A unified analysis of shifted indexicals and logophoric pronouns

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Some languages can 'shift' indexicals such as *I* and *you* under attitude predicates, and use them to refer to participants of the event being reported (Schlenker 2003, Deal 2020). Other languages make use of a dedicated set of logophoric pronouns that fulfill the same function, i.e. refer back to reported authors and addressees, excluding the use of standard 3rd person forms in similar environments:

(1) Ramil **min / anı** eʃl-im dip ejt-e
Ramil 1SG/3SG work-PST.1SG COMP say.PST.-3SG
'Ramil$_i$ said that I$_{i,Spk}$ / he$_{*i,j}$ was working.' [Kazan Tatar, personal fieldwork]

(2) Asia nyɔnu la xɔese be **é / yè** bú
Asian woman DEF believe.3SG COMP **3SG/ LOG** be
'The asian woman$_i$ believes that she$_i$ is lost' [Ewe, Bimpeh (2019): (15)]

Both classes seem to share a great deal of distributional and interpretative properties. First, both shiftable indexicals (SIs) and logophoric pronouns (LPs) occur exclusively in attitude reports, with a clear preference for speech predicates, captured by an implicational scale holding for both class of languages (Culy 1994; Deal 2020); second, both classes unambiguously express *de se* readings, i.e. interpretations where the matrix subject has to consciously be self-ascribing the relevant property described by the report (Schlenker 2003; Adesola 2006; Anand 2006; Sudo 2012; Deal 2020; Bimpeh 2019), and iii) both classes can give rise to pronoun-agreement mismatches: in SI-languages, third person controllers can trigger first person agreement on the embedded predicate (3), while in other languages LPs can trigger 'shifty agreement' on the verb (4):

(3) ʔlis hanbikib [nu q'an **iub / iub-ra** ili]
Ali think.PST.3SG 1SG late **became.3/ became.1** COMP
'Ali$_i$ thought that **I**$_{i,Spk}$ **/ I**$_{*i,Spk}$ was late.' [Aqusha Dargwa, Ganenkov (2021): (10-11)]

(4) Oumar [inyemɛ jɛmbɔ paza bolum] min tagi
Oumar **LOG** sack.DEF drop **left.1SG** 1SG.OBJ inform.PST
'Oumar$_i$ told me$_{Spk}$ that **he**$_i$ had left without the sack.' [Donno Sɔ, Culy 1994: 123]

Building on previous insights from both typological (Nikitina, 2020) and formal (Deal, 2021) approaches to LPs and SIs, the present work offers a unified analysis of the two classes of pronouns, arguing for their relative morphosemantic uniformity. We propose that both elements consist of an [AUTH] feature that allows for identification of different referents depending on the context in which it is used. A key difference between SIs and LPs is that the latter have grammaticalized contextual information, in a way SIs have not. The present analysis is shown to be able to capture the aforementioned similarities between the two classes, as well as further data patterns involving disjointness effects, 'shifty' uses of second person in logophoric languages, as well as non-attested 'cross-contextual' readings previously explained in terms of syntactic co-reference constraints (Anand, 2006).

Towards a unified analysis. In spite of their rather similar profile, both SIs and LPs have been treated as distinct in the literature; core arguments for a separatist view are provided by Anand (2006) in the form of two constraints of different nature, *de re blocking* and *shift together*. The first constraint, *de re blocking* is syntactic and holds for LPs: it stipulates that, since LPs are assumed to be locally *de se*-bound by a dedicated operator in the periphery of the embedded clause, no *de re* (i.e., unbound) element could intervene between them. The second constraint, *shift together*, is semantic in nature and applies to SIs, stating that all shiftable indexicals within a attitude-context domain must pick up reference from the same context. However, both of these predictions have been challenged by data coming from various languages, undermining the apparent distinction between the two categories. Ad *shift together*, it has been argued on various places that violations of this constraint are systematically observed in shifty languages, including (but not limited to) Kurmanji (Koev 2013), Mishar and Kazan Tatar (Podobryaev (2014); p.f.), Mutki Zazaki (Akkuş 2019), Tamil (Sundaresan 2012;2018), Telugu (Messick 2022) and Turkish ((5), Özyıldız 2012):

(5) Tunç *pro* sen-i nere-ye götür-eceğ-im de-miş?
Tunç *pro* 2SG-ACC where-DAT take-FUT-1SG say-DUB-3SG
'Where did Tunç$_i$ say that he$_i$ would take you$_{Add}$?' [Turkish, Özyıldız (2012): (22)]

The *de re blocking* constraint has also been challenged by data from languages Wan (Nikitina 2012, 2020) and Ainu (Nikitina and Bugaeva, 2021), in which LPs stand in a much freer relation to their antecedents than that assumed in syntactic approaches; in (6), the logophoric marker *-an* also precedes the clause introducing its antecedent, ruling out canonical binding.

(6) onne-an pe ne kusu a-Ø-e-isoytak sekor sino nispa Ø-hawean
be.old-LOG.S NMLZ COP because LOG.A-3.OBJ-about.APPL-talk QUOT true rich.man 3.S-say.SG
'I told it because LOG_i was old, said a grand elder$_i$.' [Ainu, Nikitina and Bugaeva (2021): 11a)]

Proposal: lexical competition through featural variation. We suggest to rethink the featural makeup of both first person SIs and LPs as involving a conservative feature [AUTH], allowing them to refer back to authors (holders) of attitudes, along the lines of Deal (2021). We assume the feature sets in (7) for SI-systems and (8) for LP-systems (McGinnis (2005); Sauerland 2003, 2008; Harbour 2016). In line with most current research in the semantics of person (Cooper 1983; Heim 2008; Sauerland (2008); Sauerland and Bobaljik 2022 a.o.), we take person features to be interpreted as presuppositions, i.e. partial functions of type $\langle e, e\rangle$ that restrict the domain of interpretation of the expression they are associated with (the pronoun itself being treated as a variable). 3rd person pronouns being devoid of features, no entry is associated with them, (9)-(10).

(7) **Features of SI systems**
   a. 1: [PARTICIPANT, AUTHOR]
   b. 2: [PARTICIPANT]

(8) **Features of logophoric systems**
   a. 1: [PARTICIPANT], [AUTHOR], [ACTUAL]
   b. LOG: [PARTICIPANT], [AUTHOR]
   c. 2: [PARTICIPANT]

(9) **Semantics of IS-features:**
   a. $[\![\text{1st}]\!]^{g,c,i} = \lambda x : s(c) \sqsubseteq x.x$
   b. $[\![\text{2nd}]\!]^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee a(c) \sqsubseteq x.x$

(10) **Semantics of logophoric features:**
   a. $[\![1]\!]^{g,c,i} = \lambda x : s(c) \sqsubseteq x.x$
   b. $[\![\text{LOG}]\!]^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee s(i) \sqsubseteq x.x$
   c. $[\![2]\!]^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee a(c) \sqsubseteq x \vee s(i) \sqsubseteq x \vee a(i) \sqsubseteq x.x$

The above hierarchy being asymmetric (features are ordered in terms of logical strenght), it naturally allows for a competition account along the lines suggested by Heim (1991) and Sauerland (2008), where semantic markedness predicts that features and their use are subject to the *Maximize Presupposition!* principle; specifically, the use of a feature *F* in the scale will trigger the antipresupposition that its stronger, higher ranked alternative *F'* does not hold, deriving disjointness effects in examples like (1)-(2). The crucial point in which LPs differ from SIs is that in the latter, first person has grammaticalized contextual information through lexicalization of the [ACTUAL] feature, yielding indexical properties, and allowing LOGs to form a new class of elements being confined to reported contexts only. From this, we derive two crucial facts. First is the massive optionality of shifted interpretations in SI-languages, which is expected under the present account, first person features in SI-systems being contextually unspecified. Second are unattested *1/LOG patterns in LP-systems, explaining why LOGs cannot be used in reports where the subject is first person (Hyman and Comrie, 1981). The theory can also account for systematic departures with respect to the constraints outlined above; since it posits no binding relationship between a pronoun and its antecedent, patterns violating *de re blocking* such as (6) are derived; violations of *shift together* are handled by independent pragmatic principles related to the relative accessibility of relevant discourse referents in the sense of Roberts (2003), explaining why mentioning an explicit reported addressee in the discourse context of (5) allows the second person indexical to refer back to it, reintroducing ambiguity (11):

(11) Tunç **Ayşe'ye** *pro* **sen-i** nere-ye götür-eceğ-**im** de-miş?
Tunç **Ayşe-DAT** *pro* **2SG-ACC** take-FUT-**1SG** say-DUB-3SG
'Where did Tunç$_i$ say to Ayşe$_j$ that **he$_i$ / I** would take **her$_j$ / you**?' [Turkish, Özyıldız (2012): (23)]

Last, agreement mismatches in (3)-(4) can also be straightforwardly accounted for: since the shifted first person *nu* in (3) is contextually unspecified, it can freely control either 3SG or 1SG agreement in the embedded sentence, the latter being valued in the reported context and resolving interpretation towards the reported speaker, $s(i)$. Under the same analysis, (4) is expected to be unambiguous, the value of LOG being specified to refer to $s(i)$, therefore yielding 1SG agreement on the embedded predicate.

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