Obligatory *de se* logophors in Ewe, Yoruba and Igbo: variation and competition

Overview. We investigate the properties of logophors and ordinary pronouns across Ewe (3 speakers), Igbo (2 speakers), and Yoruba (2 speakers). Our results show that logophors are obligatorily read *de se* across all three languages, while the reference profile of the pronoun varies. We provide a new analysis that captures the Ewe pattern by way of pronominal competition.

Previous literature. Logophoric pronouns (henceforth LOGP) occur in the context of an attitude predicate and must refer to the attitude holder. However, less agreement exists regarding the type of co-reference that LOGPs admit, specifically the *de se-de re* distinction. In Ewe, Pearson (2015) reported that LogP can receive a *de re* reading, as most of her speakers accept (1) in a mistaken identity scenario where John does not realize that the stupid person is he himself.

(1) John bòu be **yè** nyi honvi.   **Ewe**
     John think that **LOGP** COP stupid
     'John thinks that he is stupid.'   Pearson (2015:98): ✓ *de re*

Another question concerns whether the ordinary pronoun (henceforth ORDP) is anti-logophoric (cannot co-refer with the attitude holder), as has been claimed by Clements (1975), see (2).

(2) Kofi$_1$ be **é**$_{*1/2}$ / **yè**$_{1/*2}$ -dzo.   **Ewe**
     Kofi say **ORDP** / **LOGP** -left
     'Kofi said that he left.'   (Clements 1975: 142)

The picture in (1-2) contrasts with existing claims on Yoruba, where LOGP must be read *de se* and ORDP can refer to the attitude holder (Adésolá 2005, Anand 2006). Little is known about LOGP in Igbo; ORDP is reported to be anti-logophoric (Hyman and Comrie 1981).

Results. We confirmed Clements' observation in (2): Ewe ORDPs are anti-logophoric. Yoruba ORDPs, however, are not anti-logophoric; Igbo shows speaker variance (3). The patterns for each language replicate across several embedding attitude verbs (*think, hope, want, promise*).

(3)   a. Ézè$_1$ sì-rì nà **ó**$_{\%1/2}$ / **yá**$_{1/*2}$ lú-rú Àdá.   **Igbo**
        Eze say-PST that **ORDP** / **LOGP** marry-PST Ada

    b. Adé$_1$ sọ wípé **ó**$_{1/2}$ / **òún**$_{1/*2}$ fẹ́ Ọlá   **Yoruba**
        Ade say that **ORDP** / **LOGP** marry Ola
        'Ade said that he married Ola/Ada.'

In mistaken identity contexts (4), all languages behave alike: LOGPs are infelicitous, but ORDPs are accepted. LOGPs are felicitous in the corresponding *de se* scenarios (not shown here), the pattern matches the one in (2-3). We again tested several verbs across *de se* and *de re* contexts.

(4)   *Donald Duck (DD) went to the grocery store to buy flour. He mistakenly put sugar in his cart. Soon after, he saw a trail of sugar going up and down the aisles and thought that someone's bag had a hole in it and looked around for the guy. DD says: "I wonder who is losing sugar; Certainly, the guy who is losing sugar is stupid, as he does not check".*

    a. Donald Duck súsú be **é** / #**yè** dzɔ-mo-vi.   **Ewe**
       Donald Duck think that **ORDP** / **LOGP** exist.with-small-face

    b. Donald Duck chèrè nà **ó** / #**yá** bù ónyéńzúzù   **Igbo**
       Donald Duck think that **ORDP** / **LOGP** is person.stupid

    c. Donald Duck rò pé **ó** / #**òún** jẹ́ òmùgọ̀   **Yoruba**
       Donald Duck think that **ORDP** / **LOGP** is stupid.person
       'Donald Duck thinks that he is stupid.'

The data in (4) are in line with Adésolá (2005); Anand (2006) for Yoruba but are at odds with Pearson (2015) for Ewe. Our methodology differs from Pearson's in that we offered a ORDP version in addition to LOGP; given the options, our consultants rejected LOGP in a *de re* context.

Analysis. We propose that the logophors in all these languages lexically encode a restriction to *de se* attitudes, which we implement with a novel presuppositional semantics for LOGP. The LF of *de se* attitudes is in (5), where a 'logophor' corresponds to a layered DP consisting of an individual-concept free variable pro_i (6) and a feature LOG (7). By analogy to pronominal ϕ-features (Cooper 1979), LOG contributes just a presupposition: it restricts the value of the variable given a world to be the world's 'logophoric center' (Stephenson 2010), defined in (8).

(5) $\quad \lambda w\,[\text{ John}_w \text{ thinks}_w\, \lambda w'\,[\,[_{\text{DP}}\,[\textbf{LOG } \boldsymbol{pro_i}]_{w'}\,]\text{ stupid}_{w'}\,]]$ $\hfill$ (*de se* LF)

(6) $\quad [\![pro_i]\!]^g = g(i) \quad$ (type $\langle s,e\rangle$) $\qquad$ (7) $\quad [\![\text{LOG}]\!]^g = \lambda f_{\langle s,e\rangle}\lambda w_s : \boldsymbol{f_w} = \textbf{CEN}_{\boldsymbol{w}}.\ f_w$

(8) $\quad$ <u>Definition</u>: $\forall w,\ \textbf{CEN}_{\boldsymbol{w}} :=$ the individual in w from whose perspective w is experienced.

Attitude verbs encode standard quantification over worlds (here BEL(IEF) worlds). Importantly, the mechanism of presupposition projection (Heim 1992) requires that LOG's presuppositional content be satisfied in each BEL world, (9-10). The ontological axiom in (11) (after Lewis 1979) allows one to reason that the (assignment-dependent) value of pro_i in (10) in each belief w' must be the center of w'; hence (10) can be rewritten as (12), the intuitively correct *de se* ascription.

(9) $\quad [\![\text{think}_w]\!]^g = \lambda p_{\langle s,t\rangle}\lambda y : \boldsymbol{\forall w' \in \textbf{BEL}_y,\ p(w') \textbf{ is defined}}.\ \forall w' \in \text{BEL}_y,\ p(w')$ $\quad$ (Heim 1992)

(10) $\quad [\![(5)]\!]^g = \lambda w : \boldsymbol{\forall w' \in \textbf{BEL}_{john},\ [\![pro_i]\!]^g(w') = \textbf{CEN}(w')}\ .\ \forall w' \in \text{BEL}_{john},\ [\![pro_i]\!]^g(w')\ stupid_{w'}$

(11) $\quad$ <u>Axiom</u>: $\forall w' \in \text{BEL}_y,\ \text{CEN}_{w'} =$ the individual in w' who y identifies as y's self in w'.

(12) $\quad [\![(5)]\!]^g \approx$ *In each of John's belief worlds, the logophoric center (John's 'self') is stupid.*

This derives the obligatory *de se* behavior of LOGPs; any mistaken-identity situation such as (4), where the intended value of the embedded subject is not the attitude holder's self-counterparts, is incompatible with the presupposition introduced by LOG. [The result in (12) can be gotten from (10) more directly if pro_i was forced to be λ_i-bound by the matrix subject (perhaps via a syntactic stipulation on LOG's sister). But we will show that forcing binding that way undergenerates strict-identity (i.e., non-sloppy) readings of Ewe LOGPs in ellipsis and *only* environments (Bimpeh and Sode 2021).] Regarding ORDPs and their compatibility with *de re* attitudes in (4), our theory allows for an **underspecification and competition** account. We take ORDP in Ewe to correspond to a pronominal DP which lacks a LOG feature, (13). The relevant presupposition is now absent from the meaning representation, see (14), and the value of the variable pro_i is not restricted as before to be the logophoric center. ORDP is thus the underspecified ('elsewhere') element and covers a range of construals including so-called '*de re* attitudes': those are simply the special case of 'accidental coreference', i.e. the value for pro_i happens to be John when valued in the actual world, but not in John's belief worlds. There is no dedicated LF for *de re* structurally different from one that outputs a plain anti-coreference between ORDP and the attitude holder. Finally, a principle of MAXIMIZE PRESUPPOSITION! (MP) (Sauerland 2008, a.o.) is responsible for indirectly excluding a *de se* construal for ORDP, due to comeptition with LOG. MP dictates that LOG must be used whenever its presupposition is met in the context.

(13) $\quad \lambda w\,[\text{ John}_w \text{ thinks}_w\, \lambda w'\,[\,[_{\text{DP}}\,[\,\boldsymbol{pro_i}]_{w'}\,]\text{ stupid}_{w'}\,]]$ $\quad$ (unspecified, *de re*-compatible LF)

(14) $\quad [\![(13)]\!]^g = \lambda w : \top\ .\ \forall w' \in \text{BEL}_{john},\ [\![pro_i]\!]^g(w')\ stupid_{w'}$

We adopt a DM-style framework, where the insertion contexts are the following: *de se*: [LOG,3,SG]; *non-de se*: [3,SG]. The vocabulary items for Ewe are given in (15). In (2-3) on the *de se* reading, LOG must be present by MP. Due to the subset principle, *é* is blocked in (2). To derive optionality between *òún* and *ó* in (3b), we postulate the VIs in (16): both exponents are equally specific. Igbo speakers (3a) vary as to whether they split features as in (15) or (16).

(15) $\quad$ a. / yè / $\leftrightarrow$ [LOG,3,SG] $\qquad$ b. / é / $\leftrightarrow$ [3,SG] $\hfill$ **Ewe**

(16) $\quad$ a. / òún / $\leftrightarrow$ [LOG,3] $\qquad$ b. / ó / $\leftrightarrow$ [3,SG] $\hfill$ **Yoruba**