together, but we have not run them through a full range of tests.

relevant that the Sp+Ad-licensing C 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 (unshifted) 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 [1LogOp C [Sp Ad C2 [Fin TP]]], where 'think' selects 1LogOp directly, but a Sp-Ad layer is possible below that, as it is in finite clauses throughout Magahi.

In this discussion of differences between 'tell' and 'think', I assumed that Magahi is like Telugu and Amharic in not having 2AddrOp in its grammar. This is likely enough on statistical grounds, in that AddrOp 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 2AddrOp as well as 1LogOp. 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 1logOp and 2AddrOp. 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 (76)). This would be the result of *pro* in the subject position being bound by 2AddrOp controlled by the matrix goal, *pro* receiving [+2] from that operator, while 'me' is simply bound by the closest Sp. However, this is not possible: pro_{2nd} in this environment has to shift together with 'me', just as its overt counterpart must.

(77)   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$_{i,*sp*}$.'
        'Santee$_i$ told Bantee$_k$ that you$_{ad*}$ saw me$_{sp*,k}$.'

This asymmetry between first person *pro* and second person *pro* shows that there is no 2AddrOp 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 does behave recognizably like indexiphors in other languages. Now we come to the rub. There is one important difference as well. As mentioned above, (73) is bad in Magahi, repeated here as (78), 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 taken to be an indexiphor. In other words, indexiphoric *pro*[[+log] +1] avoids Shift Together 2 violations in Magahi, but not Shift Together 1 violations.

(78)   *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, MT, and Amharic. So if this whole line of analysis is on the right track, there must bez 46r5 v c a locus of parameterization here.

In fact, I see room for relevant 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 into 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) falls under this description too: it has the configuration: $Sp_i \dots 1LogOp_k \dots pro[+log,+1]_k \dots pronoun[+1\text{-}log]_i$. In other languages, this representation is allowed; I have captured that by stipulating that 1LogOp 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, 1LogOp, *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 1LogOp, 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 and related phenomena in Magahi.[43]
        Another language that might well have the same parameter settings as Magahi is Slave (Rice 1989). Previous work, including mine, has considered Slave to be a canonical language with true indexical shift. However, it has some special properties that have arguably skewed the discussion a bit, particularly when it comes to the possibility of exceptions to Shift Together Two and mixed context effects (see section 4.5.1 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)   William   negho̜ʔeníeto̜   hadi.   (Rice 1989: 1279 (41))
        William   1.SG.S-have.love-for-2.SG.O   3-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. In fact, Slave has no analog of (80) with an overt independent pronoun to compare to it, 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 Two 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 that Deal (2020) does not see Slave as an indexiphoric language is presumably because Rice gives no evidence of 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, (xx) in Telugu, (xx) in Mishar Tatar, or (xx) in Amharic. (Rather Slave uses the analog of 'John$_i$ says that I$_i$ will not obey him$_{sp*}$'; see (6)

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[43] Magahi allows first person indexical shift in purposive clauses, but not (it seems) a mixed context effect in a sentence like 'Grandfather spoke with Bantee so that pro$_{1st}$ help you.' This does not allow a reading with pro$_{1st}$=grandfather and 'you'=Ad*. As part of the reason, we can stipulate that *taaki* 'so that' in Magahi does not license 1LogOp (but only Sp/Ad). For why the sentence is out with pro1st=grandfather and 'you'=Bantee, see section 4.5.1.

[44] In Slave, the first person element that refers to the local subject in the same clause as 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 pro-drop of an indexiphor in any syntactic position.

above). However, Magahi has evidence of (limited) indexiphoric behavior without allowing this type of apparent Shift Together One violations 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, given its coverage of the facts and the simplification it makes possible in the theory of Shift Together.

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 smallest price I have been able to pay to bring the special 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.

6.8 General Conclusion

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 1LogOp and 2AddrOp. 1LogOp is basically a hybrid of Sp (which is [+1]) and LogOp (which is [+log]) into a single operator that has both features [+1, +log]. Similarly, the rarer 2AddrOp is a hybrid of Ad [+2] and AddrOp [+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 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, we must allow operators to bind pronouns which they do not necessarily match in features, sometimes resulting in an additional layer of phi-features built around a core pronoun. Second, we must 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, both for purposes of basic licensing and for intervention. The second change pays good dividends in allowing a syntactic explanation for both facts that have been previously 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 to account, a range of counterexamples to the Shift Together property of true indexical shift disappear. This clears the way to have a theory from which a strong version of Shift Together follows, like the one developed at the end of Chapter 4.

References

Adesola, O. (2005). Pronouns and null operators: A-bar dependencies and relations in Yoruba. New Brunswick, NJ, Rutgers University.

Alok, D. (2020). Speaker and addressee in natural language: Honorificity, indexicality and their interaction in Magahi. New Brunswick, NJ, Rutgers University. **PhD**.

Alok, D. and M. Baker (2018). On the mechanics (syntax) of indexical shift: Evidence from allocutive agreement in Magahi. R. University. New Brunswick, NJ.

Alok, D. and M. Baker (2022). "Person and honorification: Features and interactions in Magahi." Glossa **7**(1).

Anand, P. (2006). De *de se*., MIT. **Ph.D.**

Anand, P. and A. Nevins (2004). Shifty operators in changing contexts. SALT 14, Northwestern University.

Baker, M. (2008). The syntax of agreement and concord. Cambridge, Cambridge University Press.

Baker, M. and R. Kramer (2018). "Doubled clitics are pronouns." Natural Language and Linguistic Theory **26**(4): 1035-1088.

Baker, M. and W. U. Willie (2010). "Agreement in Ibibio: from every head, to every head." Syntax **13**(2): 99-132.

Charnavel, I. (2019). Locality and logophoricity: A theory of exempt anaphora. New York, Oxford University Press.

Charnavel, I. (2020). "Logophoricity and locality: A view from French anaphors." Linguistic Inquiry **51**: 671-724.

Culy, C. (1994). "A note on logophoricity in Dogon." Journal of African Languages and Linguistics **15**: 113-125.

Deal, A. R. (2020). A theory of indexical shift: Meaning, grammar, and crosslinguistic variation. Cambridge, MA, MIT Press.

Ganenkov, D. (2022). "Agreement shift in embedded reports." Linguistic Inquiry.

Heath, J. (2016). A grammar of Donno So or Kamma So (Dogon language family, Mali). U. o. Michigan.

Koopman, H. and D. Sportiche (1989). "Pronouns, logical variables, and logophoricity in Abe." Linguistic Inquiry **20**(4): 555-589.

Kramer, R. (2014). "Clitic doubling or object agreement: the view from Amharic." Natural Language and Linguistic Theory **32**(2): 593-634.

Kratzer, A. (2009). "Making a pronoun: Fake indexicals as windows into the properties of pronouns." Linguisitic Inquiry **40**: 187-237.

Landau, I. (2013). Control in generative grammar. Cambridge, Cambridge University Press.

Leslau, W. (1995). Reference grammar of Amharic. Wiesbaden, Harrossowitz.

McFadden, T. (2020). The morphosyntax of allocutive agreement in Tamil. Agree to agree: Agreement in the Minimalist Programme. P. Smith, J. Mursell and K. Hartman. Berlin, Language Science Press**:** 391-424.

McFadden, T. and S. Sundaresan (2022). On the syntax and semantics of allocutivity and indexical shift. S. S. Brook.

Messick, T. (2023). "On apparent pronominal feature contradictions: Shift agreement in Telugu." Syntax **26**(137-182).

Percus, O. and U. Sauerland (2003). On the LFs of attitude reports. <u>Proceedings from Sinn and Bedeutung 7</u>. M. Weisgerber. Konstanz, University of Konstanz**:** 228-242.

Podobryaev, A. (2014). Persons, imposters, and monsters. Cambridge, MA, MIT. **PhD**.

Pulleybank, D. (1986). Clitics in Yoruba. <u>Syntax and Semantics 9: the Syntax of Pronominal Clitics</u>. H. Borer. New York, Academic Press**:** 43-64.

Rice, K. (1989). <u>A grammar of Slave</u>. Berlin, Mouton de Gruyter.

Schlenker, P. (1999). Propositional attitudes and indexicality, MIT. **Ph.D. dissertation**.

Schlenker, P. (2003). "A plea for monsters." <u>Linguistics and Philosophy</u> **26**: 29-120.

Shklovsky, K. and Y. Sudo (2014). "The syntax of monsters." <u>Linguisitic Inquiry</u> **45**: 381-402

Speas, M. and C. Tenny (2003). Configurational properties of point of view roles. <u>Asymmetry in grammar</u>. A. M. Di Sciullo. Amsterdam, John Benjamins**:** 315-344.

Sundaresan, S. (2012). <u>Context and (co)reference in the syntax and its interfaces</u>. Stuttgart, University of Stuttgart and University of Tromsoe PhD dissertation.

Sundaresan, S. (2018). An alternative model of indexical shift: Variation and selection without context-overwriting. U. o. Leipzig.