Priming Nonbinary They in a Storytelling context
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Over the past several years, English has adopted a new use of singular *they* that occurs when individuals adopt *they/them* as their personal pronoun, e.g. *Alex saw the beautiful sunrise. They took a picture* (Conrad 2020). We call this use "nonbinary they", to contrast with the older use of singular *they* in generic contexts (e.g. *Everyone…they*). But there is variation across individuals in whether their grammar allows this form (Bjorkman, 2017; Konnelly & Cowper, 2020), and some people find it difficult. In a story-telling task, Arnold et al. (2024) examined how participants used pronouns for a nonbinary cartoon character (Alex) and four characters who use binary pronouns. Results showed that binary and nonbinary pronouns were produced under the same discourse conditions, but nonbinary pronouns created some difficulty. This raises a question: how do people gain competence with producing nonbinary *they?*

Word production is facilitated for both frequent and recently-encountered elements (Griffin & Bock, 1998; Jacobs et al., 2015), and hearing words/structures primes people to re-use those elements in their own speech (e.g., Bock et al., 1996). Does this mean that priming is one mechanism for acquiring fluency with nonbinary *they*? Current evidence is mixed. Arnold (2025) used a similar storytelling task to show that *he* and *she* are produced more frequently after hearing binary pronouns. However, the frequency and accuracy of nonbinary *they* was unaffected by a subtler priming manipulation (Arnold et al., 2024, exp. 2). This leaves an open question: does hearing nonbinary *they* increase the frequency of using nonbinary *they*?

If priming does occur, we need to know what linguistic representations are activated. Arnold (2025) found that hearing *she* or *he* primes pronoun use in general (i.e., not for the same referent), suggesting that the class of singular pronouns is primed, rather than specific words. Thus, if hearing nonbinary *they* makes people use the form more often, it could result from either a) priming singular pronouns in general, or b) specifically priming the nonbinary *they* form. If priming is a mechanism for integrating nonbinary *they* as a new form into the language, we would need evidence that it creates specific activation of this form, over and above any priming for pronouns in general. We tested these questions by using Arnold et al.'s (2024) storytelling task with both binary and nonbinary test trials.

Methods: Participants first learned the five characters' names and pronouns. On each item, they saw a two-panel cartoon (Fig. 1); they read the provided text under the first panel and a prompt and finished the story based on the picture. Experimenters told half the stories. Participants completed 2 practice, 6 Baseline trials (3 Nonbinary, 3 Binary targets); 16 Critical Trials (8 Nonbinary; 8 Binary), and 7 fillers. Experimenters completed 2 practice, 16 Exposure trials, and 13 fillers. The critical trials always included two characters; the target was the first mentioned. The first panel showed both people; the second only showed the target. The critical question was how the rate of pronoun production would be influenced by exposure to either names or pronouns, specifically whether pronoun production is higher in the pronoun priming condition than the name priming condition. Experimenter exposure items either always used a name or always used a pronoun to refer to Alex (between-subjects).

Preliminary Results (N=30 out of intended 60): We observed a strong priming effect for both Binary and Nonbinary test items (see Fig. 2). Although it was numerically larger for the Nonbinary test items, the apparent interaction was not significant. By contrast, very few pronouns were produced at baseline, although there were surprisingly more in the pronoun-prime (3%) than name-prime condition (13%), even though the primes hadn't been seen.

Discussion: The binary test trials revealed cross-form priming: hearing nonbinary *they* increased the use of *he/she*. This suggests that singular pronouns as a class are activated. The nonbinary test trials also elicited numerically greater priming than the binary test trials; if significant in the full dataset this would suggest additional form-specific priming of nonbinary *they* increases activation of this form. Hearing nonbinary "they" may remind the participant that *they* can be singular or specifically that Alex uses they/them pronouns.

Target Story stimulus:
Alex and Liz went for a walk in the hills one day. Alex passed Liz. Suddenly….

[participant describes illustrated event: {Alex / they} fell down.]

Figure 1a. Example Stimulus: Critical Item (Nonbinary)
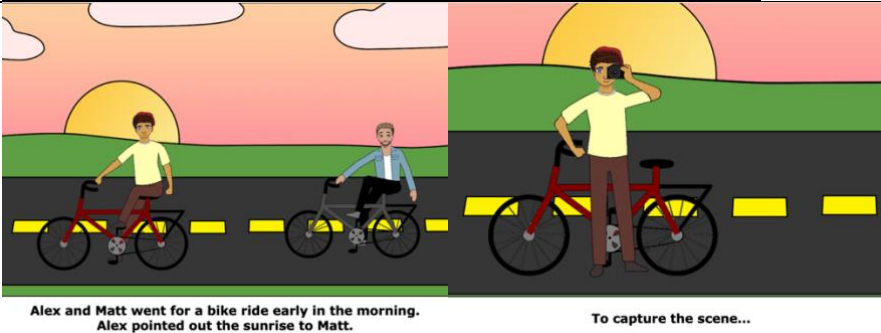
Experimenter Script:
Alex and Matt went for a bike ride early in the morning. Alex pointed out the sunrise to Matt. To capture the scene…

Name Prime: *Alex stopped to take a picture*
Pronoun Prime: *They stopped to take a picture*
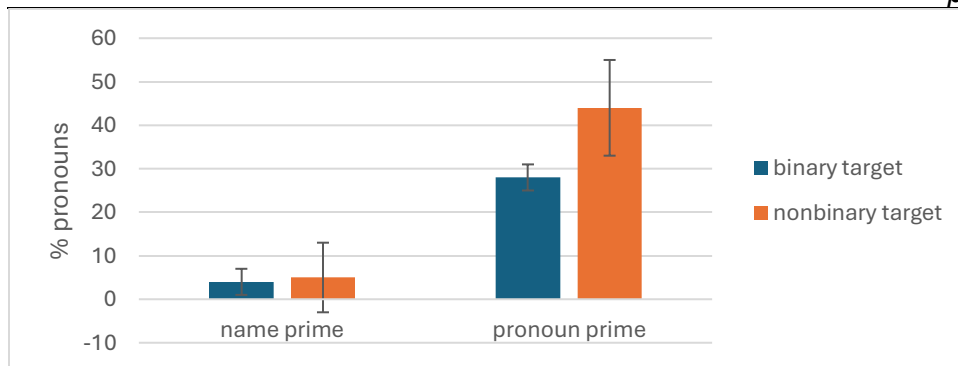
Figure 1b. Example Stimuli: Exposure Item

Figure 2. Preliminary Results (30 of 60 participants). A mixed-effects logistic regression (SAS proc glimmix) revealed a main effect of pronoun vs. name priming (p < .001) but no effect of binary vs. nonbinary or any interaction between the two predictors.

References: ♦ Arnold, J. E. (2025). Hearing pronouns primes speakers to use pronouns. *Open Mind.* ♦ Arnold, J. E., Venkatesh, R., & Vig, Z. (2024). Gender competition in the production of nonbinary 'they.' *Glossa Psycholinguistics*, *3*(1). ♦ Bjorkman, B., (2017). Singular *they* and the syntactic representation of gender in English. *Glossa: a journal of general linguistics*, *2*(1). ♦ Bock, J. K. (1986). Syntactic persistence in language production. *Cognitive Psychology*, *18*. ♦ Conrod, K. (2020). Pronouns and gender in language. *The Oxford Handbook of Language and Sexuality*. ♦ Jacobs, C. L. et al. (2015). Why are repeated words produced with reduced durations?.... *JML*, 84. ♦ Griffin, Z. M., & Bock, K. (1998). Constraint, Word Frequency, and the Relationship between Lexical Processing Levels in Spoken Word Production, *JML*, 38. ♦ Konnelly, L. & Cowper, E. (2020). Gender diversity and morphosyntax…. *Glossa: a journal of general linguistics*, *5.*