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Editors' Note

In this Summer-Fall 2026 issue of The ARiEAL Research Magazine, we continue to provide an avenue for student trainees to disseminate high-quality and original research. This iteration spotlights current research within the fields of linguistics, cognitive science of language and related areas of knowledge, while also extending beyond the confines of our own research center, inviting student trainees and researchers from around the globe who share our passion for the field of linguistics and languages to contribute to the excellence of our magazine.

In this issue, **Shanorah Brown**, a recent graduate of the Cognitive Science program at Carleton University in Ottawa, investigates fine-grained, sentence-level cloze probability and its impact on N400 amplitudes. Her research finds that people with higher or lower levels of autistic traits were equally sensitive to how predictable a word was from the sentence context.

Asya Kahzam, an undergraduate student in the Cognitive Science of Language program at McMaster University, examines the relationship between language and identity in Assia Djebar's *Algerian White*. Her analysis considers how *Arabic*, *French*, and *Tamazight* (Berber) are represented and function within the memoir, arguing that the linguistic differences in *Algerian White* are not merely descriptive, but

constitutive of broader ideological and affective structures.

Emily Higgins, an undergraduate student in the Cognitive Science of Language program at McMaster University, explores the underlying system motivating case distribution in Dargwa, a Northern Caucasian language. Her article examines which of two morpho-syntactic theories can better account for the distribution of semantic case.

Amba Mohammed, an undergraduate student in McMaster University's Cognitive Science of Language program, proposes an analysis of the formal properties of two passive voice alternations in Trinidadian English (TE): the TE *Get* Passive and the Morphologically Unmarked Passive. Her analysis demonstrates that, aside from the presence of *get*, the only significant difference between the two structures is the realization of the Agent argument.

Finally, we also learn from **Akomolafe Olamide**, an undergraduate student from Lagos State University of Education, about the relationship between language choice and identity among undergraduate students in Lagos State. This research contributes to our understanding of the role of language in identity construction among young adults in contemporary Nigerian society.

Editors' Note

This issue also features a collection of research posters produced by undergraduate students in the Cognitive Science program and Department of Linguistics and Languages at McMaster University.

Somya Khurana and **Elisabet Service** explore short-term memory for non-linguistic rhythmic patterns and its relationship to linguistic short-term memory and sentence repetition ability. **Bo-Derek Lane-Smith** presents an analysis of vP fronting in Tagalog. **Serena Jun** and **Elisabet Service** examine the potential relationship between short-term memory for non-verbal rhythms and sentences with varying prosodic patterns. Finally, **Laurian D'Souza**, **Karissa Ford**, **Joyce Hui**, **Yasmin Mahmood**, and **Ana Martinez Loma** investigate whether Dark Mode affects word recognition in a lexical decision task.

The ARiEAL Research Magazine, Volume 4 once again showcases high-quality and innovative research that reflects the interdisciplinarity and talent at ARiEAL and beyond. Phonetics, phonology, morphology, syntax, dialectal variation, cognitive science of language, and multilingualism are just some of the areas represented in this issue. We are proud to celebrate our contributors' accomplishments and the breadth of their research. Their work not only advances academic knowledge but also

has the potential to generate meaningful societal benefits.

Sincerely,

2026 Editorial Team:

Amelia Cocchio

Josiah Ferguson

Braulio Lopes

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Predictive Semantic Processing in Autism Spectrum Disorder: ERP Investigation of Cloze Probability Effects

SHANORAH BROWN

Abstract: Autism spectrum disorder is often associated with difficulties in linguistic and contextual processing, including challenges using sentence context to generate predictions during reading comprehension. Traditional cloze probability studies rely on binary paradigms, which may have been too coarse to capture subtle contextual differences, particularly in autistic individuals with relatively preserved language abilities. This study aims to investigate fine-grained, sentence-level cloze probability and its impact on N400 amplitudes during a naturalistic visual sentence reading task. We recruited undergraduate students, who completed an online survey composed of standardized measures such as the Autism Spectrum Quotient, the Kaufman Brief Intelligence Test, and a demographic questionnaire. Following the pre-screening questionnaire, participants completed an in-person visual sentence-reading task while electroencephalography was recorded using a 32-channel BioSemi system with automated triggers. Our primary measure was mean N400 amplitude (300–500 ms, centro-parietal sites) as a function of sentence-level cloze probability, and AQ scores were treated as a continuous measure of autistic traits. Using a mixed linear design model, our results showed a significant main effect of cloze probability on N400 amplitude, reflecting semantic processing ($\eta^2 = 9.58$,

$p < .001$). However, no significant main effect of AQ scores on N400 amplitude and no significant interaction between cloze probability and AQ scores ($\eta^2 = 0.13$, $p = .225$). The findings suggest that N400 mean amplitude did not vary as a function of autistic traits, and sensitivity to cloze probability did not differ across levels of autistic traits.

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by deficits in social communication and the presence of restricted and repetitive behaviours, as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 2022; American Speech-Language Hearing Association, n.d.). It is also associated with atypical behavioural patterns, such as echolalia and sensory sensitivity.

To date, no reliable biomarkers for ASD have been identified (Lordan et al., 2021). As a result, diagnosis relies on the assessment of behavioural and cognitive impairments, which typically emerge in early childhood (Zwaigenbaum et al., 2019). Furthermore, diagnosis is often initiated following parental concerns during routine pediatric check-ups, commonly including language delay, lack of response to one's name, and limited eye contact. When concerns arise, referrals are made to specialists,

who administer diagnostic assessments. Thus, clinicians can also assess co-occurring conditions, such as attention deficit hyperactivity disorder (Lordan et al., 2021).

Globally, ASD prevalence was estimated at 1 in 127 individuals (World Health Organization, 2025). In Canada, the prevalence of ASD is less established due to limited population-based data; however, in a simulation study, Collins et al. (2025) estimated it at 1.8% (1 in 56 individuals). It is important to note that estimates vary across regions due to differences in resources, diagnostic practices, and healthcare systems (WHO, 2025).

Diagnostic Features and Cognitive Heterogeneity

The term “spectrum” reflects the marked heterogeneity of ASD. Specifically, autistic individuals vary widely in severity and presentation: while some exhibit severe intellectual impairment, others have exceptional language abilities. This variability spans cognitive, linguistic, social, and behavioural domains (Autism Canada, n.d.). According to DSM-5, ASD is defined by (1) challenges in social communication and interaction, and (2) the presence of restricted repetitive behaviours. Diagnosis requires the presence of both domains, with severity classified into three levels based on support needs.

Although language impairment is not a core diagnostic criterion, many autistic individuals experience difficulties in semantic and pragmatic processing. Notably, many individuals have intact structural language but struggle with context-dependent processing, contributing to social communication challenges such as isolation, difficulty maintaining relationships, and conversational difficulties (Vogindroukas et al., 2022).

Linguistic Challenges and Semantic Processing in ASD

While not required for diagnosis, language impairments frequently co-occur with ASD, with approximately 63% of autistic children affected (Kim et al., 2020). In fact, language ability is a key predictor of long-term outcomes, including adaptive functioning and psychosocial adjustment. Common impairments include apraxia of speech, speech sound disorders, and broader language disorders (Vogindroukas et al., 2022), as well as ASD-specific features such as echolalia, atypical prosody, and pedantic speech. Autistic individuals may also produce overly detailed, repetitive, or contextually inappropriate speech. Together, these findings highlight the importance of language as a critical domain for research and intervention.

Language abilities in ASD are often conceptualized within a framework distinguishing structural and functional

language (Sharasulova, 2025). Structural language refers to the internal organization of language, that is, the rules governing how linguistic elements are combined to form meaningful expressions. It encompasses several core components, including phonetics/phonology, morphology, syntax, and semantics. While difficulties can arise across these components, a growing body of evidence suggests that semantic processing is selectively affected in ASD (Andreou et al., 2025; Ahtam et al., 2020).

Semantic Processing in ASD

To better understand how semantic processing is affected in ASD, it is first necessary to establish its key components. Semantics refers to the literal meaning of words and sentences (Binder et al., 2009) and enables mapping linguistic symbols onto mental representations. Within this domain is semantic cognition, which encompasses both semantic knowledge and semantic processing (Ralph et al., 2017). A key aspect of semantic processing is semantic prediction, the ability to anticipate upcoming information based on context, often indexed by the N400 ERP component (Ralph et al., 2017; Wlotko & Federmeier, 2013).

Semantic processing in ASD is not globally impaired but is restricted in its contextual and predictive use (Kutas & Federmeier, 2011; Wlotko & Federmeier, 2013). High-functioning autistic

individuals possess intact vocabulary and word knowledge, but experience challenges with using this information in context (Andreou et al., 2025; Georgiou & Spanoudis, 2021). Compared to neurotypical (NT) individuals who use context to generate strong expectations, individuals with ASD rely more on bottom-up processing, with less attention allocated to contextual information (Andreou et al., 2025; Georgiou & Spanoudis, 2021). This results in reduced differentiation between predictable and unpredictable words, often described as reduced N400 modulation by context in ASD.

Importantly, predictive processing in ASD is often weaker, less consistent, or delayed (Cannon et al., 2021; Shi et al., 2025). While NT individuals benefit from anticipatory activation, which facilitates processing of expected words (Wlotko & Federmeier, 2013), individuals with ASD rely more on post-lexical processing (Shi et al., 2025). This can be observed as reduced N400 sensitivity in ASD (Cannon et al., 2022; Shi et al., 2025; Wlotko & Federmeier, 2013).

Neurocognitive Correlates of Semantic Processing Impairments in ASD

The N400 is a negative-going ERP component peaking at around 400 milliseconds after stimulus onset over centro-parietal regions and associated with semantic processing (Wlotko & Federmeier, 2013). Its mechanism of action is such that larger N400

amplitudes are elicited by semantically incongruent than congruent words (e.g., “I take my coffee with cream and pasta/sugar.”). Therefore, the N400 amplitude reflects the difficulty of semantic integration and prediction error (Pijnacker et al, 2010).

The current literature on ASD indicates that autistic individuals show atypical N400 responses despite intact semantic access. For example, Ahtam et al. (2020) examined sentence-level semantic processing and ambiguity resolution in ASD vs. NT adults. Participants read sentences ending either with a homonym or an unambiguous word and decided whether a target word, presented after each sentence, was related to the final word of the sentence (e.g., “The thief ran out of the bank – money.”). The results revealed comparable behavioural performance and N400-like responses in both groups. In other words, autistic individuals showed evidence of semantic access. However, differences emerged in timing and contextual sensitivity.

Similarly, Pijnacker et al. (2010) examined the time course of linguistic integration in high-functioning adults with ASD using highly constraining sentences. Compared to NT controls, high-functioning autistic individuals did not show early N400 modulation, suggesting reduced sensitivity to contextual cues. Instead, ASD individuals exhibited a later positive component (600-900 ms) in

response to semantic anomalies. This would suggest that semantic processing relies on post-lexical mechanisms.

Overall, these findings indicate that semantic processing is present but functionally different in ASD, characterized by reduced sensitivity to contextual constraints and less graded N400 modulation.

Methodological constraints in traditional semantic paradigms

Cloze probability paradigms measure how predictable a word is within a given context (Staub et al., 2015). High-cloze words (e.g., “dog” in “I walked my ____”) elicit smaller N400 responses than low-cloze words (e.g., “lizard”). However, traditional paradigms often use binary distinctions, which may obscure subtle differences in processing. High-functioning autistic individuals often perform similarly to NTs in these tasks, but this may reflect the use of different processing strategies to infer which word best fits the sentence context (Kutas & Federmeier, 2011). Supporting this, O’Shea and Engelhardt (2025) found no group differences in cloze probability but observed slower response times and more low-probability completions in autistic individuals, suggesting increased processing effort.

The Current Study

This present study investigates semantic processing as a function of cloze probability and autistic traits, using N400

as a primary measure. Participants completed the Autism Spectrum Quotient (AQ; Engelbrecht, n.d.), treated as a continuous measure of autistic traits, and performed a sentence reading task in which sentence-final words varied continuously in cloze probability. EEG was recorded to examine N400 responses. Unlike traditional binary paradigms, this design employs a continuous manipulation of cloze probability, allowing for a more precise assessment of contextual sensitivity. By moving away from coarse cloze probability distinctions, the current study will aim to better detect subtle differences in semantic processing that may not be apparent in standard paradigms.

We predicted that N400 amplitudes would vary with cloze probability, where lower probability words elicit larger N400 responses compared to higher probability words. Additionally, we expected individuals with higher AQ scores to show greater sensitivity to sentence-level contextual constraints than individuals with lower AQ scores. This would suggest that, despite intact performance in standard paradigms, autistic traits are linked to reduced predictive processing and weaker integration of contextual information during language comprehension.

Method

Participants

A total of 23 participants were recruited through the Carleton University Department of Cognitive Science SONA subject pool (Ottawa, ON, Canada). The data of five participants were excluded because they failed to complete the study in its entirety. Thus, data from 18 self-reported fluent English-speaking participants (11 women, 6 men, 1 preferred not to say; $M(\text{AQ score}) = 18.94$, $M(\text{Age}) = 20.25$, $SD(\text{age}) = 4.52$) were included in the analyses. All participants consented to participation (see Appendices A and B). The study was approved by the CUREB-B Ethics Board at Carleton University.

Materials

Questionnaires

Participants completed a language and background questionnaire, the Autism Spectrum Quotient (Engelbrecht, n.d.) and the Kaufman brief intelligence test (Kaufman & Kaufman, 2004) online using the Qualtrics platform (see Appendix C).

Sentence Stimuli

The experimental stimuli consisted of 300 sentences for which the final words varied continuously through the full range of cloze probability (range of 0–100%). The stimulus set was adopted from Wlotko and Federmeier (2012a, 2012b). Cloze probability was determined through norming studies described in Federmeier et al. (2007)

and Wlotko et al. (2012c). Fifty sentences had unexpected but plausible sentence endings. The cloze value for the unexpected words was near zero and did not exceed 10%. For the remaining 250 sentences, the sentence-final critical word was always the best completion (the word with the highest cloze probability for that frame). These words were divided into 50-item bins with the following cloze values: 10–30, 30–50, 50–75, 75–90, 90–100%. Sentence-final critical words did not differ in word frequency ($M = 114$, $SD = 3.7$), length ($M = 5.0$, $SD = 0.3$), word class (80% nouns), concreteness ($M = 520$, $SD = 16.0$), imageability ($M = 543$, $SD = 11.9$), or familiarity ($M = 575$, $SD = 4.1$; all ratings retrieved from the MRC Psycholinguistic Database; Wilson (1988)). Because the characteristics were relatively homogenous, other groupings of cloze probability did not cause major differences in lexical characteristics within or across VF. In addition, cloze probability is not correlated with any of the lexical characteristics (all r values < 0.08). Examples of the sentence materials are presented in Appendix D (Table D2).

All sentences were pseudorandomly assigned to two lists such that half of the words appeared in the left visual field (LVF) and half appeared in the right visual field (RVF). Thus, each critical word was seen by each participant in either the LVF or RVF but not both, and all critical words

appeared in both the LVF and RVF across all participants. The conditions for assigning the sentences to the lists ensured that an equal number of words from each of the 50-trial cloze probability ranges appeared in each visual field (VF). Also, because most of the critical words were best completions generated by participants in a norming study, some critical words completed more than one sentence in the experiment. These were assigned to opposite VFs, or, in the few cases that a word was repeated more than once, the appearances were distributed equally across the VFs. The sentences were pseudorandomly reordered twice, and half of the participants were presented with one order and half with the other order. The conditions for order of presentation ensured that no more than three trials in a VF appeared sequentially and that repeated words were not presented in close proximity to other presentations of the word. VF of presentation and order of stimuli were counterbalanced across participants, and an equal number of males and females received each counterbalancing combination.

Procedure

Upon consenting, participants completed an online Qualtrics survey, followed by an in-laboratory EEG session. The online survey (approximately 1 hour) included completion of questionnaires (e.g., AQ) and cognitive assessment (KBIT). The laboratory session (approximately 1

hour) involved EEG setup followed by a sentence reading task, with breaks provided throughout. Participants were credited 1% for survey completion and 2% for EEG session completion.

EEG Apparatus

Electroencephalographic (EEG) activity was recorded using a 32-channel BioSemi ActiveTwo EEG system. The scalp electrodes were positioned according to the international 10–20 system using Ag/AgCl active electrodes mounted in an elastic cap. We also placed additional electrodes on the left and right mastoids (M1, M2). As a reference, the BioSemi system uses a Common Mode Sense (CMS) active electrode and a Driven Right Leg (DRL) passive electrode. Electrode offsets were maintained within acceptable limits, and conductive gel was applied to ensure optimal signal quality. Lastly, EEG signals were recorded continuously throughout the experiment. Stimulus presentation and event marking were controlled using E-Prime, allowing for precise time-locking of EEG data to stimulus onset.

Sentence Reading Task

Participants completed a sentence reading task using a rapid serial visual presentation (RSVP) paradigm. On each trial, sentences were presented word-by-word at the center of the screen. Each trial began with a start prompt, followed by a fixation cross to orient attention. After a brief blank screen, the sentence was presented sequentially, with each

word displayed individually for 250 ms, separated by a 300 ms inter-stimulus interval. This method ensured that participants processed each word incrementally rather than viewing the sentence as a whole. The target word was presented using the same timing parameters as preceding words but was uniquely time-locked to an event trigger sent to the EEG recording system, allowing for the extraction of event-related potentials (ERPs), specifically the N400 component associated with semantic processing. Following the presentation of the final word, a fixation cross was displayed for 2000 ms to allow for post-stimulus processing before the onset of the next trial. Participants passively read the sentences and advanced through the task at their own pace via button-press prompts interspersed throughout the experiment.

Data Analysis

The present study employed a correlational within-subject design to examine the relationship between sentence-level cloze probability and semantic processing, as indexed by the N400 component. Cloze probability was treated as a continuous within-subject predictor varying at the trial level. Autism Spectrum Quotient score was included as a continuous between-subjects predictor to capture individual differences in autistic traits within a neurotypical population. The primary dependent variable was mean N400 amplitude, measured in the 300–500 ms

time window at centro-parietal electrode sites. The analysis focused on the association between cloze probability and N400 amplitude, and whether this relationship was modulated by AQ score.

EEG data were preprocessed using MATLAB. Continuous EEG data were band-pass filtered between 0.1 and 30 Hz to remove slow drifts and high-frequency noise. Data were re-referenced to the linked mastoids during import. Channel locations were assigned according to the standard electrode montage. Noisy channels were identified through visual inspection and removed, and segments of data contaminated by excessive noise were rejected. Independent Component Analysis (ICA) was performed to identify and remove components associated with eye movements, blinks, and other biological artifacts. The continuous data were then segmented into epochs time-locked to the onset of the sentence-final word, using a window from -200 ms to 800 ms. Lastly, trials containing residual artifacts exceeding predefined thresholds were excluded from further analysis.

Results

A linear mixed-effects model was conducted to examine whether cloze probability and Autism Spectrum Quotient scores predicted N400 mean amplitude. Mean N400 amplitude was analyzed in RStudio using the *lme4* package and was modelled as a function of cloze probability, AQ scores, and their

interaction. The model included random intercepts for participants. Statistical significance was assessed using Satterthwaite-approximated degrees of freedom via the *lmerTest* package.

The cloze $\times$ AQ interaction was not significant as indicated by $\beta = -0.13$, $SE = 0.11$, $t(4704.62) = -1.21$, $p = .225$. This suggests that the relationship between cloze probability and N400 amplitude did not vary as a function of participants' Autism Spectrum Quotient scores (see Figure 1).

The main effect of Autism Spectrum Quotient scores on mean N400 amplitude was not significant, $\beta = 0.11$, $SE = 0.12$, $t(31.42) = 0.86$, $p = .397$. This indicates that we had no evidence that AQ was associated with overall differences in N400 amplitude (see Figure 2).

Cloze probability significantly predicted N400 amplitude as indicated by, $\beta = 9.58$, $SE = 2.18$, $t(4703.60) = 4.40$, $p < .001$. This suggests that higher cloze probability was associated with reduced N400 amplitudes, reflecting graded sensitivity of the N400 to contextual predictability (see Figure 3). Together, these results indicate a significant effect of cloze probability on N400 amplitude, with no significant effect of Autism Spectrum Quotient scores and no interaction between cloze probability and AQ.

Discussion

The extensive literature on autism spectrum disorder and its semantic processing has shown impairments in the use of predictive ability in sentence context; it has also shown that these differences are typically not demonstrated in traditional cloze probability paradigm research. To explore the current gap in research, the present study examined whether sentence-level cloze probability predicts N400 amplitude and whether variability in autistic traits modulates this relationship. Overall, our results have demonstrated that cloze probability significantly predicted N400 amplitude, which is consistent with prior research. However, Autism Spectrum Quotient scores did not influence this relationship. Thus, the findings only partially supported our hypothesis.

In alignment with the current research on the topic, the observed effect of cloze probability on N400 amplitudes, in this study, replicates well-established findings that semantic predictability facilitates semantic processing (Wlotko & Federmeier, 2013). Namely, highly expected words (high cloze) within a sentence context require less semantic integration, thus resulting in reduced N400 amplitude and inversely. It would suggest that participants in this study engaged in typical predictive semantic processing during sentence comprehension.

Contrary to our hypothesis, AQ scores did not significantly modulate the relationship between cloze and N400 amplitude. This would suggest that the variation in autistic traits in a neurotypical sample does not impact predictive semantic processing as indexed by N400. These findings supported existing research as they have found no significant group difference in cloze probability prediction and only small or marginal trait-level AQ effects (Vogindroukas et al., 2022). However, the lack of significant AQ modulation should be considered carefully since a possible explanation for this lack of effect could be attributed to the fact that our sample was small and largely non-clinical, with few participants scoring above the AQ threshold. This is important to consider when reflecting on the heterogeneity of language profiles within ASD, where language abilities vary across the spectrum and language impairments are not present in all individuals with ASD (Andreou et al., 2025; Vogindroukas et al., 2022). Nonetheless, these findings remain relevant because language impairment is common in ASD and holds clinical significance for prognosis and intervention planning (Andreou et al., 2025). Therefore, language ability is a key factor tied to later adaptive, academic, and psychological outcomes in ASD (Vogindroukas et al., 2022).

Implications

These findings suggest that cloze probability is a reliable marker of sentence-level semantic predictability (Wlotko & Federmeier, 2013) and that the absence of significant AQ should be interpreted cautiously, especially when considering the limitations of the present study. Theoretically, this may indicate that predictive semantic processing remains largely intact across variation in autistic traits in a neurotypical sample and that more subtle differences may only emerge at clinically significant levels of autistic traits or under more sensitive or constraining methods (Ahtam et al., 2020; O'Shea & Engelhardt, 2025; Pijnacker et al., 2010). Practically, these findings highlight the need for larger clinical samples to account for ASD's particular heterogeneity. This would contribute to real-world applications, such as tailored intervention plans for individuals with ASD who present language delays and/or language impairments.

Limitations

Within this study, several limitations should be considered. First, the sample size was relatively small, which may have limited the ability to detect meaningful effects. We were aiming for a larger sample size; however, data collection was limited due to time constraints on the project. A smaller sample size can impact statistical power, consequently decreasing the probability of detecting a

true effect and increasing the risk of type II (β) error, that is, concluding there is no difference when one actually exists (Martínez-Mesa et al., 2014).

Second, our sample was restricted to young individuals, which may have limited the variability within the data. A more homogeneous sample can reduce variability in both cognitive and neural responses, consequently making it more difficult to detect meaningful individual differences in N400 amplitude. Given that N400 amplitude is sensitive to semantic predictability (Kutas & Federmeier, 2011) and is typically most robust in young adults (Faustmann et al., 2007), the restricted age range may have further constrained variability in both cloze probability responses and N400 amplitude, potentially reducing statistical power. In addition, aging has been associated with attenuated N400 amplitudes and, in some paradigms, delayed latencies, suggesting that semantic processing may differ across the lifespan (An et al., 2022; Faustmann et al., 2007; Kutas & Iragui, 1998). As such, the restricted age range may have reduced variability in N400 responses, potentially limiting the ability to detect relationships between autistic traits and semantic processing.

Third, our sample was comprised of individuals all varying in their score on the AQ; however, none had a clinical diagnosis of ASD, and only three participants scored above the threshold

of 26 (Engelbrecht, n.d.). This represents a design constraint of the present study, limiting the ability to detect potential differences in N400 amplitude associated with clinically significant levels of autistic traits. It is important to note that the Autism Spectrum Quotient is not a diagnostic tool, but rather a self-administered preliminary measure to identify potential autistic traits, which would provide a likelihood of a formal diagnosis of ASD (Engelbrecht, n.d.). Consequently, it may fail to capture more nuanced profiles, particularly as it does not assess coping mechanisms such as camouflaging or context-dependent functioning. In addition, individuals with average or high intelligence and no early language delay, which may be consistent with the characteristics of the present sample, may exhibit significant autistic traits, while functioning well enough to avoid clinical suspicion of ASD (Gesi et al., 2021). Thus, to obtain a clinical ASD population, a more comprehensive approach is required, including additional diagnostic tools such as the Camouflaging Autistic Traits Questionnaire (CAQ-T), detailed developmental history and formal assessment by trained healthcare professionals (Engelbrecht, n.d.). Nonetheless, the AQ was selected due to its utility as a rapid and accessible screening tool. As a brief, self-administered measure, it is cost-effective, low-burden, and well-suited for use in non-clinical populations. Importantly, the AQ demonstrates

reasonable discriminative ability in distinguishing individuals with elevated autistic traits from neurotypical populations, supporting its role as an initial screening instrument (Yoshinaga et al., 2023).

Future Research

Future research should aim to address the limitations of the present study to strengthen the statistical power, generalizability, and increase the likelihood of detecting a meaningful effect in N400 amplitude. In particular, recruiting participants with formal ASD diagnoses, confirmed by trained healthcare professionals through comprehensive evaluations, including development history and diagnostic tools such as CAQ-T. This may provide a more accurate understanding of the relationship between ASD and semantic processing. It may also allow for the examination of predictive processing in individuals with clinically significant levels of autistic traits, thus overcoming the constraints of non-clinical AQ-based screening.

In addition, future research should aim to recruit a larger and more diverse sample. Specifically, studies should not only increase sample size but also ensure that the participants vary across the lifespan. Increasing the number of participants would improve the statistical power, while a more heterogeneous sample in terms of age may introduce greater variability in neural responses. Therefore,

this would improve the study's ability to detect age-related effects such as dampened amplitude and delayed latencies, while allowing a better generalization of findings beyond young adults.

Conclusion

In conclusion, this study's findings demonstrated that, whilst cloze probability significantly modulated mean N400 amplitude, autistic scores did not have an effect. Overall, these results suggest that variation in autistic traits within a neurotypical population does not meaningfully influence N400 responses, potentially reflecting preserved predictive semantic processing or limited sensitivity of the experimental paradigm. Further research with adapted constraints is needed to successfully address potential differences between a clinical population of individuals with ASD and neurotypicals.

TABLES & FIGURES

Figure 1. Relationship between cloze probability and predicted N400 mean amplitude across Autism Spectrum Quotient scores.

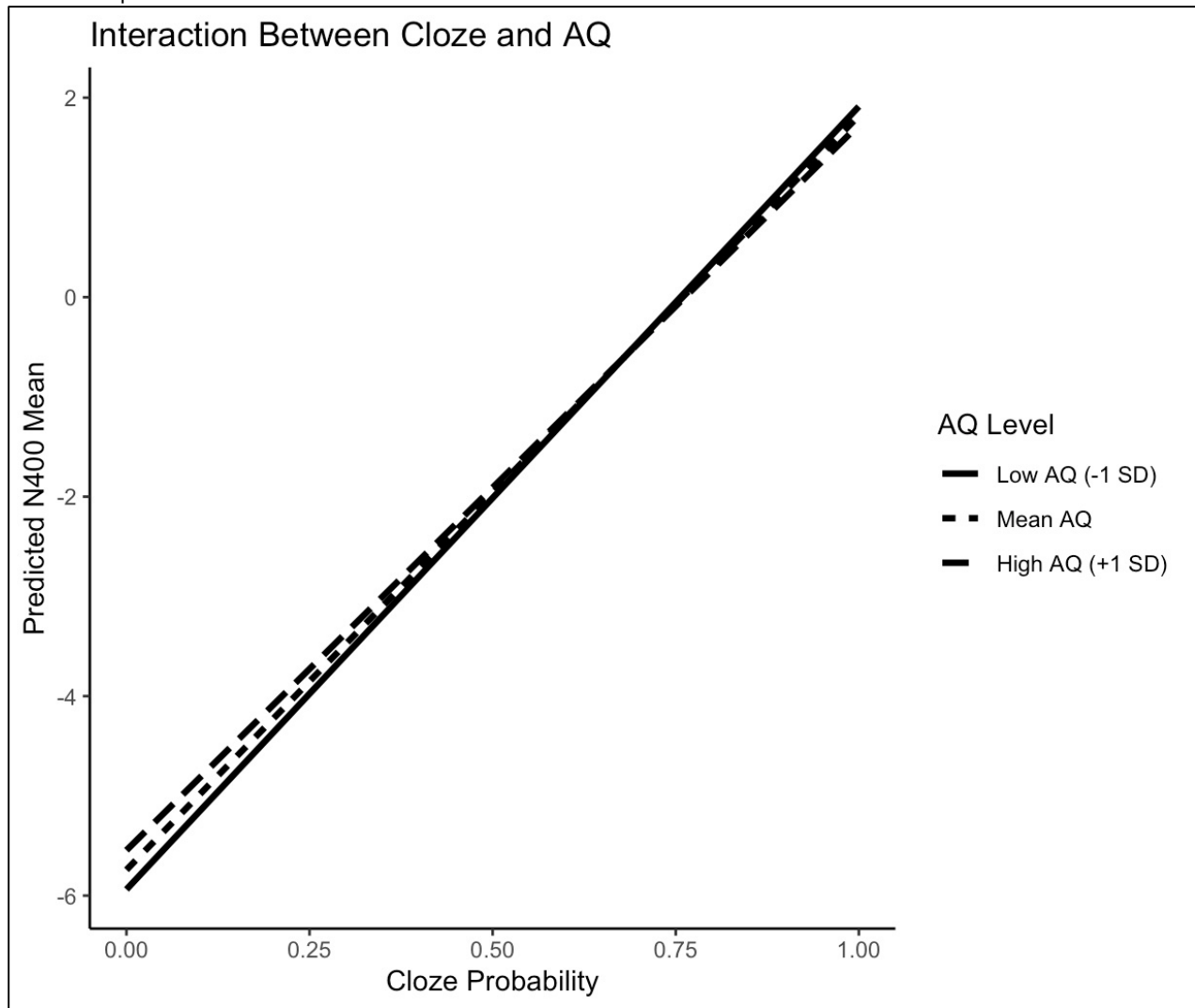


Figure 2. Predicted N400 mean amplitude as a function of Autism Spectrum Quotient scores.

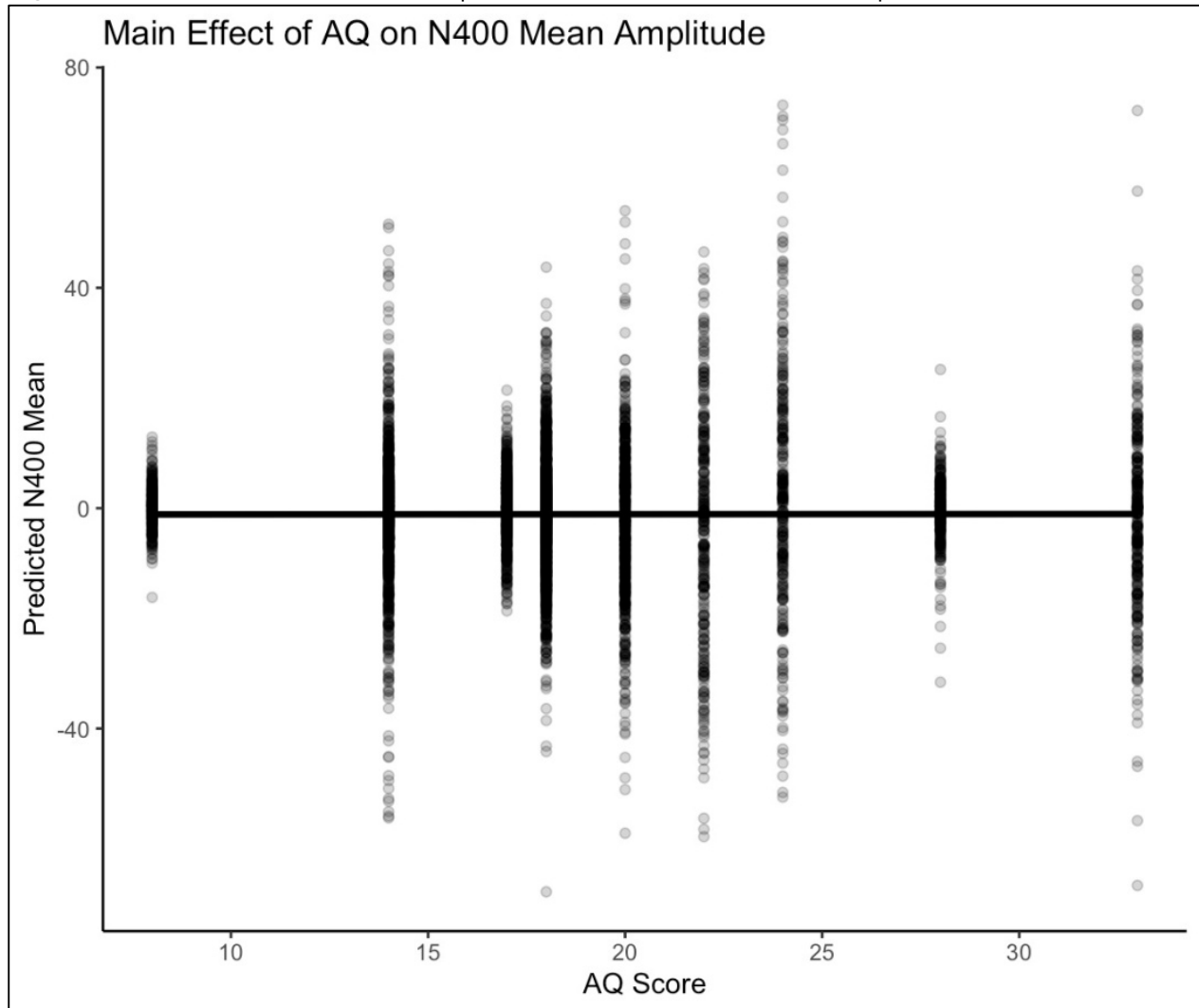
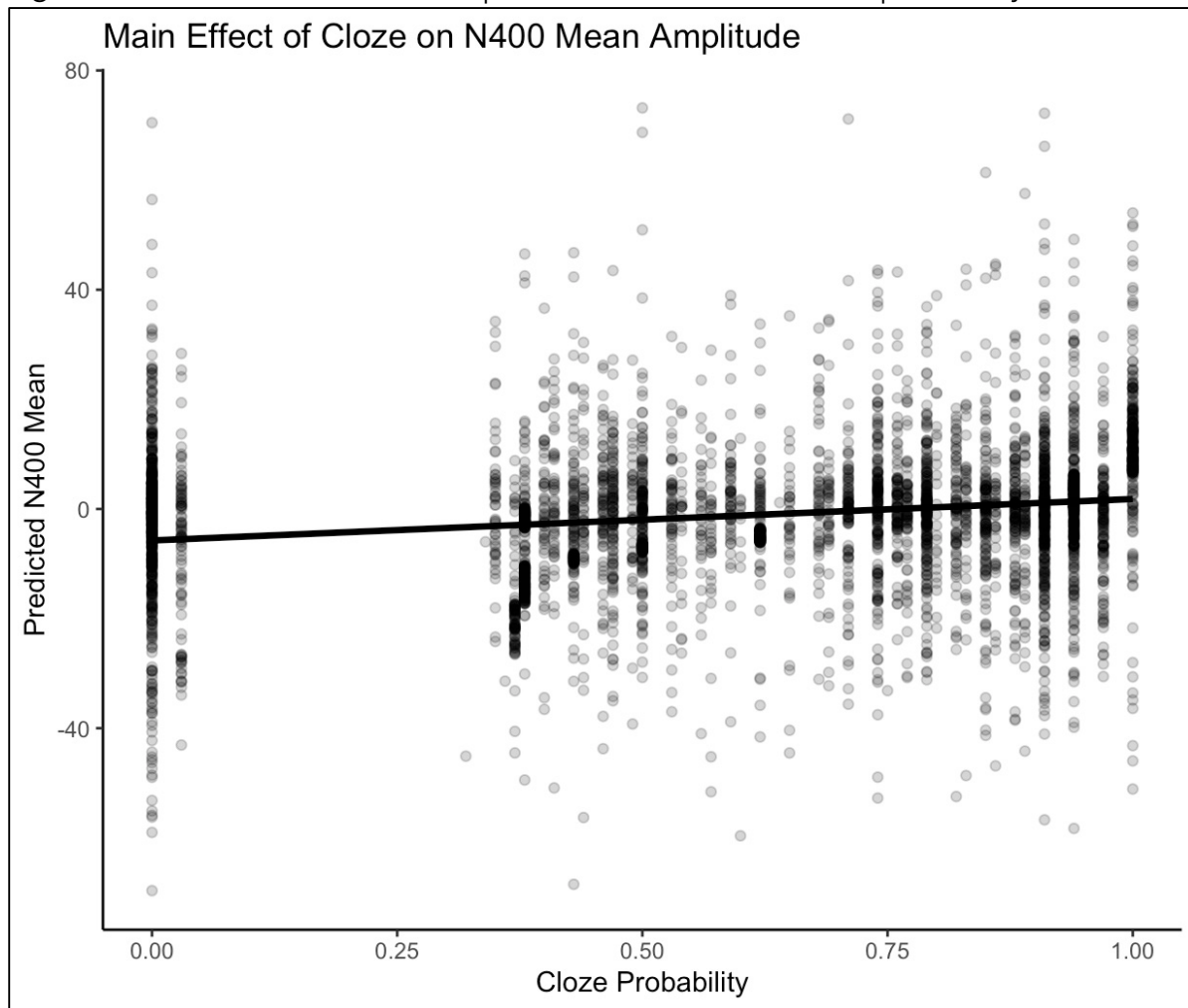


Figure 3. Predicted N400 mean amplitude as a function of cloze probability.



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"My Arabic, Their French": Language and Identity in Assia Djébar's *Algerian White*

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Abstract: This study examines the relationship between language and identity in Assia Djébar's *Algerian White* (2001) through a qualitative analysis using Richar Ruiz's (1984) framework of language orientations, and a transitivity-based approach grounded in systemic functional linguistics (Sakrikar, 2019). The study explores how Arabic, French, and Tamazight (Berber) are represented and function within the memoir. The findings demonstrate that these languages are not impartially distributed, but are endowed with distinct affective, cultural, and ideological roles. Arabic emerges as the most experientially dense language, strongly associated with material, mental, and verbal processes. It functions primarily as a language-as-resource through which identity, memory, and emotion are expressed and reconstructed. In contrast, French is predominantly aligned with relational and circumstantial processes, positioning it as a language of distance and abstraction, and it is largely oriented as a language-as-problem shaped by its colonial legacy. Tamazight appears less frequently but carries significant symbolic weight, functioning primarily as a language-as-right tied to cultural continuity, while also emerging as a resource in moments of collective resistance. Overall, the study demonstrates that the linguistic difference in *Algerian White* is not merely descriptive, but constitutive of broader ideological and affective structures. By integrating thematic and transitivity analysis with sociolinguistic theory, this research highlights how language operates as a central site for negotiating identity and memory in a colonial context.

Introduction

In postcolonial contexts, language is rarely a neutral medium of communication, operating as a central site through which identity, memory, and authority are negotiated. This is especially evident in Algeria, where the coexistence of Arabic, French, and Tamazight (also commonly referred to as Berber [within the novel]) reflects a complex history of colonization, resistance, and cultural continuity. In this paper, the term Tamazight will be used to refer to these Indigenous languages, as it reflects the term through which speakers self-identify.

Within this multilingual landscape, literary texts offer a particularly rich space for examining how language is experienced, embodied, and contested at both individual and collective levels. Assia Djébar's *Algerian White* (2001), originally written in French and translated into English by David Kelley and Marjolijn de Jager, provides a compelling exploration of these dynamics. Taking into consideration that the text was composed in French introduces an additional layer of linguistic complexity, as the narrative itself operates within the very colonial language it often problematizes. As a memoir that reflects on loss, memory, and intellectual life in post-independent Algeria, the text is deeply concerned with language. Moving beyond its function as a means of expression, the text explores it as a symbol of belonging and a medium in which relationships, emotions, and histories are articulated. Djébar's writing moves fluidly between references to Arabic, French and Tamazight, assigning each language distinct affective and ideological functions. These linguistic choices are not incidental,

as they reflect the broader sociopolitical tensions rooted in Algeria's colonial and postcolonial experience.

This study examines how language is represented and functions within *Algerian White* (2001) through a qualitative thematic analysis. Drawing on the analytical framework developed by Virginia Braun and Victoria Clarke (2006), alongside Richard Ruiz's (1984) model of language orientations and a transitivity-informed perspective grounded in systematic functional linguistics (Sakrikar, 2019). This paper investigates how different languages are associated with patterns of agency, affect, and meaning within the text.

Historical Context

Algeria's contemporary linguistic landscape cannot be understood without reference to the profound transformations that occurred under French colonial rule from 1830 to 1962. This 132-year period extended far beyond a conventional colonial-independence relationship; it constituted a sustained process of political, cultural, and linguistic restructuring that reshaped Algerian society at every level. Central to this transformation was the institutionalisation of French as the dominant language of administration, education, and socioeconomic mobility, alongside the systematic marginalization of Arabic and Tamazight languages.

French colonial policy in Algeria was marked by an explicit objective to assimilate the territory into France itself. Unlike other colonial forces in North Africa, French authorities invested heavily in academic, administrative, and linguistic infrastructures to classify and regulate local

populations and their languages. As noted by Tilmatine (2016, p. 100), this approach involved mobilizing scholars and specialists to support the colonial project, particularly through institutions such as the *Bureaux Arabes* (Arab Offices). They were a French military-administrative unit tasked with governing Indigenous populations through surveillance and localized control. In contrast to the more militarily oriented strategies of other colonial regimes, French policy sought to exert control through cultural and linguistic intervention, positioning language as a key instrument of governance. As a result, French was established as an indicator of modernity and social mobility, while Arabic and Tamazight languages were increasingly excluded from these spaces.

The consequences of this linguistic hierarchy extended beyond independence in 1962. Algeria entered a period marked by identity crisis and linguistic enmity, specifically among French-educated elites who were linguistically positioned between colonial and national schema (Benrabah, 2007). Post-independence policies of Arabization sought to re-establish Arabic as the national language and a symbol of cultural authenticity, but these efforts also produced new tensions, particularly with Tamazight-speaking communities. This gave rise to movements associated with Berberism, which emphasized the recognition of Tamazight language and identity as essential to Algerian heritage (Rouabah, 2022).

It differed from other colonial powers, such as Spain, in its forceful interest in linguistic and cultural intervention. While Spanish colonial efforts were largely military, France deployed substantial academic and

institutional resources to study, classify, and regulate local populations and their languages (Tilmatine, 2016, p.106). This resulted in a deep-rooted linguistic hierarchy that held out into the postcolonial period.

Currently, in the post-independence era, Algeria has become a multilingual, yet hierarchically, structured society, characterized by the coexistence and tension of Arabic, French, and Tamazight. French retained its role in higher education and global mobility, Arabic was elevated as the national language, whilst Tamazight persisted as a marker of cultural continuity and resistance (Benrabah, 2007; Rouabah, 2022). These layered linguistic dynamics form the context to *Algerian White*, where language operates as a central site through which identity, memory, and belonging are negotiated.

Literature Review

Research on language in Algeria consistently highlights the nation's complex and stratified linguistic landscape, shaped by its colonial history and post-independence policies. Scholars such as Benrabah (2007) demonstrate that French has maintained a strong presence in Algeria, particularly in education, administration, and global mobility, despite efforts to reduce its influence. Similarly, Rouabah (2022) characterizes Algeria as a multilingual society marked by persistent tensions between Arabic, French, and Tamazight, where language choice is closely tied to issues of identity, access, and authority. These studies establish that language in Algeria is a communicative tool that also acts as a socially and politically loaded resource.

Within this context, existing scholarship has also examined the relationship between language and identity in postcolonial Algeria. Croisy (2008), explores how linguistic hierarchies contribute to cultural fragmentation and identity reconstruction, particularly among individuals navigating multiple linguistic systems. Arabic, once marginalized under colonial rule, has been revalorized as a symbol of national identity and resistance, while French continues to function as a language of institutional authority and academic capital (Tilmatine, 2016). Following independence, efforts to reassert Arabic as a national language positioned it as a symbol of resistance and cultural authenticity, even as French retained its functional role in key institutional domains (Benrabah, 2007). At the same time, Tamazight is often framed as an ancient and culturally rooted language, associated with heritage, continuity, and indigeneity. However, its historical marginalization has limited its institutionalized presence, reinforcing its symbolic rather than functional role in many contexts (Rouabah, 2022).

Historical scholarship emphasizes the structural nature of these linguistic inequalities. Cohen (1980, 2003) highlights how colonial systems in Algeria entrenched divisions, along political and economic lines and particularly through language, benefitting the European settler population, whose linguistic practices further elevated the status of French while distancing it from Indigenous linguistic identities (Algeria.com, 2019). Together, these studies demonstrate that Algeria's linguistic landscape is the result of deeply embedded historical processes that

continue to shape language use and perception.

Despite these contributions, there remains a gap in the literature regarding how such linguistic tensions are constructed and represented within literary texts. While previous studies have addressed language policy, identity, and postcolonial dynamics, fewer have examined how linguistic meaning is encoded through specific linguistic structures, such as the distribution of agency across languages. In particular, there is limited research applying a transitivity-based approach to analyze how languages are differentially positioned in terms of action, cognition, and expression within postcolonial narratives.

Methods

This study employs a qualitative approach grounded in thematic analysis, as developed by Virginia Braun and Victoria Clarke (2006), to examine representations of language in Assia Djébar's *Algerian White* (2001). The data for this study consists of selected passages from the memoir in which language, identity, memory, and cultural expression are explicitly or implicitly referenced (refer to Figure 1). These excerpts were purposefully sampled based on their relevance to their broader linguistic themes, rather than through exhaustive textual analysis.

This data was analyzed following Braun and Clarke's (2006) six-phase framework: familiarisation with the text, initial coding, theme development, theme review, theme definition, and final analysis. Codes were generated inductively, focusing on how the three languages are described, used,

and emotionally framed within the text. These codes were then grouped into broader themes reflecting recurring patterns in Djébar's linguistic representations.

To interpret these themes, this study applies Richard Ruiz's (1984) framework of language orientations, which conceptualize language as a problem, resource, or right. This framework is used to examine how: (1) characters value or reject their own language(s), (2) society within the memoir privileges or marginalizes certain languages or dialects, and (3) language is linked to belonging, resistance, and exclusion. Mapping the themes onto these orientations highlights the sociopolitical meanings embedded in Djébar's linguistic choices. Within this framework, language may be positioned as a problem (an obstacle to be managed), a resource (a cultural and communicative asset), or a right (an inherent component of identity and entitlement).

In addition to this, a transitivity-informed perspective drawing on M.A.K. Halliday (Sakrikar, 2019) is used to account for the analytical emphasis on Arabic within this study. Drawing on principles from systemic functional linguistics, this approach considered how language representation is shaped by researcher's interpretive focus and the distribution of agency across linguistic categories. Transitivity focuses on how meaning is constructed through different types of processes, including material (actions), mental (cognition and emotion), verbal (speech), relational (states of being), behavioural (physiological or expressive acts), and existential (existence). By examining the distribution of these processes across references to

Arabic, French, and Tamazight, this study identifies patterns of agency, embodiment, and experiential depth associated with each language.

The decision to foreground Arabic in the analysis is informed by this transitivity framework. Arabic appears more frequently in material, mental, and verbal processes, positioning it as a language through which speakers act, feel, and express. In contrast, French is commonly associated with relational and circumstantial structures, suggesting reduced agency and a more abstract or mediating role. Tamazight, while less frequent, is primarily linked to relational and symbolic functions, reflecting its role in heritage and identity.

Thus, the analytical emphasis on Arabic is not predetermined, but emerges from the distribution of linguistic agency within the data itself. In conjunction, thematic analysis, Ruiz's framework, and transitivity analysis provide a multi-layered methodological approach, allowing this study to examine not only what languages are represented in Djebbar's memoir, but how they function in relation to emotion and identity.

Results/Discussion

The thematic analysis of Assia Djebbar's *Algerian White* reveals that language operates as a central site through which identity, memory, and sociopolitical tensions are negotiated. Across the dataset, Arabic, French, and Tamazight are codes of communication that are endowed differently with affective, cultural, and ideological functions. When examined through Richard Ruiz's (1984) framework, these languages oscillate between

orientations as resource, problem, and right, often simultaneously. A transitivity-informed analysis further demonstrates that these orientations are enacted through patterned distributions of agency, process types, and relational positioning, particularly in the case of Arabic.

Arabic

Arabic consistently emerges as the primary language when communicating emotion, embodiment, and relational intimacy, particularly in moments of grief and death. Arabic is also disproportionately associated with mental, verbal, and material processes. It appears more frequently in clauses involving verbal processes ("speaks", "adds", "cries out"), followed by mental processes ("pondered", "remember", "knew"), and material processes ("rise up", "swelling", "come back"). This distribution indicates that Arabic is the dominant language of expression, and the primary medium through which cognition, affect, and action are linguistically realized. In essence, Arabic is an active participant in conversation, through the construction of an experience.

This is clear in passages where speakers shift into Arabic at moments to unveil the gravity of a situation. For instance, in the scene of Hasna mourning her Father (Mhamed), Djebbar writes: "She...speaks to him, speaks in the familiar form, in the Arabic of daughter to father...the words would rise up again, words of fervor and warmth, those words would rise up again, purple and crimson, warm, in Arabic, one day, years later!...." (Djebbar, p. 57).

From a transitivity perspective, Arabic is embedded across multiple process types

in this passage alone. The clause "she speaks" constitutes a verbal process, where the speaker, Hasna, functions as the 'sayer'. However, the phrase "in the Arabic of daughter to father" extends beyond circumstantial detail; it encodes a relational identifying process, linking language directly to kinship and social roles. This allows for the interpretation that Arabic, in this instance, is not interchangeable. It is the only language capable of realizing this specific relational meaning.

More significantly, the clause "the words would rise up again" introduces a material process, in which "the words" act as the 'actor'. Here, agency is partially removed from the human speaker to the linguistic medium itself. This suggests that Arabic operates as a generative medium, enabling the re-emergence of memory and affect across time. The temporal framing ("again...years later") further reinforces this, positioning Arabic as a language through which meaning is expressed, recovered, and reanimated.

This pattern is reinforced in the clause: "her eyes had pondered in Arabic," where 'pondered' functions as a mental process, with the speaker as 'senser' and Arabic as the medium of cognition. This use of language at the level of thought and not just speech indicates its operation within the internal cognitive domain, adding to how experience is processed and understood. The recurrence of such constructions demonstrates that Arabic operates simultaneously across verbal, mental, and material domains, making it the most experientially dense language in the text.

Arabic is also strongly associated with behavioural and material processes in scenes of public mourning and collective expression. For instance, in the funeral scene: "her verses in the Arabic of Oran [are] swelling into laments—and her body reels" (Djebar, p.78). The process of "swelling" and "reels" are respectively material and behavioural processes. The 'actor' (the verses/body) is closely tied to the expression of Arabic, suggesting that the language is physically produced. The jeremiad exists as movement, rhythm, and bodily response. Arabic, in this context, becomes a language that is performed and inhabited. Similarly, in protest contexts and collective resistance: "we sang, cried out, protested...chants followed in Arabic" (Djebar, p. 72).

Arabic is embedded within a sequence of material ("sang", "protested") and verbal ("cried out") processes, positioning it as the language of collective action and resistance. This agency is further reinforced through possessive constructions, which explicitly link Arabic to individual identity: "In his Arabic with the accent of Oran" (Djebar, p. 15) and "in Arabic, in my Arabic, with its flattened out dentals" (Djebar, p. 17).

The use of first and third person possessives ("my", "his") encodes a strong sense of linguistic ownership, suggesting that Arabic is inhabited by its speakers. In this case, possession operates alongside mental and material processes, reinforcing Arabic as a language through which speakers both experience and claim identity. Here, the possessive determiner functions within a relational attributive structure, where Arabic becomes an extension of the speaker's identity rather

than an external communicative tool. It is grammatically tied to the speaker as an extension of their identity.

Importantly, these possessive forms do not occur in isolation, but are embedded within verbal, mental, and material processes, reinforcing the idea that Arabic is both owned and enacted. To illustrate, "in my Arabic" occurs within a verbal process, grounding speech in personal identity, while instances of cognition ("pondered in Arabic") show that even though itself is mediated through a possessed language. Possession here, therefore, extends beyond grammar into experiential meaning-making, indicating that Arabic is the language through which speakers feel, think, act, and remember.

Moreover, the contrast between "my Arabic" and "his Arabic" highlights that this ownership is individualized rather than uniform. Arabic is represented as variable, embodied, and shaped by personal history (e.g., accent, region, gendered speech), reinforcing its role as a lived and situated language. This experiential depth is further reflected in explicitly affective descriptions: "that 'dear'... rooted in tenderness, a limpidity purely Arab" (Djebar, p. 16), and, "that cher... I shall... say... in Arabic, in my Arabic... These never disappeared" (Djebar, p. 17). Arabic is directly associated with tenderness and continuity here, once again, positioning its role as a language of enduring affect and memory.

This clustering of process types around Arabic indicates a high degree of agency, where the language becomes central to both individual embodiment and the collective expression. Within Ruiz's

framework, this supports a strong orientation of Arabic as a language-as-resource. It is the language through which speakers think, feel, and reconstruct meaning.

French

In contrast, French is predominantly associated with relational and circumstantial processes, with fewer material and behavioural roles. This distribution positions French as less agentive, functioning more as a mediating or distancing code than a language of embodied experience. For example: "I would reply to him...in French: all else failing, out of neutrality" (Djebar, p. 15). The use of French here is framed through a circumstantial element ("out of neutrality"), rather than an agentive process. The speaker's choice is socially motivated instead of experientially driven.

Similarly, French is described as: "a French with neither nerves nor veins, nor even memories" (Djebar, pp. 17-18), in which French functions as the 'carrier' and the attributes ("no nerves," "no veins," "no memories") are assigned to it. These attributes are notably negative or devoid of lived experience. This positions the language with a sense of absence or distance rather than closeness. This construction therefore does not depict French as doing anything (material process), feeling anything (mental process), or even speaking in an agentive way (verbal process). Instead, it is reduced to a state of being, one that is explicitly stripped of embodiment and vitality. The choice of words including "nerves" and "veins" is significant, as these are metaphors of physicality and life. Their removal linguistically cements French as a

less personal language, and more as a neutral language. This juxtaposes Arabic, which is enacted through descriptions of the physical body ("swelling", "reeling"). Furthermore, the attribution of "no memories" positions French outside the embodied memory, restating its emotional distance. Memory is explicitly denied to French, unlike in Arabic where it is shown to "rise up again" and relive past experiences. This signifies the language's role as disconnected from collective memory.

This distancing is further emphasized in: "I... went back to the impersonality of French" (Djebar, pp. 15–16). The phrase "went back" introduces a material process, but notably, the goal is not an action or outcome, it is "the impersonality of French." This constructs the use of French as a space or state one enters. The attribute "impersonality" explicitly encodes emotional detachment, positioning French as a linguistic refuge from the social risks of intimacy. In contrast to Arabic, which exposes relational identity, "daughter to father," (Djebar, p. 57), French allows the speakers to withdraw into neutrality, giving some connection to its use as an academic resource.

At the same time, Djebar introduces a moment of partial reconfiguration: "we speak French... not... by cautiousness... nor by convention" (pp. 19–20). Here, the negation of "cautiousness" and "convention" suggests an attempt to detach French from its associations with performance and constraint. This statement implies that French can, at times, function as a shared communicative resource. Nonetheless, this reorientation

remains limited. Even when French is reclaimed in this way, it does not acquire the same characterization Arabic does. It remains structurally aligned with circumstantial elements, rather than material or behavioral ones, and this makes it continue to operate at a distance. Unlike Arabic, this shared use is not marked through strong individualized possessive constructions such as "my French" or "his French". Instead, French appears in more collective or generalized forms, such as "we speak French" or "their language...their French, the French of my friends" (Djebar, pp. 17–18). This distinction is rather consequential. French, in comparison to Arabic, lacks an individualised attachment from the author's perspective.

As observed through Ruiz's framework, this supports an orientation as language-as-problem, not only due to its colonial legacy, but also because of its inability to fully sustain identity-based meaning within the text, despite moments where it briefly functions as a shared-communicative resource. French is less agentive than Arabic, as it is structurally constrained to operate as a distancing and mediating code. This reflects its historical role as a language of institutional authority rather than Arabic's embodied experience.

Tamazight

Tamazight appears less frequently in the data as a whole. It is not often discussed within the topic of language, instead as a way to distinguish specific characters to be of Tamazight (Indigenous) descent. However, in the moments where it does emerge in explicitly linguistic contexts, it carries significant symbolic, cultural, and political weight. This paper will use the

significant moments of its appearance in language related contexts’.

From a transitivity perspective, Tamazight is most frequently associated with relational and existential processes, reflecting its role as a language of origin, continuity, and cultural inheritance. For instance: “The living springs of his aged mother’s Berber songs” (Djebar, p. 102). This relational construction links Tamazight directly to origin and transmission, positioning it as a link across generations. The metaphor of “living springs” suggests a sense of linkage across the Indigenous people. By construing Berber songs as “living spring,” Djebar assigns them an almost existential quality. They are performed and persist as ongoing sources of life and renewal. This disposes the language as one that continues to move across generations, even in the absence of institutional recognition. Concomitantly, the imagery of “springs” evokes something natural and ungoverned, which contrasts with the more regulated and political presence of Arabic and French in the text.

This representation can be understood in two ways: on one hand, it elevates the language as authentic and deeply rooted in the land and people, on the other hand, it subtly reflects its marginalization as something that exists out of the domains of power and representation. Tamazight is rarely positioned as an ‘actor’ in material process (it does not ‘do’ as much as Arabic does), but it exists and resurfaces within the people. This is further reinforced with: “You can learn Berber from our women!” (Djebar, p. 149). The material process “learn” frames Tamazight as something to be recovered, often through informal

settings, such as the community. This reminds us that the author is of Amazigh descent and has never learned her heritage language. This offer is evidence that the language is somewhat gated and protected by members of the community (“our women”), however they can gain access through carriers of the language. It is a preserved but marginalized language, maintained through everyday practices.

Despite this, Tamazight becomes dynamically agentive in moments of collective resistance, particularly through shifts in process types: “Chants [...] in Berber blended with cries in French” (Djebar, p. 72), and “The imam takes steps forward and begins...in classical Arabic. Roars of rage: violent words hurled against false majesty: ‘Treason!’ shouts one student. The Berber chants rise up from everywhere, this time to drown out the speech” (Djebar, p. 158). Here, the imam’s speech in classical Arabic during a funeral procession for an Amazigh man represents an attempt to assert religious and formal authority, functioning through a verbal process (“begins”) that positions him as the ‘sayer’ of a legitimized, official discourse. The phrase “chants rise up” introduces a material process, in which Tamazight expression becomes the ‘actor,’ actively “drowning out” the speech. However, this show of authority is immediately challenged. The reaction introduces material and behavioural processes, significantly collective rejection. Funerals are continuously shown to be places of collective grief, a place for people to revisit the memories and contributions of those they lost. This is a living site of language use, where songs and chants and poetry become the theme of night.

This marks a shift in transitivity patterns. While Tamazight is typically associated with relational and existential processes, here it occupies a material and behavioural role, signalling collective action. Unlike Arabic, whose agency emerges at the collective level, through communal expression. This moment complicates the role of Arabic within the text. While dialectal Arabic is consistently associated with intimacy and embodiment, classical Arabic here is aligned with formality and imposition. In contrast, Tamazight emerges as a language of resistance, moving to challenge dominant narratives. This makes Tamazight a politically active resource at points, as a heritage language capable of contesting both colonial legacies and institutionalised forms of Arabic. It is a relatively limited presence in the text and is offset by these moments of heightened discursive intensity.

Thus, Tamazight occupies a distinct and layered position within the text, functioning as a language of heritage, identity, and at times resistance. It is most often associated with processes which position it as something that continues across generations and connects Indigenous people. It also appears in moments like “learn” (Djebar, p. 149), showcasing that it must be actively recovered, usually through community and informal spaces. In scenes of collective expression, Tamazight shifts into more agentive roles, becoming a language of shared voice.

Through Ruiz’s framework, this places Tamazight mainly as a language-as-right, tied to identity and belonging, but also as a language-as-resource in moments of

resistance. Although it appears less frequently in the data, its role becomes especially powerful in these key moments. Tamazight therefore occupies a paradoxical position: marginal in frequency, yet highly salient in moments of collective resistance, where it briefly acquires the agency otherwise concentrated in Arabic.

Discussion

The thematic and transitivity analyses of Assia Djebar’s *Algerian White* (2001) reveal that language functions as an essential site through which identity, memory, and sociopolitical meaning are constructed. Across the dataset, Arabic, French, and Tamazight are not neutrally distributed linguistic codes. Rather, each is positioned through distinct configurations of agency, embodiment, and ideological value. When interpreted through Ruiz’s (1984) framework of language orientations, these patterns demonstrate that languages in the memoir are dynamically positioned as resource, problem, and right, often in overlapping and context-dependent ways. However, these orientations are not evenly distributed, as they reflect a clear hierarchy of linguistic experience.

Arabic emerges as the most experientially dense language within the novel. Its consistent association with material, mental, and verbal processes positions it as a language through which speakers act, feel, and think. Arabic is a medium of expression and a site of embodied meaning-making, particularly in contexts of mourning, memory, and collective expression. This aligns strongly with a language-as-resource orientation, where Arabic functions as an affective medium where identity is constructed and

recovered. In several instances, however, Arabic also extends beyond resources into collective mobilization, indicating its role as a socially and politically active linguistic form.

French, in contrast, is structurally aligned with relational and circumstantial processes, which limit its association with embodied agency. It frequently appears as a language of distance, neutrality, or abstraction, often framed through states of impersonality rather than action or lived experience. While there are moments where French operates as a shared communicative medium, these remain secondary to its domain positioning as a detached linguistic code. Ruiz's framework orients French as a language-as-problem, due to its colonial legacy, and of its restricted capacity to carry an embodied identity within the memoir's linguistic economy.

Tamazight occupies a different but equally significant position. Although less frequent in the dataset, it carries strong symbolic and cultural weight, through relational and existential processes that link it to continuity and heritage. At the same time, its emergence in moments of collective expression demonstrates its capacity to shift into more agentive forms (especially in contexts of opposition). This dual positioning reflects a tension between marginalization and activation. Tamazight is most clearly aligned with language-as-right, grounded in cultural inheritance and identity, functioning as a language-as-resource in moments where it becomes a vehicle of collective voice as well.

Overall, the analysis demonstrates that linguistic meaning in *Algerian White* is not

fixed, but produced through the interaction of grammar and sociopolitical history. The distribution of transitivity patterns across languages reinforces these ideological positions, revealing how language choice is deeply entangled with questions of integration and remembrance.

Limitations

This paper is subject to several limitations. The study is constrained by the availability of relevant scholarship in English, as much of the critical literature on Algerian linguistic dynamics and on Djébar's work is produced in French. Additionally, the use of the English translation of *Algerian White* (Djébar, 2001), rather than the original French text, may affect the representation of certain linguistic features, especially those related to lexical choice and stylistic variation. Furthermore, the lack of accessible linguistic corpora restricts the ability to complement the qualitative findings with broader quantitative findings.

Conclusion

This study is aimed to examine how language and identity are constructed in Assia Djébar's *Algerian White* through a combination of thematic analysis, Ruiz's language orientation, and transitivity analysis. The findings demonstrate that linguistic difference in the memoir functions as a key mechanism through which broader ideological positions and emotional experiences are constructed and negotiated.

Arabic, French, and Tamazight are placed within distinct but overlapping orientations that reflect Algeria's layered linguistic history. Arabic functions predominantly as an embodied and affective resource

through which memory, emotion, and identity are articulated. French operates largely as a distancing and institutional code, shaped by its colonial legacy and limited capacity for deeper and embodied expression. Tamazight, while less frequently represented, surfaces as a powerful indicator of cultural continuity and defiance, oscillating between marginalization and agency.

By combining Ruiz's sociopolitical framework with Halliday's transitivity analysis, this study illustrates how linguistic ideology is represented and enacted through patterns of process type, agency, and embodiment. The language in Djebbar's memoir is deeply implicated in the negotiation of postcolonial identity, where speaking is never neutral but embedded in histories of political position and affinity.

Figure 1

P #	Quote	Comment/Relevance	Code	Language
	Context Requires more analysis Possession			
15	"My friends spoke to me in French, in the past; each of the three, in fact, conversed with me in a foreign language; through humility, or austerity. Except Kader, who with tempered exuberance -- at leaster after the first year of friendship which gradually became familiar and then familial-- would forget himself so far as to improvise in his Arabic with the accent of Oran , recounting anecdotes which he would punctuate with "ouah, ouah" --the "oui" Morrocan style-- over which I sometimes teased him. And yet I would reply to him, as to the two others, in French: all else failing, out of neutrality. "	The author speaks of the friends who spoke to her in French, describing their manner of speech in this "foregin language" as one of "humility or austerity". She singles out Kader, who with "tempered exuberance" would speak in the noted "his" Arabic. Using French out of neutrality.	- French being refered to as the forgein language (humility or austeriter) - Arabic (temepered exuberance) - Arabic being referred to as 'his'	Arabic/French
15-16	"(On the few occasions, it seems to me, where I must have started spontaneously a sentence in my local urban dialect , I knew immediately that I appeared precious --to Kader-- even perhaps outdated, and that because of the softness of the dental consonants in the accent of women from the place where I was brought up -- so quickly went back to the impersonality of French. In a second, by the flash of his gaze, I understood: speaking in Arabic together, we were becoming, excessivley so, I an old-fashioned <i>bourgeois</i> an he a crude rough village lad!...No, we just seemed different by suddenly perceived atavisms to the variations of out mother tongue!)	The author recounts moments where her use of 'her local urban dialect' becomes the bridge that connects Kader to her. It briefly removed them from the impersonality of French. She connects the softness of the dental consonants of the women from where she was brought up	- Arabic as a marker of social identity - dialect (gendered identity) - French as impersonal refuge - language and insecurity - language as a boundary between intimacy and distance	Arabic/French
16	"And why do I call them "dissapeared" only to attenuate the "dear" which is rooted in tenderness, a limpidity purely Arab?"	there is a conflicting meaning between labeling them as 'dissapeared' vs 'dear' (in arabic). To call them dissapeared would softness the emotional attachment felt for them, which undoes the 'dear' that she applies. Even though there is a physical distant, the Arabic 'dear' is unambiguous. It is clear in its affection. I believe this has to do with how culturally rooted the Arabic language is. Calling them 'dear' evokes a type of tenderness that is accessible due to this emotional inventory she has.	- language as affect (tenderness) - emotional meaning being (un)translatable across langauges - linguistic tensions (loss vs continuity) - emotional authenticity	Arabic
17	"Fortunaetly they speak to me often, these "dear ones". That <i>cher</i> that I shall from now onwards be able to say to them, with no false modesty; in Arabic, in my Arabic, with its flattened out dentals. These never dissapeared. They are there; they sometimes come close to me, together or seperately....Whispering shadows."	This suggests that the French language tied to them has faded. Her Arabic, regardless of how imperfect in the eyes of the author, has never dissapeared. There is continuity in the Arabic language, a more intimate and visceral attachment	- Continuous language - possession and linguistic identity - language as memory perservation - arabic as intimate/internalized language	Arabic
39	" "Your right," he (M'Hamed) adds in a tone of infinite weariness. "What did that mean when, in yeasterday's usual prose, they made the comment referring to Zabana and his peers: 'They died like true Algerians'? (He hesistates.) True Algerians!...From now on, let them die as mean, as human beings!" he, yesterday's torture victim, concludes. But he is free, he... This time, because of the scanned rhythm of his lament, it seemed to me that M'Hamed was expressing himself in Arabic where breath and vibration dwell, the ample phrasing of the	The narrator links Arabic to the cultural identity of M'Hamed and his tribal background. The description of "breath and vibration" and poetic phrasing suggests that language carries emotional depth and historical memory. Arabic is portrayed not merely as a means of communication but as a vehicle for cultural heritage, oral	Language as cultural identity and expression	Arabic

Note. Selection of quotes extracted from the text, including comments, codes, and language organization.

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Language Choice and Identity among Undergraduate Students in Lagos State, Nigeria

AKOMOLAFE SAMSON OLAMIDE

Abstract: This study investigates the relationship between language choice and identity among undergraduate students in Lagos State, Nigeria. In a multilingual society such as Nigeria, students often alternate between English, Nigerian Pidgin, and indigenous languages to express social, cultural, and personal identities. The study examines the factors influencing language choice and how such choices reflect students' sense of belonging and identity. Using a sociolinguistic approach, data were collected through questionnaires administered to undergraduate students. The findings revealed that language choice was influenced by factors such as ethnicity, social setting, peer relationships, and educational background. The study contributes to understanding the role of language in identity construction among young adults in contemporary Nigerian society.

Introduction

Language is more than a means of communication; it is an important marker of identity. In multilingual societies such as Nigeria, individuals often have access to several languages and varieties, including English, Nigerian Pidgin, and indigenous languages such as **Yoruba, Igbo, and Hausa**. These languages coexist within different social and communicative contexts, particularly in linguistically diverse urban environments such as Lagos.

The language a person chooses to use in a particular context can communicate information about their social background,

ethnic affiliation, educational level, and group membership.

Among undergraduate students, language choice is often influenced by social interactions, academic environments, and cultural affiliations. Students may switch between languages depending on whom they are speaking to and the setting in which communication occurs. These choices play a significant role in shaping and expressing identity.

This study examines the relationship between language choice and identity among undergraduate students in Lagos State, with a focus on understanding the factors that influence linguistic behavior and identity construction.

Research Objectives

1. To identify the languages commonly used by undergraduate students in Lagos State.
2. To examine the factors influencing language choice among students.
3. To investigate the relationship between language choice and identity.
4. To determine the role of code-switching in identity expression among students.

Research Questions

1. What languages are commonly used by undergraduate students in Lagos State?
2. What factors influence their language choice?

3. How does language choice reflect students' identities?
4. What role does code-switching play in identity construction?

Literature Review

Concept of Sociolinguistics

Sociolinguistics is concerned with the study of the relationship between language and society. It investigates how language varies and changes in relation to social factors such as age, gender, ethnicity, social class, and context of communication. According to William Labov (1972), sociolinguistics seeks to understand language "in its social context," emphasizing that linguistic variation is not random but systematically related to social structures. Labov's work demonstrated that social factors significantly influence linguistic behavior and that language serves as an important marker of social identity.

Similarly, Wardhaugh and Fuller (2015) define sociolinguistics as the study of "the relationship between language and society with the goal of understanding the structure of language and how languages function in communication." This perspective highlights the inseparable connection between language use and social interaction.

Language Choice in Multilingual Societies

Language choice refers to the selection of a particular language or language variety in a communicative situation. In multilingual communities, speakers often have several linguistic options available and must choose the most appropriate language depending on the context.

According to Joshua Fishman (1972), the question of language choice can be summarized as "who speaks what language to whom and when." This famous statement underscores the importance of social factors in determining language use. Fishman argues that language choice is influenced by participants, setting, topic, and communicative purpose.

Nigeria provides a rich environment for studying language choice due to its multilingual nature. English serves as the official language, while Nigerian Pidgin and numerous indigenous languages are used in everyday communication. Among undergraduate students, language choice often varies according to the situation. English is commonly preferred in formal and academic contexts, whereas Nigerian Pidgin and indigenous languages are frequently used in informal interactions among peers.

Language and Identity

Identity is a complex social construct that refers to an individual's sense of self and belonging within a community. Language plays a central role in the construction and expression of identity because it enables individuals to signal their social, cultural, and ethnic affiliations.

John J. Gumperz (1982) notes that language is not merely a tool for communication but also a resource through which speakers "signal social identities and relationships." Through language use, individuals communicate who they are and the groups with which they identify.

Likewise, Le Page and Andrée Tabouret-Keller (1985) argue that individuals create linguistic behavior that reflects their desire to identify with particular social groups. They state that "individuals create for themselves patterns of linguistic behavior so as to resemble those of the groups with which they wish from time to time to be identified."

For university students, language often functions as a symbol of identity. Through their choice of language, students may express ethnic pride, educational status, social solidarity, or membership in a particular peer group.

Code-Switching and Identity Expression

Code-switching refers to the alternation between two or more languages or language varieties within the same conversation or communicative event. It is a common feature of multilingual societies and an important area of sociolinguistic research.

According to John J. Gumperz (1982), code-switching can be defined as "the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems." This definition highlights the linguistic complexity involved in bilingual and multilingual communication.

Research has shown that code-switching serves important social functions beyond communication. It allows speakers to express solidarity, negotiate identities, establish intimacy, and adapt to changing social contexts. Among Nigerian undergraduates, switching between English,

Nigerian Pidgin, and indigenous languages often reflects multiple identities and social affiliations.

Empirical Studies on Language Choice and Identity

Numerous studies have examined the relationship between language choice and identity in multilingual communities. Fishman (1972) found that language choice is closely related to social domains such as family, friendship, religion, and education. His findings suggest that speakers choose languages according to the social expectations associated with particular contexts.

In the Nigerian context, Akande and Salami (2010) examined the use and attitudes toward Nigerian Pidgin among Nigerian university students, while Melefa et al. (2017) examined the role of language in the construction of identity among undergraduate students at the University of Nigeria, Nsukka. These studies demonstrate that Nigerian university students employ English, Nigerian Pidgin, and indigenous languages in different communicative contexts and that language use can serve as a means of expressing social identity.

English is often associated with education, professionalism, and prestige, while Nigerian Pidgin is linked to solidarity and informal interaction.

Research also indicates that students use language strategically to construct and express different identities. By selecting particular linguistic codes, speakers may project social status, cultural affiliation,

group membership, or other aspects of their identities (Nyamekye, Uwen, & Anani, 2025).

Theoretical Framework: Ethnolinguistic Identity Theory

This study is anchored on Ethnolinguistic Identity Theory developed by Howard Giles and colleagues. The theory proposes that language is a key marker of ethnic and social identity. It suggests that individuals use language to maintain group boundaries and strengthen their sense of belonging.

Giles argues that language functions as “an important symbol of ethnic identity” and that speakers often adjust their linguistic behavior to either converge with or diverge from particular social groups. This perspective is particularly relevant to undergraduate students in Lagos State, who constantly navigate different linguistic and social environments.

The theory therefore provides a useful framework for understanding how students employ language choice and code-switching as strategies for expressing identity and maintaining social relationships.

Summary of Literature Review

The literature reviewed demonstrates that language choice is strongly influenced by social factors and plays a significant role in identity construction. Scholars such as Labov, Fishman, Gumperz, Le Page, and Giles have shown that language serves not only as a means of communication but also as a symbol of social and cultural identity. Their studies reveal that multilingual speakers often choose languages

strategically to express affiliation, solidarity, prestige, and belonging.

However, despite the growing body of research on language and identity, there remains a need for more context-specific studies focusing on undergraduate students in Lagos State. This study seeks to contribute to the existing literature by examining how language choice reflects and shapes identity among university students in a multilingual Nigerian setting.

Methodology

Research Design

This study adopted a descriptive survey research design. The survey design was considered appropriate because it enabled the researcher to collect data from a relatively large number of respondents and to examine their language choices and identity-related practices in natural social settings. According to John W. Creswell (2014), survey research provides a quantitative description of trends, attitudes, or opinions of a population by studying a sample of that population. The design was therefore suitable for investigating the relationship between language choice and identity among undergraduate students in Lagos State.

Population of the Study

The population of the study comprised undergraduate students enrolled in universities located in Lagos State, Nigeria. These students represented diverse linguistic, ethnic, and cultural backgrounds and therefore provided a suitable population for examining patterns of

language choice and identity construction in a multilingual environment.

Sample and Sampling Technique

A sample of 150 undergraduate students was selected from universities in Lagos State. The study employed a stratified random sampling technique to ensure adequate representation of students from different levels, genders, and linguistic backgrounds.

The respondents were drawn from various faculties and departments to provide a broad perspective on language use among university students. Stratification helped reduce sampling bias and improve the representativeness of the sample.

Instrument for Data Collection

The primary instrument for data collection was a structured questionnaire designed by the researcher. The questionnaire consisted of two sections.

Section A collected demographic information, including age, gender, institution, level of study, ethnic background, and first language (L1).

Section B focused on language choice and identity. The items addressed the languages commonly used by students, situations influencing language choice, factors affecting language choice, frequency of code-switching, perceptions of language and identity, and attitudes toward English, Nigerian Pidgin, and indigenous languages. The questionnaire included both categorical response items and statements measured using a five-point Likert scale ranging from

Strongly Agree (SA) to Strongly Disagree (SD).

Validity of the Instrument

To ensure content validity, the questionnaire was submitted to experts in Sociolinguistics and Research Methods for evaluation. Their observations and suggestions were incorporated into the final version of the instrument to ensure that it adequately measured the variables under investigation. According to Louis Cohen et al. (2018), validity refers to the extent to which an instrument accurately measures what it is intended to measure.

Reliability of the Instrument

A pilot study was conducted using twenty (20) undergraduate students who were not part of the main sample. The reliability of the questionnaire was determined using Cronbach's Alpha statistical method. A reliability coefficient of 0.70 or above was considered acceptable for the study.

Procedure for Data Collection

The researcher obtained permission from the relevant university authorities before administering the questionnaire. Copies of the questionnaire were distributed personally and electronically to the selected respondents.

Participants were informed of the purpose of the study and assured that their responses would be treated confidentially and used strictly for academic purposes. Completed questionnaires were collected and prepared for analysis.

Method of Data Analysis

The data collected were analyzed using descriptive statistics such as frequencies, percentages, means, and tables. These statistical tools were used to answer the research questions and identify patterns of language choice among undergraduate students.

The findings were presented in tables and interpreted in relation to the objectives of the study and the theoretical framework adopted for the study.

Ethical Considerations

The study adhered to established ethical standards in social research. Participation was voluntary, and respondents had the right to withdraw from the study at any stage. Informed consent was obtained from all participants, and confidentiality and anonymity were maintained throughout the study.

Data, Analysis, and Discussion

This section presents the analysis of data collected from the respondents. The data are analyzed using frequencies, percentages, and tables in line with the research questions formulated for the study. The findings are also discussed in relation to the literature reviewed and the theoretical framework adopted for the study.

Demographic Characteristics of Respondents

Table 4.1: Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	72	48
Female	78	52
Total	150	100

The table shows that 52% of the respondents were female, while 48% were male. This indicates a relatively balanced representation of both genders in the study.

Research Question One

What languages are commonly used by undergraduate students in Lagos State?

Respondents were asked to indicate the language they commonly used in their everyday communication. The response categories included English, Nigerian Pidgin, and indigenous languages. The distribution of responses is presented in Table 4.2.

Table 4.2: Languages Frequently Used by Respondents

Language	Frequency	Percentage (%)
English	60	40

Nigerian Pidgin	52	34.7
Indigenous Languages	38	25.3
Total	150	100

The findings indicate that English is the most commonly used language among respondents, followed by Nigerian Pidgin and indigenous languages.

Research Question Two

What factors influence language choice among undergraduate students?

Respondents were also asked to identify the factor that most influenced their language choice. The factors considered included communication setting, peer influence, ethnic background, educational environment, and purpose of communication. The responses are presented in Table 4.3.

Table 4.3: Factors Influencing Language Choice

Factor	Frequency	Percentage (%)
Communication Setting	48	32
Peer Influence	36	24

Ethnic Background	30	20
Educational Environment	24	16
Purpose of Communication	12	8
Total	150	100

The results suggest that communication setting is the most significant factor influencing language choice among students.

Research Question Three

How does language choice reflect students' identities?

The questionnaire included items that examined whether respondents' language choices reflected their cultural background, social identity, and group affiliation. Respondents were also asked whether speaking their indigenous languages strengthened their connection to their ethnic heritage.

The majority of respondents agreed that language choice helps them express their cultural background, social identity, and group affiliation. Many respondents reported feeling more connected to their ethnic heritage when speaking their indigenous languages.

Research Question Four

What role does code-switching play in identity construction?

The questionnaire also included items on code-switching, particularly respondents' use of English, Nigerian Pidgin, and indigenous languages and the extent to which switching between languages helped them adapt to different social situations and express different aspects of their identities.

The findings reveal that code-switching is a common communicative strategy among undergraduate students. Respondents indicated that switching between English, Nigerian Pidgin, and indigenous languages helps them express multiple identities and adapt to different social situations.

Discussion of Findings

The findings support Fishman's (1972) assertion that language choice depends on social domains and communicative contexts. Students use English mainly in formal and academic settings, while Nigerian Pidgin dominates informal interactions.

The findings also corroborate Gumperz's (1982) view that language functions as a marker of social identity. Students use different languages to signal ethnic affiliation, educational background, and social belonging.

Furthermore, the prevalence of code-switching among respondents supports previous sociolinguistic studies that view code-switching as an important strategy for identity negotiation in multilingual communities.

Summary, Conclusion, and Recommendations

This section presents the summary of the study, conclusions drawn from the findings, recommendations, limitations of the study, and suggestions for further research. The study examined the relationship between language choice and identity among undergraduate students in Lagos State, Nigeria.

Summary of the Study

The study investigated how undergraduate students in Lagos State choose languages in different social contexts and how these choices reflect their identities. The objectives of the study were to identify the languages commonly used by students, examine the factors influencing language choice, investigate the relationship between language choice and identity, and determine the role of code-switching in identity construction. Relevant literature was reviewed on sociolinguistics, language choice, identity, and code-switching. The study was anchored on Ethnolinguistic Identity Theory, which explains the role of language as a marker of social and ethnic identity. A descriptive survey research design was adopted. Data were collected through questionnaires administered to undergraduate students from selected universities in Lagos State. The data were analyzed using descriptive statistics such as frequencies and percentages. The findings revealed that English, Nigerian Pidgin, and indigenous languages are the major languages used by undergraduate students. The study also found that communication setting, peer influence, ethnic background, and educational environment significantly affect language choice. Furthermore, language was found to be an important

means of expressing identity, while code-switching served as a strategy for negotiating multiple identities in different social situations.

Conclusion

Based on the findings, the study concludes that language choice among undergraduate students in Lagos State is influenced by various social and contextual factors. Language serves not only as a medium of communication but also as a powerful symbol of identity, culture, and group affiliation. The study further concludes that multilingualism provides students with the opportunity to express different aspects of their identities through English, Nigerian Pidgin, and indigenous languages. Code-switching remains an important sociolinguistic practice that enables students to adapt to changing communicative situations while maintaining social relationships and cultural connections. Therefore, language choice and identity are closely interconnected, and understanding this relationship contributes significantly to sociolinguistic scholarship in multilingual societies such as Nigeria.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are made:

1. Universities should promote linguistic diversity by encouraging the use and appreciation of indigenous languages alongside English.
2. Language awareness programs should be organized to educate students on the importance of multilingualism and cultural identity.
3. Educational institutions should develop policies that support the preservation and promotion of Nigerian indigenous languages.
4. Researchers should continue to investigate language choice and identity in different sociocultural settings to broaden sociolinguistic knowledge.
5. Students should be encouraged to maintain proficiency in their indigenous languages as a means of preserving cultural heritage and identity.

Limitations of the Study

This study was limited to undergraduate students in selected universities within Lagos State. The findings may therefore not be generalized to all students in Nigeria. Additionally, the study relied on self-reported responses from participants, which may be influenced by personal perceptions and biases.

Suggestions for Further Studies

Future researchers may consider the following areas:

1. Language choice and identity among secondary school students in Nigeria.
2. Gender differences in language choice among university students.
3. The impact of social media on language choice and identity construction.
4. A comparative study of language choice among students in different geopolitical zones of Nigeria.
5. The role of Nigerian Pidgin in youth identity formation.

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APPENDIX A

QUESTIONNAIRE ON LANGUAGE CHOICE AND IDENTITY AMONG UNDERGRADUATE STUDENTS IN LAGOS STATE, NIGERIA

Dear Respondent,

This questionnaire is designed to obtain information on language choice and identity among undergraduate students in Lagos State, Nigeria. The information provided will be used strictly for academic purposes. Your responses will be treated confidentially, and you are not required to provide your name.

Please answer the questions honestly by selecting the option that best represents your response.

SECTION A: DEMOGRAPHIC INFORMATION

1. **Age:** _____ years
2. **Gender:**
☐ Male
☐ Female
3. **Institution:** _____
4. **Level of Study:** _____
5. **Ethnic Background:** _____
6. **First Language (L1):** _____

SECTION B: LANGUAGE CHOICE AND IDENTITY

Part B1: Categorical Questions

1. Which language do you use most frequently in your everyday communication?
☐ English
☐ Nigerian Pidgin
☐ Indigenous language(s)
2. Which factor most influences your choice of language?
☐ Communication setting
☐ Peer influence
☐ Ethnic background
☐ Educational environment
☐ Purpose of communication

Part B2: Language, Code-Switching, and Identity

Instruction: For the statements below, indicate your level of agreement using the following scale: SA = Strongly Agree | A = Agree | U = Undecided | D = Disagree | SD = Strongly Disagree

3. I switch between English, Nigerian Pidgin, and indigenous languages when communicating.
4. I use code-switching to adapt to different social situations.
5. My choice of language reflects my cultural background.
6. My choice of language reflects my social identity.
7. My choice of language helps me express my group affiliation.
8. Speaking my indigenous language makes me feel more connected to my ethnic heritage.
9. Language choice helps me express different aspects of my identity.
10. Code-switching helps me express different identities in different social situations.
11. English is important for academic and formal communication.
12. Nigerian Pidgin is useful for informal interaction and social solidarity.
13. Indigenous languages are important for maintaining cultural identity.
14. Multilingualism allows me to express different aspects of my identity.

A Syntactic Analysis of Two Voice Alternations in Trinidadian English

AMBA MOHAMMED

Abstract: This paper proposes a novel analysis of the formal properties of two passive Voice alternations in Trinidadian English (TE), a variety of Caribbean English — the TE Get Passive and the Morphologically Unmarked Passive. Despite surface similarities to Standard English *get* and *be* passives, only the TE Get Passive can realize its external Agent argument as a *by*-phrase. By contrast, the Agent of the Morphologically Unmarked Passive appears to always remain implicit. My investigation accounts for this difference, by considering the analysis of each component piece of both TE passive constructions. I employ syntactic diagnostics to identify the status of the thematic arguments, as well as the category of *get*, its complement and the predicate of the Morphologically Unmarked Passive. I demonstrate evidence that aside from the item *get*, the only significant contrast in the properties of the two structures is the original puzzle presented with respect to the realization of the Agent argument. I argue for a syntactic analysis which accounts for this contrast by proposing a variation on the typology of Voice, the projection which introduces the external Agent argument (Kratzer, 1996). Specifically, I propose that in the Morphologically Unmarked Passive, Voice⁰ bears a Φ -feature which is bound by an existential operator in the structure, such that the Agent argument is constrained to only be interpreted existentially and can never be stated as a *by*-phrase.

Section 1: Introduction

The subject of this paper is the investigation of two passive Voice alternation structures in

Trinidadian English (TE), one of the many varieties of Caribbean English. I refer to these passive constructions as the TE Get Passive (1a) and the Morphologically Unmarked Passive (1b). As I will be referring to evidence from both Standard English (SE) and TE — which have many surface similarities — throughout this paper, either (SE) or (TE) is indicated at the end of all examples for ease of reference.

- (1) a. The thief *get* catch. (TE)
- b. The thief catch. (TE)

In considering the surface forms of (1a-b), two puzzles are presented. Firstly, there is no morphology inflected on the verbal item (*catch*) in (1a-b) — inflection of passive morphology on the verb is generally considered a distinguishing characteristic of English passive constructions. However, the general absence of inflectional morphology, especially in the past tense, has been documented to be a systematic feature of TE grammar (Winer, 1993). Additionally, the second puzzle — the absence of an auxiliary in (1b) — could potentially be attributed to a variation of the *null* copula feature, wherein the absence of the item *be* and its inflected forms is both common and systematic across many English-based creoles, dialects and pidgins (e.g., Labov, 1969; Winford, 1992 for TE specifically).

Accounting for this, the thematic properties of (1a-b) appear parallel to SE *get* (2a) and *be* (2b) passives. In (1a-b) and (2a-b), there is a theme argument, (the Surface Subject *the thief*), which undergoes an action of *catching*

by an (implicit) Agent argument.

- (2) a. The thief got caught. (SE)
- b. The thief was caught. (SE)

However, this comparison holds only when the Agent remains implicit. A third puzzle arises in attempting to introduce an Agent to the structures in (1a-b) using a *by*-phrase. The TE Get Passive (1a) is grammatical with a *by*-phrase, but the Morphologically Unmarked Passive (1b) is not. This ungrammaticality is unexpected, given that these two constructions seem to be minimally similar with their thematic properties also appearing identical on the surface. Moreover, unlike the two other puzzles presented by the data, there is no apparent straightforward explanation by way of documented restrictions of the TE grammar.

- (3) a. The thief get catch by the policeman. (TE)
- b. The thief catch *by the policeman. (TE)

While descriptive grammars of Caribbean English(es), such as Winer (1993) and Winford (1993), acknowledge both the presence of the structures in (1a-b) and the ungrammaticality of (1b) with a *by*-phrase, no formal analysis of these structures, nor of the external agent of the Morphologically Unmarked Passive exists to my knowledge. Winford (1993) proposed transformational

Phrase Structure Rules as a way of distinguishing (1a) from (1b), but did not formally account for the differences in the realization of the external Agent argument.

New data presented in this paper — collected through native speaker introspection and elicitation — demonstrate that an Agent is present in both the TE Get Passive and in the Morphologically Unmarked Passive, despite the *by*-phrase always being blocked in the latter¹. I analyse each of the component pieces of the structures in turn as I work towards building a syntactic analysis of these two passive constructions. Taking as point of departure the stance of the contemporary literature that Voice introduces the external arguments of a structure (Kratzer, 1996), I argue for a variation in the typology of Voice to explain the puzzle presented by the difference in the realization of the Agent argument. I consider both the status of the thematic participants as well as the category of *get*, its complement and the predicate of the Morphologically Unmarked Passive.

The analysis of implicit arguments has long been a topic of interest in the literature. With respect to passive constructions, since at least Wasow (1977), there have been arguments for a classification divide between *verbal* and *adjectival* passives, with one factor motivating this divide being that *verbal* and/or *eventive* passives freely license *by*-phrases while *adjectival* and/or

¹ Four native TE speakers, aged between 35-65 and primarily of Indian descent contributed to this study. While one of the four attested to exposure to dialects of Hindi and Bhojpuri in their childhood prior to age 10, they do not have sufficient competency to

communicate using these dialects: as such, any potential influence deemed negligible. None of the speakers who contributed have fluency in any languages other than English.

stative passives do not, as they lack an implicit Agent argument (Levin and Rappaport 1986, Baker, Johnson, and Roberts 1989, Grimshaw 1990, among others). The presence of an implicit Agent argument is also argued to distinguish between passives and unaccusatives, the latter of which has no Agent argument.

- (4) a. The vase was broken (by the girl).
 (SE) [Passive]
 b. The vase broke (*by the girl).
 (SE) [Unaccusative]

Moreover, the literature aims to establish that implicit arguments are not only part of the semantic representation but are also represented in the syntax. Several contemporary analyses, including Landau (2010), propose that feature assignment distinguishes different types of implicit arguments in the syntax. I integrate aspects of this line of argumentation in distinguishing between my proposed syntactic structures of the TE Get Passive and the Morphologically Unmarked Passive.

Research Question

The main goal of this paper is to provide a syntactic analysis of both TE passive constructions which accounts for the puzzle presented by (3a-b), namely the inability of the Morphologically Unmarked Passive to have a *by*-phrase. Thus, the overarching question to be addressed is simply, “What is the analysis of syntactic structure of the TE Get Passive and the Morphologically Unmarked Passive?”. I approach this question by investigating the status of each component piece of both structures — I detail my analysis in outline below.

My Analysis in Outline

I proceed by first investigating the status of the Agent argument of the TE Get Passive and the Morphologically Unmarked Passive. More precisely, this involves demonstrating whether there *is* an implicit Agent argument present (i) when there is no *by*-phrase in the TE Get Passive and (ii) in the Morphologically Unmarked Passive to begin with. This will be pinpointed using syntactic diagnostics which are sensitive to the presence of an external Agent. The application of these diagnostics also provides evidence which distinguishes the Morphologically Unmarked Passive from other structures in TE to which it bears surface similarities, such as unaccusatives.

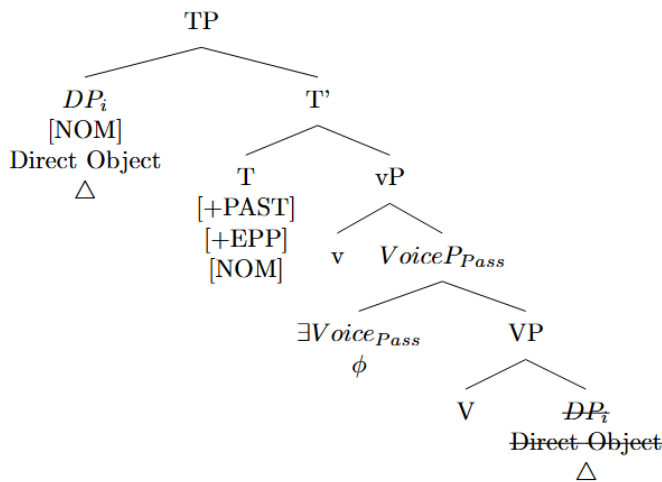
In trying to piece apart the differences between the two structures, it is also important to identify any points of similarity before proceeding with building a syntactic structure. Thus, the second component I examine is the Surface Subject. I show that it is the underlying Direct Object, and that its behaviour is identical across both TE passive constructions.

With the analysis of the thematic participants complete, the remaining components under consideration are *get* and its complement, as well as the predicate of the Morphologically Unmarked Passive. Using primarily distributional category diagnostics, I demonstrate that both the Morphologically Unmarked Passive and the TE Get Passive have verbal/eventive properties and argue for an interpretation of TE passive *get* as a light verb.

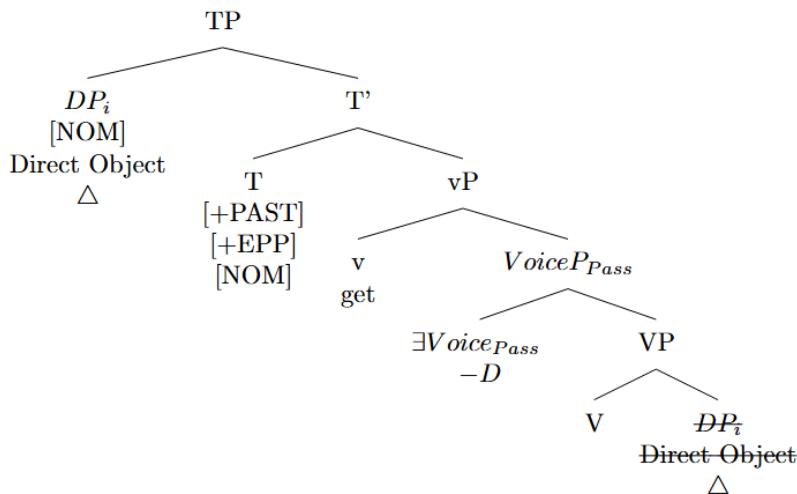
Having determined the category of the remaining components, the points of similarity and difference between the two TE passive constructions will be well established. In particular, aside from the light verb *get*, I argue that the structures significantly differ only with respect to the realization of the Agent argument. This evidence motivates my syntactic analysis, which proposes a variation on the typology of Voice, specifically the features realized on

Voice⁰. There is independent evidence that when the Agent of a passive is implicit, it is interpreted Existentially (i.e. as a general, unspecified somebody). I argue, adapting Landau (2010), for a difference in feature assignment which will distinguish the structure in (5) from the structure in (6), such that the Φ feature on Voice⁰ in (5) is bound to the Existential Operator and causes the *by*-phrase to always be blocked.

(5) Proposed Structure of the Morphologically Unmarked Passive



(6) Proposed Structure of the TE Get Passive (without a *by*-phrase)



The primary research question, along with sub-questions, are summarized in (7) below.

(7) Research Questions

- A. What is the analysis of the syntactic structure of the TE Get Passive and the Morphologically Unmarked Passive?
- i. What is the analysis of the Agent argument of the TE Get Passive and the Morphologically Unmarked Passive?
 - ii. What is the analysis of the Surface Subject of the TE Get Passive and the Morphologically Unmarked Passive?
 - iii. What is the analysis of the predicate of the Morphologically Unmarked Passive?
 - iv. What is the analysis of the item *get* of the TE Get Passive?
 - v. What is the analysis of the complement of TE passive *get*?

This paper proceeds as follows. In Section 2, I establish my analysis of the Agent argument of the TE Get Passive and Morphologically Unmarked Passive. In Section 3, I demonstrate that the Surface Subject of both TE passive constructions is the (underlying) Direct Object. Section 4 is concerned with establishing the category of the remaining components under consideration — TE passive *get*, its complement and the predicate of the Morphologically Unmarked Passive. In Section 5, I propose syntactic structures for

both constructions and argue for an analysis in which the differences in the realization of the Agent argument arise through a difference in feature assignment on Voice⁰. Section 6 concludes. I also provide additional data not central to this investigation in the Appendix of Section 7, which demonstrates evidence against the analysis that the Morphologically Unmarked Passive is an English Middle.

Section 2: Implicit Agent is Present in the Absence of a By-Phrase

This section establishes that there is an Agent argument present in both the Morphologically Unmarked Passive (which can never have a *by*-phrase) and the TE Get Passive (in the absence of a *by*-phrase). More precisely, I demonstrate that there is an entailed Agent argument of both TE passive constructions when the Agent is implicit. I do this using a series of syntactic diagnostics — (i) Licensing of Instrumentals, (ii) Modification by the *by-itself* phrase and (iii) Control of Rationale Clauses. I take this as evidence for the presence of VoiceP in both structures, under the assumption that VoiceP is indicated by material which points towards an external Agent.

Licensing of Instrumental Phrases

The first diagnostic is the ability to license an instrumental phrase. Instrumental phrases require the presence of an Agent who uses or wields the instrument in question. Instrumentals are thus sensitive to the presence of an external Agent argument — only structures which have an Agent argument (even if this Agent argument remains implicit) can be modified by instrumentals.

In SE, this contrast is evident in comparing passives (8a) and unaccusatives (8b) — instrumentals are only licensed in the former, indicating the presence of an external argument.

- (8) a. The vase was broken with a rock. (SE)
- b. The vase broke *with a rock. (SE)

Both the Morphologically Unmarked Passive (9a) and the TE Get Passive (9b) can license instrumentals.

- (9) a. The car fix with a hammer. (TE)
- b. The car get fix with a hammer. (TE)

This is the first piece of evidence that there is an Agent argument present in the Morphologically Unmarked Passive. Additionally, this diagnostic functions as a means to distinguish between the Morphologically Unmarked Passive (10a) and unaccusatives (10b) in TE, which, due to the lack of distinctive morphology and absence of auxiliary in the Morphologically Unmarked Passive, become superficially identical.

- (10) a. The vase break with a rock. (TE)
[Morphologically Unmarked Passive Reading]
Intended: The vase was broken by someone who used a rock to break it.
- b. The vase break *with a rock (TE)
[Unaccusative Reading]
Intended: The vase broke, but there was no Agent of the breaking.

Licensing of 'by-itself'

A second diagnostic sensitive to the presence of an external Agent argument is the ability to license *by-itself*. Licensing of the *by-itself* phrase points towards something happening spontaneously, i.e. the absence of an Agent argument. As such, *by-itself* should not be licensed in passive structures (which have an Agent argument), but is allowed in structures such as anticausatives (which lack an Agent argument) (see Chierchia (1989/2004); (Simpson, 1983) Levin and Rappaport Hovav (1995). This is illustrated in (11a-b), using SE examples.

- (11) a. The vase was broken *by itself. (SE) [passive]
- b. The vase broke by itself. (SE) [anticausative]

As anticipated, neither the Morphologically Unmarked Passive (12a) nor the TE Get Passive (12b) can be modified by the *by-itself* phrase.

- (12) a. The car fix *by itself. (TE)
- b. The car get fix *by itself. (TE)

This is the second piece of evidence that there is an Agent argument present in these structures.

Also, similar to the previous diagnostic, modification by the *by-itself* phrase offers a second means of distinguishing between the Morphologically Unmarked Passive (13a) and unaccusatives (13b) in TE (where *by-itself* is allowed in the latter but not the former).

- (13) a. The vase break *by itself. (TE)
[Morphologically Unmarked Passive Reading]
Intended: The vase is broken but there was some Agent who did the breaking.
- b. The vase break by itself. (TE)
[Unaccusative Reading]
Intended: The vase broke and there was no Agent of the breaking.

Control: Licensing of rationale clauses

The third diagnostic is the ability to license a rationale clause². Rationale clauses — which indicate a purpose or intention for an event in the matrix clause — have a PRO subject. If there is an external (Agent) argument in the matrix clause, it can Control this PRO subject. This is illustrated using SE examples, whereby a passive can control the PRO subject (14a) but an anticausative cannot (14b).

- (14) a. The boat was sunk to collect the insurance. (SE)
b. The boat sank *to collect the insurance. (SE)

Both the Morphologically Unmarked Passive (15a) and the TE Get Passive (15b) can control the PRO subject of a rationale clause.

- (15) a. The car fix to sell. (TE)
b. The car get fix to sell. (TE)

This is the third piece of evidence that there is an Agent argument present in these structures in the absence of a *by*-phrase.

Interim Summary

² Thank you to the participants of MOTH 2026 for suggesting the addition of this diagnostic.

This section establishes that there is an implicit Agent argument of the Morphologically Unmarked Passive and the TE Get Passive in the absence of a *by*-phrase. Through modification by instrumentals and the *by-itself* phrase, I also demonstrate how the Morphologically Unmarked Passive may be distinguished from visually analogous structures in TE, such as unaccusatives, which have no external argument.

I take the presence of an Agent argument as evidence for the presence of the external argument introducing projection VoiceP in both the Morphologically Unmarked Passive and the TE Get Passive. The syntactic differences between the VoiceP projections of the Morphologically Unmarked Passive and the TE Get Passive is further discussed in Section 5.

Section 3: Surface Subject is the (Underlying) Direct Object

This section provides evidence that the Surface Subject of both passive constructions in TE originates as the Direct Object of the structure. I demonstrate this using the diagnostic Resultative Secondary Predication, which is sensitive to the presence of a deep-oriented (i.e. underlying) Direct Object.

Modification by Resultative Secondary Predication

Resultative Secondary Predication introduces an object-oriented modifier which specifies a resultant state of the theme argument (i.e. the direct object) achieved as

an outcome of the action of the event (Simpson, 1983).

As the name suggests, an object-oriented modifier cannot be licensed by a structure which has no direct object, for which reason this diagnostic is also referred to as having a Direct Object Restriction (Levin & Hovav, 1995). This is seen in attempting to predicate object-oriented modifiers of unergative constructions, which only have an agent argument (16a-b).

- (16) a. *Mary laughed tired. (SE)
- b. *Mary laugh tired. (TE)

On the other hand, object-oriented modifiers can be predicated of unaccusatives, which, as previously mentioned, only have a theme argument (17a-b).

- (17) a. The lake froze solid. (SE)
- b. The lake freeze solid. (TE)

This also provides evidence that the object-oriented modifier is sensitive to whether the object being modified is deep-oriented. In (18a-b), the object-oriented modifier *solid* is predicated of *the lake*, the underlying Direct Object which later underwent movement to the Surface Subject position.

As demonstrated in (18-19), both the Morphologically Unmarked Passive and the TE Get Passive can be modified by Resultative Secondary Predication.

- (18) a. The wood sand smooth. (TE)
- b. The wood get sand smooth. (TE)
- (19) a. The metal pound flat. (TE)
- b. The metal get pound flat. (TE)

The object-oriented modifiers are predicated of the Surface Subject: in (18a-b), *the wood* is what was sanded *smooth* and in (19a-b), *the metal* is what was pounded *flat*. Furthermore, the object-oriented modifiers can still be predicated of the TE Get Passive when the Agent is stated using a *by*-phrase (20a-b).

- (20) a. The wood get sand smooth by the man. (TE)
- b. The metal get pound flat by the man. (TE)

This section concludes with having provided syntactic evidence which demonstrates that the Surface Subject of the TE Morphologically Unmarked Passive and the TE Get Passive is the underlying Direct Object.

Section 4: Category of the Remaining Pieces

With the thematic participants of both the Morphologically Unmarked Passive and the TE Get Passive identified, what remains is determining the category of TE passive *get* and its complement, as well as the category of the predicate of the Morphologically Unmarked Passive.

I demonstrate that the category of both this predicate and the complement of TE passive *get* is verbal, and that there is an eventive interpretation for both. I also argue that TE passive *get* is a light verb. I use both traditional diagnostics alongside proposing more unconventional tests of my own design—as will be shown in this section, several restrictions imposed by TE grammar create

difficulties in extending traditional SE diagnostics and judgements to the analyses of these components.

Morphologically unmarked predicate is verbal/eventive

The first component which will be analyzed is the category of the predicate in the Morphologically Unmarked Passive. One piece of evidence that this predicate is verbal comes from the ability to be modified by the suffix *-ing* (21-22), with the result depicting an ongoing action, i.e. progressive meaning. As there is no auxiliary, relevant instances of the Morphologically Unmarked Passive *without* progressive morphology are also included below.

(21) a. The car fix. **(TE)**

Intended: The car is fixed / has been fixed.

b. The car fixing. **(TE)**

Intended: The car is currently being fixed somewhere by someone (such as by a mechanic at an autobody shop).

(22) a. The green dress wash. **(TE)**

Intended: The green dress is washed / has been washed.

b. The green dress washing. **(TE)**

Intended: The green dress is being washed currently (e.g. by a washing machine).

Only verbal items may be inflected with *'-ing'* and access progressive meaning, as demonstrated by attempting to replicate this inflection on (i) a noun (23a) and (ii) an adjective (23b).

(23) a. The green dress*ing wash **(TE)**.

Intended: The green dress is being washed currently

b. The green*ing dress wash. **(TE)**

Intended: The green dress is being washed currently.

Furthermore, the absence of an inflected form of the auxiliary *be* does not impact my observation that (21b) and (22b) constitute progressive meaning in TE — as Section 1 mentions, 'null *be*', or the absence of the copula *be*, in the progressive has been documented to be a feature of many non-standard varieties of English, including TE. This is illustrated in the active transitive examples (24a-b) below.

(24) a. She is trying to call you. **(SE)**

b. She trying to call you. **(TE)**

Additionally, the morphologically unmarked predicate can also be preceded by the future modal *'go'* (25a-b).

(25) a. The car go fix. **(TE)**

Intended: The car will be fixed.

b. The green dress go wash. **(TE)**

Intended: The green dress will be washed.

Only verbal items may be preceded by *'go'*, as demonstrated by the ungrammatical attempts to modify (i) a noun (26a) and (ii) an adjective (26b).

(26) a. The green *go dress wash **(TE)**

Intended: The green dress will be washed.

b. The *go green dress wash. **(TE)**

Intended: The green dress will be washed.

Taking these distributional tests as evidence that the predicate is verbal, I now demonstrate further evidence that this predicate is eventive, by turning to modification by approximatives³. My choice for this diagnostic — which is more semantic than syntactic — is motivated by the fact that the Morphologically Unmarked Passive has been demonstrated to have two potentially conflicting properties: it is verbal but never realizes its Agent argument as a *by*-phrase. By traditional approaches to English passives, the co-existence of these two properties is conflicting. As mentioned, the traditional argument for a split between adjectival/stative passives and verbal/eventive passives is proposed on the assumption that only the *former* never has a *by*-phrase.

If a verb encodes an event, when modified by approximatives (e.g. almost, nearly), it should license an ambiguity in how the event is interpreted to unfold (McCawley 1971; Rapp & von Stechow 1999). This ambiguity results in two possible readings of a single sentence: (i) a reading in which the event took place but was not completed (a *scalar* reading) (27a) and (ii) a reading in which the event almost took place but ultimately did not (a *counterfactual* reading) (27b) demonstrated with the active transitive SE sentence below.

(27) I almost ate the apple. (SE)

³ Much of the application of this diagnostic of this section is motivated by its use in Paparounas (2023:

- a. Scalar reading: I almost finished eating the apple.
- b. Counterfactual reading: It almost happened that I ate the apple.

The different readings are argued to be determined based on which projection the approximative attaches to in the syntax (Rapp & von Stechow 1999).

If a passive structure encodes an event, this ambiguity of the scalar/counterfactual readings should be freely licensed (28a-b).

- (28) The apple was almost eaten by Snow White. (SE)
- a. Scalar reading: Snow White almost finished eating the apple. [i.e. a piece was left behind]
 - b. Counterfactual reading: It almost happened that Snow White ate the apple.

On the other hand, it is argued that stative passives only license the scalar reading (29).

- (29) The apple is almost eaten. (SE)
- a. Reading: It is such that the apple is almost finished being eaten by someone. [scalar reading]

A counterfactual reading — which would require the action of eating the apple to have never taken place — cannot be accessed in (29).

With respect to active transitive sentences which encode events in TE, the counterfactual reading is readily accessed

§4.4) in analysing mismatches between stative and eventive passives

when modified by an approximative. There is a preference ⁴ to add an additional modifier (e.g. *done*, *finish* etc.) to access the scalar reading (30 a-b).

(30) a. I nearly eat the apple.

Counterfactual reading: It almost happened that I ate the apple.

b. I nearly done eat(ing) the apple.

Scalar reading: I almost finished eating the apple.

Turning to the Morphologically Unmarked Passive, modifying the predicate using an approximative allows for both the scalar ⁵ (31a) and counterfactual (31b) readings to be accessed. Which reading is accessed is largely context dependent, however both interpretations are possible.

(31) The car nearly fix.

a. Scalar reading: The car is almost finished being fixed.

b. Counterfactual reading: It almost happened that the car was fixed.

It must also be acknowledged that accessing the scalar reading also requires the predicate being modified to have a 'good target state'. For instance, attempting to modify a passive such as in (33) with *nearly* gives an unambiguously counterfactual reading in both SE and TE. The scalar reading is not accessed with a predicate like *sell* because there are only two possible target states: the item was sold or the item was not sold.

⁴ I say *preference* but have received feedback from native speakers who argue that the scalar reading is never intended in the absence of the additional modifier

(32) a. The vase nearly sell. (TE)

Reading: It almost happened that the vase was sold (by someone) [only counterfactual]

b. The vase was nearly sold. (SE)

Reading: It almost happened that the vase was sold (by someone). [only counterfactual]

Accounting for this, the ability of the Morphologically Unmarked Predicate to freely license the scalar/counterfactual ambiguity is a strong indicator that the predicate is eventive. This section therefore concludes with having demonstrated the predicate is both verbal and eventive.

Get is a light verb in TE

This sub-section aims to demonstrate that TE passive *get* is a light verb. Traditional analyses of SE *get* passives, notably Haegeman (1985), have argued that passive *get* patterns as a lexical verb. This conclusion was drawn on the basis that SE passive *get* fails the accepted syntactic tests for auxiliaries. SE passive *get* is argued to be incompatible at least with (i) Subject-Auxiliary Inversion and (ii) Negative Contraction.

Neither of these tests can be replicated in TE, for independent reasons: neither subject-auxiliary inversion nor negative contraction are features of TE Grammar. As the grammar never allows for T – C movement, even instances of auxiliary *be* and its inflected

⁵ The addition of *done*, *finish* etc. is possible but not necessary to access the scalar reading; it does, however, make it more transparent which reading is being accessed.

forms do not invert in questions in TE (33a-c).

- (33) a. She was eating when I call she. (TE)
b. She was eating when you call she? (TE)
c. *Was she was eating when you call she? (TE)

With respect to negative expressions, instances where auxiliaries are negated via negative contraction in SE (34a) are replaced by negative clitics in TE (34b), most commonly the clitic 'eh'.

- (34) a. The plate isn't broken. (SE)
b. The plate eh break. (TE)

It is therefore not fair to conclude that either of these diagnostics fail in TE. However, it is true that passive *get* in TE has a verbal distribution. Passive *get* in TE can be inflected with progressive morphology (35) and can also be preceded by 'go' (36) (a future modal in TE), both of which have been demonstrated in §4.1 as distributional category tests used to identify verbs.

- (35) The green dress **getting** wash. (TE)
Intended: The green dress is currently being washed by someone or something (e.g. a washing machine)
(36) The green dress **go** get wash. (TE)
Intended: The green dress will be washed some time in the future.

I take (36) in particular as evidence that TE passive *get* is syntactically lower than TP, under the assumption that the future modal 'go' occupies T⁰. Moreover, TE passive *get*

lacks a thematic relationship with the arguments in the structure. As demonstrated in Section 3, the complement of TE passive *get* — not TE passive *get* itself — has the theme argument as its underlying Direct Object complement. And as argued in Section 2, there is evidence to support that the Agent argument is introduced by VoiceP. I take these properties of TE Get Passive as evidence that TE passive *get* is a light verb (vP) — an item which may pattern with verbal morphology but is neither a lexical verb nor an auxiliary. Several contemporary investigations of English *get* — in passive structures, but also more generally — have proposed similar approaches to investigating *get* and its semantic and syntactic distribution (e.g. McIntyre, 2012).

Complement of *get* is verbal/ eventive

The final component to be analyzed is the category of the complement of TE passive *get*. The idea that English *get* passives have eventive properties has been a long-standing debate in the literature. Historical accounts of English passives have argued that *get* passives, which emerged in the language sometime in the 17th century, have had an eventive (or dynamic) interpretation, with a connotation of 'volition' or 'overcoming' (e.g. Visser 1963-73/2002: §1893).

On the other hand, several traditional investigations of English *get* passives have argued for a stative / adjectival interpretation of the participle (e.g. Fox and Grodzinsky 1998, Levin and Rappaport 1986, Wasow 1977). One of the primary motivations for this argument concerns the external argument structure of English *get*

passives and the status of its implicit Agent argument — for instance, the claim that the implicit Agent of a *get* passive may not control the PRO subject of a rationale clause is taken as evidence in favour of a stative analysis.

However, Section 2 establishes evidence that the implicit Agent argument of the TE Get Passive can control PRO. There is also the additional evidence to be considered that the TE Get Passive can have its Agent argument stated as a *by*- phrase, which is also argued to be a property of verbal/ eventive passives.

Furthermore, as argued by Winford (1993), only verbs '*high on the scale of transitivity*' (Hopper & Thompson, 1980) passivize in Caribbean English Creoles. There are no grammatical passive constructions involving (i) psychological verbs (e.g. forget, know, like etc.) (37), (ii) ditransitive verbs like *give* (38-39) and (iii) constructions which take a sentential object with no stated subject (40). The listed examples in (37-40) include ungrammatical instances of the Morphologically Unmarked Passive as well, to clearly demonstrate that this phenomenon is present across both passive constructions.

Psychological Verbs

- (37) a. The man was known for being kind.
(SE)
b. *The man get know for being kind.
(TE) [TE Get Passive]

- c. *The man know for being kind.
(TE) [Morphologically Unmarked Passive]

Ditransitive Verbs⁶

- (38) a. The gift was given to Sally by her mother. (SE)
b. *The gift get give to Sally (by she mother) (TE)
c. *The gift give to Sally (*by she mother). (TE)
- (39) a. Sally was given a gift by her mother. (SE)
b. *Sally get give a gift (by she mother) (TE)
c. *Sally give a gift⁷ (*by she mother). (TE)

Object but no subject constructions

- (40) a. Peter was seen running. (SE)
b. *Peter get see running. (TE)
c. *Peter see running. (TE)

One final piece of evidence for the verbal/eventive status of the complement of TE passive *get* is demonstrated by the behaviour of a degree modifier in TE, the item *up/op*. Winford (1993, p.138) observes that certain colour adjectives, when modified by *up/op*, are allowed as the complement of TE passive *get* (41-42).

- (41) a. The water get *green up/op* from the moss. (TE)
Intended: The water turned (very) green because of the moss.

⁶ I intended to consider more carefully the restrictions on ditransitive passivization; unfortunately, I believe their exact analysis is beyond the scope of this paper

⁷ This sentence is grammatical if interpreted as an active transitive sentence, e.g. *Sally give a gift to she friend*, with *Sally gave a gift to her friend* as the SE equivalent.

b. *The water get *green* from the moss. (TE)

Intended: The water turned (very) green because of the moss.

(42) a. He hand get *black up/op* from the soot. (TE)

Intended: His hand turned (very) black because of the soot.

b. *He hand get *black* from the soot. (TE)

Intended: His hand turned (very) black because of the soot.

I propose that this degree modifier *up/op* is a verbalizer — it modifies the category of the colour items *green* and *black* and allows an adjective to be interpreted as a verbal complement of TE passive *get*. As (41b) and (42b) demonstrate, without the verbalizer *up/op*, adjectives are not grammatical complements of TE passive *get*. This section concludes with having demonstrated that the complement of TE passive *get* is verbal/eventive.

With the analysis of the category of the final components of the Morphologically Unmarked Passive and the TE Get Passive completed, I proceed with building my syntactic analysis of both structures in the following section.

Section 5: Syntactic Analysis

The new data presented in this paper have provided evidence that both the Morphologically Unmarked Passive and the TE Get Passive have an Agent argument.

However, the original puzzle presented by these two constructions has yet to be addressed — the fact that in the Morphologically Unmarked Passive, the Agent argument is always implicit and may never be realized as a *by*-phrase.

The analysis presented in this section is motivated in part by the evidence presented in Sections 3 & 4 — that aside from the Agent argument, both TE passive constructions have been demonstrated to have otherwise similar properties. Both the TE Get Passive and the Morphologically Unmarked Passive have a verbal/ eventive interpretation, and the Surface Subject (the underlying Direct Object) behaves similarly in both structures. If one of the only points of difference⁸ is the realization of the Agent argument, I propose that this can be demonstrated in the syntax through differences in feature assignment on Voice⁰ in both structures.

Structure of the TE Get Passive

Recall that in the TE Get Passive, when the Agent argument is stated using a *by*-phrase, a specific individual is referred to (43a). On the other hand, when the Agent remains implicit, an Existential interpretation of the Agent is accessed (43b) — the interpretation that a general somebody (a non-salient individual) was the Agent.

(43) a. The thief get catch by the policeman. (TE)

Reading: The thief got caught by a specific individual, policeman.

⁸ The other point of difference being that the TE Get Passive has the light verb *get*, while the Morphologically Unmarked Passive does not.

b. The thief get catch. (TE)

Reading: The thief was caught by an unspecified someone.

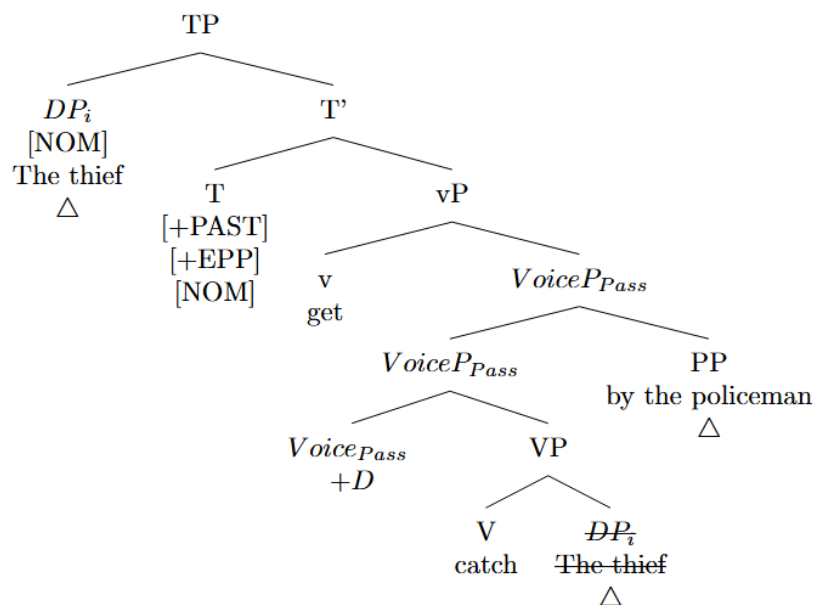
As previously established, my analysis adapts the proposal that the external Agent argument is introduced by VoiceP (Kratzer, 1996). I also build on proposals in the contemporary literature which argue for a typology of Voice heads: namely, the proposal that whether Voice projects a specifier is determined by the value of a specific [D] feature on Voice⁰ (e.g. Kastner, 2017). This [D] feature selects for an external Agent argument. If the Agent argument is explicit as in (44a), Voice projects a specifier which hosts the Agent argument, reflected by the feature on Voice⁰ being specified as [+D].

When the Agent argument is implicit as in (44b), I assume that the Agent is interpreted

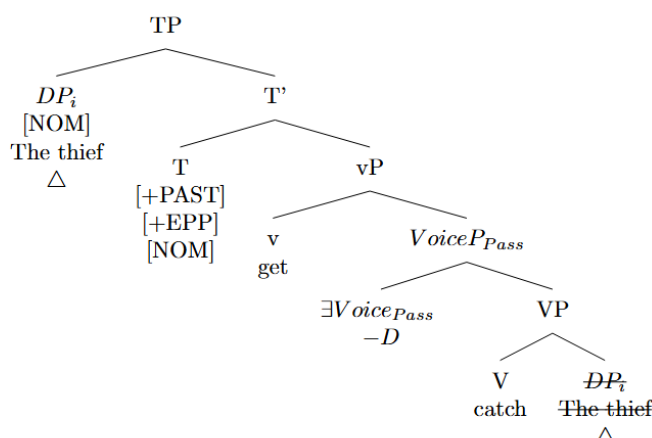
via post-syntactic operation Existential Closure (Heim, 1982). This has been a classic approach in the literature towards analysing implicit Agents of passives (e.g. Roberts, 1987; Williams, 1987). In this instance, Voice does not project a specifier — this is reflected by the feature on Voice⁰ being specified as [-D]. Through Existential Closure, the requirements of the external argument introducing projection VoiceP are still met. Post-syntactically, the external argument (i.e. the Agent) is bound by the Existential Operator introduced via Existential Closure — this also creates the required semantics of the interpretation of the Agent (i.e., the reading of a non-salient, unspecified individual as the Agent).

Both proposed structures are represented below in (44-45), using the example sentences given in (43a-b).

(44) Structure of the TE Get Passive (with a *by*-phrase)



(45) Structure of the TE Get Passive (without a *by*-phrase)



Structure of the Morphologically Unmarked Passive

One possible analysis of the Morphologically Unmarked Passive is that Existential Closure applies exactly as in (45). Recall that the Agent of the Morphologically Unmarked Passive is only ever interpreted Existentially (46).

(46) The thief catch.

Reading: The thief was caught by an unspecified someone.

However, this analysis fails to capture one crucial detail: that the Agent is *never* realized explicitly (i.e. a *by*-phrase is never realized). The specification of the [D] feature on Voice⁰ corresponds to whether a specifier is projected or not. In other words, if Voice⁰ in the Morphologically Unmarked Passive were to be specified for [-D] to indicate no specifier is projected, it should theoretically be possible to realize [+D] as well, where a specifier is projected and filled as in (45). We have seen this is not ever the case.

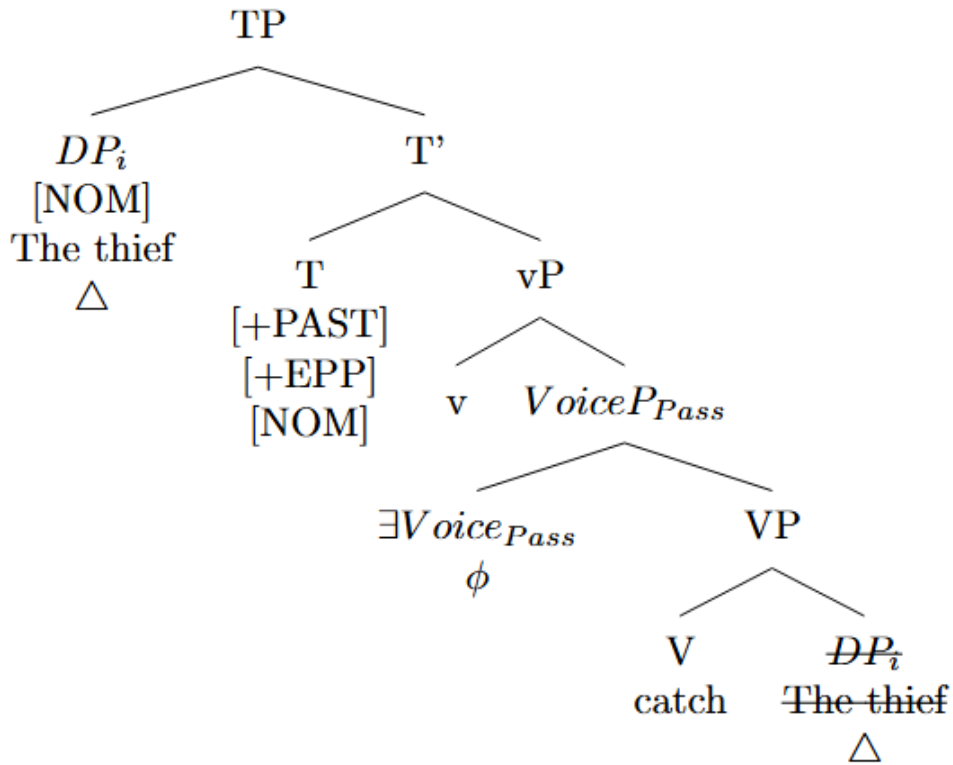
I propose, adapting Landau (2010), that Voice⁰ of the Morphologically Unmarked Passive is specified with a Φ feature instead of a [D] feature. Φ features bundle person, number and gender information — Landau (2010) proposes that this feature, when specified on Voice⁰, imposes a constraint on interpretation of the selected Agent argument. The value of the Φ feature is context dependent, i.e., it is obtained in relation to something else in the structure—thus, value of this Φ feature can distinguish between different types of implicit Agent arguments.

I propose that Voice⁰ of the Morphologically Unmarked Passive is specified by a Φ feature bound to the Existential Operator in the structure. This provides a syntactic account for the original puzzle presented by the data. Under this analysis: (i) the Agent argument will be constrained to only ever be Existentially interpreted, and (ii) there is a featural and structurally motivated reason as to why the *by*-phrase is always blocked. The difference in feature assignment would also distinguish between the structure of the TE

Get Passive without a *by*-phrase (45) and the structure of the Morphologically Unmarked Passive (47). Under this analysis, the Existential Operator would still be introduced via Existential Closure —

however, the motivation which triggers this post-syntactic operation is distinct from that of the structure in (45). The proposed structure is represented in (47) below, using the example sentence in (46).

(47) Structure of the Morphologically Unmarked Passive



While this proposal offers a syntactic account of the difference between the TE Get Passive (without a *by*-phrase) and the Morphologically Unmarked Passive, an exact proposal as to what governs the implementation of one structure as opposed to the other is outside the scope of this paper. It is highly likely that there are semantic and discourse effects at play which affect the 'Existential' reading of the Agent in (45) vs. (47)⁹. These effects may potentially arise due to the presence of TE passive *get* in (45). Many contemporary analyses of the semantics of English passive *get* have argued it has a unique event interpretation in comparison to other passive structures. A careful analysis of the semantic composition of TE passive *get* with its complement may shed light on the contextual differences between the implicit Agent of the Morphologically Unmarked Passive vs. the TE Get Passive — I leave the investigation of these effects to future research.

Conclusion

This paper has proposed a new analysis of two passive Voice alternations in Trinidadian English, considering both the status of the thematic participants as well as the category of all other component pieces across both structures. This approach is reflected in my research questions in (7). Throughout this paper, I have paid particular attention to the Agent argument of both TE Passive constructions. This direction was motivated by the original puzzle presented by the Morphologically Unmarked Passive and the

TE Get Passive — the fact that only the Agent argument of the latter construction may be explicitly realized as a *by*-phrase.

In section 2, I provided evidence (obtained through novel data) that there is in fact an implicit Agent argument of the Morphologically Unmarked Passive. I further argued that the realization of the Agent argument is one of the only properties which differ between the TE Get Passive and the Morphologically Unmarked Passive. As demonstrated in section 3, the behaviour of the Surface Subject / underlying Direct Object is the same across both constructions. And as reviewed in section 4, both the TE Get Passive and the Morphologically Unmarked Passive are, overall, verbal/eventive constructions. This evidence motivated my syntactic analysis of the Morphologically Unmarked Passive and the TE Get Passive in section 5, which proposed a variation on the typology of Voice realized through a difference in feature assignment.

As a final point, my proposal with respect to the variation on the typology of Voice naturally raises the question: how wide is the range of the possibilities of this variation? The answer is beyond the scope of this paper, but I believe it merits investigation — at the very least, it stands to advance our current understanding of both theories of argument structure and how the thematic participants of a structure contribute to the overall meaning and interpretation of any given sentence.

⁹ Thank you again to the participants of MOTH 2026, and also to the audience of McMaster's

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APPENDIX

Morphologically Unmarked Passive is not a Middle

In analyzing the properties of the Morphologically Unmarked Passive I have provided evidence that it is neither an unaccusative nor a stative passive. Another possible alternative analysis of

this construction which the evidence rejects is that the Morphologically Unmarked Passive has the properties of an English Middle.

There are two properties of the English Middle which appear to have overlap with the properties of the Morphologically Unmarked Passive: (i) English Middles are ungrammatical with *by*-phrases (Keyser & Roeper, 1984) and (ii) English Middles still have a logical external agent (Ackema & Schoorlemmer, 1994). An example of an English Middle is given in (48a-b).

- (1) a. Senators bribe easily. (SE)
- b. Senators bribe easily *by lobbyists. (SE)

English middles have also been argued to have a ‘generic flavour’ — they are incompatible with progressive morphology (49b) as well as temporal adverbs (49c). However, the Morphologically Unmarked Passive does not have these restrictions¹. As reviewed in §4.1, the Morphologically Unmarked Passive can be inflected with progressive morphology (50a); and as demonstrated in (50c) below, it can also occur with precise temporal expressions.

- (2) a. These cars fix easily. (SE)
- b. *These cars fixing easily. (SE)
- c. *These cars fix easily this morning. (SE)

- (3) a. The cars dem² fix. (TE)
- Intended: The cars have been fixed / are fixed.

- b. The cars dem fixing. (TE)
- Intended: The cars are currently being fixed (somewhere, by someone, e.g. at a mechanic’s shop)
- c. The cars dem fix this morning. (TE)
- Intended: The cars were fixed this morning.

I take this as evidence that the Morphologically Unmarked Passive is a construction distinct from that of an English Middle.

¹ Winford (1993) also documents this. However, the given examples from TE are new data.

² ‘Dem’ is a periphrastic plural marker in TE

Accounting for case in Dargwa; Distributed Morphology vs Nanosyntax

EMILY HIGGINS

Abstract: This paper is a comparative theoretical analysis of the underlying system motivating case distribution in Dargwa, a Northern Caucasian language. More specifically, the paper examines which of two morpho-syntactic theories can better account for the distribution of semantic case: distributed morphology (Halle 1993) or nanosyntax for case (Caha 2009).

Distributed Morphology (DM)

Established by Halle and Marantz, the theory of distributed morphology utilizes a system referred to as vocabulary insertion to pair relevant semantic, syntactic, and morphological features with the appropriate phonological form (Halle 1993). This process involves bundling features together onto terminals (heads) within the syntactic structure in order to derive the corresponding surface form. This system applies broadly to all affixal morphemes, including but not limited to, case.

Nanosyntax for Case

First proposed by Strake, the nanosyntax theory intended to explain the distribution of case in Pavel Caha's PHD dissertation. This theory centers around the idea that what is thought of as morphology can in fact be built into the syntactic structure by allowing insertion within the tree on non-terminal nodes (Caha 2009). Essentially, this means that every feature is said to have its own branch in the tree, and that there is no bundling. Using evidence from case syncretism, he posits a crosslinguistic functional sequence for case ordering, referred to as universal contiguity.

It is crucial to this analysis to mention that Caha himself acknowledges that the theory as stated in his dissertation can only account for the ordering of 6 cases: nominative, accusative, genitive, dative, instrumental, and comitative. Semantic cases like those seen in Dargwa are not covered in the original framework and will be the core target for analysis in the following theoretical discussion.

(1) Caha's Universal Contiguity

NOM – ACC – GEN – DAT – INS – COM

Case distribution in Dargwa

Table 1.1 : Grammatical cases*

Case	Suffix
absolutive	-Ø
ergative	-l(i)
genitive	-la (-lla)
dative	-j
comitative	-c:ella

Table 1.2 : Semantic cases

Meaning	Lative	Essive	Ablative
'in, on, to' (LOC)	-le/	-le-b/	-le-r(-ka)/
	-ja/	-ja-b/	-ja-r(-ka)/
	-a	-a-b	-a-r(-ka)
'to' (AD)	-š:u	-š:u-b	-š:u-r(-ka)
'in, on, at'	-c:e	-c:e-b	-c:e-r(-ka)
'among' (IN)			
'under' (SUB)	-gu	-gu-b	-gu-r(-ka)
'in front' (ANTE)	-sa	-sa-b	-sa-r(-ka)
'behind' (POST)	-hara	-hara-b	-hara-r(-ka)

Table 2: Partial Illustrative Paradigm

	Case	'friend'	'clothes'
singular	absolutive	<i>juldaš</i>	<i>paltar</i>
	ergative	<i>juldaš-li</i>	<i>paltar-ri/-li</i>
	genitive	<i>juldaš-la</i>	<i>paltar-ra/-la</i>
	dative	<i>juldaš-li-j</i>	<i>paltar-ri-j/-li-j</i>
	comitative	<i>juldaš-li-c:ella</i>	<i>paltar-ri-c:ella/</i> <i>-li-c:ella</i>
	AD-lative	<i>juldaš-li-š:u</i>	<i>paltar-ri-š:u/</i> <i>-li-š:u</i>

Forker, D. (2020). *A grammar of Sanzhi Dargwa Volume 2*. Language Science Press. p54-55

*Note that while comitative is listed under this table as a “grammatical case”, it is generally considered to be an outlier that blurs the line between grammatical and semantic. This analysis will treat it as a semantic case, as that is more in line with the observed distribution

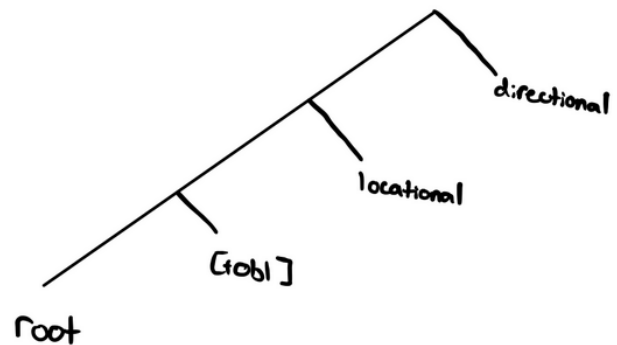
Hypothesis 1: Distributed morphology

For the four grammatical cases, each morpheme can be associated with a single case feature. All allomorphs are phonologically conditioned and do not appear to interact with the case features themselves.

When analyzing the morpheme distributions within the semantic cases, several patterns begin to emerge. Most notably, the intersections of the locational and directional cases do not produce 18 unique outputs, but rather a concatenation of the two. The leftmost suffix corresponds to the locational case, and the rightmost suffix corresponds to the directional. For this reason, we can assume that these cases are treated separately in the syntax. Another point of consideration is the oblique marker, which is only overtly realized in certain phonological conditions. This [+obl] feature can appear in combination with any case except absolutive and will always attach closest to the root. The fact that the case

morphemes remain the same regardless of whether the oblique case is overtly realized or not suggests that they are not bundled together. This would give us a hierarchical representation akin to (2).

(2) Hierarchical representation



One complication is the syncretism between the absolutive case and the lative case, as they are both realized as zero morphemes. The limited amount of information makes it difficult to discern if this syncretism is morphological or accidental in nature. The lack of common meaning and the grammatical/semantic categorization difference suggest that it may be accidental and will thus be treated as such in the vocabulary items (VIs).

Another complication is that the comitative case is theorized to be a combination of the inlative [+in, +lat] and the genitive case [+gen]. For the purpose of the DM hypothesis, we will simply note that the comitative case is the concatenation of several features in the same way as the other

semantic cases, and will not have an individual vocabulary item.

For the purpose of this analysis, we will be ignoring the phonologically conditioned allomorphy that can be found in the ergative, genative, and locative case. Those are highly regular and are not relevant to the present morphological discussion. The exception to this is the essive, which is realized as an agreement with gender/number. The VIs below represent the most common allomorphs.

(3) VIs for case morphemes

[+abs] <--> Ø
 [+erg] <--> -li
 [+gen] <--> -la
 [+dat] <--> -j
 [+com] <--> -c:ella
 [+loc] <--> -le
 [+ad] <--> -s:u
 [+in] <--> c:e
 [+sub] <--> gu
 [+ante] <--> sa
 [+post] <--> hara
 [+lat] <--> Ø
 [+ess] <--> -w / [-pl, +masc]
 -r / [-pl, +fem]
 -b / [+pl, -1, -2]
 -d / elsewhere
 [+abl] <--> -r(ka)

While these vocabulary items are very useful for assigning case features to forms, they do not account for many important morphological restraints. More specifically,

they fail to acknowledge that there are only eighteen accepted pairings of features, and that directional and locational morphemes cannot appear independently of each other. We can attempt to represent these constraints with more descriptive VIs, but this loses the generalization that the outputs are simply concatenations of two case features. This representation would require 23 vocabulary items, a small subset of which are shown in (4).

(4) VIs for case distribution with permitted case pairings

[+obl, +lat, +gen, +in] <--> c:ella
 [+obl, +lat, +in] <--> c:e
 [+obl, +lat, +sub] <--> gu
 ...
 [-obl] <--> Ø

Overall, this hypothesis presents a logical hierarchical ordering for the derivation of both grammatical and semantic cases. That said, this hypothesis does not provide a satisfying way for realizing these morphemes through vocabulary insertion alone without full specification or missed morphological constraints.

Hypothesis 2 : nanosyntax of case

The nanosyntax theory can adequately explain the four grammatical cases so long as we maintain certain crucial assumptions. Dargwa does not have a nominative or accusative case. That said, it has been argued that these labels are used to reflect similar arguments as the absolutive and the

ergative (Haspelmath 2009). Assuming that these labels describe the same set of arguments, we can alter the proposed case ordering to be more indicative of Dargwa (5). The lack of syncretism provides no additional insights to strengthen or disprove this analysis, resulting in a straightforward application of the nanosyntax.

(5) Revised Universal Contiguity as applied to Dargwa
ABS – ERG – GEN – DAT – COM

This sequence gives us a prospective order for our syntactic tree. As discussed, the nanosyntax operation will systematically remove one individual from the set of possible cases until each one has been accounted for by adding features. It is worth noting that while this theory does maintain that each case is made up of an increasing combination of features, it does not indicate what those features may be or whether they vary cross linguistically. Based on the language data available, we can assume that the feature that separates the absolutive from the rest is [+obl], as all cases that follow are built upon the oblique root (see data table 2).

Things become much more complicated when evaluating semantic cases. Though there are said to be fourteen cases, this is more accurately described as a combination of a locational case morpheme and a directional morpheme. In terms of cases to be ordered, this gives us nine individuals in

our set. It is important to note, as discussed above, that not all combinations of these individuals are permitted in the language, and that they always co-occur.

The comitative case provides several potential insights into the hierarchal ordering of our case features (6). As per the mirror principle, the linear ordering of morphemes is the inverse of the syntactic hierarchy. This tells us that the genitive case must be higher than the lative, and that the lative is higher than the in directional case. We can generalize this assumption based on derivational order of morphemes that all locational cases are higher than the directional ones.

(6) Linearization for comitative case
Juldas-li-c:e-lla
Root-OBL-IN-LAT(null)-GEN

Unlike the other semantic cases present in Dargwa, the comitative case is built into Caha's original sequence. Along with a functional sequence, Caha also posited an operation within the spell out referred to as the superset principal. In a near inverse of the subset principle, the superset principle states that a vocabulary item can be selected if its structure is contained within the target tree. Using this logic, we can assume that in order for the genitive, in, and lative features to be present in the comitative, they must be higher in the hierarchy. The original dissertation does suggest that there may in fact be "gaps" for

cases to be inserted between the accusative and genitive layer, as well as the genitive and dative layer.

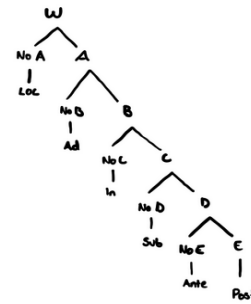
This is at odds with the predictions made by one of the theories that the system is built upon, namely Blake's hierarchy (Blake 2001). The order, as shown in (7) would position the locative (and other locational cases) and ablative (and other directional cases) lower than the dative. The lack of syncretism in the data is such that we cannot definitely rule out either theory at this point.

(7) Blake's hierarchy

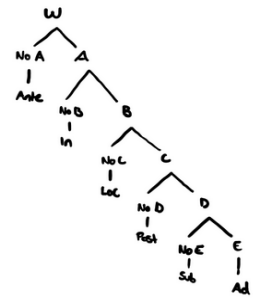
NOM > ACC / ERG > GEN > DAT >
LOC > ABL > INS > other

Furthermore, complications arise when attempting to derive the correct order amongst the semantic cases, and present interesting complications for the entire system. As the primary method of establishing order is syncretism, we have no conclusive way of doing so in Dargwa. Yet the order is what allows the mechanism to systematically remove one case from the potential set at a time. If the order among the six locational cases is randomized, there is no way for this theory to assign the correct number of features. This is best illustrated in (8) with hypothetical features A-E. Without a set order, this system would be unable to appropriately assign features or do so consistently.

(8) Hypothetical ordering illustration



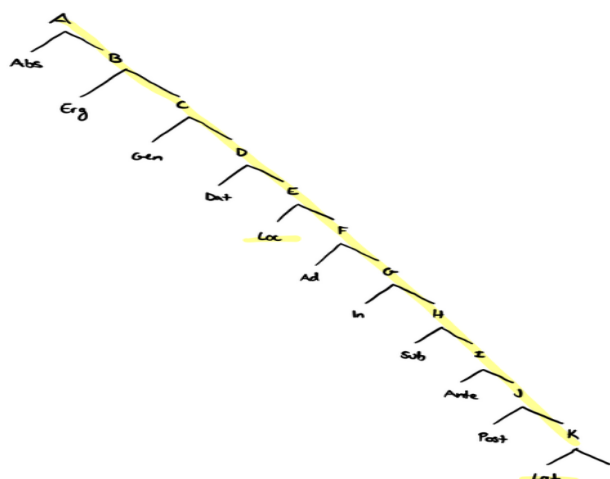
[A] = Ad



[A,B,C,D,E] = Ad

This system would also suggest that in order for any of the semantic cases to be derived, they must first pass through and contain every single locational case feature. While the superset theory posits that the most appropriate VI will win, it seems highly implausible that every semantic case contains a minimum of 11 features (9). It is worth noting that the theory does account for case compounding, meaning that multiple branches can be "spelled-out" within this system. The problem is that this structure would have no way of knowing which of the six locational cases are meant to be spelled out and which ones are to be ignored.

(9) Minimum number of features to derive a locational/directional pairing



[A,B,C,D,E,F,G,H,I,J,K] = LocLat

As the theory currently stands, the mechanisms that drive nanosyntax are insufficient to derive complex morphological cases as seen in semantic Dargwan cases. It can account for grammatical cases, but doing so has important implications on the distribution of labour between morphology and syntax.

Conclusion

The limitations of the nanosyntax of case theory have many interesting implications and present multiple areas for future research. The theory clearly lacks the tools necessary to provide satisfying explanations for the distribution of semantic cases, but the real question is why. There are two possibilities that we will briefly explore.

The first possibility is the more obvious conclusion, which is that the theory is not yet developed enough to account for any case

beyond the scope of the original six in the proposal. This severely limits the usefulness of this theory as it would exclude many potential languages from being analyzed in this manner.

The second, more interesting possibility is that there are two distinct mechanisms that govern case distribution: one devoted to grammatical (syntactic) cases, and the other devoted to semantic cases. This would require systems that are implemented independently of each other at different points along the Y model. One major implication of the nanosyntax theory is that there is in fact no need for an intervening morphological stage, nor for processes like fission and fusion, if features are thought to be separated by default. This would posit different underlying mechanisms for all affixes to be properly applied and may very well involve some manner of insertion at the LF stage. While it seems counterintuitive to suggest that there are multiple independent insertion operations responsible for applying affixes, this is not out of line with the current predictions of Caha's dissertation. This is not to say that Caha has posited such a system in any way, but rather it could help explain why the theory works in some domains but not others.

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10.1093/oxfordhb/9780199206476.013.0034.

Go With the Flow: Investigating Short-Term Memory for Rhythms & Prosodic Sentence Repetition

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Background

- **Prosody** is the rhythm, stress, and intonation of speech. Natural **prosodic cues** support **speech segmentation** [1].
- **Altering prosody** can impair the comprehension and memory of auditory linguistic input [2].
- Significant correlation found between the ability to accurately recall **non-verbal temporal sequences** and meaningless sentences [3].

Purpose

The current study explores the potential correlation between short-term memory (STM) for non-verbal rhythms and sentences of varying prosody. The results will speak to the role of prosody in speech and its storage in STM.

Research Questions

Research Question 1)

Is STM for non-verbal, temporal sequences correlated to STM for sentences with varying prosody?

- **Hypothesis 1:** We predict a positive correlation between performance on the rhythm tapping task and sentence repetition task.

Research Question 2)

Does unnatural prosody lead to more errors in speech segmentation and, therefore, more errors in verbal repetition?

- **Hypothesis 2:** We predict that unnatural sentences will lead to inaccurate segmentation and, therefore, more errors in verbal repetition.

Methods

Participants

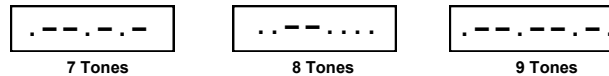
- Total of 45 participants tested
 - Mean age = 19
 - Native/dominant English speakers
 - Normal hearing

Methods

Tasks and Procedure

Rhythm Tapping Task

- Participants repeated sequences of 7, 8, and 9 long and short tones on a response pad
- Dots represent short tones (<350 ms) and lines represent long tones (>350 ms)



Sentence Repetition Task

- Each participant exposed to sentences in 3 conditions and asked to repeat:
 - NATURAL: sentences with natural pause placements, creating natural prosodic patterns
 - FLAT f0: sentences with constant pitch at speaker's mean f0 (rate of vocal fold vibration that corresponds to pitch)
 - UNNATURAL: sentences with unnatural/random pause placements, creating unnatural prosodic patterns

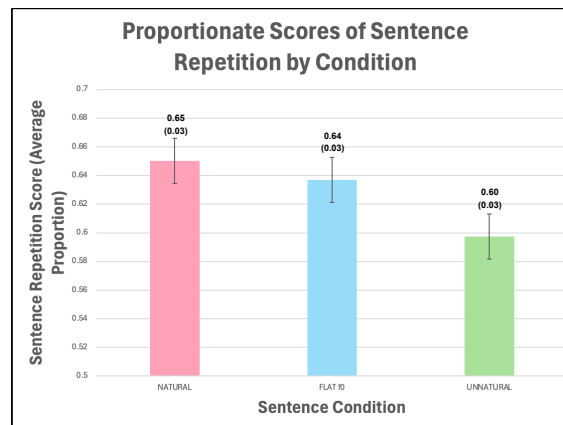
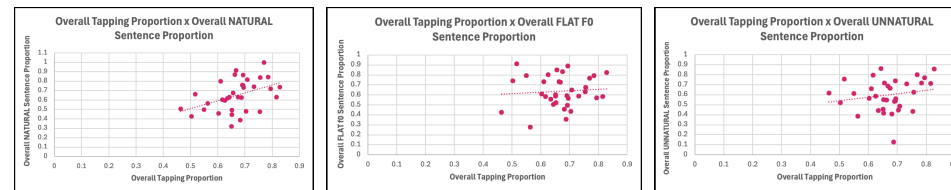
Natural Pauses (NATURAL and FLAT f0 conditions):

OUR ENTHUSIASTIC MANAGER / ALWAYS JOINS / THE WEEKLY TEAM MEETINGS / FASHIONABLY LATE.

Unnatural Pauses (UNNATURAL condition):

OUR ENTHUSIASTIC MANAGER ALWAYS / JOINS THE WEEKLY / TEAM MEETINGS FASHIONABLY / LATE.

Results



A repeated measures ANOVA conducted on the **Sentence Repetition Task** showed that the effect of sentence condition was **not significant**, $F(2, 66) = 1.91, p = 0.157$.

A repeated measures ANOVA conducted on the **Sentence Repetition Task and Tapping Task** showed that the effect of sentence condition was **not significant**, $F(2, 64) = 2.22, p = 0.116$, and the interaction between sentence condition and overall Tapping Task proportions was also **not significant**, $F(2, 64) = 2.48, p = 0.092$.

Descriptive Statistics for Tapping Task and Sentence Repetition Task

Descriptives	N	Mean	SD	SE	Median
Sentence Task Overall Proportion	34	0.63	0.13	0.02	0.65
NATURAL Overall Proportion	34	0.65	0.17	0.03	0.63
FLAT f0 Overall Proportion	34	0.64	0.16	0.03	0.61
UNNATURAL Overall Proportion	34	0.60	0.16	0.03	0.60
Tapping Task Overall Proportion	34	0.67	0.09	0.01	0.67

Conclusions

- Positive correlation of medium strength between *overall* performance on the rhythm tapping task and sentence repetition task.
 - Hypothesis 1 supported, further data collection may strengthen argument
- No significant effects of sentence condition on Sentence Repetition Task performance.
- Almost no difference in performance for NATURAL and FLAT f0 conditions, but drops slightly for UNNATURAL.
- Difference between NATURAL and UNNATURAL conditions approaches significance, but not reliable.
 - Hypothesis 2 not supported, further data collection is required to explore potential significance

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Display Mode and Emotional Valence Effects in Lexical Decision

Laurian D'Souza, Karissa Ford, Joyce Hui,
Yasmin Mahmood, Ana Martinez Loma

INTRODUCTION

- Light mode leads **faster & accurate reading** vs dark mode **increases cognitive load** (Sethi & Ziat, 2023, Buchner & Baumgartner, 2007).
- Dark environments with a bright screen can produce a glare or visual discomfort, contributing to eye strain and fatigue (Lin et al, 2026).
- Dark mode is widely used in everyday digital environments, this may influence perception of emotional content (Löffler et al, 2017).

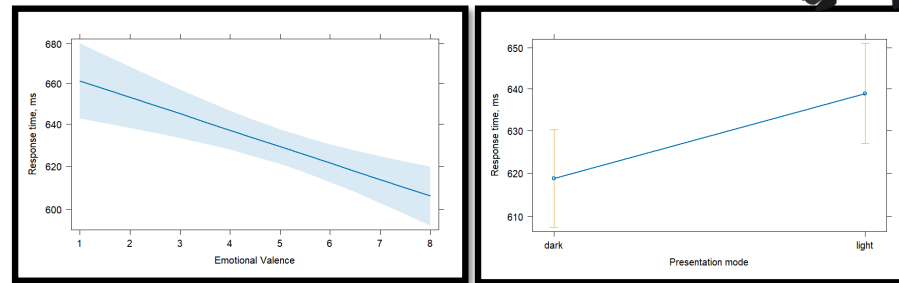
HYPOTHESES

1. **Dark mode** will **slow down** responses to words regardless of valence but with positive words eliciting quicker responses than negative.
2. **Light mode** will elicit **overall quicker** and more accurate responses.

METHODS

- 21 undergraduate students
 - Between subject design
 - Light: 10 Dark: 11
- Independent Variables
 - Presentation mode & emotional valence
- Dependent variables
 - Reaction time
- Lexical decision task
- 183 Stimuli: 128 real words sourced from Warriner et al. (2013) & 55 non-words.
- Linear regression model used to analyze the interaction between independent variables.

Welcome to the Dark Side: Dark Mode **Enhances** Word Recognition in a Lexical Decision Task



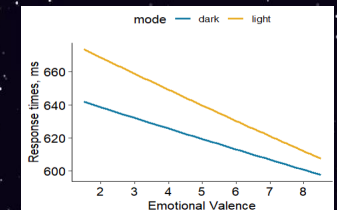
How does display mode modulate the processing of emotional valence in visual word recognition?



RESULTS

- Analysis preparation → remove non-words, first 5 trials, unusable data, incorrect responses, then outliers.
- **Dark mode** participants respond **faster** than light mode → average of 18ms difference
- **Higher emotional valence** resulted in **faster reaction times** → positive
- No significant interaction between display mode and emotional valence, but trending toward a quicker response in dark mode for negative words.

CRITICAL EFFECT	STANDARD ERROR	P-VALUE
Frequency	-0.040	< .001
Length	+0.0057	0.086
Trial Number	-0.00063	< .001
Mode (Light)	+0.0319	0.017
Emotional Valence	-0.0124	< .001
Mode * Valence	-0.00456	0.4611



DISCUSSION

- Results failed to support the hypotheses, with faster response times observed in dark mode.
- There are no significant interaction between display mode and word valence.
- Small sample size limit statistical power and generalizability.
- Dark mode is not as straining as anticipated
- Light mode bias is not always prevalent.
 - Dark mode overtaking light mode in the modern younger generation.

REFERENCES AND PDF QR CODE

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PDF of poster



vP Fronting in Tagalog

Bo Derek Lane-Smith

Cognitive Science of Language, McMaster University



INTRODUCTION

- Tagalog is a Verb-Subject-Object order language²
- Sentences always have a topic, "pivot," that receives nominative (subject) case³
 - Not necessarily the agent
- Pivot phrase is marked by determiner *ang*³
- Verb morphology reflects pivot movement:

B-um-ili **ang bata** ng tela
buy-Nom **ANG child** a/the cloth
"The child bought cloth"

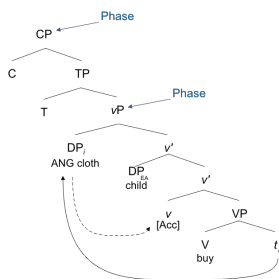
B-in-ili-Ø ng bata **ang tela**
buy-Acc a/the child **ANG cloth**
"A/the child bought the cloth"

(Richards & Rackowski, 2005)

- Sentences are made of phases (CP, vP)¹
 - Phases act as movement boundaries¹
- Elements from a lower phase (vP) can move to a higher phase (CP) if close enough → Wh-Questions¹

Richards & Rackowski's Analysis

- Pivot undergoes head movement to the edge of the vP phase → available for higher movement³



- Word scrambling then achieves surface word order:
 - Does not account for all interpretations

- I argue that Tagalog uses phrasal movement (nohead) to first achieve basic VSO word order before any kind of word scrambling occurs. This can be done through vP-fronting and distributed deletion without violating phase restrictions.

VSO MOVEMENT

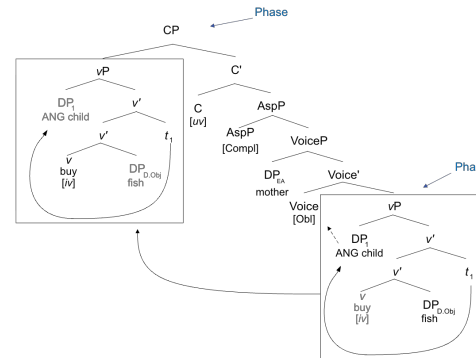
- Culwell-Kanarek found a problem with Richards & Rackowski's proposed analysis²
- If word scrambling after the verb did not affect interpretation → sentences below would be equivalent in meaning:

I-b-in-ili ng nanay **ang bata** ng isda
Obl-buy a/the mother **ANG child** a/the fish
"A/the mother bought fish for the child"

*I-b-in-ili **ang bata** ng nanay ng isda
Obl-buy **ANG child** a/the mother a/the fish
(Culwell-Kanarek, 2005)

- Altered order changes the meaning
- Word order must be syntactically derived, not freely scrambled

Proposed Analysis:



WH-MOVEMENT

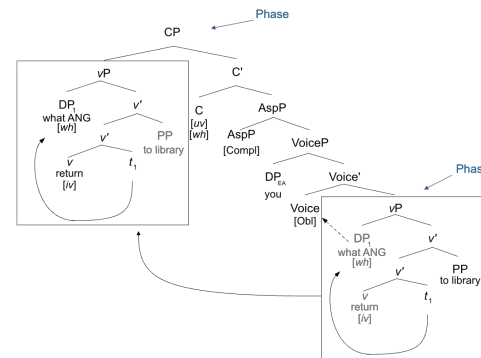
- Exception to VSO word order: *wh*-questions
 - wh*-phrase precedes the verb³
- wh*-phrases → pivot in a sentence
- Verb morphology agreeing to the *wh*-phrase:

Ano ang i-sinauli mo sa aklatan?
what ANG Obl-return you to library
"What did you return to the library?"

*Ano ang pinagsauli-an mo ang aklatan?
what ANG return-Dat you **ANG library**
(Richards & Rackowski, 2005)

- wh*-phrase is motivated to move to spec-CP by [*wh*] feature³
- More streamlined movement is achieved through vP-fronting⁴
- The *wh*-phrase is pronounced at the beginning of the sentence because it fulfills the CP [*wh*] feature⁴

Proposed Analysis:



BACKGROUND

vP-Fronting

- vP-fronting often occurs in VSO languages⁴
- Movement is motivated by [*uv*] feature on a higher head (CP) that is fulfilled by the verb's [*v*] feature⁴
- Distributed Deletion
 - "Realize Goal": Only elements satisfying movement features are pronounced
 - Material that doesn't satisfy movement features are only pronounced at their initial position

PURPOSE

This study argues that vP-fronting and distributed deletion derive VSO word order in Tagalog, offering a framework applicable to Austronesian verb-initial languages.

CONCLUSIONS

In Summary:

- Tagalog word order is best explained through phrasal movement (vP-fronting)
- Scrambling-based analyses fail to account for meaning differences

Further Research:

- To test in Tagalog:
 - Multi-clausal structures
 - Questions with multiple *wh*-phrases
- Applications to other verb-initial languages

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Memory for Rhythm and Sentences in Noise

Background

- Temporal short-term memory has been linked to language learning (Service et al 2022).
- Sentence repetition relies on short-term memory (STM) and is more difficult in background noise (Song et al., 2022).
- The present study examined whether STM for non-linguistic rhythmic patterns is related to linguistic STM and sentence repetition ability.
- This study incorporated background noise condition to better understand STM and cognitive load (Koo et al., 202), such as for hearing impaired speakers.

Research Questions

1. Does STM for non-verbal temporal patterns correlate with sentence repetition in silence and noise?

Hypothesis: STM for non-verbal temporal patterns will be positively correlate with sentence repetition in silence and noise.

2. Does verbal STM (digit span) correlate to sentence repetition in silence and noise?

Hypothesis: Verbal short-term memory (digit span) will be positively correlate to sentence repetition in silence and noise.

Methods

Participants (n = 40) were English-dominant speakers.

1. Tapping Task:

Participants listened to sequences of short (200 ms) and long (600 ms) tones and reproduced the rhythm by tapping on a response box. Sequences ranged from 7 to 9 tones with four trials per sequence length (Fig. 1).

2. Digit Span Task:

Participants heard 12 sequences of 4 to 9 digits and repeated them aloud in the correct order (Fig 2).

3. Sentence Repetition Task:

Participants heard sentences and repeated them aloud. Sentences were presented in silence and background noise (10 each), with grammatical and anomalous sentences in randomized order. Condition order was counterbalanced. Accuracy was measured as word-level recall.

Tapping Task Non-verbal rhythm



Figure 1| Visualization of three sequences from the Tapping Task

Digit Span Verbal non-syntactic STM

2 4 7 1
9 3 5 7 8
3 1 4 7 5 6

Figure 2| Digit Span Stimuli

Sentence Repetition Verbal syntactic STM

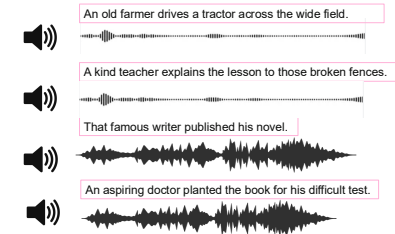
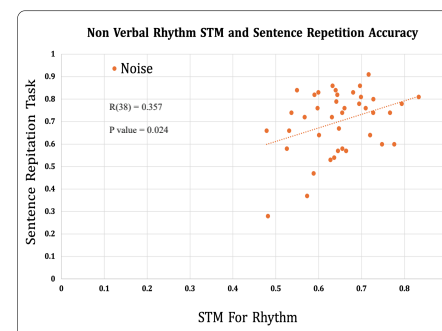
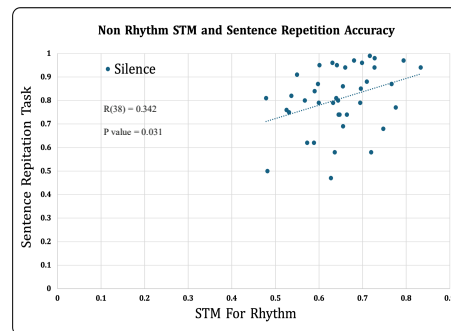
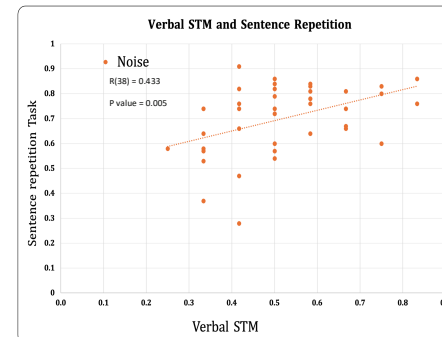
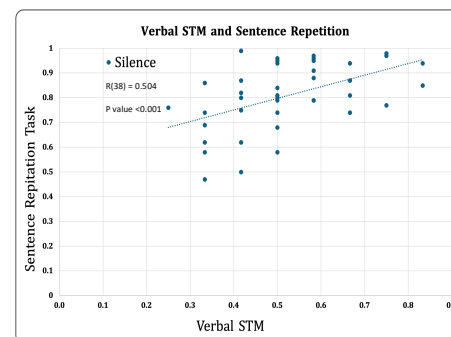


Figure 3| Sentence Stimuli

Results



Figures 4 & 5| Proportions of correct taps are **significantly correlated** with the proportion of words recalled in the sentence repetition task in silence and noise conditions.



Figures 6 & 7| Proportions of digits recalled in the correct order are **significantly correlated** with the proportion of words recalled in the sentence repetition task in silence and noise conditions.

Conclusions

H1. Temporal STM was positively correlated to sentence repetition in silence and noise (Fig. 3 & 4), with a slightly stronger relationship in noise (Fig. 4)

- This suggests that individual differences in **non-verbal** rhythmic STM predict sentence repetition ability, especially under more challenging listening conditions

H2. Verbal STM (digit span) was positively correlated to sentence repetition in both conditions (Fig. 5 & 6), with a stronger relationship in noise

- This suggests that individual differences in **verbal non-syntactic** rhythmic STM predict sentence repetition ability, especially under more challenging listening conditions

Overall conclusion: These results suggest that background noise accentuates the differences in STM skills in individuals.

- Future research can test these relationships in children with developmental language disorders and individuals who are hard of hearing.

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