

The interpretation of implicit arguments in Paraguayan Guaraní

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Abstract: Paraguayan Guaraní allows for implicit arguments, that is, arguments that are neither cross-referenced on the verb nor realized by an independent noun phrase. Building on Tonhauser’s 2017 description of the distribution of implicit arguments in the language, this paper describes the interpretations such arguments can receive. Specifically, the paper shows that implicit arguments in Paraguayan Guaraní can receive elided and existential interpretations, in addition to the anaphoric interpretation described in Tonhauser 2017.

Keywords: Implicit arguments; Paraguayan Guaraní; anaphoric, elided and existential interpretations; verb classes

1. Introduction

In Paraguayan Guaraní, arguments of verbs may be implicit, meaning that they are neither cross-referenced on the verb nor realized by an independent noun phrase. To illustrate implicit arguments, consider the example in (1),¹ which features the (bold-faced) transitive verb *(o)mbo-hováí* ‘answer’. Its first person singular theme argument is not implicit: it is cross-referenced on the verb with the first person set B cross-reference marker *che-* ‘B1sg’. Its third person singular agent argument, however, is implicit: it is neither cross-referenced on the verb nor realized by an independent noun phrase. As indicated by the English translation of (1), the implicit agent argument is understood to be the Little Prince. (Throughout the paper, arguments that are implicit in Paraguayan Guaraní are given in angle brackets in the English translations.)

(1) Context: The pilot asks the Little Prince if he has plans for tomorrow.

Jepe na-che-mbo-hováí-ri.
but NEG-B1sg-CAUS-face-NEG

‘But [the Little Prince/he] did not answer me.’ (Saint-Exupéry 2005, XXV)

Due to the cross-referencing system of the language, not all arguments of Paraguayan Guaraní verbs can be implicit. As described in detail in Tonhauser 2017, implicit arguments are limited to arguments of (di)transitive verbs, to the exclusion of the single argument of intransitive verbs, and they cannot be first person agent or theme arguments of (di)transitive verbs. The distribution of implicit arguments was described in Tonhauser 2017 on the basis of examples in which the implicit arguments received anaphoric interpretations, as in (1), where the implicit argument is anaphorically resolved to the Little Prince. Building on Tonhauser 2017, this paper shows that implicit arguments in Paraguayan Guaraní can receive not only anaphoric interpretations, but also elided and existential interpretations. The paper proceeds as follows: Section 2 introduces

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¹ The Paraguayan Guaraní examples presented here are given in the standardized orthography of the language used in Paraguay (Ministerio de Educación y Cultura 2004, Velázquez-Castillo 2004a, 1421f.), except that all postpositions are attached to their host. Following this orthography, stressed oral syllables are marked with an acute accent and stressed nasal syllables are marked with a tilde; acute accents are not written for normally accented words (stress on the final syllable). The examples are glossed according to the Leipzig glossing conventions. The following additional glosses are used: A/B = set A/B cross-reference marker, CONTRAST = contrastive topic (Tonhauser 2012), DES = desiderative modal, MUST = necessity modal, -PE = marker of theme, spatial, or temporal arguments/adjuncts (Shain and Tonhauser 2011), pron.AG/NAG = agent argument / non-agent argument pronoun, PROSP = prospective aspect/modal (Tonhauser 2011), -REHE = object marker, ‘at’.

33 the basics of the Paraguayan Guaraní cross-referencing system, and summarizes the
 34 relevant findings from [Tonhauser 2017](#) regarding the distribution of implicit arguments.
 35 Section 3 then introduces relevant aspects of the anaphoric interpretation of implicit
 36 arguments based on [Tonhauser 2017](#). Section 4 describes the elided interpretation of
 37 implicit arguments, and section 5 the existential interpretation. After a brief discussion
 38 and pointers to future research in section 6, the paper concludes in section 7.

39 Information about the consultants and the research methods

40 The empirical generalizations presented in this paper are based on data that was
 41 elicited in collaboration with a total of eight consultants in three fieldwork trips between
 42 2013 and 2016. The consultants (five women/three men), who at the time of elicitation
 43 were between 22 and (about) 65 years old, were living in San Lorenzo in the Central
 44 department of Paraguay, where the elicitation sessions took place (though some con-
 45 sultants had lived in other places during their lives). The consultants are bilingual in
 46 Paraguayan Guaraní and Spanish, and speak both languages on a regular basis.

47 I elicited data by asking for translations (from Spanish to Paraguayan Guaraní, or
 48 vice versa), or by asking for acceptability judgments of Paraguayan Guaraní expressions.
 49 When a context was presented to the consultants, it was presented in Paraguayan
 50 Guaraní (e.g., to specify prior Paraguayan Guaraní utterances) or in Spanish (e.g., to
 51 describe background information); see [AnderBois and Henderson 2015](#) for discussion
 52 of which language to present a context in. Each piece of data was checked with at
 53 least three consultants; judgments were elicited from more consultants when there
 54 was disagreement between the consultants' judgments. Examples presented in this
 55 paper without a diacritic were judged to be acceptable by each consultant from whom
 56 a judgment was elicited; those marked with '#' were judged to be unacceptable by
 57 each consultant, and are hypothesized to be syntactically well-formed but unacceptable
 58 for semantic/pragmatic reasons. Examples that provide evidence for a morphological
 59 (in)compatibility were judged out of context and are thus presented without a context.
 60 Such examples are presented with English present tense translations even though the
 61 Paraguayan Guaraní sentences are also compatible with other temporal references (see
 62 [Tonhauser 2011](#) for a discussion of temporal reference in the language).

63 2. The distribution of implicit arguments

64 To understand the distribution of implicit arguments in Paraguayan Guaraní (re-
 65 gardless of their interpretation), one must consider the cross-referencing system of the
 66 language. This section introduces the basics of the cross-referencing system (section 2.1)
 67 and then describes the distribution of implicit arguments (section 2.2). Readers familiar
 68 with [Tonhauser 2017](#) can skip this section.

69 2.1. The cross-referencing system of Paraguayan Guaraní

70 Paraguayan Guaraní verbs can only combine with one cross-reference marker,
 71 regardless of their valence. For intransitive verbs, this means that the single argument
 72 is always cross-referenced: some intransitive verbs, like *(o)guata* 'walk' in (2a), cross-
 73 reference their single argument with a set A marker, while other intransitive verbs, like
 74 *(che)kaigue* 'be lazy' in (2b), cross-reference their single argument with a set B marker;
 75 for the two sets of cross-reference markers see Table 1. For details on the selectional
 76 restrictions of intransitive verbs see [Gregores and Suárez 1967](#) and [Velázquez-Castillo](#)
 77 [2002 2004a](#).

- 78 (2) a. **A**-guata.
 79 A1sg-walk
 80 'I walk.'
 81 b. **Che**-kaigue.
 82 B1sg-lazy
 83 'I am lazy.'

([Tonhauser 2017](#), 199)

Person/number	set A	set B
1sg	<i>a(i)-</i>	<i>che-</i>
2sg	<i>re(i)-</i>	<i>nde- (ne-)</i>
3	<i>o(i)-</i>	<i>i-, ij-, hi'- (iñ-)</i>
1pl.incl	<i>ja(i)- (ñā(i)-)</i>	<i>ñānde- (ñāne-)</i>
1pl.excl	<i>ro(i)-</i>	<i>ore-</i>
2pl	<i>pe(i)-</i>	<i>pende- (pene-)</i>
1:2sg	<i>ro(i)-</i>	–
1:2pl	<i>po(i/ro)-</i>	–

Table 1: Paraguayan Guaraní cross-reference markers, with nasal allomorphs in parentheses, adapted from [Estigarribia 2020](#), 127f., 134

84 For (di)transitive verbs (in active voice), the two hierarchies in (3) determine
85 whether the agent or the theme argument is cross-referenced:

- 86 (3) a. Person hierarchy: 1 > 2 > 3
87 b. Thematic role hierarchy: agent > theme

88 To illustrate the person hierarchy, consider the examples in (4), which both feature the
89 transitive verb (*o*)*topa* ‘find’, and both involve a first and a third person argument. In
90 accordance with the person hierarchy, the first person argument is cross-referenced on
91 the verb, regardless of whether it is the agent, as in (4a), where it is cross-referenced with
92 the set A marker *a-* ‘A1sg’, or the theme, as in (4b), where it is cross-referenced with the
93 set B marker *che-* ‘B1sg’.

- 94 (4) a. **A**-topa jagua.
A1sg-find dog
‘I find a/the dog.’
95
96 b. **Che**-topa jagua.
B1sg-find dog
97 ‘A/the dog finds me.’

98 The thematic role hierarchy in (3b) comes into play when both the agent and the
99 theme are third person, as in the example in (5), which features the transitive verb
100 (*oi*)*pytyvõ* ‘help’. In such cases, it is the agent argument that is cross-referenced, with a
101 set A marker (that the friend is the theme is indicated by the suffix *-me* on *iñ-angirũ* ‘his
102 friend’):

- 103 (5) Context: The Little Prince has met the lamplighter and takes pity on him.

104 Oi-**pytyvõ**-se kuri iñ-angirũ-me.
A3-help-DES past B3-friend-PE

105 ‘He wanted to help his friend.’ (Saint-Exupéry 2005, 52)

106 Finally, when the agent is first person and the theme is second person, a portman-
107 teau marker cross-references both the agent and the theme argument. This is illustrated
108 in (6), where the first person agent and the second person (singular) theme arguments
109 are both cross-referenced on the verb (*o*)*guerovia* ‘believe’ with *ro-* ‘1:2sg’.

- 110 (6) Context: The pilot reports what the Little Prince said to him when he was upset
111 about what the pilot said about flowers.

112 Peteĩ py’aro kirirĩ-re, he’i chéve: “Ndo-**ro-gueroviá**-i!”
one hate silent-REHE A3.say pron.NAG.1sg NEG-1:2sg-believe-NEG

113 ‘After a hateful silence, he said to me: “I don’t believe you!”’ (Saint-Exupéry
114 2005, 28)

115 2.2. *The distribution of implicit arguments*

116 As defined in [Tonhauser 2017](#), an argument is implicit if it is neither cross-referenced
 117 on the verb nor realized by an independent noun phrase. Given the Paraguayan Guaraní
 118 cross-referencing system introduced above, only arguments of transitive or ditransitive
 119 verbs may be non-cross-referenced: the sole argument of an intransitive predicate is
 120 always cross-referenced, and therefore never implicit. Furthermore, due to the person
 121 hierarchy in (3a), first person agent or theme arguments of (di)transitive verbs are always
 122 cross-referenced, and are therefore never implicit. Second person arguments, on the
 123 other hand, can be implicit: in (7), for instance, the second person agent argument is
 124 implicit, and the first person theme argument is cross-referenced:

125 (7) Context: Sandra talks to her sister.

126 Nde che-'ermána. Che-rayhu.
 pron.AG.2sg B1sg-sister B1sg-love

127 'You are my sister. [You] love me.' (Tonhauser 2017, 196)

128 First person recipients or causee arguments of ditransitive verbs are also not cross-
 129 referenced on the predicate, and may therefore be implicit. For details on non-cross-
 130 referenced arguments, see [Tonhauser 2017](#), 211.

131 Implicit arguments are not subject to a number restriction: they can be singular, as
 132 in (1), or plural, as in (8B).

133 (8) A: Re-hechá=pa che-róga-kuéra?
 A2sg-see=Q B1sg-house-PL

134 'Did you see my houses?'

135 B: Heẽ, a-hecha.
 yes A1sg-see

136 'Yes, I saw [them].' (Tonhauser 2017, 220)

137 Implicit arguments can denote human entities, as in (7), non-human animate entities, as
 138 in (9), or inanimate entities, as in (8B). However, as reported in [Tonhauser 2017](#), there are
 139 examples for which some speakers of Paraguayan Guaraní reject implicit human theme
 140 and recipient arguments. For such speakers, such arguments must be realized with an
 141 independent pronoun.

142 (9) Che-vesína o-guereko peteĩ mbarakaja. Kuehe che-su'u.
 B1sg-neighbor A3-have one cat. yesterday B1sg-bite

143 'My neighbor has a cat. Yesterday [it] bit me.' (Tonhauser 2017, 214)

144 Finally, implicit arguments cannot be information-structurally prominent. For
 145 instance, as illustrated in (10), the shifted topic (Marko) cannot be realized by an implicit
 146 argument, as shown by the unacceptability of (10a), but must be realized with an
 147 independent pronoun, as shown in (10b):

148 (10) Context: Sandra is talking to her ex-boyfriend about her current boyfriend Marko.

149 Nde nda-che-rayhú-i...
 pron.AG.2sg NEG-B1sg-love-NEG

150 'You don't love me...'

151 a. #há=katu che-rayhu.
 and=CONTRAST B1sg-love

152 (but [he] loves me.)

153 b. há=katu ha'e che-rayhu.
 and=CONTRAST pron.AG.3 B1sg-love

154 'but he loves me.' (Tonhauser 2017, 225)

155 **3. Anaphoric interpretations of implicit arguments**

156 The distribution of implicit arguments in Paraguayan Guaraní was illustrated in
 157 [Tonhauser 2017](#) on the basis of examples in which the implicit argument received an
 158 anaphoric interpretation, that is, the implicit argument received its interpretation by
 159 being anaphorically resolved to an accessible discourse referent ([Karttunen 1976](#); [Kamp](#)
 160 [1981](#); [Heim 1982](#)). To capture this interpretation of implicit arguments, I assume that
 161 the implicit argument introduces a presupposition that its discourse referent must be
 162 identified with discourse referent that is already established in the discourse model, that
 163 is sufficiently salient, and accessible. For instance, in (1), repeated here, the implicit
 164 agent argument of *(o)mbo-hováí* ‘answer’ introduces the presupposition that its discourse
 165 referent x must be identified with an accessible, salient discourse referent y in the
 166 discourse model. In the formal representation in (11), the presupposition is identified as
 167 such with [Beaver’s 2001](#) partial operator ∂ ; the type e variable sp denotes the speaker of
 168 the utterance (the pilot).

169 (1) Context: The pilot asks the Little Prince if he has plans for tomorrow.

170 Jepe na-che-**mbo-hováí**-ri.
 171 but NEG-B1sg-CAUS-face-NEG

172 ‘But [the Little Prince/he] did not answer me.’ ([Saint-Exupéry 2005](#), XXV)

173 (11) $[(1)] = [\neg\textit{answer}'(sp)(x)]$ with $\partial(x = y)$, where y is an accessible, salient dis-
 174 course referent

175 I assume that the presupposition shown in (11) is introduced by the implicit argu-
 176 ment. It is also possible to assume that it is introduced by a silent pronoun *pro* that
 177 is realized in the syntax. Such an assumption would make explicit that the anaphoric
 178 interpretation of implicit arguments in Paraguayan Guaraní is identical to that of English
 179 pronouns, with the exception that implicit arguments cannot be information-structurally
 180 prominent (see section 2.2). Specifically, the interpretation of Paraguayan Guaraní im-
 181 plicit arguments that receive an anaphoric interpretation is similar to that of English
 182 pronouns in that the antecedent discourse referent can be strongly familiar, as in (9),
 183 where it was introduced by a noun phrase, or weakly familiar, that is, introduced by an
 184 entity that is salient in the context of utterance, like the speaker in (1) or a goat that is
 185 walking by ([Roberts 2003](#)). Furthermore, as shown in [Tonhauser 2017](#), the interpretation
 186 of Paraguayan Guaraní implicit arguments that receive an anaphoric interpretation is
 187 similar to that of English pronouns in that deictic, discourse-anaphoric, bound, and
 188 donkey anaphoric interpretations are possible. The remainder of this section focuses
 189 on properties of the anaphoric interpretation that are useful to keep in mind when
 190 introducing the elided and existential interpretations in sections 4 and 5, respectively.

191 The first property is that implicit anaphoric arguments are felicitous only if there is
 192 a uniquely salient, familiar discourse referent ([Roberts 2003](#)), as in (1), (8), and (9). When
 193 such an antecedent discourse referent is not available, as in (12a), it is not possible for
 194 the argument to be implicit; rather, a full noun phrase must be used, as in (12b).

195 (12) Context: My friends visit me and see that I have a wound on my leg. I say:

196 a. #Kuehe **che-su’u**.
 197 yesterday B1sg-bite

198 (Yesterday, [it] bit me.)

199 b. Kuehe peteĩ jagua **che-su’u**.
 200 yesterday one dog B1sg-bite

201 ‘Yesterday, a dog bit me.’

([Tonhauser 2017](#), 214)

202 A second property is that the antecedent discourse referent must not just exist but
 203 also be ‘accessible’, that is, it must be available for subsequent reference (see, e.g., [Kart-](#)
 204 [tunen 1976](#), [Kamp and Reyle 1993](#)). One constellation in which a discourse referent that

202 was introduced is nevertheless inaccessible for subsequent reference is if the indefinite
 203 noun phrase that introduces the discourse referent occurs in the scope of negation. Thus,
 204 a second piece of evidence that implicit arguments in Paraguayan Guaraní can receive
 205 anaphoric interpretations is that they are subject to well-studied accessibility restrictions.
 206 (13a), for example, is correctly predicted to be unacceptable because the indefinite noun
 207 phrase *peteĩ kóche* ‘a car’, which introduces a discourse referent for a car, occurs inside the
 208 scope of negation, and hence this discourse referent cannot serve as the antecedent for
 209 the implicit anaphoric argument in the second clause. In (13b), by contrast, the discourse
 210 referent introduced by the same noun phrase is accessible to the implicit argument,
 211 thereby making possible an anaphoric interpretation of the implicit argument.

- 212 (13) a. #Juã nd-o-guerekó-i peteĩ kóche. **A-hecha-uka** ndéve
 213 Juan NEG-A3-have-NEG one car A1sg-see-CAUS pron.NAG.2sg
 214 kuehe.
 215 yesterday
 216 (Juan doesn’t have a car. I showed [it] to you yesterday.)
- 217 b. Juã o-guereko peteĩ kóche. **A-hecha-uka** ndéve kuehe.
 218 Juan A3-have one car A1sg-see-CAUS pron.NAG.2sg yesterday
 219 ‘Juan has a car. I showed [it] to you yesterday.’ (Tonhauser 2017, 216f.)

217 In contrast to English, where implicit anaphoric arguments only occur with a small
 218 number of verbs (Fillmore 1986, 105), implicit anaphoric arguments can be observed with
 219 any transitive verb in Paraguayan Guaraní. The examples in (14) illustrate, for instance,
 220 anaphorically implicit arguments with (*o*)*japo* ‘make’ and (*o*)*juka* ‘kill’, respectively, two
 221 verbs that do not allow for anaphoric implicit arguments in English.

- 222 (14) a. Context: Sofia and I work with wood. We make furniture. Yesterday we
 223 made a chair together; we made nothing else.
 224 Kuehe Sofía o-japo apyka ha che **a-japo** avei.
 225 yesterday Sofia A3-make chair and pron.AG.1sg A1sg-make too
 226 ‘Yesterday Sofia made a chair and I made [it], too.’
- 227 b. Context: Sofia and I went hunting yesterday. She saw a boar and I killed it.
 228 Sofía o-hecha kure ka’aguy ha che **a-juka**.
 229 Sofia A3-see boar and pron.AG.1sg A1sg-kill
 230 ‘Sofia saw a boar and I killed [it].’

229 Against this background on the distribution of implicit arguments and their anaphoric
 230 interpretation, the next two sections of the paper introduce two additional interpretations
 231 that Paraguayan Guaraní implicit arguments can receive, namely elided interpretations
 232 (section 4) and existential interpretations (section 5).

233 4. Elided interpretations

234 This section shows that implicit arguments in Paraguayan Guaraní may receive
 235 elided interpretations, which means that the implicit argument is interpreted as if a
 236 noun phrase that was realized in prior discourse occurred in the clause of the implicit
 237 argument. As per this characterization, the elided interpretation of implicit arguments
 238 is only available when there is a noun phrase in prior discourse (see Hankamer and
 239 Sag 1976 on surface anaphora). The noun phrase that was realized in prior discourse is
 240 referred to here as the ‘antecedent noun phrase’. To illustrate the elided interpretation,
 241 consider (15). The third person theme argument of (*o*)*hecha* ‘see’ in Bruno’s response
 242 is implicit. The antecedent noun phrase is *peteĩ kóche i-vai-va* ‘an ugly car’ in Abel’s
 243 utterance. Bruno’s response is interpreted as if this antecedent noun phrase occurred in
 244 the response, that is, as if Bruno had uttered the version given in Bruno’.

245 (15) Context: Abel and Bruno live in different cities and saw different ugly cars. They
246 talk on the phone.

247 Abel: Kuehe a-hecha peteĩ kóche i-vaí-va.
yesterday A1sg-see one car B3-ugly-REL
248 ‘Yesterday I saw an ugly car.’

249 Bruno: Che a-hecha avei.
pron.AG.1sg A1sg-see too
250 ‘I saw [an ugly car/one], too.’

251 Bruno’: Che a-hecha peteĩ kóche i-vaí-va avei.
pron.AG.1sg A1sg-see one car B3-ugly-REL too
252 ‘I saw an ugly car, too.’

253 4.1. Formal properties of implicit arguments that receive elided interpretations

254 Two central questions in research on languages in which implicit arguments can
255 receive elided interpretations is whether such arguments are best analyzed as null
256 pronominal elements or as involving ellipsis, and, if they involve ellipsis, whether the
257 type of ellipsis involved is NP ellipsis or verb-stranding VP ellipsis; see, for instance,
258 research on Hebrew, Irish, and East Asian languages in [Doron 1991](#); [Goldberg 2002](#);
259 [Gribanova 2013](#); [Kim 1999](#); [McCloskey 1991](#); [Otani and Whitman 1991](#). With respect to
260 the first question, I assume that implicit arguments in Paraguayan Guaraní that receive
261 an elided interpretation involve ellipsis rather than null pronominal elements (which,
262 as discussed above, are assumed to predict the anaphoric interpretation of implicit
263 arguments). I also assume, though without argument, that such implicit arguments in
264 Paraguayan Guaraní are analyzed as NP ellipsis rather than verb-stranding VP ellipsis.

265 These assumptions correctly predict the interpretation of Bruno’s utterance in (15).
266 Specifically, the implicit theme argument of (*o*)*hecha* ‘see’ in Bruno’s utterance can, in
267 principle, receive either an anaphoric interpretation, illustrated in (16a), or an elided
268 interpretation, illustrated in (16b). Under the anaphoric interpretation, Bruno’s utterance
269 would be felicitous if and only if there was an accessible, salient discourse referent y for
270 a car, and Bruno’s utterance would be true if and only if Bruno saw that car y . While
271 there is such an accessible, salient discourse referent y for a car (namely the car that
272 Abel saw), Bruno’s utterance would be false under the anaphoric interpretation of the
273 implicit theme argument because the context specifies that Bruno saw a different car
274 than Abel. This means that the implicit argument in Bruno’s utterance is not interpreted
275 as the discourse referent introduced by the noun phrase *peteĩ kóche i-vaí-va* ‘an ugly car’
276 in Abel’s utterance. Under the elided interpretation of the implicit theme argument,
277 however, Bruno’s utterance is correctly predicted to be true. Under this interpretation,
278 Bruno’s utterance is interpreted as if the noun phrase *peteĩ kóche i-vaí-va* ‘an ugly car’
279 occurred in his utterance, that is, Bruno’s utterance is interpreted as the variant in Bruno’.
280 This utterance is correctly predicted to be true in the discourse context because there
281 is a car such that Bruno saw it, and there is no requirement that the car be identical to
282 the car that Abel saw: to the contrary, the discourse referent introduced by the elided
283 indefinite noun phrase in Bruno’s utterance introduces a discourse referent x for a car
284 that is required to be a new discourse referent ([Kamp 1981](#), [Heim 1982](#)).

- 285 (16) a. Anaphoric interpretation
286 $\llbracket (15 \text{ Bruno}) \rrbracket = \llbracket see'(x)(b) \rrbracket$, with $\partial(x = y)$, where y is an accessible, salient
287 discourse referent for a car
288 b. Elided interpretation
289 $\llbracket (15 \text{ Bruno}) \rrbracket = \llbracket (15 \text{ Bruno}') \rrbracket = \llbracket car'(x) \wedge see'(x)(b) \rrbracket$, where x is a new dis-
290 course referent for a car

291 The analysis of implicit arguments with an elided interpretation also correctly
292 predicts that such arguments do not require accessible discourse referents, in contrast to

293 implicit arguments that receive an anaphoric interpretation. For instance, in (17), the
 294 noun phrase *peteĩ kóche* ‘a car’ introduces a discourse referent in the scope of negation.
 295 As illustrated in section 3, this discourse referent is not a suitable antecedent for an
 296 anaphoric implicit argument because it is not accessible (as shown above, (13a) is
 297 unacceptable). The implicit argument in the second clause of (17), however, can receive
 298 an elided interpretation: what Ana owns is what is denoted by the antecedent noun
 299 phrase *peteĩ koche* ‘a car’.

300 (17) Nd-a-guerekó-i peteĩ kóche, há=katu Ána o-guereko.
 NEG-A1sg-have-NEG one car and=CONTRAST Ana A3-have
 301 ‘I don’t have a car, but Ana has [a car/one].’

302 If implicit arguments that receive an elided interpretation are interpreted as if the
 303 antecedent noun phrase occurred in the clause, then we expect such implicit arguments to
 304 introduce discourse referents that are available for subsequent anaphoric reference. This
 305 expectation is borne out, as illustrated in (18). The noun phrase *peteĩ mburika* ‘a donkey’
 306 in the first clause of (18) introduces a discourse referent in the scope of negation (so one
 307 that is inaccessible for anaphoric implicit arguments outside the scope of negation). The
 308 implicit argument in the second clause of (18) receives an elided interpretation: it is
 309 interpreted as a donkey (parallel to (17)). Empirical evidence that this implicit argument
 310 introduces a discourse referent comes from the acceptability of the third clause of (18),
 311 which features an anaphoric implicit argument: the donkey that the speaker has
 312 encountered is the one that bit her.

313 (18) Ána nd-o-topá-i araka’eve peteĩ mburika há=katu che
 Ana NEG-A3-meet-NEG never one donkey and=CONTRAST pron.AG.1sg
 314 a-topa ha che-su’u.
 A1sg-meet and B1sg-bite
 315 ‘Ana has never encountered a donkey but I have encountered [one] and [it] bit
 316 me.’

317 Like implicit anaphoric arguments, implicit arguments that receive an elided inter-
 318 pretation can be animate (as in (18)) or inanimate (as in (17)). The elided noun phrase
 319 can be a theme argument (as in (17) and (18)), or an agent argument: in the examples in (19),
 320 the agent arguments of (*o*)*visita* ‘visit’ and (*oi*)*su’u* ‘bite’ are elided.²

321 (19) a. Context: Since I live far away from my mother, we have different priests.
 322 Mine is called Jesus, and hers is called Jose. Yesterday my mother’s priest
 323 went to visit her, and mine visited me. I tell my husband:

324 Kuehe peteĩ pa’i o-visita che-sý-pe ha che-visita
 yesterday one priest A3-visit B1sg-mother-PE and B1sg-visit
 325 chéve avei.
 pron.NAG.1sg too

326 ‘Yesterday a priest visited my mother and [a priest] visited me too.’

327 b. Context: I live in Paraguay and yesterday a cat bit me. I called my friend
 328 Sandra in Germany to tell her, and she told me that a cat bit her, too! I tell my
 329 husband:

330 Kuehe peteĩ mbarakaja oi-su’u Sándra-pe ha che-su’u avei.
 yesterday one cat A3-bite Sandra-PE and B1sg-bite too

331 ‘Yesterday a cat bit Sandra and [a cat] bit me, too.’

332 The antecedent noun phrases of implicit arguments that receive an elided interpre-
 333 tation can be singular, as in (17) and (18), plural, or quantificational, as shown in the
 334 examples in (20):

² Of the four consultants I elicited judgments from on (19b), one preferred the variant of the example with the first person pronoun *chéve*, as in (19a).

- 335 (20) A: E-guerú=pa { mokoĩ / sa'i / heta / enterovéa } líbro?
 A2sg-bring=Q two few many every book
 336 'Did you bring two books / few books / many books / every book?'
- 337 B: Heẽ, a-gueru.
 yes A1sg-bring
 338 'Yes, I brought [two books] / [few books] / [many books] / [every book].'

339 4.2. Strict and sloppy interpretations of implicit arguments with elided interpretations

340 A hallmark of ellipsis are strict and sloppy interpretations (Ross 1967). These inter-
 341 pretations arise in sentences in which the antecedent expression of the elided expression
 342 contains an expression that receives an anaphoric interpretation, like a pronoun or a
 343 cross-reference marker. For instance, the antecedent expression for the VP ellipsis in *Sue*
 344 *likes her dog, and Deirdre does, too is her dog*, which contains possessive pronoun. Under the
 345 strict interpretation, the denotation of the pronoun in the elided expression is identical
 346 to that of the antecedent expression (that is, Deirdre likes Sue's dog), whereas it is not
 347 identical under the sloppy interpretation (that is, Deirdre likes her own dog).

348 Research on implicit arguments in other languages that can receive elided interpre-
 349 tations reports the availability of both strict and sloppy interpretations; see, for instance,
 350 Otani and Whitman 1991 on Mandarin, Korean, and Japanese, and Cyrino and Lopes
 351 2016 on Brazilian Portuguese. In Korean, for instance, Otani and Whitman (1991) report
 352 that the implicit theme argument of the transitive verb *pe- 'discard'* in (21) can receive
 353 a strict interpretation, according to which Yengmi threw out Chelswu's letters, and a
 354 sloppy interpretation, according to which Yengmi threw out her own letters.

- 355 (21) Chelswu-ka [caki-uy phyenci-ul] peli-ess-ta. Yengmi-to [e]
 Chelswu-NOM self-of letter-ACC discard-PST-DECL Yengmi-also
 356 peli-ess-ta.
 discard-PST-DECL
 357 'Chelswu threw out his letters. Yengmi also threw out [his/her letters].' (Otani
 358 and Whitman 1991, 346; glosses and translation adapted)

359 To investigate whether implicit arguments with elided interpretations also exhibit
 360 both strict and sloppy interpretations, I constructed Paraguayan Guaraní examples like
 361 those in (22) and (23).³ The examples in (22c) and (23c) are acceptable in the context that
 362 is only compatible with the strict interpretation, that is, (22a) and (23a), as well as in the
 363 context that is only compatible with the sloppy interpretation, that is, (22b) and (23b).

³ The examples in (22) and (23) differ from Korean examples like (21) in that the implicit argument is not information-structurally prominent by virtue of being contrasted. Paraguayan Guaraní examples that are parallel to (21) are unacceptable under a sloppy interpretation, as shown in (ia); only the variant in (ib), in which the relevant argument is not implicit, is acceptable.

- (i) Context: Sofia hit her son on the arm, and Ana hit her own son on the leg; nobody hit anything else.

Sofía oi-nupā i-membý-pe ij-yvá-rupi...
 Sofia A3-hit B3-child-PE B3-arm-through

'Sofia hit her child on the arm...'

- a. #ha Ána oi-nupā hetymá-rupi.
 and Ana A3-hit B3.leg-through
 (and Ana hit [her child] on the leg.)
- b. ha Ána (oi-nupā) i-membý-pe hetymá-rupi.
 and Ana A3-hit B3-child-PE B3.leg-through
 'and Ana hit her child on the leg.'

I hypothesize that examples like (i) are unacceptable because Paraguayan Guaraní implicit arguments cannot be information-structurally prominent, as mentioned in section 2.2 (see also Tonhauser 2017). Specifically, in (i), the possessor of the theme argument in the second clause (intended to be interpreted as Ana's child) is contrasted with the possessor of the theme argument of the first clause (Sofia's child). Support for this hypothesis comes from the fact that examples like (22) and (23), in which the contrast between the first and second clauses does not involve the implicit argument but rather the temporal/aspectual reference of the clauses, are acceptable.

364 These results suggest that Paraguayan Guaraní implicit arguments that receive an elided
365 interpretation are acceptable with both a strict and a sloppy interpretation.

366 (22) a. Context for strict interpretation: I have a dog to which I occasionally give a
367 bath. Sandra doesn't have a dog, but she really likes taking care of my dog.

368 b. Context for sloppy interpretation: Sandra and I each have a dog. Mine is
369 called Lobi and hers is called Bobi. I gave a bath to my dog yesterday and
370 Sandra is going to give a bath to hers today.

371 c. A-mbo-jahu che-jaguá-pe kuehe (ha) Sándra
A1sg-CAUS-bathe B1sg-dog-PE yesterday and Sandra
372 o-mbo-jahú-ta ko ára-pe.
A3-CAUS-bathe-PROSP this day-PE

373 'I gave a bath to my dog yesterday and Sandra is going to give a bath to [my
374 dog / her dog] today.'

375 (23) a. Context for strict interpretation: Raul has a house in the countryside. He
376 went there yesterday. Today he invited his friend Feli to join him because
377 he's feeling a bit lonely. Feli is going to go today.

378 b. Context for sloppy interpretation: Raul and Feli each have a house in the
379 countryside. Raul went to his house yesterday and Feli is going to his today.
380 Neither of them goes to the other's house.

381 Raul o-ho hóga-pe kuehe. Féli o-hó-ta ko ára-pe.
Raul A3-go B3.house-PE yesterday Feli A3-go-PROSP this day-at

382 'Raul went to his house yesterday. Feli is going to go to [Raul's house / Feli's
383 house] today.'

384 Unfortunately, however, these examples do not provide conclusive evidence that
385 Paraguayan Guaraní implicit arguments that receive an elided interpretation are com-
386 patible with a strict interpretation. Rather, the acceptability of (22c) in the context of (22a)
387 merely provides empirical support that my consultants interpret the implicit argument
388 of (o)mbo-jahu 'bathe' in the second clause as the speaker's dog; likewise, the acceptability
389 of (23c) in the context of (23a) merely provides empirical support that my consultants
390 interpret the implicit argument of (o)ho 'go' in the second clause as Raul's house. While
391 this interpretation is compatible with the assumption that the implicit arguments are
392 elided ones that receive a strict interpretation, the interpretation is also compatible with
393 the assumption that the implicit argument receives an anaphoric interpretation, with
394 the discourse referents of *che jagua* 'my dog' in (22c) and *hóga* 'his/Raul's house' as the
395 antecedent discourse referents. In other words, these examples do not provide conclu-
396 sive empirical support for the existence of the strict elided interpretation, given that
397 Paraguayan Guaraní also has implicit arguments that receive an anaphoric interpretation.
398 The same goes for examples like (21) in Korean, which also has implicit arguments that
399 receive an anaphoric interpretation.

400 To investigate whether Paraguayan Guaraní implicit arguments may receive strict
401 elided interpretations, one needs to construct examples in which the discourse referent(s)
402 denoted by the antecedent noun phrase are not accessible to the implicit argument (to
403 rule out the possibility that the implicit argument receives an anaphoric interpretation).
404 In English, a suitable candidate for such an antecedent noun phrase is *a picture of her*
405 *dog* under, for instance, negation: in *Sue doesn't have a picture of her dog*, the discourse
406 referent introduced by the noun phrase *a picture of her dog* is not accessible for subsequent
407 reference (see, e.g., #*It has a wooden frame*). The critical question, which I unfortunately
408 must leave to future research, is whether a Paraguayan Guaraní translation of *Sue doesn't*
409 *have a picture of her dog*, and *Deirdre doesn't*, either allows for an implicit theme argument
410 in the second clause, and whether this translation is judged to be acceptable in a context
411 in which Deirdre doesn't have a picture of Sue's dog (but has many pictures of her own

412 dog, to rule out the sloppy interpretation). If judged to be acceptable (which I would
 413 expect), this kind of example would provide conclusive support for the availability of
 414 implicit arguments that receive a strict, elided interpretation.⁴

415 4.3. Interim summary

416 In sum, implicit arguments in Paraguayan Guaraní may receive not just anaphoric
 417 interpretations, but also elided interpretations. In contrast to anaphoric interpretations,
 418 where the implicit argument receives the same interpretation as the antecedent discourse
 419 referent (which must be accessible), implicit arguments under an elided interpretation are
 420 interpreted like the antecedent noun phrase (and do not require an accessible antecedent
 421 discourse referent). As expected, implicit arguments that receive an elided interpretation
 422 can receive a sloppy interpretation.

423 5. Existential interpretations

424 A third type of interpretation of implicit arguments in Paraguayan Guaraní are
 425 existential interpretations. For instance, the second clause in the English example in
 426 (24), where the implicit theme argument of *eat* receives an existential interpretation,
 427 is interpreted as it not being the case that John ate something. I assume that an im-
 428 plicit argument that receives an existential interpretation is interpreted as existentially
 429 quantified over: accordingly, the second clause of (24) is interpreted as $\neg\exists x(\textit{eat}'(x)(j))$.

430 (24) There was a piece of bread on the table but John didn't eat. (Condoravdi and
 431 Gawron 1996, 3).

432 Evidence that existential interpretations are a third type of interpretation of implicit
 433 arguments in Paraguayan Guaraní comes from examples in which an anaphoric or elided
 434 interpretation is not available for the relevant implicit argument. In (25), for instance,
 435 the implicit theme argument of *(o)purahéi* 'sing' receives an existential interpretation: the
 436 pulley was singing something ($\exists x(\textit{sing}'(x)(\textit{pulley}))$). Evidence that the theme argument
 437 does not receive an anaphoric interpretation is that there is no suitable antecedent
 438 discourse referent (for a particular song); likewise, evidence that the theme argument
 439 does not receive an elided interpretation is there is no antecedent noun phrase in prior
 440 discourse that denotes a song. The examples in (26) and (27) illustrate the existential
 441 interpretation with the implicit theme arguments of *(o)karu* 'eat' and *(o)menda* 'marry',
 442 respectively: in (26), Luli's son is understood to have eaten something, and in (27), the
 443 speaker is understood to have married somebody. In (27), the context establishes that the
 444 speaker married somebody who is not Argentinian, which supports the assumption that
 445 the implicit theme argument of *(o)menda* 'marry' receives an existential interpretation,
 446 not an anaphoric one (according to which the speaker married the same person as
 447 Rosalia) or an elided one (according to which the speaker married an Argentinian).

448 (25) Context: The pilot, the first person narrator, pulled up a bucket of water from the
 449 well.

450 Che-apysá-pe yjahupiha o-purahéi guéteri hína
 B1sg-ear-PE pulley A3-sing still PROG

451 'The pulley was still singing [something] in my ears.' (Saint-Exupéry 2005, 80)

452 (26) Context: Luli asks her adult son if he is hungry. He responds:

453 Nahániri. A-karú-ma.
 no A1sg-eat-already

454 'No, I already ate [something].'

⁴ Bruno Estigarribia wonders whether inalienable possession interacts with the elided interpretation, such that an inalienably possessed NP cannot be elided. I do not currently have any data to weigh in on this hypothesis. To investigate this hypothesis, one would need to elicit judgments on examples like those mentioned above (*Sue doesn't have a picture of her dog, and Deirdre doesn't either* and variants with inalienably possessed NPs, like *Sue doesn't have a picture of her arm, and Deirdre doesn't either*).

455 (27) Context: It's been a while since I last talked to my friend Rosalia. She doesn't
 456 know that I got married to a Paraguayan last month. But before I can tell her, she
 457 tells me that she married an Argentinian last year. I say:

458 Ani chéne! Che a-menda avei!
 NEG.IMP NEG.IMP pron.AGS.1sg A1sg-marry too

459 'No way! I married [somebody], too!'

460 5.1. Properties of the existential interpretation of implicit arguments

461 The denotation of implicit arguments that receive an existential interpretation is
 462 restricted to be a culturally appropriate kind compatible with the selectional restrictions
 463 of the verb, as in (26) and (27), but can be deemed unimportant or unknown, as in (28);
 464 see Fillmore 1969 and Fillmore 1986 for discussion.

465 (28) Context: The Little Prince wants to go look at the sunset right now, but it's only
 466 morning. The pilot says:

467 Jepe ña-ha'ārõ mante-va'erã.
 but A1pl.incl-wait just-MUST

468 'We have to wait [for something].' (Saint-Exupéry 2005, VI)

469 Little Prince: 'What on earth are we going to wait for?' — Pilot: 'We're going to
 470 wait for the sunset.'

471 An utterance of a single clause can involve more than one implicit argument and
 472 the two implicit arguments need not receive the same interpretation. This is illustrated
 473 for the ditransitive predicate (*o*)*japo-uka* 'cause to make' in (29), where both the causee
 474 argument (the maker) and the theme argument (the thing made) are implicit. The causee
 475 argument receives an existential interpretation (English *somebody*), while the theme
 476 argument receives an anaphoric interpretation (English *it*):

477 (29) Context: I had a wall built by some guy called Juan who you don't know. You
 478 visit my house and see my new wall. I say:

479 A-japo-uka.
 A1sg-make-CAUS

480 'I made [somebody] make [it].'

481 The assumption that implicit arguments that receive an existential interpretation are
 482 existentially quantified predicts that such implicit arguments, unlike those that receive
 483 an anaphoric or elided interpretation, do not make available a discourse referent
 484 for subsequent reference. This prediction is borne out: In (30a), for instance, the implicit
 485 theme argument of (*o*)*menda* 'marry' receives an existential interpretation: the speaker
 486 married someone. This implicit argument does not, however, introduce a discourse
 487 referent, as evidenced by the fact that the third person set B cross-reference marker *i-* 'B3'
 488 in the final clause is not acceptable. The variant in (30b), where the theme argument is
 489 not implicit but realized by the independent noun phrase *paraguáyo* 'a Paraguayan' is
 490 acceptable: here, the third person cross-reference marker in the final clause has a suitable
 491 antecedent discourse referent, namely the one introduced by *paraguáyo* 'a Paraguayan'.

492 (30) Ána n-o-mendá-i argentíno-re...
 Ana NEG-A3-marry-NEG Argentinian-REHE

493 'Ana didn't marry an Argentinian.'

494 a. #Ché=katu a-menda ha i-kyrã.
 pron.AG.1sg=CONTRAST A1sg-marry and B3-fat

495 (I, on the other hand, married [somebody] and he is fat.)

- 496 b. Ché=katu a-menda **paraguáyo-re** ha i-kyrã.
 pron.AG.1sg=CONTRAST A1sg-marry Paraguayan-REHE and B3-fat
 497 'I, on the other hand, married a Paraguayan and he is fat.'

498 5.2. *Classifying Paraguayan Guaraní verbs: An investigation of 71 verbs*

499 The existential interpretation is only available for particular implicit arguments
 500 of particular verbs, namely causees of causative-marked transitive verbs, as in (29), as
 501 well as the theme arguments of what I refer to (following Dixon 1994) as ambitransitive
 502 verbs, that is, verbs that have both an intransitive and a transitive use, like (*o*)*purahéi*
 503 'sing' in (25) and (*o*)*menda* 'marry' in (30).⁵ This finding is based on an investigation of
 504 the valence of 71 verbs: for each verb, I investigated whether it could co-occur with the
 505 causativizing prefix *mbo-* shown in (31a), which attaches only to intransitive verbs, with
 506 the causativizing suffix *-uka* shown in (31b), which attaches only to transitive verbs,⁶
 507 and with the portmanteau cross-reference marker *po-* '1:2pl' shown in (31c), which is
 508 acceptable only with transitive verbs. I also investigated whether the verb was judged to
 509 be acceptable in the intransitive frame in (31d), and in the transitive frame in (31e). The
 510 full set of verbs tested and the consultants' judgments are provided in Appendix A.

- 511 (31) a. A-**mbo**-jahu che-membý-pe.
 A1sg-CAUS-bathe B1sg-child-PE
 512 'I bathe my child.' (Tonhauser 2017, 204)
- 513 b. A-hecha-**uka** Juã-pe che-kóche.
 A1sg-see-CAUS Juan-PE B1sg-car
 514 'I showed Juan my car.' (Lit. I made Juan see my car.)
- 515 c. Context: A mother is talking to her two children.
 516 **Po**-hayhu.
 1:2pl-love
 517 'I love you.' (Tonhauser 2017, 199)
- 518 d. A-guahẽ Juã róga-pe, ha'é [VERB] hína.
 A1sg-arrive Juan B3.house-PE pron.AG.3 PROG
 519 'When I arrived at Juan's house, he was VERBING.'
- 520 e. A-ñe-porandu mba'é=pa / máva-pe=pa Juã [VERB] hína.
 A1sg-JE-ask what=Q who-PE=Q Juan PROG
 521 'I asked myself what/who Juan was VERBING.'

522 As shown in Table 2, the investigation revealed three verb classes: intransitive
 523 verbs, which have intransitive uses, but not transitive ones, and are unacceptable with
 524 affixes reserved for transitive verbs; transitive verbs, which have transitive uses, but
 525 not intransitive ones, and can occur with affixes reserved for transitive verbs; and
 526 ambitransitive verbs, which can be used both intransitively and transitively, and which
 527 can often occur with both causative affixes. Most of the judgments suggested that
 528 ambitransitive verbs are unacceptable with the portmanteau prefix.

⁵ An anonymous reviewer suggested that the existential interpretation is only be available for those ambitransitive verbs where the sole argument of the intransitive lexical entry is an agent. The same reviewer also provided a diachronic perspective on ambitransitive verbs in the language. In Old Tupí, there were transitive verbs (which cross-referenced both arguments) as well as active and inactive intransitive verbs (which cross-referenced their single argument with the *a-* and *che-* series of cross-reference markers; see Table 1). The original theme cross-reference markers of transitive verbs fused with the root in Modern Paraguayan Guaraní, so that Old Tupí *o-i-echa* 'A3-B3-see' became Modern Paraguayan Guaraní *o-hecha* 'A3-see', thereby blurring the distinction between transitive and intransitive active verbs. Spanish verbs borrowed into Paraguayan Guaraní are generally borrowed with the *a-* series of cross-reference markers, further blurring the distinction. This may explain why none of the Paraguayan Guaraní ambitransitive verbs identified in my investigation are verbs that were transitive in Old Tupí.

⁶ For causative constructions in Paraguayan Guaraní see Velázquez-Castillo 2004b.

Table 2: Verb classes in Paraguayan Guaraní. A checkmark ‘✓’ means that the combination tends to be judged to be acceptable, an asterisk ‘*’ that it tends to be judged to be unacceptable.

Verb class	<i>mbo-</i> ‘CAUS-’	<i>-uka</i> ‘-CAUS’	<i>po(i)</i> ‘1:2pl’	intr. use	tr. use
Intransitive	✓	*	*	✓	*
Transitive	*	✓	✓	*	✓
Ambitransitive	✓	✓	most: *	✓	✓

529 The investigation revealed the following ambitransitive verbs:^{7,8}

530 (32) Ambitransitive verbs in Paraguayan Guaraní:

531 (*o*)*gana* ‘win’, (*o*)*karu* ‘eat’, (*o*)*kasa* ‘hunt’, (*o*)*kosina* ‘cook’, (*o*)*lee* ‘read’, (*o*)*mbovyvy*
532 ‘sew’, (*o*)*menda* ‘marry’, (*o*)*mopotĩ* ‘clean’, (*o*)*ñemitỹ* ‘sow’, (*o*)*peska* ‘fish’, (*o*)*pita*
533 ‘smoke’, (*o*)*purahéi* ‘sing’, (*o*)*rambosa* ‘breakfast’, and (*o*)*studia* ‘study’

534 As mentioned above, only the implicit theme arguments of ambitransitive verbs can
535 receive existential interpretations, not those of transitive verbs. This was established by
536 investigating whether the implicit argument was acceptable in a context that explicitly
537 excluded the anaphoric and elided interpretations, as in the examples in (33). The implicit
538 theme argument of the ambitransitive verb (*o*)*kasa* ‘hunt’ may receive an existential
539 interpretation, as shown in (33a). The implicit theme argument of the transitive verb
540 (*o*)*hecha* ‘see’, on the other hand, may not receive an existential interpretation, as shown
541 in (33b).

542 (33) a. Context: Sofia and I went hunting. Sofia hunted a boar and I hunted a rabbit;
543 I hunted nothing else. I say:

544 Sofia o-kasa peteĩ kure ka’aguy ha che a-kasa avei.
Sofia A3-hunt one boar and pron.AG.1sg A1sg-hunt too

545 ‘Sofia hunted a boar and I hunted [something], too.’

546 b. Context: Sofia and I went hiking. She saw a boar and I saw a rabbit; I saw
547 nothing else. I say:

548 #Sofía o-hecha peteĩ kure ka’aguy ha che a-hecha avei.
Sofía A3-see one boar and pron.AG.1sg A1sg-see too

549 (Sofia saw a boar and I saw [something], too.)

⁷ The verb (*o*)*ha’arõ* ‘wait’ is also ambitransitive, but it was not included in the investigation. Evidence that it has a transitive lexical entry comes from the following example, where (*o*)*ha’arõ* ‘wait’ occurs with the portmanteau prefix *ro* ‘1:2sg’:

(i) **Ro-ha’arõ** hína che-ru!
1:2sg-wait PROG B1sg-father

‘I was waiting for you (sg.), dad!’

(Estigarríbia 2020, 138, example and glosses adapted)

⁸ The theme argument of transitive (*o*)*studia* ‘study’ is unmarked, as illustrated in (i). In contrast, the theme argument of transitive (*o*)*menda* ‘marry’ is obligatorily marked with the postposition *-re(he)* ‘at’, as shown in (ii). Estigarríbia 2020, §4 refers to transitive verbs whose theme argument must be marked by a special postposition ‘postpositional complement verbs’. These data show that the existential interpretation is observed both with verbs whose overt theme argument is unmarked as well as with verbs whose theme argument is marked with a postposition.

(i) A-studia hína guaraní.
A1sg-study PROG Guaraní
‘I am studying Guaraní.’

(Estigarríbia 2020, 323, example adapted, glosses added)

(ii) A-menda-se ndé-rehe.
A1sg-marry-DES pron.2sg-REHE
‘I want to marry you.’

(Estigarríbia 2020, 142, example and glosses adapted)

550 5.3. Towards an analysis of the existential interpretation of implicit arguments

551 If ambitransitive verbs have an intransitive and a transitive lexical entry, as is
 552 assumed here, one can derive the existential interpretation of an example like (33a) in
 553 two ways. The first would be to assume that the intransitive lexical entry of *(o)kasa* ‘hunt’,
 554 in which the theme argument is existentially quantified, is used. The translation of that
 555 lexical entry is shown in (34a): the translation of the verb is of type $\langle e, t \rangle$, so intransitive,
 556 but the constant *hunt'* is transitive with the theme argument existentially quantified.
 557 Alternatively, one could assume that the transitive lexical entry of *(o)kasa* ‘hunt’ was
 558 used: as shown in (34b), the translation of the verb here is $\langle e, \langle e, t \rangle \rangle$, so transitive. To
 559 derive the existential interpretation, one would then need to assume that the theme
 560 argument is existentially quantified in those sentences in which no theme argument
 561 is overtly realized. This mechanism of existentially quantifying over implicit theme
 562 arguments of transitive verbs would need to be restricted to verbs that also have an
 563 intransitive lexical entry, so as to avoid deriving the existential interpretation for verbs
 564 that only have a transitive lexical entry, like *(o)hecha* ‘see’ in (33b).

- 565 (34) a. Intransitive *(o)kasa* ‘hunt’ $\implies \lambda y[\exists x(\text{hunt}'(x)(y))]$
 566 b. Transitive *(o)kasa* ‘hunt’ $\implies \lambda x[\lambda y[(\text{hunt}'(x)(y))]]$

567 Which of these two analyses is more adequate depends in part on the answer to the
 568 question of whether implicit arguments of ambitransitive verbs are compatible not just
 569 with existential interpretations, but also with anaphoric and elided ones. The examples
 570 in (35a) and (35b) show that ambitransitive verbs with implicit theme arguments are
 571 acceptable in contexts that license anaphoric and elided interpretations, respectively.
 572 This observation might be taken to suggest that the theme arguments of ambitransitive
 573 verbs can also receive anaphoric and elided interpretations. It is important to note,
 574 however, that the contexts do not preclude an existential interpretation of the implicit
 575 theme arguments, as indicated by the English translations.

- 576 (35) a. Context: Sofia and I went hunting. Sofia hunted a boar and I hunted the same
 577 one; I hunted nothing else. I say:
 578 Sofia o-kasa peteĩ kure ka'aguy ha che a-kasa avei.
 579 Sofia A3-hunt one boar and pron.AG.1sg A1sg-hunt too
 579 ‘Sofia hunted a boar and I hunted [it/something], too.’
 580 b. Context: Sofia and I went hunting. Sofia hunted a boar and I hunted a
 581 different boar; I hunted nothing else. I say:
 582 Sofia o-kasa peteĩ kure ka'aguy ha che a-kasa avei.
 583 Sofia A3-hunt one boar and pron.AG.1sg A1sg-hunt too
 583 ‘Sofia hunted a boar and I hunted [one/something], too.’

584 Consultants’ comments are suggestive of anaphoric and elided interpretations, respec-
 585 tively: for instance, when asked about what Sofia hunted in (35a), one consultant stated
 586 that she hunted the boar that Sofia hunted (suggesting an anaphoric interpretation);
 587 likewise, when asked about what Sofia hunted in (35b), one consultant stated that she
 588 hunted a different boar (suggesting an elided interpretation). It is therefore possible
 589 to assume that anaphoric and elided interpretations are possible for implicit theme
 590 arguments of these verbs, via their transitive lexical entries, just as they are for regular
 591 transitive verbs. However, while consultants’ comments can be useful clues, they are
 592 merely clues and “it is up to the researcher to interpret those clues and determine their
 593 relevance... for the analysis” (Matthewson 2004, 408). One therefore also has to entertain
 594 the possibility that the intransitive lexical entry of *(o)kasa* ‘hunt’ was used in (35), such
 595 that the examples literally mean ‘Sofia hunted a boar and I hunted something, too’, and
 596 that the seemingly anaphoric and elided interpretations are merely due to consultants
 597 further specifying the existentially quantified theme argument from the information

598 given in the context. In sum, a more in-depth investigation is needed to understand how
 599 implicit arguments that receive an existential interpretation and ambitransitive verbs are
 600 best analyzed.

601 5.4. Ambitransitive verbs in cross-linguistic comparison

602 There is a remarkable overlap between the list of Paraguayan Guaraní ambitransi-
 603 tive verbs in (32) and English verbs whose implicit arguments can receive an existential
 604 interpretation, which include verbs such as *eat*, as shown in (24), as well as *read*, *sing*,
 605 *cook*, *sew*, *bake*, *paint*, *receive*, and *be married* (Condoravdi and Gawron 1996; Fillmore 1986;
 606 Fodor and Fodor 1980; Shopen 1973; Thomas 1979). This overlap raises the possibility
 607 that there is a strong linguistic tendency for verbs with similar meanings to allow for
 608 implicit arguments with existential interpretations (in languages that allow implicit
 609 arguments). At the same time, however, the Paraguayan Guaraní results also lend
 610 support to Fillmore’s 1986 claim that the availability of the existential interpretation
 611 cannot be solely determined by meaning: Paraguayan Guaraní has two verbs meaning
 612 ‘eat’, namely the transitive verb *ho’u* and the ambitransitive verb *(o)karu*,⁹ but only the
 613 latter allows for implicit arguments with an existential interpretation.¹⁰

614 5.5. Interim summary

615 In sum, implicit arguments in Paraguayan Guaraní can receive not just anaphoric
 616 and elided interpretations, but also existential interpretations. This interpretation differs
 617 from the other two in at least two ways. First, implicit arguments that receive an
 618 existential interpretation are limited to particular arguments, namely causee arguments
 619 of causative ditransitive verbs and theme arguments of ambitransitive verbs. How to best
 620 capture this restriction is an open question. Second, the existential interpretation differs
 621 from the other two in that implicit arguments that receive an existential interpretation
 622 do not introduce a discourse referent that is available for subsequent reference.

623 6. Discussion

624 The previous sections have illustrated that implicit arguments in Paraguayan
 625 Guaraní, that is, arguments that are neither cross-referenced on the verb nor realized by

⁹ The verb *(o)karu* ‘eat’ was intransitive in Old Tupí (I thank an anonymous reviewer for this information) and is also described as intransitive in, for instance, Estigarríbia’s 2020 grammar of Modern Paraguayan Guaraní. This paper nevertheless treats *(o)karu* ‘eat’ as an ambitransitive verb, that is, as a verb that has an intransitive lexical entry as well as a transitive one, on which its arguments can be implicit. This analysis is supported by naturally occurring examples like (i), where the verb occurs with the direct object argument *ñatiũ* ‘moskito’. It is also supported by the fact that my consultants consistently accept the verb in the transitive frame in (31e); see the judgments in Appendix A. There is, however, also some evidence that the transitive use of *(o)karu* ‘eat’ may be a more recent development: it is judged to be unacceptable with the causativizer *-uka*, which combines with transitive verbs (31b), and the portmanteau cross-reference marker *po-* ‘1:2pl’ (31c); see the judgments in Appendix A. To maintain the position that *(o)karu* ‘eat’ is ambitransitive, I hypothesize that the combination of *(o)karu* ‘eat’ with the causativizer *-uka* is blocked by the existence of the transitive verb *ho’u* ‘eat’, and that consultants judged the combination of *(o)karu* ‘eat’ with *po-* ‘1:2pl’ to be unacceptable because of its meaning. I thank Bruno Estigarríbia (p.c.) for raising this issue.

(i) Context: The frog is crying, and the duck is enumerating his good qualities, to cheer it up:

Re-ñangareko yvotyty-re, re-karu ñatiũ ha opa-icha-gua mymba-’i-rehe.
 A2sg-take.care.of garden-REHE A2sg-eat moskito and all-like-from animal-DIM-REHE

‘You take care of the garden, you eat moskitos and other kinds of bugs.’

(fable *Ypei*, author unknown)

¹⁰ That the version of (i) with the ambitransitive verb *(o)karu* ‘eat’ is judged to be unacceptable in the given context, in which the implicit argument of transitive *ho’u* ‘eat’ can receive an anaphoric interpretation, may at first suggest that ambitransitive verbs are not compatible with such interpretations. It is also possible, however, that *(o)karu* ‘eat’ is blocked in this environment, under the assumption that its implicit argument can receive anaphoric, elided, and existential interpretations, whereas that of *ho’u* ‘eat’ can only receive anaphoric and elided interpretations.

(i) Context: Yesterday my mother made a cake for my birthday.

Ange pyhare che-kyvy ho’u / #o-karu.
 today night B1sg-brother A3.eat A3-eat

‘Last night my brother ate [it] / #ate [something].’

626 an independent noun phrase, can receive anaphoric, elided, and existential interpreta-
 627 tions. As summarized in Table 3, the three interpretations are formally distinct, as is the
 628 distribution of implicit arguments under the three interpretations:

Table 3: Formal distinctions between anaphoric, elided, and existential interpretations of implicit arguments in Paraguayan Guaraní

	anaphoric	elided	existential
interpretation sensitive to salient, accessible discourse referent	✓	–	–
interpretation sensitive to linguistic antecedent expression	–	✓	–
introduces discourse referent for subsequent reference	✓	✓	–
restricted to causativized and ambitransitive verbs	–	–	✓

629 These three interpretations were given formal characterizations in the previous
 630 sections that predict the respective interpretations. As summarized in (36a), an implicit
 631 argument that receives an anaphoric interpretation presupposes that its denotation is
 632 identical to that of an already introduced discourse referent. As shown in (36b), an
 633 implicit argument that receives an elided interpretation receives the same interpretation
 634 as a noun phrase in prior discourse. And, as shown in (36c), an implicit argument that
 635 receives an existential interpretation is existentially quantified.

- 636 (36) Assume that V is a transitive verb, translated by the constant v' of type $\langle e, \langle e, t \rangle \rangle$,
 637 that th is an implicit theme argument, translated by the variable x , and that $Julia$
 638 is a noun phrase, translated by the constant j of type e . Then, the meaning of the
 639 Paraguayan Guaraní sentence $Julia V th$, that is, $\llbracket Julia V th \rrbracket$, is, if th receives. . .
- 640 a. an anaphoric interpretation: $\llbracket v'(x)(j) \rrbracket$, with $\partial(x = y)$, where y is an accessi-
 641 ble, salient discourse referent
 - 642 b. an elided interpretation: $\llbracket Julia V NP \rrbracket$, where NP is a noun phrase occurring
 643 in prior discourse
 - 644 c. an existential interpretation: $\llbracket \exists x(v'(x)(j)) \rrbracket$

645 While these formal characterizations predict the respective interpretations, there
 646 are still several open questions that are left for future research. First, as noted above, the
 647 analysis does not predict that the existential interpretation is restricted to causativized
 648 and ambitransitive verbs. This analysis would also need to settle the question, raised
 649 above, whether the existential interpretation derives from the intransitive or the transi-
 650 tive lexical entry of ambitransitive verbs. A second question pertains to the anaphoric
 651 and elided interpretations, specifically the fact that the both interpretations are com-
 652 patible with implicit arguments of the same set of verbs (or at least an overlapping set
 653 of verbs). In other words, the analysis needs to formally capture that, for instance, the
 654 implicit theme argument of *(o)hecha* ‘see’ can receive either an anaphoric or an existential
 655 interpretation. One way to go would be to assume that *(o)hecha* ‘see’ is ambiguous
 656 between a lexical entry that licenses an implicit theme argument with an anaphoric
 657 interpretation, and another lexical entry that licenses an implicit theme argument with
 658 an elided interpretation. This analysis is, obviously, not satisfying: it would result in
 659 rampant ambiguity in the Paraguayan Guaraní lexicon because many verbs license both
 660 interpretations, and not just for the theme argument.

661 An ambiguity analysis is also not satisfying because Paraguayan Guaraní is not the
 662 only language in which implicit arguments can receive both anaphoric and elided inter-
 663 pretations. Consider, for instance, the data in (37) from Mandarin. In (37a), the implicit
 664 theme argument of the transitive verb *xihuan* ‘like’ receives an anaphoric interpretation:

665 as pointed out in [Huang 1984](#), the implicit argument is interpreted as an interlocutor (de-
 666 ictic interpretation) or as third person (discourse anaphoric interpretation) “[d]epending
 667 on the context” (footnote 4, p.537). In (37b), on the other hand, the implicit theme argu-
 668 ment of *xihuan* ‘like’ receives an elided interpretation, as illustrated by the availability of
 669 both the sloppy and strict interpretation. For other languages with implicit arguments
 670 that allow both interpretations see, for instance, [Huang 1991](#) on Japanese, [Gribanova](#)
 671 [2013](#) on Russian, and [Cyrino and Lopes 2016](#) on Brazilian Portuguese.

- 672 (37) a. Lisi hen xihuan.
 Lisi very like
 673 ‘Lisi likes [me, you, him, her, it].’ ([Huang 1984](#), 537, example and translation
 674 adapted)
- 675 b. Zhangsan bu xihun [guanyü ziji-de yaoyan]; Mali ye bu xihuan.
 Zhangsan not like about self-Gen rumor Mary also not like
 676 ‘Zhangsan doesn’t like rumors about himself. Mali also doesn’t like [rumors
 677 about Zhangsan / rumors about herself]. ([Otani and Whitman 1991](#), 346,
 678 example and translation adapted)

679 Future research will need to consider data from Paraguayan Guaraní and other languages
 680 in order to develop an empirically adequate analysis of implicit arguments in languages
 681 where such arguments can receive both anaphoric and elided interpretations.

682 7. Conclusion

683 Implicit arguments are a regular occurrence in Paraguayan Guaraní, owing to the
 684 cross-referencing system of the language. [Tonhauser \(2017\)](#) showed that such arguments
 685 can be compared to English pronouns, in the sense that they can receive anaphoric
 686 interpretations. This paper revealed that the comparison to English pronouns is lacking,
 687 because implicit arguments can receive a broader set of interpretations, including not just
 688 anaphoric interpretations, but also elided and existential ones. There are both linguistic
 689 and extra-linguistic constraints on the interpretation that a particular implicit argument
 690 can receive. As shown in section 3, the anaphoric interpretation is only available if
 691 there is a uniquely salient, accessible discourse referent. Section 4 showed that the
 692 elided interpretation necessitates the availability of an antecedent noun phrase in prior
 693 discourse. And, as discussed in section 5, the existential interpretation is only available
 694 for particular types of arguments. A study of these interpretations in naturally occurring
 695 discourse may reveal further constraints on their distribution.

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714 **Appendix A. Verb classes in Paraguayan Guaraní**

715 The 71 verbs included in the investigation are given here together with the judg-
 716 ments that led to their classification as (di)transitive (Table A1), intransitive (Table A2),
 717 and ambitransitive (Table A3). Table A4 provides the judgments for verbs without a clear
 718 pattern. The first column of each table provides the verb with its English translation.
 719 The remaining five columns correspond to the five combinations in (31a-e), respectively.
 720 The judgments reported provide information about the consultant (judgments from
 721 consultants 1-3 were elicited during 2014/15; judgments from consultants 4-5 were
 722 elicited during 2015/16) as well as the judgment: ‘y’ means that the consultant judged
 723 the combination acceptable, and ‘n’ means that they did not judge it to be acceptable; an
 724 additional ‘?’ means that the consultant wasn’t sure. Judgments that do not accord with
 725 the classification are bold-faced; some of these bold-faced exceptions can presumably be
 726 explained on the basis of semantic or selectional restrictions.

Table A1. Judgments for verbs that pattern like (di)transitive verbs

	<i>mo-</i> ‘CAUS-’	<i>-uka</i> ‘-CAUS’	<i>po(i)-</i> ‘1:2pl’	intr. use	tr. use
<i>(o)gueraha</i> ‘take’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)guereko</i> ‘have’	1n2n4n5n	1n2y4y5n	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)guerovia</i> ‘believe’	1n2y4y5y	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)gueru</i> ‘bring’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)hayhu</i> ‘love’	1n2n4n5n	1y2y4y5y	1y2y3y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)hecha</i> ‘see’	1n2n4n 5y	1y2y4y5y	1y2y4y5y	1n2n3n4n 5y	1y2y3y4y5y
<i>(o)heja</i> ‘leave/let’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n	1y2y4y5y
<i>(o)heka</i> ‘search’	1n2y?4n 5y	1y2y4y5y	1y2y4y5y	1n2n	1y2y4y5y
<i>(o)hendu</i> ‘hear’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1y2y3n	1y2y3y4y5y
<i>(o)hovapete</i> ‘hit in face’	1y2y4n5y	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)invita</i> ‘invite’	1n2n4n4y	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)japo</i> ‘make/do’	1n2n4n5n	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y4y5y
<i>(o)japo-uka</i> ‘cause to do’	1n2n	-	1y2n3n	1n2n	1y2y
<i>(o)jogua</i> ‘buy’	1n2n4n5n	1y2y4y5y	1n2y3y4y5n	1n2n4n5n	1y2y4y5y
<i>(o)juhu</i> ‘meet/discover’	1n2n4n5y	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)juka</i> ‘kill’	1n2n4n5n	1y2y4y5y	1n2n4y5y	1n2n4n5n	1y2y4y5y
<i>(oi)kotevẽ</i> ‘need’	1n2y4y5n	1y2y 4n5n	1y2y4y5y	1n2n3n4n5n	1y2y3y4y5y
<i>(oi)kuua</i> ‘know’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(oi)kytĩ</i> ‘cut’	1n2n4n5y	1y2y4y5y	1y2y4y5y	1n2n3n4n5n	1y2y3y4y5y
<i>(o)mbojy</i> ‘cook’	1n2n	1y2y4y5y	1y2y4y5y	1n2n4n 5y	1y2y4y5y
<i>(o)mbotove</i> ‘deny/refuse’	1n2n	1y2y	1y2y	1n2y	1y2y
<i>(o)me’ẽ</i> ‘give’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n3n4n5n	1n2y3y4y5y
<i>(o)mo-kañy</i> ‘lose sth’	1n2n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)mo-mbo</i> ‘throw out’	1n2n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(oi)mo’ã</i> ‘believe’	1n2n4n5n	1y2y 4n5y	1n2y3n4n5n	1n2n3n4n5n	1n2y3n4y5y
<i>(o)mohesakã</i> ‘explain’	1n2n	1y2y4y5y	1n2n4n5y	1n2n4n5n	1y2y4y5y
<i>(o)moĩ</i> ‘put’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n3n4n5n	1n2y3y4y5y
<i>(o)moĩnge</i> ‘insert’	1n2n	1y2y4y5y	1y2y4y5y	1n2n3n4n5n	1n2y3y4y5y
<i>(o)moneĩ</i> ‘accept’	1y2n	1y2y	1y2y	1n2y4n5n	1y2y 4n
<i>(o)ñeipyru</i> ‘begin’	1n2n 4y5y	1y 2n4n5y	1n2n4n5n	1n2n4n5n	1y2y4y5y
<i>(o)ntende</i> ‘understand’	1y2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(oi)nupã</i> ‘hit’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>ho’u</i> ‘eat’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n3n4n5n	1y2y3y4y5y
<i>(o)promete</i> ‘promise’	1n2n4n	1y2y4y	1n2n4y5y	1n2n4n5n	1y2y4y5y
<i>(oi)puru</i> ‘use, lend’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(oi)pytyvõ</i> ‘help’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)rairõ</i> ‘fight’	1y2n4n5y	1y 2y4n5n	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)rohory</i> ‘appreciate’	1n2n4n	1y2y4y	1y2y4y5y	1n2n4n	1y2y4y
<i>(oi)su’u</i> ‘bite’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)topa</i> ‘find/meet’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
<i>(o)visita</i> ‘visit’	1n2n4n5n	1y2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y

Table A2. Judgments for verbs that pattern like intransitive verbs

	<i>mo-</i> 'CAUS-'	<i>-uka</i> '-CAUS'	<i>po(i)-</i> '1:2pl'	intr. use	tr. use
(o)guahē 'arrive'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y4y5y	1n2n4n5n
(o)guapy 'sit'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y3y4y5y	1n2n3n4n5n
(o)jahu 'bathe'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y3y4y5y	1n2n3n4n5n
ou 'come'	1y2n4y5y	1n2n4n5n	1n2n4n5n	1y2y4y5y	1n2n4n5n
(che)kaigue 'lazy'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y4y5y	1n2n4y5n
(o)ke 'sleep'	1y2y4y5y	1n2n4n5n	1n2n3n4n5n	1y2y4y5y	1n2n4n5n
(oi)ke 'enter'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y4n5y	1n2n4n5n
(o)sē 'leave'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y4y5y	1n2n4n5n

Table A3. Judgments for verbs that pattern like ambitransitive verbs

	<i>mo-</i> 'CAUS-'	<i>-uka</i> '-CAUS'	<i>po(i)-</i> '1:2pl'	intr. use	tr. use
(o)gana 'win'	1y2y4y5y	1n2y4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y
(o)karu 'eat'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y3y4y5y	1y2y3y4y5y
(o)kasa 'hunt'	1y2y4n	1y2y4y	1y2y4y	1y2y4y5n	1y2y4y5y
(o)kosina 'cook'	1y2y4y5y	1y2y4y5y	1n2n4y5y	1y2y4y5y	1y2y4y5y
(o)lee 'read'	1y2y4n5y	1y2y4y5y	1n2n4n5y	1y2y4y5y	1y2y4y5y
(o)mbovyoy 'sow'	1n2n	1y2y4y5y	1n2y4n5n	1y2y4y5y	1y2y4y5y
(o)menda 'marry'	1y2y4y5y	1n2n4n5n	1n2n4n5y	1y2y4y5n	1y2y4y5y
(o)mo-potī 'clean'	–	1y2y4y5y	1y2y4y5y	1y2n3y4y5y	1y2y3y4y5y
(o)ñemitj 'sow'	1y2n4y5y	1y2y4y5y	1n2n4n5n	1y2y4y5y	1y2y4y5y
(o)peska 'fish'	1y2y4y5y	1y2y4y5y	1n2n4n5y	1y2y4y5y	1y2y4y5y
(o)pita 'smoke'	1n2y4y5y	1y2y4n5n	1n2n4n5n	1y2y4y5y	1y2y4y5y
(o)purahéi 'sing'	1y2y4y5y	1n2n4n5n	1n2n4n5n	1y2y3y4y5y	1y3y4y5y
(o)rambosa 'breakfast'	1y2y4y5y	1y?2n4n5n	1n2n4y5n	1y2y4y5y	1y2y4y5y
(o)studia 'study'	1y2y4y5y	1y2n4n5n	1n2n4y5y	1y2y4y5y	1y2y4y5y

727 The verb (*ho*)y'u (eat.water) 'drink water' consists of a transitive verb and an
 728 incorporated theme argument. While the consultants' judgments suggest that this verb
 729 has an intransitive use, their judgments on the remaining criteria were too mixed to
 730 establish a classification. The verb (*o*)guyguy 'look around' looks like a transitive verb
 731 based on its co-occurrence pattern with the two causative markers, but like an intransitive
 732 verb based on its distribution in transitive and intransitive frames. By contrast, the last
 733 six verbs in Table A4 (or, verb/adjunct combinations in the case of *ou i-pó-pe* (come
 734 B3-hand-PE) 'receive'), look like intransitive verbs based on their co-occurrence pattern
 735 with the two causative markers, but like transitive verbs based on their distribution in
 736 intransitive and transitive frames.

Table A4. Judgments for verbs without clear pattern

	<i>mo-</i> 'CAUS-'	<i>-uka</i> '-CAUS'	<i>po(i)-</i> '1:2pl'	intr. use	tr. use
(<i>ho</i>)y'u 'drink water'	1n2n4y5y	1y2n4y5n	1n2n4n5n	1y2y3y4y5y	1y2n3n4n5y
(o)guyguy 'look around'	1n2n	1y2y	1n2n	1y2y	1n2y
(o)maña 'look'	1y2y4y5y	1n2n4n5y	1n2n4n5n	1n2n3n4y5y	1y2y3y4y5y
<i>ou i-pó-pe</i> 'receive'	1y2y	1n2n	1n2n	1n2n	1y2y
(che)mandu'a 'remember'	1y2y4y5y	1n2n4n5n	1n2n4n5y	1n2n4n5n	1y2y4y5y
(che)resarai 'forget'	1y2y4y5y	1y2y4n5n	1n2n4n5n	1n2n3n	1n2y3y4y5y
(o)perde 'lose sth'	1y2y4y5y	1y2n4n5n	1y2y4y5y	1n2n4n5n	1y2y4y5y
(o)ñe-ha'ā 'try'	1y2y4y5y	1n2n4n5y	1n2n4y5n	1n2n4n5n	1y2y4y5y

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