AFLA 23
The Proceedings of the 23rd Meeting of the Austronesian Formal Linguistics Association

edited by
Hiroki Nomoto, Takuya Miyauchi and Asako Shiohara
The Austronesian Formal Linguistics Association (AFLA) is an organization that promotes the study of Austronesian languages from a formal perspective. The 23rd Annual meeting of the Austronesian Formal Linguistics Association (AFLA 23) was held at Tokyo University of Foreign Studies, Japan in June, 2016. Of the 30 papers presented at the conference, 20 are included in this volume, with contributions on languages including Tagalog, Malay/Indonesian and Formosan languages in Taiwan and on topics covering syntax, semantics and phonology.
AFLA 23: The Proceedings of the 23rd Meeting of the Austronesian Formal Linguistics Association

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THE ROLE OF VOICE MORPHOLOGY IN PROCESSING TAGALOG A-BAR DEPENDENCIES*

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The present study investigates the role of Tagalog voice morphology in real-time sentence processing. Because voice morphology packages information about the subject’s thematic relation and structural position, we hypothesized that it can sharpen the comprehenders’ predictions by allowing them to project the structure of vP and thus guide their interpretation of incoming linguistic material. Using a Stops-Making-Sense task, we tested whether verbs inflected with voice morphology were linked to their arguments any faster than controls without visible inflection. We found evidence that verbs inflected with -um- did facilitate the comprehension of agent wh-questions, but verbs inflected with -in- did not facilitate the comprehension of patient wh-questions. We argue that voice morphology does permit the comprehender to predictively extend their syntactic representations. However, whether it immediately feeds interpretation is mediated by other factors, such as the availability of alternative parses. We conjecture that the syntax of argument wh-questions in Tagalog affects the time-course of parsing, such that they are interpreted less ‘actively’ than comparable constructions in English.

1. Introduction

Processing A-bar dependencies incrementally is challenging for comprehenders for at least two reasons. First, comprehenders need to link a moved phrase (the FILLER) with an empty category (the GAP), whose position is not unambiguously indicated by the evidence in the input (Fodor 1978). Instead, the presence of a gap is inferred from the absence of a constituent in the position where the filler is to be expected. Second, the distance between the filler and the gap is unbounded. That is, it can span multiple clauses (Wagers and Phillips 2014). These two properties, exemplified in (1), could leave comprehenders uncertain as a sentence unfolds about how to associate the filler

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and the gap—until after encountering evidence in the input confirming the presence of the gap. Thus, of particular interest to psycholinguists is the question of how comprehenders process these types of syntactic dependencies in real-time without delaying their interpretation.

(1)  
   a. The **fruits** that the farmer placed __ in the basket were still unripe.  
   b. The **fruits** that the lady told the farmer to place __ in the basket were unripe.

A large body of experimental evidence indicates that comprehenders do not wait for disambiguating evidence to associate a filler with a gap. Instead, they predictively posit a gap at each available position that would allow this dependency to be resolved without violating a grammatical constraint (Phillips and Wagers 2007, a.o.). This predictive association of the filler with the gap has been referred to as the **ACTIVE FILLER STRATEGY** (Frazier 1987), and this can be exemplified in (2) below. First, consider (2a): comprehenders identify the string **Which book** as a filler. Upon encountering the verb *read*, they attempt to associate the filler with a gap corresponding to the direct object of the verb. After encountering the rest of the linguistic input, they realize that their prediction is consistent with the input and thus, they arrive at the correct interpretation. Now consider (2b): comprehenders again identify the string **Which book** as a filler. Upon encountering the verb *read*, they once again attempt to associate the filler with the gap corresponding to the direct object. However, after they encounter the string *a review*, they realize that their initial association is incorrect and must reanalyze. Upon encountering the preposition *of*, they re-associate the filler with a gap corresponding to the object of the preposition. Finally, when they encounter the string *last night*, they realize that their re-association is consistent with the input and thus, they arrive at the correct interpretation.

(2)  
   a. **Which book** did you read last night? 
   b. **Which book** did you read a review of last night?

While comprehenders’ initial association may be correct, as in (2a), this is not guaranteed. This may turn out to be wrong and thus, may need to be revised, as in (2b). When viewed this way, predictively associating a filler with a gap is a risk that comprehenders take when interpreting A-bar dependencies in real-time. With this in mind, the question that we are interested in is the following: what types of linguistic cues do comprehenders employ to guide their predictions, ease the uncertainty, and facilitate their interpretations of A-bar dependencies in real-time?

We investigate this question with respect to voice morphology found in Tagalog, an Austronesian language spoken in the Philippines. As it has been described in the literature in great detail, voice morphology in Tagalog (and related languages) encodes the thematic relation and the structural position of the subject, the *ang*-marked
Thus, it could potentially provide a rich source of information for comprehenders during real-time sentence processing. In addition, voice morphology interacts with other parts of the grammar and restricts what DPs can undergo A-bar extraction. Thus, by delimiting what filler can be involved in an A-bar dependency, it could potentially narrow down the hypothesis-space when attempting to associate a filler with a gap in real-time. In the present study, we ask whether Tagalog voice morphology facilitates the real-time comprehension of argument wh-questions by allowing comprehenders to sharpen their predictions about the incoming input.

The paper is organized as follows: section 2 gives an overview of the relevant morpho-syntactic properties of Tagalog; section 3 describes the experiment and presents the results; and section 4 concludes by relating the results to what we know about Tagalog morpho-syntax and psycholinguistics, more generally.

2. Tagalog voice and extraction

2.1. The basics of voice morphology

In the descriptive literature, Tagalog verbs are said to carry overt voice morphology that encodes information about the thematic relation and structural position of the subject, the ang-marked DP (Schachter and Otanes 1983). Even though there are different morphological exponents of voice, the present study focuses only on -um- and -in-. The -um- in (3a) indicates that the subject of the clause is the agent, which is mapped to the external argument. The -in- in (3b) indicates that the subject of the clause is the patient, which is mapped to the internal argument.²

(3) a. Subject: agent, external argument
K<um>ain ng=langka ang=bata. buy<AV> jackfruit child
‘The child ate jackfruit.’

b. Subject: patient, internal argument
K<in>ain ng=bata ang=langka. eat<PV> child jackfruit
‘The child ate the jackfruit.’

In the theoretical literature, voice morphology has been analyzed in at least two ways: agreement with the abstract Case of the subject (Rackowski 2002; Rackowski and Richards 2005), and as spell-outs of v (Aldridge 2012). Despite their differences, these two analyses propose comparable syntactic representations for verbs involving -um- and -in-, as seen in (4) and (5), respectively.

¹We abstract away from the controversial status of subjecthood in Tagalog and related languages. We use the term subject for expository ease. For an overview of the syntactic properties (and the controversy) associated with ang-marked DPs, we invite the readers to consult Chapter 2 of Kroeger 1993 as a starting point.

²We used the following abbreviations in the paper: AV = actor voice, ITER = iterative aspect, LNK = linker, PN = proper name, PV = patient voice, RECPERF = recent perfective aspect.
These representations are relevant because we hypothesize that -*um*- and -*in*- facilitate real-time comprehension by allowing comprehenders to project the internal structure of vP. In other words, we claim that when comprehenders identify that there is an A-bar dependency involved and they encounter a verb with either -*um*- or -*in*- , they are able to quickly access these mental representations, thereby facilitating the resolution of the dependency and interpretation of the linguistic signal. This process could be considered a generalized version of the Active Filler Strategy (Wagers, Borja, and Chung 2015) and can be schematized in (6a) and (6b).

(6) a. When comprehenders identify an A-bar dependency and encounter verbs that have -*um*- , they are able to project a verbal spine akin to (4), where the gap that needs to be linked to the filler is the agent DP occupying [Spec, vP]
When comprehenders identify an A-bar dependency and encounter verbs that have -in-, they are able to project a verbal spine akin to (5), where the gap that needs to be linked to the filler is the externalized patient DP (via [EPP]) occupying [Spec, vP]

2.2. Interaction with extraction

Voice morphology interacts with A-bar dependencies to give rise to the extraction restriction in Tagalog (and other related languages): only the subject can be extracted (Aldridge 2002; Rackowski 2002). In other words, when the verb has -um-, only the extraction of the agent is licit, as in (7a); extraction of the patient is illicit, as in (7b). When the verb has -in-, only the extraction of the patient is licit, as in (7c); extraction of the agent is illicit, as in (7d). These patterns are schematized in Table 1 (left panel).

(7) a. Alin-g babae ang=s<um>ipa ng=lalaki?
   which-LNK woman kick<AV> man
   ‘Which woman kicked a man?’

   b. *Alin-g lalaki ang=s<um>ipa ang=babae?
      which-LNK man kick<AV> woman
      Intended: Which man did the woman kick?

   c. Alin-g lalaki ang=s<in>ipa ng=babae?
      which-LNK man kick<PV> woman
      ‘Which man did the woman kick?’

   d. *Alin-g babae ang=s<in>ipa ang=lalaki?
      which-LNK woman kick<PV> man
      Intended: Which woman kicked the child?
Table 1: Patterns of extraction: (Left) based on previous studies; and (Right) based on our recent work with speakers

<table>
<thead>
<tr>
<th>Extracted DP</th>
<th>Agent</th>
<th>Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice -um-</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>-in-</td>
<td>x</td>
<td>✓</td>
</tr>
</tbody>
</table>

However, based on our work with speakers, we found that these patterns are not as clear-cut as previously described. Sentences like (7a–c) above accord with the previous descriptions. Sentences like (7d) exhibit great inter-speaker variability: some of the speakers categorically reject them and this pattern is consistent with previous descriptions; others fully accept them, contra previous descriptions; most speakers find them acceptable, albeit more degraded than (7a) and (7c) but better than (7b). These patterns are schematized in Table 1 (right panel).

To determine whether these judgments are robust across a wider range of speakers, we conducted an offline acceptability judgment survey and recruited 80 speakers (40 M; 40 F, 18–35 years old; $M_{age} = 23.33$) from the University of the Philippines–Diliman. The survey used a 2×2 factorial design, crossing MORPHOLOGY (-um-, -in-) and EXTRACTION (Agent, Patient). The speakers were instructed to rate the acceptability of 16 sentences using a 7-point Likert scale, with 1 being hindi mabuti ‘unacceptable (literal: not good)’ and 7 being mabuti ‘acceptable (literal: good).’ Graphical summaries of the data are provided in Figure 1.

![Figure 1: Breakdown of ratings per condition: (a) agent is extracted and verb has -um-; (b) patient is extracted and the verb has -um-; (c) patient is extracted and the verb has -in-; and (d) agent is extracted and the verb has -in-. The interaction between MORPHOLOGY and EXTRACTION was statistically significant, $b = -6.09, t(237) = -30.90, p < .001.$](image-url)
Our survey confirmed that the patterns based on our work with speakers are robust. The ratings for sentences like (7a) and (7c) accord with our description, as well as with previous ones: agent-extraction when the verb has -um- and patient-extraction when the verb has -in- were rated high, with all speakers rating them at least a 4. The ratings for sentences like (7b) also accord with our description, as well as with previous ones: patient-extraction when the verb has -um- were rated low, with 93% of the ratings 3 or lower. However, for sentences like (7d), which involve agent-extraction when the verb has -in-, there was great-interspeaker variability. Approximately a third of the observations were rated as a 1, but the remaining two-thirds were more or less divided evenly across the other ratings. Later, we will appeal to this variability across speakers to account for the apparent -um/-in-asymmetry observed in real-time processing.

2.3. Without voice

To isolate the independent contribution of voice morphology in real-time processing, we need to compare the time-course of dependency formation when verbs exhibit voice and when they do not. Tagalog allows us to make this comparison because in certain aspects, the verb does not (obligatorily) exhibit voice: in the iterative (Schachter and Otanes 1983, pp. 398–9) and in the recent perfective (Kroeger 1993, p. 50). Crucially, they impose comparable restrictions on A-bar dependencies as verbs with -um- and -in-, respectively.

When iteratives exhibit no voice morphology, only the agent can be extracted, as in (8a). This similarity in extraction restriction with -um-marked verbs creates a minimal contrast that allows us to isolate the contribution of -um- in real-time processing. When recent perfectives have an obligatorily specific co-argument (i.e., proper name or pronoun) that is ng-marked, only the patient can be extracted, as in (8b). This similarity in extraction restriction with -in-marked verbs creates a near-minimal contrast that allows us to isolate the contribution of -in- in real-time processing. A summary of these pairwise comparisons is provided in Table 2 below.

(8) a. Maganda ang=hostes na bati-nang-bati ng=mga=bisita.
   beautiful hostess LNK greet:ITER visitors
   ‘The hostess that kept on greeting visitors is beautiful’
   *The hostess that the visitors kept on greeting is beautiful.

b. Maganda ang=hostes na kakabati lang ni=Inday/niya.
   beautiful hostess LNK greet:RECPERF just PN/3SG
   *The hostess that just greeted Inday/her is beautiful.
   ‘The hostess that Inday/she just greeted is beautiful’
Table 2: Pairwise comparisons to isolate the contribution of voice in real-time processing using the verb *kain* ‘eat’ to demonstrate the various forms

<table>
<thead>
<tr>
<th>Extracted DP</th>
<th>Agent</th>
<th>Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>With voice</td>
<td>-um-marked verbs</td>
<td>-in-marked verbs</td>
</tr>
<tr>
<td></td>
<td><em>kumakain</em></td>
<td><em>kinain</em></td>
</tr>
<tr>
<td>With no voice</td>
<td>Iteratives</td>
<td>Recent perfectives</td>
</tr>
<tr>
<td></td>
<td><em>kain nang kain</em></td>
<td><em>kakakain</em></td>
</tr>
</tbody>
</table>

3. The experiments: Isolating the effect of voice morphology

Two online experiments were conducted to isolate the independent contribution of voice morphology on processing A-bar dependencies in Tagalog. A phrase-by-phrase non-cumulative moving window STOPS-MAKING-SENSE paradigm (Boland, Tanenhaus, Garnsey, and Carlson 1995) was used to detect local plausibility effects in *wh*-questions. Under this paradigm, we manipulated how plausible a filler would be as one of the co-arguments of a verb, based on the information encoded by voice morphology, and based on how interpretations are constrained in voiceless iteratives and in recent perfectives with obligatorily specific *ng*-marked co-arguments.

This paradigm is a version of self-paced reading in which participants advance through the sentence one phrase at a time. However, they can choose at any phrase to abandon the sentence, if it ‘stops making sense.’ The intuition is that the sentences will be nonsensical in a way that only becomes apparent when the participants are able to integrate all of the linguistic material into a coherent whole. When participants have indicated that the sentence stopped making sense, we can infer that they have assembled the pieces of the sentence into a meaningful unit at that point in time. As a result, the implausibility of a filler will frustrate their expectations that the sentence will make sense, and these frustrated expectations can provide us a window about the time-course of how the filler came to be associated with the gap.

3.1. Participants

Eighty Tagalog speakers (40 F and 40 M; 18-35 years old; $M_{age} = 23.33; SD_{age} = 4.53$) were recruited from the University of the Philippines–Diliman. They also responded to the offline questionnaires and participated in the two online experiments. They received a Starbucks gift card, valued at 400 PHP ($\approx 8.50$ USD), for participating.

3.2. Materials

The experiments employed a $2 \times 2$ factorial design, crossing VOICE (+Voice, -Voice) and FILLER PLAUSIBILITY (+Plaus, -Plaus). Twelve semantically non-reversible transitive verbs were chosen for the experiments. Two 12-item sets were created: one
for comparing agent-extractions, as in (9); and one for comparing patient-extractions, as in (10). Each item was distributed across four lists via the Latin Square design. Each participant saw one of the lists intermixed with 48 distractors in randomized order.

To create the experimental items involving agent-extractions, we started out with a plausible sentence where the verb exhibited -um-, as in (9a). Building off (9a), we manipulated the plausibility by switching the co-arguments, as in (9b); we also manipulated the presence of voice, while holding plausibility constant, by switching the verb’s aspect to iterative, as in (9c). Building off (9c), we manipulated the plausibility by switching the co-arguments, as in (9d).

(9) a. Alin-g bata ang=kumakain parati ng=lechon...? +Voice, +Plaus
which-LNK child eat<AV> always roasted pig
‘Which child is always eating roasted pig...?’
b. Alin-g lechon ang=kumakain parati ng=bata...? +Voice, -Plaus
which-LNK roasted pig eat<AV> always child
‘Which roasted pig is always eating a child...?’
c. Alin-g bata ang=kain-nang-kain ng=lechon...? -Voice, +Plaus
which-LNK child eat:ITER roasted pig
‘Which child kept on eating roasted pig...?’
d. Alin-g lechon ang=kain-nang-kain ng=bata...? -Voice, -Plaus
which-LNK roasted pig eat:ITER child
‘Which roasted pig kept on eating a child...?’

To create the experimental items involving patient-extractions, we started out with a plausible sentence where the verb exhibited -in-, as in (10a). Building off (10a), we manipulated the plausibility by replacing an inanimate filler with an animate one, as in (10b); we also manipulated the presence of voice, while holding plausibility constant, by switching the verb’s aspect to recent perfective, as in (10c). Building off (10c), we manipulated the plausibility by replacing an inanimate filler with an animate one, as in (10d).

(10)a. Alin-g alak ang=ininom niya kani-kanina lang...? +Voice, +Plaus
which-LNK wine drink<PV> 3SG recently just
‘Which wine did he/she just drink...?’
b. Alin-g babae ang=ininom niya kani-kanina lang...? +Voice, -Plaus
which-LNK woman drink<PV> 3SG recently just
‘Which woman did he/she just drink...?’
c. Alin-g alak ang=kakainom lang niya...? -Voice, +Plaus
which-LNK wine drink:RECPERF just 3SG
‘Which wine did he/she just drink...?’
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d. Alin-g babae ang=kakainom lang niya...? -Voice, -Plaus
   which-LNK woman drink:RECPERF just 3SG
   ‘Which woman did he/she just drink...?’

3.3. Procedure

The experiments were developed and presented using Linger (Rohde 2003). Participants were first introduced to a word-by-word self-paced moving window reading task to familiarize themselves with the presentation. The sentences initially appeared as a row of dashes, and participants were instructed how to advance through the sentence phrase-by-phrase. After several practice trials, they were instructed how to indicate a sentence “stops-making-sense”: they were instructed to read the sentences in the same way as before with one crucial difference. After each word, they had the option to continue with the presentation or abort it and move on to the next trial if the sentence stopped making sense.

3.4. Analysis

For each condition, we computed a DISCRIMINABILITY SCORE for each participant at each region. We defined this measure as the difference between percentage of plausible trials rejected and percentage of implausible trials rejected in that region (expressed as empirical logits). A positive score means that participants were rejecting implausible sentences at a higher rate relative to their plausible counterparts. A negative score means the reverse: participants were rejecting plausible sentences at a higher rate relative to their plausible counterparts. A score of 0 means that they were rejecting plausible and implausible sentences at an equal rate.

To assess the effect of plausibility and voice morphology on the ability to discriminate implausible sentences from their plausible counterparts in agent- and patient-extractions, linear mixed-effects models of discriminability were estimated at each region in R (R Core Team 2015) using lme4 (Bates, Mächler, Bolker, and Walker 2015). We entered into each region’s regression VOICE as a fixed effect and estimated random intercepts for participants. No random slopes were estimated due to non-convergence. Also included in the model were the weights of each observation by the reciprocal of the variance.

3.5. Results: Agent-extraction

Figure 2 (left panel) shows the raw rejection rates for each condition. Our results revealed that at the Verb-region, participants were rejecting implausible sentences more than their plausible counterparts. This effect persisted the Verb+1-region, where the co-argument occurred.

Figure 2 (right panel) shows the discriminability scores for both verb types. At the Verb-region, the discriminability score of -um-marked verbs was reliably
higher than that of verbs in the iterative. Implausible sentences with voice morphology led to higher rates of correct rejections than those without, and plausible sentences with voice morphology led to fewer erroneous rejections.

We take this difference as evidence that participants could compute a partial interpretation for the sentence more quickly when there was visible voice morphology. As expected, this effect was neutralized at the Verb+1-region when information about the co-argument became available.

3.6. Results: Patient-extraction

Figure 3 (left panel) shows the raw rejection rates for each condition. Our results revealed that at the Verb-region, participants were rejecting implausible sentences more than their plausible counterparts. This effect persisted the Verb+1-region, where the co-argument occurred.

Figure 3 (right panel) shows the discriminability scores for both verb types. At the Verb-region, the discriminability score of -in-marked verbs was not reliably higher than that of verbs in the recent perfective. Implausible sentences with voice morphology and those without had comparable rates of correct rejections.

Unlike -um-marked verbs, we do not have evidence that participants could compute a partial interpretation for the sentence more quickly when there was visible voice morphology, contra our hypothesis. As expected, this effect (or lack thereof) persisted through the Verb+1-region when information about the co-argument became available.
4. General discussion and conclusion

We found evidence that -um- facilitated the comprehension of argument wh-questions. We did not find any evidence that -in- did, however. These results leave us with two questions. First, there is the asymmetry question: why is there an asymmetry in the effect of -um- and -in-? Second, there is the attenuation question: why is the effect of voice attenuated? That is, if voice morphology packages all that information about the subject that is crucial for structure-building, why are the rejection rates of implausible sentences when the verb exhibited voice low?

Consider the asymmetry question first. We found an apparent asymmetry between the effect of -um- and -in- in real-time comprehension. Before proceeding, it is important to note that these findings are not unique to the present study. Comparable -um/-in- asymmetries have previously been reported in acquisition studies (Tanaka 2016; Pizarro-Guevara 2014). Based on these facts, should we conclude then that only -um- facilitates A-bar comprehension, while -in- does not—despite the fact that they both encode the thematic relation and the structural position of the subject? We claim that despite this apparent asymmetry, both -um- and -in- do facilitate the comprehension of A-bar dependencies—with an important caveat. Their facilitatory effects are mediated by other factors, such as the availability of alternative parses.

Recall that there is considerable inter-speaker variation when the agent is extracted and the verb exhibits -in-. Such variability allows for a sentence that starts like (11) to have multiple possible continuations: an agent-extraction that becomes implausible when the co-argument niya is encountered, as in (11a); an agent-extraction...
that remains plausible when the co-argument *ang alak* is encountered, as in (11b); and finally, an instance of sub-extraction, as in (11c).³

(11) Alin-g babae ang=ininom...
    which-LNK woman drink<PV>
    a. ... niya kani-kanina lang...? Implausible agent-extraction
       ... 3SG recently just
       #Which woman did s/he just drink recently...?
    b. ... ang=alak kani-kanina lang...? Plausible agent-extraction
       ... wine recently just
       ‘Which woman just drank the wine recently...?’
    c. ... ng=lalaki ang=alak niya...? Plausible sub-extraction
       ... man wine 3SG
       ‘Which woman is the one whose wine a man drank?’

It could be that comprehenders are entertaining these possible continuations when they encounter a verb with -in- and thus, they reserve rejecting the sentence until there was disambiguating evidence (i.e., the co-argument). Figure 4 presents some suggestive evidence from their unrejected reading times.⁴ Statistical analyses reveal that there is a plausibility effect at the Verb-region, suggesting that participants are registering the potential semantic anomaly as indicated by the elevated reading times of the circles over the triangles.

Now consider the attentuation question. We provide in Table 3 a summary of the rejection rates in our experiment when participants had direct evidence to reject an implausible sentence (i.e., when the co-argument was introduced at the Verb+1-region). What is driving these attenuated rejection rates?

<table>
<thead>
<tr>
<th></th>
<th>-um-</th>
<th>-in-</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Plaus</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>–Plaus</td>
<td>61%</td>
<td>31%</td>
</tr>
</tbody>
</table>

We conjecture that the syntax of argument *wh*-questions in Tagalog affects the time-course of parsing. In Tagalog argument *wh*-questions, their *wh*-initiality is derived via a pseudo-clefting strategy (Aldridge 2002, a.o.). That is, the *wh*-phrase functions as the predicate, while the rest of the material is a headless relative. If we

³We thank Norvin Richards for pointing out the possibility of a sub-extraction parse, and Elsie Or and other linguists from the University of the Philippines–Diliman for their grammaticality judgments. It should be noted that not all speakers allow sub-extraction, however.

⁴Segment-by-segment reading times of those who chose to continue the presentation at each region were also collected. We refer to these reading times as unrejected reading times.
assume that there is a temporal lag between the time at which comprehenders access syntactic structure and assign interpretation, then we have a potential explanation for the discrepancy in rejection rates. More specifically, the attenuated results in Tagalog could be due to the fact that the relation between the filler and the gap is not a direct one but rather is mediated via predication. We speculate that this is why we see relatively low rejection rates even for \textit{-um}-marked verbs, although future research is required to understand how this interacts with task demands and anomaly type.

To conclude, in this study, we aimed to investigate the functional impact of voice morphology on the comprehension of A-bar dependencies. We found that \textit{-um}- facilitated the participants’ ability to comprehend \textit{wh}-questions. We did not find any evidence that \textit{-in}- did. Despite this apparent asymmetry, we maintain that voice morphology does facilitate comprehension. However, its effect is mediated by other factors, like the availability of alternative parses. We conjecture that the syntax of argument \textit{wh}-questions in Tagalog affects the time-course of parsing, such that they are interpreted less ‘actively’ than comparable constructions in English, where the relation between the filler and the gap is direct.

References

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