Strict readings of logophors and the LF of anaphoric dependencies

Itai Bassi[1], Abigail Anne Bimpeh[1], Imke Driemel[2], Silvia Silleresi[3]

ZAS[1], HU Berlin[2], UniMiB[3]

Overview. We offer a solution to a semantic puzzle regarding the reference profile of logophoric pronouns: on the one hand they must be internally bound to an attitude holder, on the other they do not have to be bound to it for the purpose of the 'strict/sloppy' ambiguity. Our solution is based on the novel idea that the relationship between an attitude holder and a logophor is encoded at the presuppositional level of meaning and does not require formal binding.

Background. Logophoric pronouns (henceforth LOGP) in West-African languages, such as Ewe, are designated anaphoric elements which occur in attitude contexts and must co-refer with the attitude holder (Clements 1975). Ewe's LOGP **yè** cannot pick out just any antecedent:

(1) Kofi$_1$ súsú/gblɔ/dʒi/... be Afi a ɖe **yè**$_{1/*2}$ **Ewe**
Kofi$_1$ think/say/want/... COMP Afi will marry **LOGP**$_{1/*2}$
'Kofi thinks/says/wants that Afi will marry him.'

Current theories of the syntax-semantics of logophoricity bake this fact into a well-formedness condition on LFs. In von Stechow (2003) and Pearson (2015), for instance, LOGP is treated like a standard pronoun in being interpreted as a simple variable, but its syntactic feature [LOG] requires by stipulation that the variable be 'checked' in the syntax by a matching λ-binder at the edge of the embedded clause; if there is no matching binder, the LF crashes.

(2) a. LF: Kofi says that [$\lambda x_1 \lambda w$ Afi will marry $x_{1/*2,[\text{LOG}]}$]   (after Pearson 2015)[1]

     b. $[\![\text{say}]\!]^g = \lambda P_{\langle e,\langle s,t\rangle\rangle}\lambda x\lambda w.\forall\langle w',y\rangle \in \text{SAY}_{x,w}, P(y)(w')$,   where $\text{SAY}_{x,w} := \{\langle w',y\rangle :$ what x says in w is true in w' and x identifies themselves as y in $w'\}$

     c. $[\![(2a)]\!]^g \approx$ *In each of Kofi's* SAY *worlds, Afi marries the person Kofi identifies as himself.*

Strict-identity. The stipulation that LOGP must be λ-bound makes an incorrect prediction with respect to the strict/sloppy ambiguity in ellipsis- and association with *only*-contexts. Assuming as standard that the free/bound distinction is what underlies the strict/sloppy ambiguity, LOGP is falsely predicted to only allow a sloppy reading. The point was made in Bimpeh and Sode 2021 using a version of (4); (3) comes from original fieldwork. We found that Igbo and Yoruba speakers also allow strict readings with LOGPs, at least under some attitude predicates.

(3) Eli (le) mɔ-kpɔ-m be **yè** a ɖe Abla. Yao hã.   *Ellipsis*; Ewe
Eli be path-see-PROG COMP **LOGP** will marry Abla. Yao too.
'Eli hopes that he will marry Abla. Yao too ~~hopes that~~ $^\checkmark$**Eli**$_{\underline{strict}}$/ $^\checkmark$**Yao**$_{\underline{sloppy}}$ ~~marries Abla.~~'

(4) Eli ko yé súsú be **yè** ɖu-dzi (le awu-dodo ƒe hoʋiʋli me).
Eli only FOC think COMP **LOGP** eat-top (in dress-wear.REDU POSS contest inside).
'Only Eli thinks that he won (the costume contest).'   *only*; Ewe
Possible: No x other than Eli thinks $^\checkmark$**Eli**$_{\underline{strict}}$/ $^\checkmark$$\boldsymbol{x}_{\underline{sloppy}}$ won.

(5) LogP's Dilemma: If LogPs have to be internally λ-bound, how are strict readings possible? If they don't, how to ensure LogP's obligatory coreference with an attitude holder?

Proposal. We provide a route to the coreference requirement of LogPs without the λ-binding stipulation, and thus a solution to (5). The core proposal is that the [LOG] feature contributes a presupposition to the semantics, rather than enforcing a 'checking' operation, and the link to the

---

[1]The semantics in (2) produces the so-called *de se* reading of logophors, on which they pick out the atttiude's "self" in the relevant worlds. Pearson claimed that Ewe LogPs also allow *de re* coreference, but original fieldwork of ours suggests that *de re* coreference is unavailable. We assume that LogPs only allow a *de se* reading.

attitude holder is taken care of by presupposition projection. The LF is in (6), where a 'LOGP' realizes a structure consisting of an individual-concept variable pro_i, which can be free, and the LOG feature (7). LOG takes a concept f and returns the 'self' concept, presupposing that f's value is identified with the 'self' (Center) of the evaluation world. LOG is thus treated much like a pronominal ϕ-feature, following the presuppositional analysis of the latter in Cooper 1979 and subsequent literature. The modal base of an attitude predicate, (10), is a set of centered BEL(IEF) worlds (Lewis 1979 a.o.). Technical details: s is the type of world-individual pairs; 'w_x' abbreviates the pair $<w, x>$; variables of type s are syntactically present, and saturate argument positions in both verbal and nominal predicates (though are omitted on 'Eli' and 'think' in (6)). The composition of all the pieces yields (11), given presupposition projection.

(6)   <u>LF</u>: $\lambda w_{x^*}^* \, [\, \text{Eli thinks} \, [\, \lambda w_x \, [_{\text{LOGP}} \, [\textbf{LOG } \boldsymbol{pro_i}]_{w_x} \,] \, \text{won}_{w_x} \,]]$ (pro_i of type $\langle s, e\rangle$)

(7) $[\![\text{LOG}]\!]^g = \lambda f_{\langle s, e\rangle} \lambda w_x : \boldsymbol{f(w_x) = x}. \, x$ (8) $[\![\text{LOGP}]\!]^g = \lambda w_x : [\![\boldsymbol{pro_i}]\!]^g(\boldsymbol{w_x}) = \boldsymbol{x}. \, x$

(9) $[\![\text{think}]\!]^g = \lambda p_{\langle s, t\rangle} \lambda y : \forall \boldsymbol{w_x} \in \textbf{BEL}_{\boldsymbol{y}}, \, \boldsymbol{w_x} \in \boldsymbol{dom(p)}. \, \forall w_x \in \text{BEL}_y, \, p(w_x).$ (Heim 1992)

(10) $\text{BEL}_y := \{w_x \mid w$ is compatible with y's beliefs and x is the 'Center' of w—-the individual in w who y perceives as y's 'self' in $w\}$.

(11) $[\![(6)]\!]^g : \forall \boldsymbol{w_x} \in \textbf{BEL}_{\boldsymbol{Eli}}, [\![\boldsymbol{pro_i}]\!]^{\boldsymbol{g}}(\boldsymbol{w_x}) = \boldsymbol{x} \, . \, \forall w_x \in \text{BEL}_{Eli}, \, x \, won$

Formula (11) contains a free pro_i, whose value is the Center due to LOG's presupposition. The assertive part is the intuitively correct truth conditions (cf. (2c)). Note that 'x' in the assertive part could be replaced with '$[\![pro_i]\!]^g(w_x)$' with an equivalent result, given the presupposition.
Deriving strictness. The last crucial assumption needed relies again on the idea that LOG is a presuppositional ϕ-feature. It has been argued that ϕ-feature presuppositions can disappear from focus alternatives (Sauerland 2013 a.o.), and we assume the same for LOG. We take the LF of (4) to involve F(ocus)-marking on the matrix subject, triggering alternatives as in (12b).

(12)   a. <u>LF</u>: Only $[\, \text{Eli}_{[\textbf{F}]} \, \text{thinks} \, \lambda w_x \, [\, [_{\text{LOGP}} \, [\textbf{LOG } \boldsymbol{pro_i}]_{w_x} \,] \, \text{won}_{w_x} \,] \,]$

       b. <u>Alt's</u>: $\{$ Kofi thinks $\lambda w_x \, [\, [_{\text{LOGP}} \, [\text{\sout{LOG} } \boldsymbol{pro_i}]_{w_x} \,] \, \text{won}_{w_x} \,] ,$
                        Koku thinks $\lambda w_x \, [\, [_{\text{LOGP}} \, [\text{\sout{LOG} } \boldsymbol{pro_i}]_{w_x} \,] \, \text{won}_{w_x} \,] , ...\}$

       c. <u>Possible values for pro_i</u>: λw_x. *the individual that x knows by the name "Eli"*;
         λw_x. *the individual that x knows as the 45-year old who lives on 9 Oak Street; ...*

The prejacent is interpreted as earlier, so LOGP must pick out Eli's 'self' in Eli's belief worlds; but since LOG's presupposition is absent from alternatives, and the variable-part itself of LOGP can remain free, LOGP's reference across the alternatives does not shift along with the reference of its alternative-antecedent, and is resolved to whatever can be contextually accommodated as the value of pro_i, for example the values in (12c). This obtains a strict reading. The sloppy reading can be derived by λ-binding pro_i to the matrix subject. The account of the ambiguity in ellipsis (3) works analogously, if ellipsis-Parallelism ignores ϕ-features (Ross1967).

New Prediction. Our thoery makes a correct novel prediction about a reading which can be dubbed **'strict-mistaken identity'** reading: the alternatives to Eli (though not Eli himself) can be mistaken about the identity of LOGP. Consider a costume-contest scenario. Eli, a participant who was wearing a red costume, overhears the judges of the contest debating, and concludes from what he hears that he is going to be declared as the winner. Koku and Kofi, who watched the costume show, are wrong about the identity of the man with the red costume; they don't know it was Eli (they might as well even disagree among themselves who it was). (4) is judged felicitous and true in this context if Koku and Kofi don't think that the man with the red hat

will win. Our analysis in (12a)-(12b) allows for such a context to license the use of LOGP, because the context makes salient the **concept** $[\lambda w_x.$ *the man (who x knows as) wearing the red costume in* $w]$ as the value for *pro$_i$*—it does not matter that the referential value for this concept is different in Kofi and Koku's BEL-worlds than it is in Eli's.

References

Bimpeh, A. A. and Sode, F. (2021). Evidence against de se binding: Strict readings of the logophoric pronoun in Ewe. In *Proceedings of TripleA*, volume 6. MIT Working Papers in Linguistics.

Clements, G. (1975). The Logophoric Pronoun in Ewe: Its Role in Discourse. *Journal of West African Languages*, 10:141–177.

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. Academic Press, New York.

Lewis, D. (1979). Attitudes de dicto and de se. *The philosophical review*, 88(4):513–543.

Pearson, H. A. (2015). The interpretation of the logophoric pronoun in Ewe. *Natural Language Semantics*, 23(2):77–118.

Sauerland, U. (2013). Presuppositions and the alternative tier. In *Semantics and Linguistic Theory*, volume 23, pages 156–173.

von Stechow, A. (2003). Feature Deletion under Semantic Binding: Tense, Person, and Mood under Verbal Quantifiers. In Kadowaki, M. and Kawahara, S., editors, *Proceedings of NELS 33*, page 133–157. GLSA, University of Massachusetts, Amherst.