Pronoun preferences unmasked: an experimental study on Ewe and Yoruba

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In West-African languages, a logophoric pronoun (LogP) occurs in the context of an attitude predicate and must refer to the attitude holder, as shown in (1) for Ewe and in (2) for Yoruba (Clements, 1975; Manfredi, 1987; Adésola, 2005; Pearson, 2015; Bimpeh et al., 2023). Besides LogP, Ewe and Yoruba have an ordinary pronoun (OrdP), which can also occur in the same contexts. However, there is a debate regarding the type of co-reference that OrdP admits. Some researchers have argued it must refer to someone (contextually salient) other than the attitude holder (Clements, 1975; Manfredi, 1987; Bimpeh et al., 2023), while others suggest that OrdP can co-refer to the attitude holder (Adésola, 2005; Pearson, 2015). Our study aimed to investigate the interpretation of co-referent possibilities of LogP and OrdP in Ewe- and Yoruba-speaking adults. We speculate that the existence of two distinct pronouns indicates that each has a preferred interpretation, which we derive by a principle of MAXIMIZE PRESUPPOSITION! (MP) (Heim, 2008; Sauerland, 2008). Following Bimpeh et al. (2023), LogP introduces a presupposition deriving the co-reference requirement, while OrdP introduces no presupposition. As such LogP is chosen over OrdP in contexts where its presupposition is met. To our knowledge, this is the first quantitative experimental study exploring this phenomenon in Ewe and Yoruba.

Thirty-eight Ewe- (age range = 20-55 y.o) and 24 Yoruba-speaking adults (age range = 24-68 y.o) participated in the study. We conducted an acceptability judgment task (Marty et al., 2020), presenting our participants with minimal pairs of test sentences (joint presentation) differing only in that one sentence had LogP and the other OrdP, and we asked them to judge such pairs on a Likert scale (1-7 points) against two types of contexts: self context and anti-self context (detailed in the Appendix: Table1). We also explored potential differences in the use of the two attitude verbs, *say* and *think*, with the hypothesis that no significant difference would emerge. Each participant saw a total of 18 items: 6 self contexts (3 with *say*, 3 with *think*), 6 anti-self contexts (3 with *say*, 3 with *think*) and 6 fillers. Unlike previous studies, all context and test sentences were presented in the target language (and not in English).

Each participant's raw scores were transformed into z-scores (standard deviation of ± 1) prior to analysis (Sprouse et al., 2013). Linear mixed-effects models revealed an effect of condition for both LogP (Fig1) and OrdP (Fig2): LogPs were preferred in self contexts (Ewe: $X^2(1)= 47.34$, $p <.001$; Yoruba: $X^2(1)= 158.24$, $p <.001$), while OrdPs were preferred in anti-self contexts (Ewe: $X^2(1)= 4.12$, $p =.042$; Yoruba: $X^2(1)= 42.78$, $p <.001$). Additionally, a significant verb-by-condition interaction emerged in LogP for both languages (Ewe: $X^2(1) = 3.76$, $p = .052$; Yoruba: $X^2(1) = 19.91$, $p <.001$) and in OrdP for Yoruba ($X^2(1) = 6.14$, $p = .013$). This suggests that the predicted pattern was more evident with *say* than with *think*.

The findings of our quantitative study align with MP (Heim, 2008; Sauerland, 2008) and the assumption that LogP encodes a presupposition (Bimpeh et al., 2023). Ewe and Yoruba participants showed a strong preference for LogP to indicate the attitude holder in self contexts, in line with previous literature (Clements, 1975; Manfredi, 1987; Adésola, 2005; Pearson, 2015; Bimpeh et al., 2023). Concerning OrdP, our results confirmed previous findings by Clements, (1975), Manfredi, (1987) and Bimpeh et al., (2023) in that it was preferred in anti-self contexts (contra Adésola, 2005; Pearson, 2015). Additionally, our analysis revealed a marginal effect

related to attitude verbs: sentences with speech verbs (*say*) exhibited a clearer pattern than those with thought verbs (*think*). We explain this unexpected result following Culy's (1994) hierarchy of attitude verbs, according to which speech verbs are more common in logophoric marking across languages (speech > thought > knowledge > perception) and are viewed as more objective and factual (Koopman & Sportiche, 1989), and therefore easier to judge.

(1) Kofi$_1$ gblɔ be   **yè**$_{1/*2}$ / **é**$_{\%1/2}$ dzo.   (2) Olu wí pé   **òun**$_{1/*2}$/**ó**$_{(*)1/2}$ wa.
    Kofi say COMP   LogP/OrdP   left   Olu say COMP   LogP /OrdP   come
    'Kofi said that he left.'   'Olu said that he came.'

Table1. Examples of self and anti-self attitude contexts. Each context was presented in the target language. First two characters were introduced: the attitude holder and another character (3). Both could plausibly be the referent of an action described in the narrative. Ultimately, only one of them was revealed as the true referent: in the self attitude context (3a), the attitude holder was the sole possible referent for the pronoun - crucially not the other character. In the anti-self attitude context (3b), the second character - crucially not the attitude holder - was the only possible referent. Test sentences are reported in (4) and (5).

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*(3) **Common incipit**: Sefa and Fafali are at home and decide to have a singing competition. In order to decide the winner they decide to record their voices. At the end of the competition Sefa hears one of the recordings.*
*(3a) **Self attitude**: Then Sefa says "What a beautiful voice! It must be Fafali's voice. In fact Fafali is very good at singing!" Then Sefa realizes that it is her own voice. So Sefa says "Oh no wait! But this is my voice! So I'm very good at singing, not Fafali!".*
*(3b) **Anti-self attitude**: Then Sefa says "What a beautiful voice! It must be my voice. In fact I'm very good at singing!" Then Sefa realizes that it is Fafali's voice. So Sefa says "Oh no wait! But this is Fafali's voice! So Fafali is very good at singing, not me!"*

Test sentences (for both contexts):
(4) In the end, Sefa says that LogP is a great singer
(5) In the end, Sefa says that OrdP is a great singer

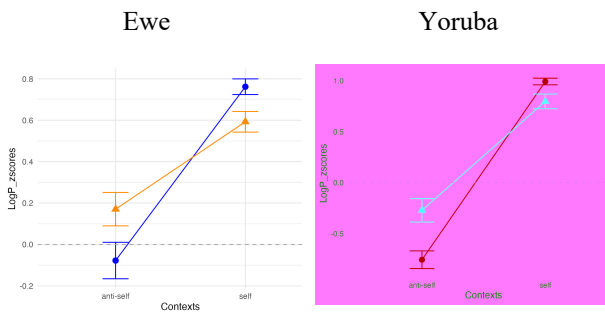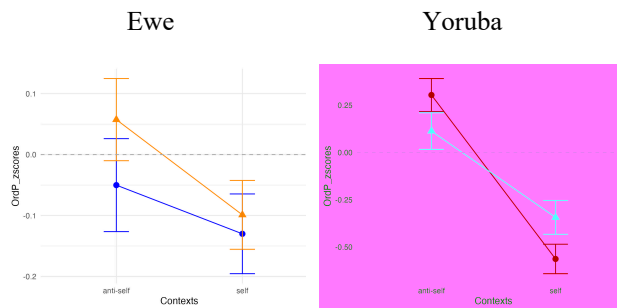**Fig1**. Z-scores of LogP condition in self and anti-self contexts for ***say*** and *think* verbs   **Fig2**. Z-scores of OrdP condition in self and anti-self contexts for ***say*** and *think* verbs

Note: A positive score indicates that the sentence is acceptable, whereas a negative score indicates unacceptability.

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