

A unified analysis of shifted indexicals and logophoric pronouns

David Blunier, Université de Genève



GLOW 46

Mismatched pronouns workshop

April 11, 2023

University of Graz

- 1 **Introduction**
- 2 More common properties
- 3 The proposal: lexical (under)specification and competition
- 4 Conclusion

Indexical shift

- Some languages can ‘shift’ indexicals, and use them anaphorically to refer to arguments of the matrix clause.
- This is exemplified in (1) for Erythrea Tigrinya, a semitic language that allows shifting of first and second person pronouns under verbs of speech:

(1) Kidane kə-xeyəd dəliε ʔalləxu ʔilu
Kidane COMP-IMPF.leave PRF.want.1SG AUX.1SG say.3SG.M
‘Kidane_i said that he_i wanted to leave’ [Tigrinya, personal fieldwork]

(2) Həsen-i mi-ra va kε εz dəwletia
Hesen-OBL 1SG-OBL say COMP 1SG.NOM rich.be.PRS
‘Hesen_i tells me_{SPk} that he_{i,SPk} is rich’
[Zazaki, Anand and Nevins 2004: (4)]

Logophoric pronouns

- A number of languages have logophoric pronouns, which fulfill essentially the same role - they can only refer to the attitude holder in speech and thought reports (Clements 1975, Hyman and Comrie 1981, Sells 1987, Culy 1994a).

- (3) a. Nnsini dzɛ enyia é bvɛ nù [Aghem, Butler 2009: (10-11)]
Nsem say COMP LOG fall FOC
'Nsen_i said that she_i fell'
- b. Nnsini dzɛ enyia ù bvɛ nù
Nsem say COMP 3SG fall FOC
'Nsen_i said that she_{*i/j} fell'

- (4) a. Oumar Anta inyemɛn waa be gi
Oumar Anta LOG.ACC seen AUX said
'Oumar_i said that Anta had seen him_i'
- b. Oumar Anta won waa be gi
Oumar Anta 3SG.ACC seen AUX said
'Oumar_i said that Anta had seen him_{*i/k}'

So much alike, yet so different...

- *Prima facie*, both phenomena share a great deal of empirical and theoretical similarities.
- Why then, is it that we do not have a single, unified theory for both?
- In this talk, I will try to pursue exactly this: provide a unified account of both phenomena in term of lexical competition and variation of features.

Indexical shift: overview

- Pervasive across languages (26 reported, pertaining to 19 families, including sign languages) (Sundaresan 2018, Deal 2020 for overviews)
- Seemingly not an instance of quotation: *wh*-extraction is possible from shifted embedded clauses, and NPIs typically are licensed in the same environments. As opaque structures, quotations typically rule out these configurations.
- Restricted to attitude reports environments, with a preference for speech predicates; shifting occurs mostly under *say* and *tell*, while less languages allow shifting under *think* and *know*, possibly forming an implicative hierarchy (Deal 2017/2020, Sundaresan 2018, Wurmbrand 2018).

Indexical shift: overview

- Seems restricted to pro-forms: locational and temporal indexicals, like *here* and *now*, are less prone to shift than first and second person. When these can shift in a given language, then pronominal indexicals can usually be shifted as well (but data is lacking to establish it as a fact). (Sudo 2012, Shklovsky and Sudo 2014, Deal 2017, 2020, Hübl 2013)
- Are always interpreted *de se*, i.e. as unambiguously referring to the attitude holder (for 1st person) or addressee (for 2nd) from a first person perspective (Schlenker 1999, ?, 2018, Deal 2019, 2020)
- By and large an **optional phenomenon**, save for a few languages under certain verbs, like Uyghur (Sudo, 2012) or Navajo (Speas, 1999). Mostly conflicting data on this point.

Logophoric pronouns: overview

- Occur in attitude reports environments, with a preference for speech predicates;
- Log pronouns or Log-marking preferably encodes reference to the reported speaker, but encoding of the reported addressee also exists (Goemai, Pero: Nikitina 2012b) (Hellwig 2006, Nikitina 2012a)
- Unambiguously express *de se* attitudes (Adesola 2006 for Yoruba, Bimpeh 2019, Bimpeh et al. 2022 for Ewe, *contra* Pearson 2015)

Indexical shift: the theory

- The most widely adopted theory of IS is the **monster-based account** of Anand and Nevins (2004) and Anand (2006): attitude verbs that shift indexicals come with (various sorts of) semantic operators that shift (various parameters of) the context of utterance:

The monster operator

$$\llbracket \text{ghost} \phi \rrbracket^{c,i} = \llbracket \phi \rrbracket^{i,i} = 1$$

-  rewrites the context coordinates of the embedded clause into the coordinates of the index - a sequence isomorphic to the context that contains (at least) an *author* and a *world* variable (more on this below).

Indexical shift: the theory

- This analysis straightforwardly captures the following restriction, observed in many languages:

Shift together

- (5) All SIs within a attitude-context domain must pick up reference from the same context (where an attitude-context domain is the scope of an attitude verb up to the scope of the next c-commanded attitude verb.) [Adapted from Anand 2006: 100]

- (6) Vizeri Rojda Bill-ra va Kε ez to-ra miradiša
Yesterday Rojda Bill-to say-PST that I you-to angry.be-PRES

✓ 'Yesterday Rojda_i told Bill_j that he_i was mad at him_j'

✓ 'Yesterday Rojda_i told Bill_j that I_{speaker} was mad at you_{addressee}'

✗ 'Yesterday Rojda_i told Bill_j that I_{speaker} was mad at him_j'

✗ 'Yesterday Rojda_i told Bill_j that he_i was mad at you_{addressee}'

(Anand and Nevins, 2004)

Logophoric pronouns: the theory

- Almost every theory of LPs in formal linguistics are syntactic (a notable exception being the recent theory of Bimpeh et al. (2022)): all assume that LPs are variables bound locally by a dedicated logophoric operator (Op-LOG), in the vein of Koopman and Sportiche (1989).
- Koopman and Sportiche's work was aiming at accounting for the puzzling interaction that existed in Abe between LPs and a certain kind of complementizer, that would force co-reference between the LP and the matrix subject under attitudes:

(7) a. Yapi ka api ye O / n ye sE
Yapi tell api COMP 3SG/LOG is handsome
'Yapi_i told Api that he_{i,j} is handsome.'

b.
Yapi hE KO n ye sE
Yapi say COMP LOG is handsome
'Yapi_i said that he_{i,j} is handsome.'

c.
Yapi hE KO O ye sE
Yapi say COMP 3SG is handsome
'Yapi_i said that he_{*i,j} is handsome.'

[Abe, Koopman and Sportiche 1989: (66)]

Logophoric pronouns: the theory

- Anand (2006) (following Adesola (2006) and others) claims that the examples above support the following generalization: the logophoric form n can only be licensed when c-commanded by a null operator introduced at the left edge of the embedded clause (by Ko);
- Whenever this structural relationship fails to obtain, or when the other pronoun O occupies the expected position of the strong pronoun, co-reference with the logophoric subject is impossible, giving rise to an 'anti-logophoric effect'.
- Elaborating on the fact that LPs in the appropriate configurations must be read *de se*, Anand (2006) concludes, following the analysis of restrictions on pronoun interpretation in dream reports from Percus and Sauerland 2003b, 2003a, that the correct generalization is the following:

***De re* blocking effect**

(8) Every bound *de se* element must be *de re* free.

[Adapted from Anand 2006: 52]

The theories under scrutiny

- However, both generalizations - the *de re* blocking effect (DRBE) for LPs and the *shift together* (ST) constraint for IS have both faced empirical challenges.
- We will examine a few and argue that they are substantial enough to motivate a departure from both accounts.

A problem for IS-theories: shift together violations

- It has been demonstrated for various languages that shift together is too strong a constraint: it *might*, but *must not*, hold in many attested 'shifty' languages (but see Deal 2018 and Deal 2020: appendix A for dissenting views).

Languages allowing ST violations (non-exhaustive)

Mishar Tatar (Podobryaev, 2014), Kazan Tatar (personal fieldwork), Korean (Park, 2014), Slovenian (Stegovec and Kaufmann, 2015), Tamil (Sundaresan 2012, 2018), Telugu (Messick 2017, 2020), Turkish (Şener and Şener 2011, Özyıldız 2012), Catalan Sign Language (Quer 2005, Blunier and Zorzi 2020), German Sign Language (Hübl 2013, Hübl et al. 2019), Sign Language of the Netherlands (come see our poster with Jenia on thursday!)

A problem for LP-theories: unbound logophors

- Contrary to what has been assumed, many LP-systems systematically allow for a syntactically unbound use of LPs. This is illustrated in (9) for Wan, where the logophoric pronoun appears in a matrix clause:

(9) bé è àà talí kolé é di é lo ságlà á
then 3SG 3SG.ALN stranger man DEF cow DEF eat start that
gɛ! pɔ́ á laa di é tɛ á gɛ! [...] la
here.is thing that 2SG.ALN cow DEF killed that here.is [...] 2SG
zɛ bò **ba** ta á
affair leave LOG.SG on NEG

‘Then he (the hyena) started eating the cows of his (the hare’s) stranger. [And the hare said:] Here it is! Here’s what killed your cow! <Here’s what killed your cow! Look into the stomach! Let us set on fire some leaves of the *mlaan* tree. We will see who killed your cow.> You should not leave the blame on **me**.’ (lit., ‘You should not leave the affair on *me*_{Log.}.’) [Wan, Nikitina (2012a): (9)]

- Any binding configuration would fail to obtain here, since the LP *ba* appears free in an unembedded sentence, itself part of a narrative sequence consisting of six independent clauses.
- As Nikitina (2012a) notes, a further problem for binding analyses is that the sequence is not introduced by any verb of speaking, suggesting that the LP may not be selected by any speech predicate in the first place - a point to which we return below.

- 1 Introduction
- 2 More common properties**
- 3 The proposal: lexical (under)specification and competition
- 4 Conclusion

More common properties: disjointness inferences

- Observation: whenever indexical shift (IS) is obligatory, the use of a 3rd person form in speech reports triggers a disjointness inference:

(10) Kidane kə-xɛyəd dɛliu ʔallo ʔilu
Kidane COMP-IMPF.leave PRF.want.3SG.M AUX.3SG.M say.3SG.M
'Kidane_i said that he_{*i/j} wanted to leave'

Generalization

In IS-languages, embedded 3rd person proforms under verbs of speech cannot co-refer with the author of the report.

More common properties: disjointness inferences

- The same pattern is observed in logophoric languages (LP-languages):

(11) a. Kofi be yè dzo
Kofi say LOG leave
'Kofi_i said that he_{i/*j} left'

b. Kofi be e dzo
Kofi say 3SG leave
'Kofi_i said that he_{*i/j} left'
[Ewe, Clements 1975]

Generalization

In LP-languages, embedded 3rd person proforms under verbs of speech cannot co-refer with the author of the report.

More common properties: pronoun-agreement mismatches

- Both IS and LPs have the property of triggering **pronoun-agreement mismatches**, where the person features on the controller do not match those on the target:

(12) Anta inyemε yogo bojε-m gi
Anta LOG tomorrow go.PROG-1SG say.PST
'Anta_i said that she_i is going tomorrow.'

[Adapted from Culy 1994b: (19a)]

(13) àbu papà tolim εbè àlózì ijèz morotó
AUX father say COMP 1SG.go.NPST 3SG Moroto
'Father_i said that he_i was going to Moroto.'

[Karimojong, Curnow 2002: (18)]

More common properties: pronoun-agreement mismatches

- A similar pattern can be found for IS-systems: Aqusha Dargwa, a language spoken in the Caucasus, can only shift 1st person agreement on the verb: in that language, 1st person agreement can be triggered by 1st and 3rd person controllers, (14):

- (14) a. ?lis hanbikib [nu q'an **iub-ra** ili]
Ali think.PST.3SG 1SG late became.1 COMP
✓'Ali_i thought that he_i was late'
✓'Ali_i thought that I was late'
- b. ?lis hanbikib [nu q'an **iub** ili]
Ali think.PST.3SG 1SG late became.3 COMP
✗'Ali_i thought that he_i was late'
✓'Ali_i thought that I was late'
- (Aqusha Dargwa, adapted from Ganenkov 2021: (10-11))

More common properties: pronoun-agreement mismatches

(14) a. ?lis hanbikib [nu q'an **iub-ra** ili]
Ali think.PST.3SG 1SG late became.1 COMP

✓'Ali_i thought that he_i was late'

✓'Ali_i thought that I was late'

b. ?lis hanbikib [nu q'an **iub** ili]
Ali think.PST.3SG 1SG late became.3 COMP

✗'Ali_i thought that he_i was late'

✓'Ali_i thought that I was late'

(Aqusha Dargwa, adapted from Ganenkov 2021: (10-11))

- Aqusha Dargwa being an optional-shifting language, the sentence in (14a) is ambiguous between an indexical reading (where the embedded 1sg pronoun and agreement marker both refer to the actual speaker) and a shifted reading (where they refer to the author of the report, Ali), mirroring the Karimojong data.
- Crucially, sentence (14b), where the embedded subject is 1sg but the verb is inflected for third person, lacks the shifted interpretation.

More common properties: no locality effects

- As a matter of fact, IS can also occur in unembedded environments, where a reported interpretation can be contextually inferred (as in a discourse sequence, for instance); this is observed in Kurmanji (Indo-Iranian), in which indexical shift is licensed across sentences:

(16) *Context: You talked to Ehmet last night and he complained that he is ill. Later you say:*

a. Mın dhuni Ehmet ra şor kır-ın
I.ERG yesterday Ehmet with word do.PST-PL

‘Yesterday I talked to Ehmet’

b. Ez e nexoş-ım
I.NOM COP ill-1SG

‘I_{Ehmet} am ill’

[Kurmanji (Indo-Iranian), Koev 2013: (46)]

More common properties: no locality effects

- Analogous case with Georgian, where a dedicated phrase-final marker *o* triggers agreement between a first-person marked verb form and the reported addressee, distinct from the utterance speaker:

(17) *Context: Nino and Dato have been dating for a significant period of time, and Nino tells Gio she loves Dato. If I overhear their conversation, I can tell you:*

Nino-m m-i-txr-a-o (rom) Dato
Nino.ERG 1-APPL-say-3SG.AOR-o COMP Dato.NOM

m-i-qvar-s-o
1-APPL-love-3SG.PRS-o

‘Nino_i told me_{Gio ≠ Speaker} that I_i love Dato’

(Georgian, Thivierge 2019: (6))

Shared properties of both systems

Properties	Shitable indexicals	Logophoric pronouns
Licensed under attitudes	✓	✓
Prefer speech predicates	✓	✓
<i>de se</i> readings	✓	✓
Disjointness inferences	✓	✓
Discourse bound	✓	✓

- Existing theories cannot accommodate these similarities, which are empirically attested and quite robust cross-linguistically.
- In what follows, I will propose a system that is able to handle these, while preserving the signature behavior of both systems.

- 1 Introduction
- 2 More common properties
- 3 The proposal: lexical (under)specification and competition**
- 4 Conclusion

The morphosemantics of person

- The core of the proposal lies in the lexical entries assumed for the pronouns in the relevant systems.
- On the grammatical side, we assume that pronouns are endowed with dedicated set of features, *phi-features*, those being *person*, *gender* and *number*.
- These features are often taken to be universal across languages, playing a key role in predicting syntactic phenomena such as agreement (Corbett, 2006).
- These features are in turn interpreted as presuppositions restricting the range of possible referents the pronouns denote (Sauerland 2008, 2009), Cooper 1979; Heim 2008).

The morphosemantics of person

- We take the features in (18) to be universally active across languages (where 1, 2, 3 stand for the respective persons); those features are given the partial semantics denotations in (19) (McGinnis 2005; Bobaljik 2008, Harbour 2016, Sauerland and Bobaljik 2022).
- Since 3rd person pronouns are devoid of person features, no entry is associated with them.

- (18) a. 1: [AUTHOR]
b. 2: [PARTICIPANT]
c. 3: []

- (19) a. $\llbracket 1 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x.x$
b. $\llbracket 2 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee a(c) \sqsubseteq x.x$

- Features form a scale, based on semantic markedness Sauerland (2008); each feature in the scale is entailed by the features above it.
- 2nd person possesses a Participant feature with a disjunctive meaning: its referent can be either the speaker (or author) of the context of utterance *c*, or the addressee of such context. Last, the 1st person has an Author feature that will uniquely identify the speaker in *c*.
- Crucial for our purposes is that the meaning of the Author feature be a subset of the Participant feature; this asymmetry derives a non-monotonic scale on which a mechanism of strengthening takes place.

Maximize Presupposition! and person features

- Heim (1991) proposes the pragmatic principle *Maximize Presupposition!* to account for the fact that cooperative speakers tend to prefer more informative presuppositional alternatives over their less-informative counterparts. This principle is stated in (20):

Maximize Presupposition!

(20) Do not use ϕ if there is a $\psi \in \text{Alt}(\phi)$ s.t.

- a. $p(\psi) \subset p(\phi)$, and
- b. $\llbracket \phi \rrbracket \equiv \llbracket \psi \rrbracket$

- *MP!* states that an utterance of ϕ should be avoided if ϕ has an alternative ψ whose presupposition is stronger than that of ϕ , and whose assertive strength (or informativity) are the same in the utterance context.

Maximize Presupposition! and person features

- Uttering ϕ under those conditions would make the hearer infer that the presuppositionally stronger ψ was avoided on purpose, probably because the speaker takes ψ to be false.
- Utterance of ϕ would give rise to an *antipresupposition* (Percus, 2006).
- If person features are presupposition triggers, we should expect to observe *MP!*-related effects in the pronominal domain as well.

The featural inventory of LP-systems

- Let us start with LP-systems. I assume that such systems make use of the following feature set:

- (21) a. 1: [AUTHOR, ACTUAL]
b. LOG: [AUTHOR]
c. 2: [PARTICIPANT]
d. 3: []

- (22) a. $\llbracket 1 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x.x$
b. $\llbracket \text{LOG} \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee s(i) \sqsubseteq x.x$
c. $\llbracket 2 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee s(i) \sqsubseteq x.x \vee a(c) \sqsubseteq x \vee a(i) \sqsubseteq x.x$

- LP systems differ with respect to English-like systems in that some pro-forms can inherit an Author feature only, while other forms are specified with an Author feature augmented with an Actual feature (cp. ?; Deal 2021).
- This is just to say that logophors will be semantically treated as constants with a disjunctive meaning, being able to refer to either the reported or the actual author, while 1P pronouns will uniquely identify the actual speaker.

Prediction: disjointness inferences

- Note that we straightforwardly derive disjointness inferences for both systems under that account: the use of a 3rd person in speech reports environments will trigger the inference that its referent is neither the actual nor the reported speaker.
- This also applies for obligatorily shifting languages, but not to optional shifting languages (cf. Anvari 2019 for Farsi, and Polinsky 2015 for Tsez), for reasons we hint at below.

Prediction: *1-LOG patterns

- If the system proposed above is correct, then a LOG form could not be used *in lieu* of a 1st person form when the actual and the reported speaker coincide, on pains of triggering a disjointness inference through *MP!*
- This is indeed what we observe in LP-systems, where the following *1-LOG pattern is disallowed:

- (23) a. mm kɔ mm dɔ
1SG said 1SG fell
'I_i said I_i fell'
- b. #mm kɔ mm dɔ-ɛ
1SG said 1SG fell-LOG
'I_i said I_i fell' [Gokana, Hyman and Comrie 1981: (11)]

A similar pattern can be found in Wan (Niger-Congo, Ivory Coast; Nikitina 2012a), Ewe (Pearson, 2015) and Danyi Ewe (Niger-Congo, Togo; O'Neill 2015), as well as Ibibio (Niger-Congo, Southern Nigeria; Newkirk 2019).

Prediction2: person neutralization

- In some languages, logophoric contexts exhibit a special case of 'person neutralization' between third and second person antecedents, which are referred both to with LPs;

(24) a. #oò kò oò dɔ
2SG said 2SG fell
'You_i said you_i fell.'

b. oò kò oò dɔ-ɛ
2SG said 2SG fell-LOG
'You_i said you_i fell.'

[Gokana, Hyman and Comrie 1981: (10)]

- On the present account, it is expected that a sentence where the author of the embedded speech event is referred to using a 2nd person pronoun will be infelicitous, regardless of what his discourse status in the actual context is; a logophor should be used instead - which is just what we observe.
- When the addressee of the utterance context and the reported speaker coincide, a 2nd person cannot be used on pains of triggering a disjointness inference, as in (24a).

Prediction 3: shifty uses of second person

- The present system makes one further prediction: due to their relative underspecification compared to LPs, 2nd person pronouns should be able to refer to reported addressees, a prediction that seems borne out, cf. (25):

(25) è gé zò b́é là b́à pólì
3SG said come then 2SG LOG.SG wash
'She_i said come and wash me_j.' [Wan, Nikitina 2012a: (18)]

- The data above is quite interesting when compared to IS-systems, since the second person in (25) is 'shifty' in a similar sense.

Typological variation through re-ranking of features

- However, the proposed featural set does not allow us to derive systems like that of Ewe, which does not allow for reported addressees to be referred to with the second person (Clements 1975; Nikitina 2012b).
- In (26), reported addressees are referred to with 3rd, not 2nd, person pronouns:

(26) Kofi gblo na wo be yè-a-dyi ga-a na **wo**
Kofi speak to 3PL COMP LOG-T-seek money-D for **3PL**
'Kofi_i said to them_j that he_i would seek the money for them_j.'
[Ewe, Clements 1975: (152)]

- In our system, 2nd person should be compatible with encoding of the reported addressees.

Typological variation through re-ranking of features

- We should therefore allow the Actual feature to be part of the featural makeup of 2nd person elements, enforcing reference to actual addressees only.

- (27) a. 1: [AUTHOR, ACTUAL]
b. 2: [PARTICIPANT, ACTUAL]
c. LOG: [AUTHOR]
d. 3: []

- (28) a. $\llbracket 1 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x.x$
b. $\llbracket 2 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq \forall a(c) \sqsubseteq x.x$
c. $\llbracket \text{LOG} \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee s(i) \sqsubseteq x.x$

- In that system, the entailment relation holding between all three features is broken: 1 competes with LOG and 2nd, but 2nd and LOG do not - They are not formal alternatives of each other (in the sense of Katzir 2007).

Typological variation through re-ranking of features

- This predicts that **no inference** regarding the referent of 2nd vs that of LOG can be predicted: using a 2nd person form in embedded contexts should be compatible with its referent being the reported author as well.

(29) You_i said to Kofi_j that 2_i liked him_j [pseudo-Ewe]

- I don't know whether this prediction is borne out.

More variation

- There are languages with LOG addressees, such as Goemai and Mupun (West Chadic, Nigeria; Hellwig 2006, Frajzyngier 1993).
- There are also languages with LOG addressees, but no LOG authors, such as Pero (West Chadic; Frajzyngier 1989).
- This suggests that the ACTUAL feature can compose rather freely in the system:

LP-system with Log addressees
(Goemai, Mupun):

- (30) a. 1: [AUTHOR, ACTUAL]
b. 2: [PART, ACTUAL]
c. LOG - AUTH: [AUTHOR]
d. LOG - ADDR: [PART]
e. 3: []

LP-system with Log addressees but
no Log authors (Pero):

- (31) a. 1: [AUTHOR, ACTUAL]
b. 2: [PART, ACTUAL]
c. LOG - ADDR: [PART]
d. 3: []

The featural inventory of IS-systems

- Recall that, in most IS-systems, the shifted reading is **optional**; an indexical parse is always possible, leading to massive ambiguity in speech reports.
- I would like to propose that this is the result of featural underspecification: 1st person pronouns of IS-systems lack the [Actual] feature that non-IS systems (like English) have.

- (32) a. 1: [AUTHOR]
b. 2: [PARTICIPANT]
c. 3: []

- (33) a. $\llbracket 1 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee s(i) \sqsubseteq x.x$
b. $\llbracket 2 \rrbracket^{g,c,i} = \lambda x : s(c) \sqsubseteq x \vee s(i) \sqsubseteq x.x \vee a(c) \sqsubseteq x \vee a(i) \sqsubseteq x.x$

Prediction 1: constrained 2nd person shifting

- As emphasized by Deal (2020) (73), no IS-system seems to allow 2nd person shifting while disallowing shifty 1st person, while the reverse pattern (shifty1st with unshifty 2nd person) seems to be attested.

Unattested featural system:

- (34) a. 1: [AUTHOR, ACTUAL]
b. 2: [PARTICIPANT]
c. 3: []

- Functionally, such a system would be highly sub-optimal, since in reporting what someone said, we are more likely to mention the reporter than his or her addressee (cf. the scarcity of systems with LOG addressees).

Prediction 1: constrained 2nd person shifting

- A possible explanation of this fact can be provided if we assume that LP- and IS-systems are functionally related.
- The prohibited pattern would amount to a LP-system with a 'logophor gap', allowing cross-referencing of both actual and reported addressees with the 2nd person, but only indexical reference to the actual speaker with 1st - not singling out reported authors.

Unattested featural system:

- (35) a. 1: [AUTHOR, ACTUAL]
b. ?
c. 2: [PARTICIPANT]
d. 3: []

Shift together: optional, but pragmatically constrained

- The proposal is able to handle cases where ST systematically fail to hold.
- I propose a pragmatic principle (which could be further grounded in more general principles of anaphora resolution in language, cp. Smyth 1994, Kehler and Kehler 2002) that speakers prefer to interpret pronouns relative to an homogeneous context/index whenever possible:

Context homogeneity principle (CHP)

Whenever possible, index pronouns with referents within the same context/index tuple.

Prediction 1: no ST/CHP when no referents available

- In Turkish, ST fails for second person when there is no referent accessible for indexing within the same context; as a consequence, the 2nd person is interpreted indexically:

(36) 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)]

- However, if such an addressee is explicitly mentioned, the shifted reading becomes available:

(37) 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)]

- This is fully expected under the present account, since the disjunctive semantics of the 2nd person make it compatible with both readings. The CHP requires that referents are provided for indexing to proceed; if there are none, indexicals will retrieve their reference from different contexts.

Prediction: agreement mismatches

- The systems correctly predicts agreement mismatches, when the referents are retrieved from different contexts: assuming that agreement is meaningful, the unmarked verbal form will be indexed to the overall speaker, and not to the closest attitude holder:

(14) a. ?lis hanbikib [nu q'an **iub-ra** ili]
Ali think.PST.3SG 1SG late became.1 COMP
✓'Ali_i thought that he_i was late'
✓'Ali_i thought that I was late'

b. ?lis hanbikib [nu q'an **iub** ili]
Ali think.PST.3SG 1SG late became.3 COMP
✗'Ali_i thought that he_i was late'
✓'Ali_i thought that I was late'

(Aqusha Dargwa, adapted from Ganenkov 2021: (10-11))

Prediction: agreement mismatches

- This is a variant of the *3/LOG pattern above, where the use of a third person form where a SI/LP is expected triggers disjoint reference: here, disjointness is constrained (3rd person agreement cannot be 'elsewhere' and refer to any individual) but can refer to the speaker.
- Similar data are observed in Farsi (Anvari, 2019), Tsez (Polinsky, 2015) and Kazan Tatar (p.f.)
- Although this must be backed up by a theory of agreement, the way it intuitively works is clear: person indexicals in Aqusha Dargwa and related languages can control two types of agreement, depending on which context they are evaluated against - a syntactic reflex of their disjunctive featural specifications.

- 1 Introduction
- 2 More common properties
- 3 The proposal: lexical (under)specification and competition
- 4 Conclusion**

Conclusion

- I have argued that LP and IS systems are quite alike, the former having grammaticalized an [Actual] feature that IS-systems lack.
- Assuming a unified account of IS and LP systems that relies on the combinatorics of person features allow to derive attested common properties of both systems, while preserving their empirical peculiarities.
- A central issue that I have not engaged into here is the sensitivity displayed by both categories to the semantics of the attitude they are embedded in - their common preference for speech reports. This is a very complex issue, very likely to rely on syntactic factors such as clause size and selection (Wurmbrand 2018; Lohninger and Wurmbrand 2020), which attest the plurality of levels needed to be looked at in the study of speech reports.

Please ask anything!

Thank You!

*Feedback much welcome:
david.blunier@unige.ch*

References I

- Adesola, O. P. (2006). A-bar dependencies in the yoruba reference-tracking system. *Lingua*, 116(12):2068–2106.
- Anand, P. (2006). *De De Se*. PhD thesis, MIT.
- Anand, P. and Nevins, A. (2004). Shifty operators in changing contexts. In *Semantics and Linguistic Theory*, volume 14, pages 20–37.
- Anvari, A. (2019). The ban against illeism and indexical shift in farsi. *Ms., Ecole Normale Supérieure, Institut Jean Nicod*. <https://ling.auf.net/lingbuzz/004823>.
- Bimpeh, A. A. (2019). Default de se: The interpretation of the ewe logophor. In *Proceedings of Triple A5*. Universität Tübingen.
- Bimpeh, A. A., Driemel, I., Bassi, I., and Silleresi, S. (2022). Obligatory de se logophors in ewe, yoruba and igbo: variation and competition. In *Talk given at WCCFL 40, May 13th, 2022*.
- Blunier, D. and Zorzi, G. (2020). The role of qud in ellipsis and role shift in catalan sign language. In *QUDs and exhaustivity: experiments, computation, and theory, September 25, 2020, Graz, Austria*.
- Bobaljik, J. D. (2008). Missing persons: A case study in morphological universals. *The Linguistic Review*, 25(1-2):203–230.
- Butler, L. K. (2009). Explaining logophoricity, with special reference to aghem. *Ms, University of Arizona*.
- Clements, G. N. (1975). The logophoric pronoun in ewe: Its role in discourse. *Journal of West African Languages*, 10:141–177.

References II

- Cooper, R. (1979). The interpretation of pronouns. In Heny, F. and Schnelle, H., editors, *Selections from the Third Groningen Round Table, Syntax and Semantics*, volume 10, pages 61–92. New York: Academic Press.
- Corbett, G. G. (2006). *Agreement*, volume 109. Cambridge University Press.
- Culy, C. (1994a). Aspects of logophoric marking. *Linguistics*.
- Culy, C. (1994b). A note on logophoricity in Dogon. *Journal of African Languages and Linguistics*, 15:113–125.
- Curnow, T. J. (2002). Three types of verbal logophoricity in african languages. *Studies in African linguistics*, 31(1 & 2):1–25.
- Deal, A. R. (2017). Shifty asymmetries: universals and variation in shifty indexicality. *Ms., University of California, Berkeley*.
- Deal, A. R. (2018). Indexiphors: Notes on embedded indexicals, shifty agreement, and logophoricity. *Ms., University of California, Berkeley*. Ms., University of Berkeley.
- Deal, A. R. (2019). Uncentered attitude reports. *Ms., University of California Berkeley*.
- Deal, A. R. (2020). *A Theory of Indexical Shift*. The MIT Press.
- Deal, A. R. (2021). Person features and shiftiness. *Ms., University of California Berkeley*.
- Frajzyngier, Z. (1989). *A grammar of Pero*. Berlin: Reimer.
- Frajzyngier, Z. (1993). *A grammar of Mupun*. Berlin: Reimer.

References III

- Ganenkov, D. (2021). Agreement shift in embedded reports. *Linguistic Inquiry*, pages 1–50.
- Harbour, D. (2016). *Impossible persons*. Mit Press.
- Heim, I. (1991). Artikel und definitheit. In *Semantik: Ein Internationales Handbuch*, page 487–535. Berlin: de Gruyter.
- Heim, I. (2008). Features on bound pronouns. In Harbour, D., Adger, D., and Béjar, S., editors, *Phi theory: Phi-features across modules and interfaces*. Oxford University Press.
- Hellwig, B. (2006). Complement clause type and complementation strategies in goemai. In Dixon, R. W. and Aikhenvald, A. Y., editors, *Complementation*. Oxford University Press.
- Hübl, A. (2013). Context shift (im)possible: Indexicals in German Sign Language. *ConSOLE XXI*, 171:171.
- Hübl, A., Maier, E., and Steinbach, M. (2019). To shift or not to shift: Quotation and attraction in DGS. *Sign Language & Linguistics*, 22(2):171–209.
- Hyman, L. M. and Comrie, B. (1981). Logophoric reference in gokana. *Journal of African Languages and Linguistics* 3: 19-37.
- Katzir, R. (2007). Structurally-defined alternatives. *Linguistics and Philosophy*, 30(6):669–690.
- Kehler, A. and Kehler, A. (2002). *Coherence, reference, and the theory of grammar*. CSLI publications Stanford, CA.

References IV

- Koev, T. K. (2013). *Apposition and the structure of discourse*. PhD thesis, Rutgers University Graduate School, New Brunswick.
- Koopman, H. and Sportiche, D. (1989). Pronouns, logical variables, and logophoricity in abe. *Linguistic Inquiry*, pages 555–588.
- Lohninger, M. and Wurmbrand, S. (2020). Typology of complement clauses. In *Handbook of clausal embedding*, pages 1–53. Oxford University Press Oxford.
- McGinnis, M. (2005). On markedness asymmetries in person and number. *Language*, 81(3):699–718.
- Messick, T. (2017). *The morphosyntax of self-ascription: A cross-linguistic study*. PhD thesis, University of Connecticut.
- Messick, T. (2020). On apparent pronominal feature contradictions: Shifty agreement in telugu and beyond. *Manuscript, Rutgers University*.
- Newkirk, L. (2019). Logophoricity in ibibio. In Botne, S. L. S. B. P. W. R. and Obeng, S. G., editors, *African linguistics across the disciplines: Selected papers from the 48th Annual Conference on African Linguistics*, pages 309–323. Berlin: Language Science Press.
- Nikitina, T. (2012a). Logophoric discourse and first person reporting in wan (west africa). *Anthropological Linguistics*, 54(3):280–301.
- Nikitina, T. (2012b). Personal deixis and reported discourse: Towards a typology of person alignment. *Linguistic Typology*, 16(2):233–263.

References V

- Özyıldız, D. (2012). When I is not me: A preliminary case study of shifted indexicals in Turkish. *Ms, École Normale Supérieure*.
- O'Neill, T. (2015). The distribution of the danyi ewe logophor yi. *Talk given at the LSA Annual Meeting*.
- Park, Y. (2014). Indexicals and the long-distance reflexive caki in Korean. *Proceedings from SALT XIV*.
- Pearson, H. (2015). The interpretation of the logophoric pronoun in Ewe. *Natural Language Semantics*, 23(2):77–118.
- Percus, O. (2006). Antipresuppositions. *Theoretical and empirical studies of reference and anaphora*, 52:73.
- Percus, O. and Sauerland, U. (2003a). On the IFS of attitude reports. In *Proceedings of Sinn und Bedeutung 7*.
- Percus, O. and Sauerland, U. (2003b). Pronoun movement in dream reports. In *Proceedings of NELS*, volume 33, pages 265–284.
- Podobryaev, A. (2014). *Persons, imposters, and monsters*. PhD thesis, MIT.
- Polinsky, M. (2015). Embedded finite complements, indexical shift, and binding in Tsez. *Languages of the Caucasus*, 1(1).
- Quer, J. (2005). Context shift and indexical variables in sign languages. In *Semantics and linguistic theory*, volume 15, pages 152–168.

References VI

- Sauerland, U. (2008). On the semantic markedness of phi-features. In Harbour, D., Adger, D., and Béjar, S., editors, *Phi theory: Phi-features across modules and interfaces*. Oxford University Press.
- Sauerland, U. (2009). The presuppositional approach to phi-features. Unpublished manuscript, ZAS, Berlin.
- Sauerland, U. and Bobaljik, J. D. (2022). Cumulative conjunction and exhaustification in morphology. *Ms., ZAS & Harvard University*.
- Schlenker, P. (1999). *Propositional attitudes and indexicality: a cross categorial approach*. PhD thesis, Massachusetts Institute of Technology.
- Schlenker, P. (2018). Indexicals. In *Introduction to Formal Philosophy*, pages 297–321. Springer.
- Sells, P. (1987). Aspects of logophoricity. *Linguistic Inquiry*, 18(3):445–479.
- Şener, N. G. and Şener, S. (2011). Null subjects and indexicality in turkish and uyghur. In *Proceedings of WAFL 7*.
- Shklovsky, K. and Sudo, Y. (2014). The syntax of monsters. *Linguistic Inquiry*, 45(3):381–402.
- Smyth, R. (1994). Grammatical determinants of ambiguous pronoun resolution. *Journal of psycholinguistic research*, 23(3):197–229.
- Speas, M. (1999). Person and point of view in navajo direct discourse complements. University of Massachussets Amherst.

References VII

- Stegovec, A. and Kaufmann, M. (2015). Slovenian imperatives: You can't always embed what you want! In *Proceedings of sinn und bedeutung*, volume 19, pages 621–638.
- Sudo, Y. (2012). *On the semantics of phi features on pronouns*. PhD thesis, Massachusetts Institute of Technology.
- Sundaresan, S. (2012). *Context and (Co)reference in the syntax and its interfaces*. PhD thesis, University of Stuttgart and University of Tromsø.
- Sundaresan, S. (2018). An alternative model of indexical shift. Ms., University of Leipzig.
- Thivierge, S. (2019). High shifty operators in georgian indexical shift. *Poster presented at the Mid-Atlantic Colloquium of Studies in Meaning (MACSIM) 8, New York University*.
- Wurmbrand, S. (2018). Cross-clausal a-dependencies. *Course handout for Advanced Core Training in Linguistics, University College London, London, June*.