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1 **Reciprocal constructions in Mian¹**

2

3 *Abstract: Despite the ongoing interest in reciprocal situations, which form a central*
4 *part of our social, intellectual and moral lives, and the linguistic encoding of such*
5 *situations in different languages, studies of reciprocals in Papuan languages remain*
6 *under-represented in the reciprocal literature. The Trans New Guinea languages*
7 *Mian, Amele and Hua have a reciprocal construction in which the reciprocal*
8 *subevents are expressed by individual transitive verbs plus an existential verb*
9 *expressing that the reciprocal action is done together. Mian goes one step further*
10 *and fuses this construction into a single verb with a reciprocal suffix -sese. The*
11 *present paper is an in-depth analysis of the morphology, syntax and semantics of*
12 *reciprocal constructions in Mian, including a comparison with Amele, and an*
13 *analysis of the diachronic development of the Mian reciprocal, whose origin*
14 *presumably lies in a biclausal description in which the reciprocal subevents are*
15 *spelled out separately and sequentially.*

16

17 *Keywords: reciprocals; transitivity; Trans New Guinea; Mian; Amele.*

18

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19

20 **1 Introduction**

21

22 In recent years there has been a strong theoretical and typological interest in the
23 study of reciprocal constructions and the situations for whose description they are
24 employed in the languages of the world (Dalrymple, Kanazawa, Mchombo & Peters
25 1994, 1998; Frajzyngier & Curl 2000; Behrens 2007; Nedjalkov 2007a; König &
26 Gast 2008; Evans 2010; Evans, Gaby, Levinson & Majid 2011). This literature
27 investigates a wide range of types of such constructions, yet contains only little on
28 reciprocals in Papuan languages, though some interesting facts have been noted
29 about the Trans New Guinea (TNG) languages Amele (Roberts 1987) and Hua
30 (Haiman 1980), where multi-verb constructions with a special type of switch-
31 reference marking are used to express reciprocal situations. These points are taken up
32 by Evans (2008, 2010) and will figure prominently in this article.

33 This type of reciprocal construction is restricted to Papuan Highlands languages.
34 The Papuan language Mian (TNG, Ok family; Fedden 2011) has two related
35 reciprocal constructions which are similar to those found in Amele or Hua.² The aim
36 of this paper is to give a thorough synchronic and diachronic analysis of these two
37 constructions, which are interesting to typologists in general, to anyone working on
38 or interested in reciprocals, and to historical linguists as an unusual construction for
39 which a source can be continually reconstructed.

² There are chapters dedicated to reciprocals in the Papuan languages Savosavo (Wegener 2011), Rotokas (Robinson 2011), and Yéli Dnye (Levinson 2011) in the volume by Evans, Gaby, Levinson and Majid (2011). None of these are TNG languages and they do not have the complex constructions found in Mian.

40 The first construction type is illustrated in examples (1) to (3). Examples (4) to (7)
 41 below illustrate the second type. Both types are dedicated reciprocals in the sense
 42 that they can only have reciprocal semantics. As more detailed explanation of the
 43 component parts of these constructions will be provided in sections 2 and 3 I will just
 44 highlight the most important features here.

45

- 46 (1) (ī) *i-nâ'-sese-bl-∅-io=be*
 47 (3PL) PL.AN.O-hit.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL
 48 ‘They (more than two) are hitting each other.’

49

50 The reciprocal morpheme is *-sese*. The free pronoun is optional (hence in
 51 brackets) but if present it has to be in the plural. The reciprocants have to be encoded
 52 as both subject and object. The reciprocal verb remains transitive. The whole set of
 53 reciprocants is cross-referenced on the verb as subject (suffixal *-io*) and object
 54 (prefixal *i-*) and the cross-referencing affixes are both in the plural. Example (1) can
 55 only be used if there are more than two participants involved in a reciprocal action. If
 56 there are exactly two participants of the same sex—and only in this case—(2) or (3)
 57 have to be used. They cannot be used otherwise.

58

- 59 (2) (ī) *a-nâ'-sese-bl-∅-io=be*
 60 (3PL) 3SG.M.O-hit.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL
 61 ‘They (two males) are hitting each other.’

62

63 (3) (ī) *wa-nâ'-sese-bl-∅-io=be*

64 (3PL) 3SG.F.O-hit.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

65 'They (two females) are hitting each other.'

66

67 In (2) and (3) everything is as in (1) with the exception that the object prefix has
 68 to be in the singular and reflect the gender of the participants, i.e., *a-* 'third person
 69 singular masculine' or *wa-* 'third person singular feminine'. Throughout this paper I
 70 will call the construction exemplified in (1) to (3) the *sese*-construction because it
 71 contains the reciprocal suffix *-sese*.

72 There is an alternative construction for (1), (2), and (3), illustrated in (4) with a
 73 plural object prefix, (5) with a 'third person singular masculine' prefix and (6) with a
 74 'third person singular feminine' prefix:

75

76 (4) (ī) *i-nâ'-s-e* *i-nâ'-s-e*

77 (3PL) PL.AN.O-hit.PFV-DS.SEQ-3SG.M.SBJ PL.AN.O-hit.PFV-DS.SEQ-3SG.M.SBJ

78

79 *bl-∅-io=be*

80 exist-IPFV-2/3PL.AN.SBJ=DECL

81 'They (more than two) are hitting each other.'

82

83 (5) (ī) *a-nâ'-s-e*

84 (3PL) 3SG.M.O-hit.PFV-DS.SEQ-3SG.M.SBJ

85

86 *a-nâ'-s-e*
 87 3SG.M.O-hit.PFV-DS.SEQ-3SG.M.SBJ
 88
 89 *bl-∅-io=be*
 90 exist-IPFV-2/3PL.AN.SBJ=DECL
 91 ‘They (two males) are hitting each other.’

92
 93 (6) (ī) *wa-nâ'-s-e*
 94 (3PL) 3SG.F.O-hit.PFV-DS.SEQ-3SG.M.SBJ
 95
 96 *wa-nâ'-s-e*
 97 3SG.F.O-hit.PFV-DS.SEQ-3SG.M.SBJ
 98
 99 *bl-∅-io=be*
 100 exist-IPFV-2/3PL.AN.SBJ=DECL
 101 ‘They (two females) are hitting each other.’
 102

103 This particular type of reciprocal construction has been called the ‘zigzag’ type by
 104 Evans (2008, 2010),³ and this is the term I will use as well. This construction is
 105 illustrated in examples (4) to (7). The reciprocal subevents of hitting appear in a
 106 serial verb construction. The subevents are expressed sequentially by two verbs,

³ Evans (2008) calls these ‘zigzag summative constructions’, Evans (2010) ‘unified zigzag constructions’ but the idea and the analysis provided are the same.

107 whose lexical stem is always identical, in this case *-nâ* ‘hit (PFV)’. These are the
 108 zigzag verbs expressing the individual subevents within a larger reciprocal event.

109 If there are more than two participants, the object prefix must be in the plural, as
 110 in (4). If there are two participants of the same sex object inflection reflects the
 111 gender of the two participants, as in (5) and (6). There is an existential verb at the
 112 end of the serialization carrying the subject inflection, which is always plural
 113 expressing the full set of reciprocants. There is no morpheme *-sese* in this
 114 constructional variant. Instead the zigzag verbs each carry a switch-reference
 115 suffix *-s* indicating ‘different subject, sequential’ in an atypical circular fashion
 116 referencing each other, followed by a subject suffix. The latter is frozen to the third
 117 person singular masculine. This can be seen in (7) below, where the subject of the
 118 first zigzag verb is the female participant (hitting the male participant), yet the
 119 subject suffix is *-e*, and not the expected *-o* ‘third person singular feminine’.

120 If the set of reciprocants consists of one male and one female participant the
 121 zigzag construction has to be used. One verb carries a masculine object prefix, the
 122 other a feminine object prefix. Example (7) has no equivalent *sese*-construction:

123

124 (7) (i) *a-nâ'-s-e*

125 (3PL) 3SG.M.O-hit.PFV-DS.SEQ-3SG.M.SBJ

126

127 *wa-nâ'-s-e*

128 3SG.F.O-hit.PFV-DS.SEQ-3SG.M.SBJ

129

130 *bl-∅-io=be*
 131 exist-IPFV-2/3PL.AN.SBJ=DECL
 132 ‘They (F+M) are hitting each other.’

133

134 In both reciprocal constructions the reciprocants have to be animate. Events
 135 involving inanimate participants cannot be encoded with either the *sese-* or the
 136 zigzag-construction. The corpus does not contain any such examples and constructed
 137 examples involving inanimate reciprocants were consistently rejected by speakers.

138 After discussing both types of Mian reciprocal (*-sese* and zigzag) in detail
 139 including their semantics I propose a historical scenario in section 6 which traces the
 140 zigzag reciprocal construction back to its origin as a biclausal description involving a
 141 clause chaining construction in which medial verbs are marked for different subject
 142 relative to the subject of the succeeding clause. I propose that the constructions
 143 exemplified in (1) to (3) are essentially fused versions of the zigzag constructions
 144 illustrated in (4) to (6), whereby the sequence *V-s-e V-s-e* of the zigzag reciprocal
 145 was fused into *V-sese*.

146 The zigzag reciprocal construction can also be found in the TNG languages
 147 Amele (Roberts 1987) and Hua (Haiman 1980). Below I discuss the zigzag
 148 reciprocal in Amele in more detail. However, neither Amele nor Hua have gone as
 149 far as Mian, i.e., to the point of fusing the zigzag construction into a single predicate
 150 with a unique and segmentable reciprocal morpheme (*-sese* in Mian).

151 The data presented in this paper are from the eastern Mian dialect and are mainly
 152 descriptions of reciprocal situations, elicited with the help of 64 video clips devised

153 by the Reciprocals project at the Max Planck Institute for Psycholinguistics,
154 Nijmegen (Evans, Levinson, Enfield, Gaby & Majid 2004; Evans, Gaby, Levinson,
155 & Majid 2011). The clips are available at <http://fieldmanuals.mpi.nl/login/referer/>.
156 These data are supplemented with elicited examples from my own corpus and with
157 examples from the Mian New Testament (Smith & Weston 1986). All Mian data
158 presented in this paper were collected by the author. The source is given in square
159 brackets for examples from the spontaneous corpus and examples from the responses
160 to the video clips. Other elicited examples are unmarked.

161 Mian belongs to the Ok family of languages, which is named after the widespread
162 word *ok* ‘river, water’ (Healey 1964; Voorhoeve 2005). The Ok family belongs to the
163 larger TNG family (Wurm 1982; Ross 2005; Pawley 2005). Mian is spoken in
164 Telefomin District of Sandaun Province in Papua New Guinea. The eastern dialect
165 has approximately 1,400 speakers and is the base for a comprehensive grammatical
166 description of the language (Fedden 2011). Most speakers under 75 also speak Tok
167 Pisin, the variety of Neo-Melanesian Pidgin spoken in Papua New Guinea. Most
168 young speakers have some knowledge of English. Older male speakers above 50
169 years of age also speak or at least understand the closely related neighboring
170 language Telefol.

171 Mian is a word tone language, i.e., the domain in which five lexically specified
172 tonal melodies contrast is the entire phonological word and not the syllable
173 (Donohue 1997). In the examples, the five tonal melodies are written as follows: *mēn*
174 ‘child’ (H), *mén* ‘string bag’ (LH), *klâ* ‘properly’ (LHL), *fê* ‘carrion’ (HL). Low tone
175 is unmarked: *am* ‘house’ (L).

176 For roughly two thirds of the verb stems that have been recorded in the corpus
177 (comprising roughly 300 verb stems) there is a perfective-imperfective distinction in
178 the stem. Whenever a verb stem is cited its aspect value is given in brackets if a
179 given stem is unequivocally perfective or imperfective, such as *baa* ‘say (PFV)’ and *o*
180 ‘say (IPFV)’. For trans-aspectual verbs, which can be used in the perfective and the
181 imperfective, a single form is given, e.g., *fu* ‘cook’.

182 Mian is head-marking (Nichols 1996). The neutral word order is S(O)V in all
183 clause types but constituent order is relatively free with the restriction that the verb
184 always has to be clause-final and is only followed by an illocutionary particle. Word
185 order within the NP is fixed. The language is strongly zero-anaphoric, i.e., all
186 argument NPs are typically elided, if referent identity is retrievable from the context
187 or world knowledge. The syntax of the language is characterized by very frequent
188 use of serial verb constructions and clause chaining with anticipatory switch
189 reference marking.

190 Before delving into the analysis of Mian reciprocals I give a brief sketch of two
191 important characteristics of Mian morphosyntax which are important for
192 understanding reciprocal constructions. These are argument cross-referencing and
193 switch reference (S/R) in clause chains, which have already been touched upon in the
194 introductory remarks. These grammatical areas are important because the
195 reciprocants are indexed by means of affixes and the *sese*-reciprocal is presumably
196 the result of a historical development whose origin was a clause chaining
197 construction involving S/R marking.

198

199

200 1.1 Argument cross-referencing

201

202 Mian verb morphology is complex and mildly polysynthetic. For the discussion of
 203 reciprocals, we need to look at the subject, object, and recipient affixes for animates,
 204 all of which are marked on the verb by means of an affix. The language does not
 205 have morphological case or adpositional marking for core grammatical relations.
 206 Instead, all subjects are obligatorily indexed on all finite verb forms by a pronominal
 207 suffix, regardless of whether they are subjects of an intransitive or a transitive clause,
 208 whereas objects are marked by a pronominal or a classificatory prefix for some verbs
 209 and not at all for other verbs, as will be explained below. Whether a verb indexes its
 210 object is lexically determined. An example of an intransitive verb is (8):

211

212 (8) \bar{e} *gen-b-e=be*
 213 3SG.M be_sick.IPFV-IPFV-3SG.M.SBJ=DECL
 214 ‘He is sick.’

215

216 Most transitive verbs in Mian do not index their object. An example of such a
 217 verb is *dowôn* ‘eat (PFV)’, as in (9):

218

219 (9) *Milsen=e ablam=o dowôn’-Ø-e=be*
 220 PN=SG.M nut_species=PL.N1 eat.PFV-REAL-3SG.M.SBJ=DECL
 221 ‘M. ate the ablam nuts.’

222

223 There are two classes of transitive verbs that do index their objects. The first class
 224 indexes the object with a pronominal prefix. This class comprises seven verb stems
 225 only, namely *-têm* ‘see (PFV)’, *-temê* ‘see (IPFV)’, *-lò* ‘hit, kill (PFV)’, *-nâ* ‘hit, kill
 226 (PFV)’, *-e* ‘hit, kill (IPFV)’, *-ntamá* ‘bite (PFV)’, and *-fû* ‘grab (PFV)’, all of which—
 227 with the notable exception of ‘see’—are high on the transitivity scale (Hopper &
 228 Thompson 1980). An example is (10):

229

230 (10) *naka=e unáng=o wa-têm'-Ø-e=be*

231 man=SG.M woman=SG.F 3SG.F.O-see.PFV-REAL-3SG.M.SBJ=DECL

232 ‘The man saw the woman.’

233

234 There is a second type of object prefix which is obligatory for about 50 verbs,
 235 almost exclusively verbs of object handling, such as ‘give’, ‘put’, ‘throw’, ‘get’, and
 236 ‘turn’ (Fedden 2011: 194-195).⁴ These classificatory prefixes index the object, signal
 237 number and classify the object according to certain salient characteristics of its
 238 referent, viz. sex, shape, and function. Example (11) shows the transitive verb *-ò* ‘get
 239 (PFV)’ with the classificatory prefix *tob-*, which is used for long objects in the
 240 singular, for example a single tobacco leaf.

241

242 (11) *nē memâlo fût=e tob-ò-n-i=a*

243 1SG now tobacco=SG.N1 3SG.LONG.O-get.PFV-SS.SEQ-1SG.SBJ=MED

⁴ Classificatory prefixes operates on an absolutive basis (Keenan 1984), i.e., the prefix classifies the object of transitive verbs and the subject of the intransitive verb ‘fall’, which is never reciprocal and therefore ignored here.

244 ‘Now I get the tobacco leaf, and then I ...’ [Rolling smokes]

245

246 Unlike such languages as Waris (Brown 1981; Seiler 1983), the classificatory
 247 morphemes in Mian cannot be traced back to source verbs. The classificatory
 248 prefixes form a second system of nominal classification apart from the gender
 249 system.⁵ They are not agreement affixes but verbal classifiers (Aikhenvald 2000:
 250 152). The forms of the classificatory prefixes are given in Table 1.

251

252 [Insert Table 1 about here]

253

254 Recipient objects are indexed with a suffix in the verb *-ûb'*- ‘give (PFV)’ in the
 255 perfective.⁶ The imperfective forms attach to the suppletive form *-ka-* ‘give (IPFV)’.
 256 On triple agreement in the ditransitive verb *-ûb'*- ‘give (PFV)’ (which indexes the
 257 subject, the recipient and the theme), see Fedden (2010: 461-462, 477-482). Both
 258 *-ûb'*- and *-ka-* obligatorily index the theme object (the gift) with a classificatory
 259 prefix. An example of *-ûb'*- ‘give (PFV)’ is (12):

260

261 (12) *nē naka=e éil=o*

262 1SG man=SG.M pig=SG.F

263

⁵ The class containing male referents (and some inanimates) is called the M-class and the class containing female referents (and many inanimates) is called the F-class. This is a reminder that these classes are similar to ‘masculine’ and ‘feminine’, respectively, but they cannot be called that because the terms are already in use for two of the Mian genders.

⁶ This verb has the allomorphs *-ût'*- before /n/ and *-b'*- after a vowel (and *-t'*- between a vowel and /n/) where only /b/ (or /t/) is realized segmentally but the LHL tone remains. The apostrophe indicates that the verb is off-stem accented, which means that the tonal melody attaches to the tone-bearing unit immediately to the right of the verb root.

264 *om-ûb'-a-Ø-i-bio=be*

265 3SG.F_CL.O-give.PFV-3SG.M.R-REAL-1SG.SBJ-GPST=DECL

266 ‘I gave the sow to the man.’

267

268 In the perfective, lexical verbs are compounded with *-ûb'*- ‘give (PFV)’ to

269 introduce a recipient object into the argument structure of the verb. The recipient

270 object is indexed by means of a suffix immediately following *-ûb'*- ‘give (PFV)’.

271 Note that *-ûb'*- ‘give (PFV)’ does not have a classificatory prefix in this construction.

272 An example is (13):

273

274 (13) *kasak=e*

275 *kasak_ritual=SG.N1*

276

277 *ale-˘b'-e-Ø-ib-bio=ta*

278 show-give.PFV-PL.AN.R-REAL-2/3PL.AN.SBJ-GPST=MED

279 ‘they had shown us the Kasak (ritual), and then ...’ [Kasak ritual]

280

281 While subject and object affixes are independent of aspect the form of the suffix

282 indexing the recipient depends on aspect. In the imperfective the recipient suffixes

283 have slightly different forms and are appended to the verb stem directly. An example

284 is (14):

285

286 (14) *unín=o ifu-ye-b-o=be*

287 food=N2 serve.IPFV-PL.AN.R-IPFV-3SG.F.SBJ=DECL

288 ‘She is serving food for us / you (PL) / them.’

289

290 The forms of all argument cross-referencing affixes in the third person are given
291 in Table 2.⁷

292

293 [Insert Table 2 about here]

294

295 There is some allomorphy in the plural object prefixes. The verb *-e* ‘hit, kill
296 (IPFV)’ takes *y-*, and *-nâ* ‘hit, kill (PFV)’ takes *ya-* or *i-*. The remaining five verbs
297 take *ya-*.

298

299

300 1.2 Clause chaining and switch reference marking

301

302 Clause chaining constructions are a typical feature of Mian discourse and widespread
303 in TNG languages (Foley 2000: 357). Clause chains consist of one or more medial
304 clauses and one final clause. The former have medial verbs with anticipatory S/R
305 morphology relative to the following clause, indicating co-reference or disjoint
306 reference of the subject (Stirling 1993). Final verbs, on the other hand, are inflected
307 for various tense categories, polarity and illocutionary force, which have scope over
308 the whole clause chain (Foley & Van Valin 1986; Reesink 1983). As clause chains in

⁷ The allomorphy conditions for the subject suffix are complicated (depending on both the phonological and the morphological context) and irrelevant for the purpose of this paper (see Fedden 2011: 262-265).

309 Mian can be very long it is often necessary for practical reasons to confine an
 310 example to a part of the clause chain in order to make a certain point. In this case the
 311 example might not contain a final clause. An example illustrating a part of a clause
 312 chain is given in (15):

313

314 (15) a. *tóm=e belâ-s-e=ta*

315 stone=SG.N1 open.PFV-DS.SEQ-3SG.N1.SBJ=MED

316

317 b. *mín yē fiou fiou ga-b-e=to*

318 man there thwack thwack say.IPFV-DS.SIM-3SG.M.SBJ=MED

319 ‘the stone (gate) opened and the man was going thwack, thwack (i.e.,

320 hitting his adversaries who were trying to prevent him from leaving

321 through the opening)’ [Danenok and his brother]

322

323 In (15) subject reference is disjoint. The subject in clause (a) is the stone, the
 324 subject in clause (b) the male protagonist. This is indicated by the suffix *-s* on the
 325 verb *belâ* ‘open (PFV)’. For the Mian reciprocal construction only the ‘different
 326 subject’ suffixes *-s* and *-b* are relevant. Mian S/R suffixes also carry information
 327 about event sequentiality or simultaneity. The suffix *-s* has event sequentiality as part
 328 of its meaning, the suffix *-b* has simultaneity as part of its meaning. These two
 329 suffixes are contrasted in a very similar frame in (16) and (17):

330

331 (16) *ē bín=o we-s-e=a*

332 3SG.M floor=N2 sweep-DS.SEQ-3SG.M.SBJ=MED

333

334 *naka mak=e unín=o fu-n-e-bio=be*

335 man other=SG.M food=N2 cook-REAL-3SG.M.SBJ-GPST=DECL

336 ‘He swept the floor and then somebody else prepared food.’

337

338 (17) *ē bín=o we-b-e=a*

339 3SG.M floor=N2 sweep-DS.SIM-3SG.M.SBJ=MED

340

341 *naka mak=e unín=o fu-b-e=be*

342 man other=SG.M food=N2 cook-IPFV-3SG.M.SBJ=DECL

343 ‘While he is sweeping the floor, somebody else is preparing food.’

344

345 The S/R suffixes *-s* and *-b*, both of which signal disjoint subject reference and

346 which are associated with perfective and imperfective aspect, respectively, play an

347 important role in the zigzag reciprocal construction and are the key to the diachronic

348 scenario which I propose in section 6. For a detailed description and analysis of the

349 Mian S/R system, see Fedden (2011: 421-470) and Fedden (2012).

350

351

352 **2 The *sese*-reciprocal construction**

353

354 The topic of this section is the reciprocal construction with the reciprocal
 355 suffix *-sese*. The only function of this construction is to encode reciprocal situations.
 356 The construction does not participate in any reflexive, collective, or distributive
 357 polysemies. An example of a transitive verb inflected with *-sese* is (18):

358

359 (18) \bar{i} *i-nâ'-sese-bl-Ø-io=be*

360 3PL PL.AN.O-hit.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

361 'They are hitting each other.' (i.e., are engaged in reciprocal hitting)

362

363 All Mian reciprocals are formed with the existential verb *bi~bl* 'exist',⁸ whose
 364 subject suffix has to be plural, expressing the whole set of reciprocants. I analyze the
 365 existential verb as a suffix because the whole verb complex in (18) forms a single
 366 phonological word with respect to tone assignment and because the initial /b/ in the
 367 existential verb is not prenasalized, which it would be in isolation. The construction
 368 illustrated in (18) has a number of interesting properties which I point out in the
 369 following.

370 First, the suffix *-sese* cannot be used with imperfective stems. It can be appended
 371 only to perfective stems or trans-aspectual stems, which do not formally distinguish
 372 between perfective and imperfective aspect. The suffix occurs directly after the stem
 373 or if the verb is compounded with *-ûb'* 'give (PFV)' after the recipient suffix; see
 374 examples (22) to (24) below. The existential verb at the end of the *sese*-construction
 375 also has the aspectual function of expressing imperfectivity. It does not only serve as
 376 the host for the subject inflection. As *-sese* can only be used in the perfective an

⁸ The allomorphy works as follows: *bl* is chosen before /i/, *bi* is chosen elsewhere.

377 additional verb introducing imperfectivity is necessary, if one wants to describe an
 378 on-going situation which consists of bounded reciprocals subevents.

379 Second, and more importantly, reciprocants have to be (i) subjects and (ii) one of
 380 either object or recipient, depending on the argument structure of the verb. It is
 381 typologically unusual for a reciprocal construction employing a verb-marking
 382 strategy that both reciprocant argument positions have to be filled and that the
 383 reciprocal verb remains transitive (Nedjalkov 2007b: 12, 40).⁹ The whole set of
 384 reciprocants is cross-referenced on the existential verb. The subject affix is always in
 385 the plural. The object affix is in the plural, if there are more than two reciprocants
 386 (cf. example (1) above). It is in the singular, if there are exactly two reciprocants of
 387 the same sex (cf. examples (2) and (3) above). (For two reciprocants of different sex
 388 the zigzag construction has to be used; see example (7) above).

389 In example (18) above and example (19) immediately below the reciprocants are
 390 the subject and the object:

391

392 (19) *ī ya-têm'-sese-bl-∅-io=be*

393 3PL PL.AN.O-see.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

394 'They are looking at each other (i.e., exchanging glances with each other).'

395

396 The object index can come from the set of classificatory prefixes as well. An
 397 example is provided in (20):

398

⁹ On transitive reciprocals in Oceanic languages, see Moyse-Faurie (2008: 154). On transitive reciprocals in Seri, an isolate from northern Mexico, see Marlett (2005: 61).

399 (20) *ī mak=i dim*
 400 3PL other=PL.AN on
 401
 402 *do-tamaa-sese-s-ib=a*
 403 PL.AN.O-step_on.PFV-RECP-DS.SEQ-2/3PL.AN.SBJ=MED
 404 ‘they trampled on one another and then someone else ...’ [Luke 12, 1]
 405

406 Reciprocants can also be the subject and the recipient, which in the perfective is
 407 always indexed with a suffix on the verb *-ûb’* ‘give (PFV)’ (on the allomorphy, see
 408 footnote 6). This recipient suffix can refer to a proper recipient of some physical
 409 transfer of an object (21), the recipient of a verbal message (22), a benefactive
 410 possessor (23) or a malefactive possessor (24):

411
 412 (21) *naka=i=a unáng=a=i*
 413 man=PL.AN=and woman=and=PL.AN
 414
 415 *toula-biaan-ib=a*
 416 sit_down.PFV-exist.IPFV.SS.SIM-2/3PL.AN.SBJ=MED
 417
 418 *inaminamino ol-ò-n-ib=a*
 419 all_kinds_of_stuff PL.RESID.O-take.PFV-SEQ-2/3PL.AN.SBJ=MED
 420
 421 *mak=i*

422 other=PL.AN

423

424 *o-∅[^]-yen-sese-bl-∅-io=be*

425 PL.RESID.O-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

426 ‘While men and women are sitting they take all sorts of things and give

427 them to each other.’ [MPI clip 21]

428

429 (22) *ī baa-[˜]b'-e-sese-bl-∅-io=be*

430 3PL talk.PFV-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

431 ‘They are talking to each other.’

432

433 (23) *ī mak=i memê=i klâ*

434 3PL other=PL.AN children(PL)=PL.AN very

435

436 *kimâa'-[˜]b'-e-sese-bl-∅-io=be*

437 care_for.PFV-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

438 ‘They are caring well for each other’s children.’

439

440 (24) *ī am as=o*

441 3PL house fire=PL.N1

442

443 *o-tanà-[˜]b'-e-sese-bl-∅-io=be*

444 PL.RESID.O-set(fire).PFV-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

445 ‘They are burning (lit. setting fires to) each other’s houses.’

446

447 The reciprocal suffix is always *-sese* regardless of the person value of the
 448 reciprocants. This can be seen from example (25), where the reciprocants are in the
 449 first person:

450

451 (25) *nĩbo ya-têm'-sese-bi-Ø-obo=be*

452 1PL.INCL PL.AN.O-see.PFV-RECP-exist-IPFV-1PL.SBJ=DECL

453 ‘We (INCL) are throwing glances at each other.’

454

455 In each of these examples, the existential verb *bi-bl* is imperfective and means
 456 ‘they are (there)’, thus denoting a reciprocal event which is on-going at the moment
 457 of speaking or takes place habitually. The existential verb takes regular inflection, for
 458 example *-so* to express the hesternal past:

459

460 (26) *ĩ i-nâ'-sese-bi-n-ib-so=be*

461 3PL PL.AN.O-hit.PFV-RECP-exist-REAL-2/3PL.AN.SBJ-HPST=DECL

462 ‘Yesterday they were hitting each other.’

463

464 Apart from bearing the subject inflection the existential verb also has the function
 465 to signal imperfective aspect. This aspectual function is the same as in non-reciprocal
 466 predicates, where the existential verb expresses a continuous action, as in (27):

467

468 (27) *ē wen-bi-n-e-so=be*
 469 3SG.M eat.IPFV-exist-REAL-3SG.M.SBJ-HPST=DECL
 470 ‘Yesterday he was eating.’

471

472 When the set of reciprocants is larger than two all cross-referencing affixes
 473 indexing the reciprocants have to be in the plural. In a reciprocal situation with only
 474 two participants object affixes must appear in the singular though the subject suffix
 475 remains plural, as in (28), contrasted with the ungrammatical utterance in (29):

476

477 (28) *unáng asú uláab=i* [...] *[...]*
 478 woman two age_mate=PL.AN [...] *[...]*

479

480 *wéng=o o-biaan-ib=a*
 481 language=N2 say.IPFV-exist.IPFV.SS.SIM-2/3PL.AN.SBJ=MED

482

483 *mele-ˈbʰ-o-sese-bl-Ø-io=be*
 484 touch.PFV-give.PFV-3SG.F.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

485 ‘While the two women of similar age [...] are talking they are touching each
 486 other.’ [MPI clip 3]

487

488 (29) **unáng asú uláab=i*
 489 woman two age_mate=PL.AN

490

491 *mele-˘b'-e-sese-bl-∅-io=be*

492 touch.PFV-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

493 Intended: ‘The two women of similar age are touching each other.’¹⁰

494

495 In a reciprocal situation with exactly two participants Mian expresses the agents
 496 together but keeps the patients (or recipients) apart, i.e., the subject suffix on the
 497 existential verb is plural while the object affix on the main verb is singular. This
 498 treatment of objects as singular in reciprocals with just two reciprocants is a partially
 499 iconic strategy because the patient (or recipients) of any reciprocal subevent is
 500 always going to be only a single participant. The agents, on the other hand, are not
 501 differentiated.

502 If the reciprocal relation is between subject and object but the verb in question
 503 does not index its object (as mentioned under 1.1 above) the *sese*-construction is also
 504 possible:

505

506 (30) *ī dowôn'-sese-bl-∅-io=be*

507 3PL eat.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

508 ‘They eat each other.’

509

510 Verbs with the suffix *-sese* can be further inflected for various TAM or S/R
 511 categories, for example *-n* ‘realis’ in (31) or *-s* ‘different subject sequential’ in (32)
 512 [repeated from (20)]:

¹⁰ Note that on its own the verb in (29) is fine and means ‘they (more than two) are touching each other’, but it cannot be used for just two participants who are engaged in a reciprocal action.

513

514 (31) *īb sinwalo klâ*

515 2PL brothers properly

516

517 *go-˘b'-e-sese-n-in=e!*

518 like.PFV-give.PFV-PL.AN.R-RECP-REAL-2/3PL.AN.SBJ.HORT=HORT

519 ‘You must love each other!’ [John 15, 12]

520

521 (32) *ī mak=i dim*

522 3PL other=PL.AN on

523

524 *do-tamaa-sese-s-ib=a*

525 PL.AN.O-step_on.PFV-RECP-DS.SEQ-2/3PL.AN.SBJ=MED

526 ‘they trampled on one another and then...’ [Luke 12, 1]

527

528 Summarizing, there are four templates for the *sese*-construction. Template 1 is

529 used if a verb indexes its object with a pronominal or a classificatory prefix.

530 Template 2 is used for the verb *-ûb'*- ‘give (PFV)’, which indexes the (recipient)531 object with a suffix. It is also employed for the zero root *-Ø^*- ‘give (PFV)’, which

532 shows up in some of the examples in this article. (For more information on the zero

533 root, see Fedden 2010: 469-470). Template 3 is employed if a verb combines with -

534 *ûb'*- ‘give (PFV)’, which indexes the (recipient) object with a suffix. The templates

535 under (a) where the non-subject reciprocant argument is plural are used for more than

536 two reciprocants. The templates under (b) where the non-subject argument is singular
 537 are used for exactly two reciprocants (of the same sex). Template 4 is used for
 538 transitive verbs that do not index their object. In this case it is not necessary to
 539 distinguish between subtypes (a) and (b) because the verbs following this template
 540 do not have object affixes which would be able to encode a number difference
 541 between a singular and a plural object. There can be more than two reciprocants or
 542 exactly two of the same or different sex.

543

544 Template 1 a. PL.O-V_{stem}-*sese*-exist-IPFV-PL.AN.SBJ=DECL

545 b. SG.O-V_{stem}-*sese*-exist-IPFV-PL.AN.SBJ=DECL

546

547 Template 2 a. CP-give-PL.R-*sese*-exist-IPFV-PL.AN.SBJ=DECL

548 b. CP-give-SG.R-*sese*-exist-IPFV-PL.AN.SBJ=DECL

549

550 Template 3 a. (CP-)V_{stem}-give-PL.R-*sese*-exist-IPFV-PL.AN.SBJ=DECL

551 b. (CP-)V_{stem}-give-SG.R-*sese*-exist-IPFV-PL.AN.SBJ=DECL

552

553 Template 4 V_{stem}-*sese*-exist-IPFV-PL.AN.SBJ=DECL

554

555 The brackets in template 3 indicate the presence of a classificatory prefix if the
 556 verb which is compounded with *-ûb* 'give (PFV)' takes a classificatory prefix,
 557 e.g., *-tanà* 'set(fire) (PFV)' in (24) above, or the absence of the prefix in verbs which
 558 do not take them, e.g., *baa* 'say (PFV)' in (22) above. The classificatory prefixes in
 559 templates 2 and 3 index the theme and do not enter into reciprocal relations.

560 Reciprocal relations can only be expressed between agent and patient or agent and
 561 recipient (Fedden 2010: 473-474).

562

563

564 **3 The zigzag reciprocal construction**

565

566 In this section I look in detail at the second reciprocal, the zigzag construction. Like
 567 the *sese*-construction it is a dedicated reciprocal. Contrary to the *sese*-construction,
 568 which is a single word, the zigzag construction consists of three words. The
 569 examples (33) and (34) below illustrate this variant for the verb *-têm'* 'see (PFV)',
 570 which obligatorily indexes its object with a prefix, and the verb *mele-* 'touch (PFV)',
 571 which must form a compound with *-ûb'* 'give (PFV)' followed by a recipient suffix.
 572 Example (35) illustrates the zigzag construction with a verb that does not index its
 573 object.

574

575 (33) *ī a-têm'-s-e*

576 3PL 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ

577

578 *wa-têm'-s-e*

579 3SG.F.O-see.PFV-DS.SEQ-3SG.M.SBJ

580

581 *bl-∅-io=be*

582 exist-IPFV-2/3PL.AN.SBJ=DECL

583 ‘They (F+M) are throwing glances each at the other.’

584

585 (34) *ī mele-˘b’-o-s-e*

586 3PL touch.PFV-give.PFV-3SG.F.R-DS.SEQ-3SG.M.SBJ

587

588 *mele-˘b’-a-s-e*

589 touch.PFV-give.PFV-3SG.M.R-DS.SEQ-3SG.M.SBJ

590

591 *bl-∅-io=be*

592 exist-IPFV-2/3PL.AN.SBJ =DECL

593 ‘They (M+F) are touching each other.’

594

595 (35) *ī dowôn’-s-e* *dowôn’-s-e*

596 3PL eat.PFV-DS.SEQ-3SG.M.SBJ eat.PFV-DS.SEQ-3SG.M.SBJ

597

598 *bl-∅-io=be*

599 exist-IPFV-2/3PL.AN.SBJ =DECL

600 ‘They eat each other.’

601

602 The suffix *-s* is a S/R marker indicating ‘different subject’ and ‘sequentiality of
603 events’ (introduced in section 1.2 above) and *-e* is a conventionalized form of the
604 subject cross-referencing suffix frozen to the third person singular masculine
605 whatever the person, number or gender of the reciprocants actually is.

606 As in the *sese*-construction there is a final existential verb in the (animate) plural
 607 summarizing the reciprocal action as a whole and indexing the whole set of
 608 reciprocants. The existential verb has the aspectual function of expressing
 609 imperfectivity. As the subevents which are expressed in the zigzag verbs are
 610 perfective an additional verb introducing imperfectivity is necessary, if one wants to
 611 describe an on-going situation which consists of such bounded reciprocal subevents.

612 The zigzag construction is restricted to the third person. The following example
 613 (36) was rejected as ungrammatical:

614

615 (36) **nībo na-têm'-s-e*

616 1PL.INCL 1SG.O-see.PFV-DS.SEQ-3SG.M.SBJ

617

618 *ka-têm'-s-e*

619 2SG.O-see.PFV-DS.SEQ-3SG.M.SBJ

620

621 *bi-∅-obo=be*

622 exist-IPFV-1PL.SBJ=DECL

623 Intended: 'We (INCL, i.e., you and me) are throwing glances at each other.'

624

625 The zigzag construction is formed according to the following four templates.
 626 Template 5 is used if a verb indexes its object with a pronominal or classificatory
 627 prefix. Template 6 is for *-ûb'* 'give (PFV)' (and for *-∅^* 'give (PFV)') and Template 7

628 for verbs compounded with *-ûb* 'give (PFV)'. Transitive verbs which do not index
629 their object (see subsection 1.1 on argument marking) use Template 8.

630

631 Template 5 a. PL.O- $V_{\text{stem}}-s-e$ PL.O- $V_{\text{stem}}-s-e$ exist-IPFV-PL.AN.SBJ=DECL

632 b. SG.O- $V_{\text{stem}}-s-e$ SG.O- $V_{\text{stem}}-s-e$ exist-IPFV-PL.AN.SBJ=DECL

633

634 Template 6 a. CP-give-PL.R- $s-e$ CP-give-PL.R- $s-e$ exist-IPFV-PL.AN.SBJ=DECL

635 b. CP-give-SG.R- $s-e$ CP-give-SG.R- $s-e$ exist-IPFV-PL.AN.SBJ=DECL

636

637 Template 7 a. (CP-) $V_{\text{stem}}\text{-give-PL.R-}s-e$ (CP-) $V_{\text{stem}}\text{-give-PL.R-}s-e$ exist-IPFV-PL.AN.SBJ=DECL

638 b. (CP-) $V_{\text{stem}}\text{-give-SG.R-}s-e$ (CP-) $V_{\text{stem}}\text{-give-SG.R-}s-e$ exist-IPFV-PL.AN.SBJ=DECL

639

640 Template 8 $V_{\text{stem}}-se$ $V_{\text{stem}}-se$ exist-IPFV-PL.AN.SBJ=DECL

641

642 The Mian zigzag reciprocal construction has the following noteworthy features:

643 First, the verbs describing the subevents—of throwing glances in (33) and of
644 touching in (34)—have subject suffixes in the expected slot but these subject suffixes
645 are in the third person singular masculine (*-e*) regardless of the actual person, number
646 or gender of the reciprocants. The transitive verbs describing the subevents have two
647 argument slots each. They are regular transitive verbs with the exception that the
648 subject suffix is always *-e*.

649 Second, the DS suffix *-s*, which is normally only anticipatory, indicating that the
650 verb of the next clause has a different subject, shows an unusual non-linear or
651 circular behavior. For the second verb DS marking is not calculated with respect to
652 the third verb (the existential verb) but rather with respect to the first. If it was

653 calculated with respect to the existential verb we would expect SS marking to be
 654 possible in the second verb because SS marking is the default if the set of referents of
 655 the subject in one clause is properly included in the set of referents in the following
 656 clause (Fedden 2011: 460). Yet, only DS marking is possible in reciprocals.

657 These features are highly reminiscent of what can be found in the TNG language
 658 Amele (of the Gum family, spoken in Madang Province). Roberts (1987: 306) points
 659 out that “[b]oth coordinate verbs are marked for third person singular subject and for
 660 different subject (DS) following. Therefore they cross reference each other even
 661 though they are in linear sequence”. Also see Haiman (1980: 433) on the circular
 662 behavior of S/R marking in Hua reciprocals. An example from Amele is (37):

663

664 (37) Amele

665 *age qet-u-do-co-b qet-u-do-co-b eig-a*

666 3PL cut-PRED-3SG-DS-3SG cut-PRED-3SG-DS-3SG 3PL.SBJ-TODPST

667 ‘They cut each other.’ (Roberts 1987: 132)

668

669 The way reciprocals are expressed in Amele depends on whether the reciprocating
 670 roles are between agent and patient, as in (37), or between agent and recipient, in
 671 which case a slightly different construction has to be used. An example is (38):

672

673 (38) Amele

674 *age jacas qet-i do-co-b do-co-b eig-a*

675 3PL tobacco cut-PRED 3SG-DS-3SG 3SG-DS-3SG 3PL.SBJ-HODPST

676 'They cut tobacco for each other.' (Roberts 1987: 133)

677

678 In (38), the lexical verb appears only once and what constitutes the zigzag verbs is
 679 a reduplication of some material, which according to Robert's gloss does not seem to
 680 contain any lexical material. Evans (2010: 82fn52) proposes the following alternative
 681 analysis for the zigzag verbs *docob docob* in (38), based on the fact that 'give' is a
 682 zero-root verb in Amele (according to Roberts 1987; also see Z'graggen 1975, 1980).
 683 On the exceptional grammatical behavior of 'give'-verbs cross-linguistically, see
 684 Comrie (2003).

685

686 (39) Amele

687 *do-∅-co-b*

688 3SG-give-DS-3SG

689 'He gives (to) him.'

690

691 If this analysis was correct then (38) would be literally 'they_{k+1} tobacco cut
 692 he_k.gives.him_l he_l.gives.him_k they_{k+1}.are', where $k \neq l$. The indices are meant to
 693 express the disjoint-subject meaning. Although a plausible analysis, it runs into
 694 problems because the prefix *do-* is not part of any of the Amele object paradigms, all
 695 of which are exclusively suffixal to boot (Roberts 1987: 279; Roberts 1998: 3).

696 Roberts (1998: 20, 25-27) interprets the lexical stem of 'give' as suppletive with
 697 respect to the recipient. The form *ut-ec* 'give to him/her' is analyzed as follows:

698

699 (40) Amele
 700 *ut-ec*
 701 give.3SG.IO-INF
 702 ‘give to him/her’
 703

704 An alternative analysis of ‘give’ in Amele has been proposed by Reesink (pers.
 705 comm., and discussed in Fedden 2010: 465), where ‘give’ is analyzed as a minimal
 706 root *i-* (*u-* in 3rd person) followed by an indirect object suffix, e.g., *u-t-ec* [give-
 707 3SG.IO-INF] ‘give to him/her’.¹¹ Following this analysis reciprocal giving in Amele
 708 looks like (41):

709
 710 (41) Amele
 711 *age ceb u-te-ce-b u-te-ce-b eig-a*
 712 3PL betelnut give-3SG-DS-3SG give-3SG-DS-3SG 3PL.SBJ-TODPST
 713 ‘They give each other betelnut.’ (Roberts 1987: 132)
 714

715 We find, however, a generic verb that is suppletive with respect to person with the
 716 form *do-* in the third person singular. Consider example (42)¹²:

¹¹ In the free verb ‘give’, *i-* ~ *u-* does not occur in 2/3DU and 2/3PL, while it does show up when ‘give’ is attached to another verb. Compare (i) with (ii) and compare (iii) with (iv). Note that Reesink proposes incidental elision of /i/ in the free verb ‘give’ preceding /a/.

(i) *al-ec* (**i-al-ec*) ‘to give to you/them (dual)’

(ii) *siw-i-al-ec* [share-give-2/3DU-INF] ‘share for you/them (dual)’

(iii) *ad-ec* (**i-ad-ec*) ‘to give to you/them (plural)’

(iv) *siw-i-ad-ec* [share-give-2/3PL-INF] ‘share for you/them (plural)’

¹² In (42) the gloss ‘do’ for *do* is mine. Roberts only glosses it as 3SG. This verb is also used as a generic verb with Tok Pisin loans, for example:

(1) *wa pumpim do-g-a*
 water(TP) pump(TP) do.3SG-2SG-IMP
 ‘Pump the water!’ (Roberts 1987: 312)

717

718 (42) Amele

719 *oso wen do-i-a*

720 someone hunger do.3SG-3SG.SBJ-TODPST

721 ‘Someone is hungry.’ (Roberts 1987: 146)

722

723 Another reason why the analysis of the Amele zigzag reciprocal in (38) above as
 724 involving a morpheme ‘give’ is dubious is the fact that ‘give’ in Amele is *u-* in the
 725 third person. So even if one wanted to say that the morpheme *-i* in (38), which
 726 Roberts glosses as PRED, is really ‘give’ one faces the problem that it should be *u-* in
 727 the third person.

728 To sum up the discussion on zigzag reciprocals in Amele, I assume that the verb
 729 involved is not ‘give’, but rather a suppletive generic verb, whose form in the third
 730 person is *do-*. This makes (37) literally ‘they_{k+1} cut-he_k.does.him_l cut-he_l.does.him_k
 731 they_{k+1}.are’, where $k \neq l$, and (38) would be literally ‘they_{k+1} tobacco cut he_k.does.him_l
 732 he_l.does.him_k they_{k+1}.are’, where $k \neq l$.

733 The Mian and Amele zigzag reciprocals are very similar in structure. In such
 734 zigzag constructions a complex form of verb chaining is zigzagging between
 735 subevents, i.e., successive transitive verbs, each marked with a different subject
 736 marker, and agreeing with one actor in person and number, albeit in fossilized form,
 737 followed by an intransitive summary auxiliary agreeing with the whole set of
 738 reciprocants.

739 In the zigzag construction we have a situation where the entities which denote the
 740 subevents remain distinct phonological words, i.e., there are three distinct verbs,
 741 namely the two zigzag verbs and the auxiliary. This raises the question of how many
 742 verbs and how many clauses should these be analyzed as having.

743 This question is typologically relevant because languages differ in how much
 744 complexity, in terms of event structure, they allow to be accommodated in one
 745 clause. Reciprocals are an especially interesting case because they are complex event
 746 types which derive from the overlay of two propositions sharing the same predicate
 747 but with converse argument configurations (see for example Evans 2010: 6), e.g., in
 748 the English sentence *X and Y hit each other*, X and Y are simultaneously agent and
 749 patient. English does not mind organizing a reciprocal event in a single clause; it
 750 even lexicalizes them, e.g., *they meet/fight/marry* (König & Kokutani 2006). One
 751 argument position of a transitive verb is filled by a conjoined NP, a plural pronoun or
 752 a plural NP, referring to the full set of participants. The other argument position is
 753 filled by the bipartite reciprocal anaphor *each other*, while in other languages, e.g., in
 754 the Papuan language Golin (Chimbu) reciprocal situations have to be expressed with
 755 a biclausal description of the type $NP_k V-s NP_l, NP_l V-s NP_k$, where $k \neq l$. Again
 756 consider the Mian zigzag construction, repeated from (33), where one man and one
 757 woman participate in the reciprocal event:

758

759 (43) \bar{t} *a-têm'-s-e*

760 3PL 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ

761

783 First, in Mian (as in Amele) subject agreement in zigzag-constructions is
 784 conventionalized and frozen, i.e., into third person singular *-b* in Amele and third
 785 person singular masculine *-e* in Mian. This seems to support the assumption that
 786 zigzag verbs do not constitute heads of their own clauses but are rather elements of a
 787 larger serial verb construction. See Evans (2008: 82-83) for a parallel argument for
 788 Amele.

789 Second, no material can intervene between the zigzag verbs. For example, they
 790 cannot be followed by the clitic *=a*, which marks verbs as medial in clause chaining
 791 constructions. Consider example (44):

792

793 (44) \bar{i} *a-têm'-s-e(*=a)*

794 3PL 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ(=MED)

795

796 *wa-têm'-s-e* *bl-∅-io=be*

797 3SG.F.O-see.PFV-DS.SEQ-3SG.M.SBJ exist-IPFV-2/3PL.AN.SBJ=DECL

798 'They are touching each other.'

799

800 This is in contrast to example (45), which provides a biclausal description of two
 801 sequential events taking place between the participants:

802

803 (45) \bar{o} *a-têm'-s-o=a*

804 3SG.F 3SG.M.O-see.PFV-DS.SEQ-3SG.F.SBJ =MED

805

806 \bar{e} *wa-têm'-s-e=a*

807 3SG.M 3SG.F.O-see.PFV-DS.SEQ-3SG.M.SBJ =MED

808 ‘She glances at him and then he glances at her and then...’

809

810 To sum up, synchronically the Mian zigzag reciprocal unifies three events into a
811 single clause. The two arguments for this analysis are, first, that the subject suffixes
812 are frozen to the third person singular masculine regardless of the actual person,
813 number and gender of the reciprocants and that, second, no material may come
814 between the zigzag verbs in monoclausal reciprocal constructions.

815 In the following section I take a closer look at the semantics of the *sese-* and the
816 zigzag construction.

817

818

819 **4 The semantics of the *sese-* and the zigzag constructions**

820

821 The *sese-*construction can be employed for a variety of reciprocal situations. It can
822 be used for situations of strong reciprocity, where the reciprocal relation obtains
823 between all members of the set of participants, which is typologically typical (Evans,
824 Gaby, Levinson & Majid 2011), but it is also possible in cases in which the
825 saturation of possible interrelations is relaxed, for example in melee, chaining or
826 adjacent configurations. All of these are discussed in more detail below. Each type of
827 reciprocal situation is illustrated with an example of the *sese-*construction, but the
828 zigzag construction would also be possible in each case. The semantic restrictions of

829 either construction have to do with the number and gender of the reciprocants and
 830 whether the reciprocal subevents may occur simultaneously or can only occur
 831 sequentially. These issues are taken up at the end of this section.

832 In situations of strong reciprocity all possible interrelations are saturated as for
 833 example in the sentence *House of Commons etiquette requires legislators to address*
 834 *only the speaker of the House and refer to each other indirectly* (from Dalrymple,
 835 Kanazawa, Kim, Mchombo & Peters 1998: 168). A schematized version is given in
 836 Figure 1.

837

838 [Insert Figure 1 about here]

839

840 Example (46) is a description of a situation in which there are a number of people,
 841 all of whom shake everyone else's hand:

842

843 (46) *mâa'-biaan-ib=a*

844 stand_up.PFV-exist.IPFV.SS.SIM-2/3PL.AN.SBJ=MED

845

846 *heitda-˘b'-e-sese-bl-Ø-io=be*

847 shake_hands-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

848 'While standing, they shake each other's hands.' [MPI clip 38]

849

850 It is not necessary for all possible interrelations to be saturated for the Mian
 851 reciprocal construction to be used, for example in melee configurations, where there

852 is at least one participant who is only the endpoint and at least one participant who is
 853 only the initiator of the action (Figure 2), for instance in *The hungry rats eat each*
 854 *other* (Evans 2008: 40).

855

856 [Insert Figure 2 about here]

857

858 On a less violent note, the following description can be used for a situation in
 859 which there are several giving events but the giving proceeded in a somewhat
 860 unstructured fashion so that there is at least one participant who has not given
 861 anything and at least one participant who has not received anything.

862

863 (47) *naka=i=a* *unáng=a=i*

864 man=PL.AN=and woman=and=PL.AN

865

866 *toula-biaan-ib=a*

867 sit_down.PFV-exist.IPFV.SS.SIM-2/3PL.AN.SBJ=MED

868

869 *inaminamino* *ol-ò-n-ib=a*

870 all_kinds_of_stuff PL.RESID.O-take.PFV-SEQ-2/3PL.AN.SBJ=MED

871

872 *mak=i*

873 other=PL.AN

874

875 *o-∅[^]-yen-sese-bl-∅-io=be*

876 PL.RESID.O-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

877 ‘While men and women are sitting they take all sorts of things and give

878 them to each other.’ [MPI clip 21]

879

880 Chaining situations are another possibility (Lichtenberk 1985: 24), i.e.,

881 configurations in which participant A is in a certain relation to participant B, B to C,

882 etc., so that the last participant is not initiator and the first participant is not endpoint

883 of the action, for example *The pupils followed each other onto the stage*, where the

884 first pupil is not following and the last one is not being followed (Figure 3).

885

886 [Insert Figure 3 about here]

887

888 An example of a reciprocal description of a chaining situation is (48). This

889 description was given for a situation in which a number of people are standing in a

890 row, hugging each other sequentially, whereby the first person is not hugged by

891 anyone and the last person in the row is not hugging anyone.

892

893 (48) *ī māa'-biaan-ib=a*

894 3PL stand_up.PFV-exist-IPFV.SS.SIM-2/3PL.AN.SBJ=MED

895

896 *kwīng hà'-b'-e-sese-bl-∅-io=be*

897 shoulder break.PFV-give.PFV-PL.AN.R-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

898 ‘While standing they are hugging each other.’ (Lit. are breaking each other’s
899 shoulders) [MPI clip 2]

900

901 Finally, adjacent configurations can be expressed as well, that is configurations in
902 which participants are adjacent to each other and A and B engage reciprocally, then
903 B and C, then C and D, etc., so that each participant is both initiator and endpoint in
904 any given reciprocal subevent (Figure 4).

905

906 [Insert Figure 4 about here]

907

908 An example of a reciprocal description of an adjacent situation is (49). This
909 description was given for a situation in which a number of people are hugging each
910 other pairwise, e.g., A and B embrace each other, then C and D, then E and F. If all
911 instances of embracing happened simultaneously the same description would be
912 possible.

913

914 (49) *tub temwât dl-à sâ’-sese-bl-Ø-io=be*¹⁴

915 chest across PL.AN.O-include.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

916 ‘They are embracing each other.’ (Lit. they are including each other across
917 the chest) [MPI clip 29]

918

¹⁴ The verb form in this example is from the lexicalized tight serial verb construction *-à sâ’*, which means ‘involve, include’. The elements of this SVC do not appear to have an independent meaning synchronically but behave as two distinct phonological words with respect to tone assignment. The first verb has a HL tonal melody and the second one has a LHL melody.

919 Note that different verbs were used in (48) and (49), which is probably due to the
 920 different hugging style depicted in the clips. While (49) shows typical reciprocal
 921 hugging in which both participants are hugging, in (48) only one participant is
 922 hugging the other, who remains unresponsive.

923 Above I pointed out that both the *sese-* and the zigzag construction are subject to
 924 certain semantic restrictions regarding the number and gender of the reciprocants and
 925 whether they allow simultaneous reciprocal subevents as well as sequential ones. As
 926 the restrictions cross-cut the *sese-* vs. zigzag distinction, I list all attested subtypes in
 927 Table 3, together with a pertinent example in this paper.

928

929 [Insert Table 3 about here]

930

931 Let's first concentrate on the subtypes A to D, i.e., the *sese-*constructions.
 932 Subtypes A and B are interesting because they are the ones with an object affix in the
 933 singular. These are reserved for exactly two reciprocants of the same gender, as
 934 encoded in the object affix, and require the reciprocal subevents to be symmetrical,
 935 yet to proceed sequentially, i.e., each participant is both initiator and endpoint of the
 936 reciprocal action (X acts on Y and Y acts on X), and the respective subevents occur
 937 sequentially one after the other. An example of a description of such a situation is
 938 given in (50):

939

940 (50) *naka=i asú ke-n-ib=a*

941 man=PL.AN two do-SEQ-2/3PL.AN.SBJ=MED

942

943 *mâa'-biaan-ib=a*

944 stand_up.PFV-exist.IPFV.SS.SIM-2/3PL.AN.SBJ =MED

945

946 *mak=e* *kwīng*

947 other=3SG.M shoulder

948

949 *hà'-`b'-a-sese-bl-∅-io=be*

950 break.PFV-give.PFV-3SG.M.R-RECP-exist-2/3PL.AN.SBJ=DECL

951 ‘There are two men standing hugging each other (where X hugs Y first and

952 is then hugged by Y).’ [MPI clip 58]

953

954 Reciprocal constructions in Mian show interesting cases of clashes between the

955 morphology and the semantics. While the agents in Mian reciprocals are always

956 collapsed in a plural subject suffix, the patients (or recipients) can be expressed

957 iconically to a certain degree, as illustrated by subtypes A and B, where the object

958 affix is in the singular, thus iconically expressing that the respective reciprocal

959 actions are directed towards individuals of the same sex. However, the configurations

960 for which A and B can be used are restricted to two participants. Note that this

961 amounts to a constructional encoding of a dual although the language does not have

962 dual agreements.

963 When there are more people involved in a reciprocal event, i.e., when two (or

964 more participants) are acting on one (or more participants) in a single reciprocal

965 event or when there is more than one pair of reciprocants performing the same
 966 reciprocal action within each pair, the object affix needs to be plural (subtype C).

967 The final subtype of the *sese*-construction is D, where there is no object affix on
 968 the verb. In this case there are no semantic restrictions at all because there can be no
 969 semantic clash of conflicting features due to the absence of object affixes.

970 Now we turn to the subtypes of the zigzag construction. Subtypes E and F are the
 971 zigzag alternatives for A and B and the same restrictions obtain.

972 The subtype G has to be used when there are two reciprocants of opposite sex.
 973 Consider example (51):

974

975 (51) *ī mikim=i a-têm'-s-e*
 976 3PL siblings_of_opposite_sex=PL.AN 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ

977

978 *wa-têm'-s-e bl-∅-io=be*
 979 3SG.F.O-see.PFV-DS.SEQ-3SG.M.SBJ exist-IPFV-2/3PL.AN.SBJ=DECL

980 ‘Brother and sister are glancing at each other.’ [MPI clip 46]

981

982 In this case a single verb inflected with *-sese* cannot be used because this would
 983 invariably create a semantic clash that the language does not permit. If example (51)
 984 had a single verb inflected with *-sese* and the affix cross-referencing the non-subject
 985 reciprocant was singular masculine there would be a clash with the fact that one of
 986 the subevents is directed towards a woman. If it was singular feminine a similar clash
 987 would arise in that one of the subevents is directed towards a man. Finally, plural

988 non-subject affixes in Mian reciprocals are not allowed for just two reciprocants
 989 since any single reciprocal subevent will only ever be directed towards a single
 990 participant. However, when there is an additional participant of either sex one has to
 991 move away from the compositional expression of patients (or recipients) and use
 992 subtype C (or H).

993 Parallel to subtype C, subtype H has plural object affixes. The conditions of use
 994 are the same as for subtype C. As with the other subtypes with singular object affixes
 995 (i.e., A, B, E, and F) simultaneous reciprocity is excluded for subtype H as well.

996 The final subtype of the zigzag-construction is F, where there are no object affixes
 997 on the zigzag verbs. As with subtype D, there are no semantic restrictions.

998 Neither of the *sese-* nor the zigzag construction shows any restrictions with
 999 irreducibly symmetric verbs, which are known to show constructional restrictions in
 1000 many languages (Dimitriadis 2008). A predicate is irreducibly symmetric “if (a) it
 1001 expresses a binary relationship, but (b) its two arguments have necessary identical
 1002 participation in any event described by the predicate” (Dimitriadis 2008: 378). An
 1003 example of an irreducibly symmetric verb is *meet*. It is due to the lexical semantics
 1004 of this verb that an event of A meeting B is also always an event of B meeting A.
 1005 Here, either the *sese-* or the zigzag construction can be used, so either (52) or (53)
 1006 are possible, even in the description of exactly two people meeting each other.

1007

1008 (52) \bar{i} *mî'-sese-bl-Ø-io=be*

1009 3PL meet.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

1010 ‘They (2 or more) met each other.’

1011

1012 (53) \bar{i} *mî'-s-e* *mî'-s-e*

1013 3PL meet.PFV-DS.SEQ-3SG.M.SBJ meet.PFV-DS.SEQ-3SG.M.SBJ

1014

1015 *bl-∅-io=be*

1016 exist-IPFV-2/3PL.AN.SBJ=DECL

1017 'They (2 or more) met each other.'

1018

1019 This is not restricted to verbs which do not index their object. An example of the
 1020 zigzag construction with an irreducibly symmetric predicate *heitda* 'shake hands',

1021 which indexes the (recipient) object, is (54):

1022

1023 (54) \bar{i} *heitda-ˆb'-e-s-e*

1024 3PL shake_hands-give.PFV-PL.AN.R-DS.SEQ-3SG.M.SBJ

1025

1026 *heitda-ˆb'-e-s-e*

1027 shake_hands-give.PFV-PL.AN.R-DS.SEQ-3SG.M.SBJ

1028

1029 *bl-∅-io=be*

1030 exist-IPFV-2/3PL.AN.SBJ=DECL

1031 'They shake hands with each other.'

1032

1055 We immediately see many parallels to the zigzag construction in the perfective.
 1056 However, let's first focus on the small but crucial differences. The main difference is
 1057 that while the zigzag construction in the perfective uses the suffix *-s* 'different
 1058 subject sequential', the one in the imperfective uses the other different subject suffix
 1059 *-b*, whose meaning is 'different subject simultaneous'. The fact that Mian apparently
 1060 recycled both DS markers—and only those—back into reciprocal constructions
 1061 strengthens the diachronic scenario I propose below, namely that reciprocals
 1062 developed from a clause chaining construction in which verbs were inflected for DS.

1063 The other difference between reciprocals in the perfective and the imperfective is
 1064 that the former have the fused construction with a single reciprocal suffix *-sese*
 1065 whereas there is no way of fusing the construction in (56) into a single verb with a
 1066 suffix **-bebe*. Such forms do not exist.

1067

1068 (56) **(ī) hen-ye-bebe-bl-∅-io=be*

1069 3PL look_for.IPFV-PL.AN.R-RECP.IPFV-exist-IPFV-2/3PL.AN.SBJ=DECL

1070 Intended: 'They are looking for lice on each other.'

1071

1072 While example (56) is ungrammatical, many features of the zigzag construction in
 1073 the imperfective in (55) above look familiar. The whole reciprocal event is expressed
 1074 by three verbs. The first two specify the type of action that is performed reciprocally.
 1075 These verbs index their object, i.e., are transitive and the subject suffix is frozen to
 1076 the third person singular masculine (*-e*). The verb *hen* 'be looking for' is an
 1077 imperfective stem and can only be used in the imperfective. In contrast to the

1078 perfective aspect where verbs have to be compounded with *-ûb'* ‘give (PFV)’ in
1079 order to introduce a recipient object, there is no such compound in the imperfective.
1080 The recipient suffix is directly appended to the verb stem, e.g., *hen-ye-...*
1081 [*look_for.IPFV-PL.AN.R-...*]. Furthermore, we find the same forms of the existential
1082 verb as the third verb in the construction. The arguments to set this up as a type of
1083 serial verb construction within a single clause are the same: (i) the subject suffix only
1084 appears in the frozen form and (ii) there can be no intervening material between any
1085 of the three verbs that make up the zigzag construction.

1086 To sum up, while we find many parallels between reciprocals in the perfective and
1087 the imperfective the latter do not show a fused reciprocal marker parallel to *-sese* in
1088 the perfective.

1089

1090

1091 **6 Historical scenario for the origin of the *sese*-construction**

1092

1093 In this section I propose a historical scenario according to which the zigzag
1094 reciprocal in Mian has grammaticalized from a reanalysis of a complex serial verb
1095 construction, ultimately deriving from a biclausal description of the reciprocal
1096 situation. The *sese*-construction in turn is a fused form of the zigzag construction. In
1097 the following I discuss each step of the proposed development.

1098

1099

1100 6.1 Biclausal description

1101

1102 Let's suppose that the zigzag construction has its diachronic origin in a biclausal
 1103 description of the reciprocal situation, consisting of two medial clauses chained
 1104 together, which express the bounded subevents making up the reciprocal situation.
 1105 The predicate that expresses the reciprocal action is the same in both clauses but the
 1106 argument positions are reversed, according to the template $NP_j V-s NP_k$ and then NP_k
 1107 $V-s NP_j$, where $j \neq k$. Each participant is once encoded as the starting point and once as
 1108 the endpoint of a reciprocal subevent. Consider example (57):

1109

1110 (57) \bar{e} $a-t\acute{e}m'-s-e=a$

1111 3SG.M 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

1112

1113 $mak=e$ $a-t\acute{e}m'-s-e=a$

1114 other=SG.M 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

1115 'he_j glances at him_k, the other_k glances at him_j, and then ...' (where $j \neq k$)1116 OR 'he_j glances at him_m, the other_k glances at him_m, and then ...' (where1117 $j \neq k \neq m$)

1118

1119 In the reciprocal interpretation of (57) there are two male referents and two
 1120 sequential glancing events which are expressed in a clause chaining construction.
 1121 Note that reciprocal semantics are not entailed in (57). A non-reciprocal reading is
 1122 possible, i.e., a reading where there are three men and two of them (indexed as j and
 1123 k) glance at the third (indexed as m).

1147 ‘he_j glances at him_k, (and) the other_k glances at him_j, and then ...’ (where
1148 j≠k)

1149 OR ‘he_j glances at him_m, (and) the other_k glances at him_m, and then ...’
1150 (where j≠k≠m)

1151

1152 As in the biclausal description in (57) above, reciprocal semantics are not entailed
1153 in the ‘macro-event construction’. A non-reciprocal reading is possible for (58) with
1154 three men and two of them (indexed as j and k) glancing at the third man (indexed as
1155 m).

1156 The macro-event construction is independently attested in the language in non-
1157 reciprocal situations. It is employed for temporally extended macro-events consisting
1158 of several bounded subevents, e.g., in (59) where a man tries to rescue his wife from
1159 drowning in a quickly rising tide of water. As in (58) above, the conjunction *eka*
1160 ‘and’ between the two clauses describing the bounded subevents is optional.

1161

1162 (59) *imak=e* *mengge-s-e* (*eka*)

1163 husband=SG.M pull.PFV-DS.SEQ-3SG.M.SBJ (and)

1164

1165 *aai=e* *mengge-s-e* *bi-n-ib=a*

1166 water=SG.N1 pull.PFV-DS.SEQ-3SG.N1.SBJ exist-SEQ-2/3PL.AN.SBJ=MED

1167 ‘the husband is pulling and the water is pulling (on the woman), they are

1168 (doing this) and then ...’ [Flood]

1169

1170 What is described in (59) is of course not a reciprocal action because the agents
 1171 are the husband and the water and both are pulling on a single patient, his wife, the
 1172 former to rescue her, the latter to drown her. But the example shows that we can set
 1173 up the ‘macro event’ as a separate construction in Mian, independent of reciprocals.

1174

1175

1176 6.3 Non-expression of overt nominals in reciprocal contexts

1177

1178 Mian is strongly zero-anaphoric. Overt arguments (NPs or free pronouns) are
 1179 typically dropped in discourse, if they are retrievable from the context. A quantitative
 1180 analysis of Mian texts shows that in narrative texts the percentage of overtly
 1181 expressed nominals can be as low as 25%; even below 15% in some procedural texts,
 1182 where the overt pronoun first singular pronoun *nē* referring to the speaker is
 1183 consistently dropped. Therefore, example (58) above was presumably possible
 1184 without the overt subject nominals, which yields a structure that looks very much
 1185 like the zigzag construction.

1186

1187 (60) *a-têm'-s-e*

1188 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

1189

1190 *a-têm'-s-e*

bl-∅-io=be

1191 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED exist-IPFV-2/3PL.AN.SBJ=DECL

1192 ‘They are glancing at each other.’

1193

1194 I assume that not expressing overt subject nominals, resulting in (60), was more or
 1195 less restricted to the expression of reciprocal situations. Speakers would have used an
 1196 overt NP to facilitate referent identification, if (60) was said to describe a situation in
 1197 which two men each glance at a third man. Due to the frequent use of structures like
 1198 (60) with dropped nominal arguments for the expression of reciprocal semantics this
 1199 construction became specialized as a dedicated reciprocal.

1200 At this stage the subject suffix became conventionalized in the third person
 1201 singular masculine (-e), while the object prefixes on the zigzag verbs retained their
 1202 ability to indicate gender differences between the reciprocants, as in (61):

1203

1204 (61) *a-têm'-s-e*

1205 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

1206

1207 *wa-têm'-s-e**bl-∅-io=be*

1208 3SG.F.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

exist-IPFV-2/3PL.AN.SBJ=DECL

1209 ‘They (F+M) are glancing at each other.’

1210

1211 This is an example for a reciprocal situation between a female and a male
 1212 participant. That (61) is a single construction can also be seen from the fact that any
 1213 overt subject pronoun has to be in the plural. Any overt subject pronoun must show
 1214 the same person and number as the existential verb *bi-bl*, which is inflected for
 1215 subject, as in (62):

1216

1217 (62) \bar{i} *a-têm'-s-e*

1218 3PL.AN 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

1219

1220 *wa-têm'-s-e**bl-Ø-io=be*

1221 3SG.F.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED exist-IPFV-2/3PL.AN.SBJ=DECL

1222 'They (M+F) are glancing at each other.'

1223

1224 This is the endpoint of the development from a biclausal description of a
 1225 reciprocal situation to the zigzag-construction in (62). In the remainder of the
 1226 historical section I provide some remarks on how the *sese*-construction fits into this
 1227 picture.

1228

1229

1230 6.4 Phonological reduction and reanalysis

1231

1232 The development from the zigzag construction (*V-s-e V-s-e*) to the *sese*-construction
 1233 (*V-sese*) was possibly due to phonological reduction. The deleted material is struck
 1234 through in (63), which otherwise is an exact repetition of (60) above:

1235

1236 (63) *a-têm'-s-e*

1237 3SG.M.O-see.PFV-DS.SEQ-3SG.M.SBJ=MED

1238

1262 explanation of the facts. An obvious first step towards a clearer picture would be to
 1263 compare reciprocal constructions in neighboring languages.

1264

1265

1266 6.5 Univerbation

1267

1268 The final step in the development of the *sese*-construction is univerbation of the verb
 1269 bearing the suffix *-sese* with the existential verb, yielding (65):

1270

1271 (65) *a-têm'-sese-bl-∅-io=be*

1272 3SG.M.O-see.PFV-RECP-exist-IPFV-2/3PL.AN.SBJ=DECL

1273 'They (M+M) are glancing at each other.'

1274

1275 In contemporary Mian the whole verb complex in (65) forms a single
 1276 phonological word with respect to tone assignment and the initial /b/ in the
 1277 existential verb is not prenasalized, which is would be in isolation.

1278

1279

1280 7 Conclusion

1281

1282 Mian has two related monosemous constructions for the description of reciprocal
 1283 situations, the zigzag construction and the possibility of inflecting a verb with the
 1284 reciprocal suffix *-sese*, where the form of this suffix is the result of a fusion of the

1285 zigzag type. Both of these are complex and typologically unusual in that they employ
1286 a verb-marking strategy yet require both reciprocant argument positions to be filled
1287 and verbs to remain transitive. In each case the existential verb indexes all
1288 reciprocants with a plural subject suffix and marks the whole complex event as a
1289 joint activity.

1290 While the zigzag type of reciprocal construction has also been reported in other
1291 TNG languages, such as Amele and Hua, the fused type is so far only attested in
1292 Mian. The *sese*-construction is restricted to perfective aspect, while the zigzag
1293 construction has a perfective variant with the DS suffix *-s* ‘DS, sequential’ and an
1294 imperfective variant with the DS suffix *-b* ‘DS, simultaneous’. In each case, the S/R
1295 meaning marked on the first zigzag verb is interpreted with respect to the second
1296 zigzag verb and vice versa.

1297 The important features of the zigzag construction are that there are three
1298 subevents integrated into a single clause. The first two are expressed by the zigzag
1299 verbs, each of which is inflected for DS, and the third is expressed by an existential
1300 verb, which is always inflected for a plural subject. The subject is indicated on both
1301 zigzag verbs by a conventionalized subject suffix of the form *-e*, which is the third
1302 person singular masculine.

1303 The zigzag verbs express the respective reciprocal subevents within the larger
1304 event described by the whole clause. The second zigzag verb describes the same
1305 event but with converse argument configurations. The zigzag construction has to be
1306 used for sequential reciprocity between two participants who differ in biological sex.

1307 The zigzag construction can be derived diachronically from a biclausal description
 1308 involving a clause chain in which both verbs are marked for different subject
 1309 following. I showed that this is a plausible development because the S/R marking
 1310 from the biclausal description is still in operation in the zigzag construction, albeit in
 1311 a circular fashion. The zigzag type has been fused into the *sese*-construction, in
 1312 which the second sequence /sɛ/ is a remnant of the second zigzag verb, namely the
 1313 DS suffix followed by the conventionalized subject suffix.

1314 Reciprocal constructions are interesting cross-linguistically because they have
 1315 complex events and show a wide range of different encoding strategies in the
 1316 languages of the world. This study provides an in-depth analysis of the complex
 1317 morphology and semantics of a typologically very interesting type of reciprocal
 1318 construction, which has not yet been analyzed in detail in the existing literature on
 1319 reciprocals. The study pushes back the limits of our knowledge of Papuan languages
 1320 and contributes to the typology of reciprocal constructions.

1321

1322

1323 **Abbreviations**

1324 1 – first person, 2 – second person, 3 – third person, AN – animate, CP – classificatory
 1325 prefix, DECL – declarative, DS – different subject, DU – dual, F – feminine, GPST –
 1326 general past, HORT – hortative, HPST – hesternal past, IMP – imperative, INCL –
 1327 inclusive, INF – infinitive, IO – indirect object, IPFV – imperfective, M – masculine,
 1328 MED – medial verb, N1 – neuter 1, N2 – neuter 2, O – object, PFV – perfective, PL –
 1329 plural, PRED – predicate marker, R – recipient, REAL – realis, RECP – reciprocal, SBJ –

1330 subject, SEQ – sequential, SG – singular, SIM – simultaneous, SS – same subject,
1331 TODPAST – today past.

1332

1333

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Figures - Reciprocals in Mian

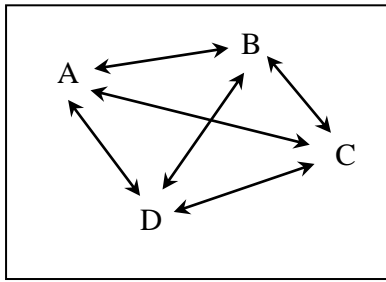


Figure 1. Strong reciprocity

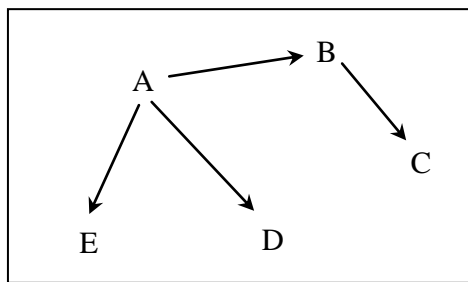


Figure 2. Melee configuration

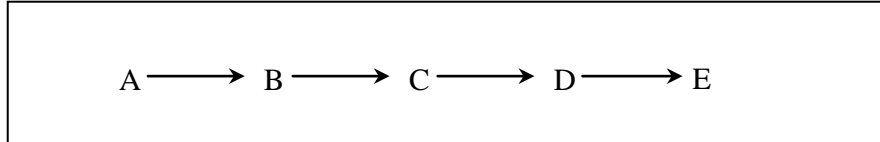


Figure 3. Chaining situation

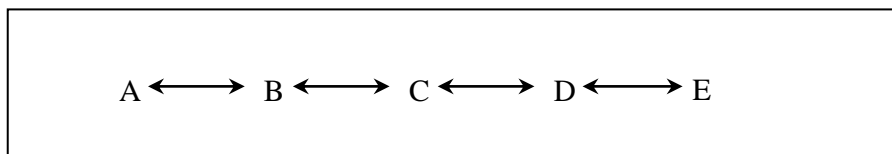


Figure 4. Adjacency

1 **Tables - Reciprocals in Mian**

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4 *Table 1. Classificatory prefixes (in the third person)*

Person	Classes	Classificatory prefixes	
		Singular	Plural
3	M-class	<i>dob- ~ do-</i>	<i>dol- ~ dl- ~ do-</i>
	F-class	<i>om-</i>	
	Long object	<i>tob- ~ to-</i>	<i>tebel- ~ tebe-</i>
	Bundle-like object	<i>gol- ~ go-</i>	<i>gulel- ~ gule-</i>
	Covering object	<i>gam-</i>	<i>gemel- ~ geme-</i>
	Residue class	<i>ob- ~ o-</i>	<i>ol- ~ o-</i>

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8 *Table 2. The pronominal affixes on the verb (in the third person)*

Gender	Subject		Object		Recipient (PFV)		Recipient (IPFV)	
	Sg	Pl	Sg	Pl	Sg	Pl	Sg	Pl
Masculine	<i>-e</i>	<i>-ib~-io</i>	<i>a-</i>	<i>y(a)~i-</i>	<i>-a</i>	<i>-e</i>	<i>-ha</i>	<i>-ye</i>
Feminine	<i>-o</i>		<i>wa-</i>		<i>-o</i>		<i>-we</i>	

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12 *Table 3. Reciprocal subtypes in Mian*

Subtype ID	Reciprocal	Object affix is	SEQ	SIM	Recipro-cants		Gender		Illustrated in examples
					2	3+	Mixed	Same	
A	<i>-sese</i>	SG.M	✓	✗	✓	✗	✗	✓	(2)
B	<i>-sese</i>	SG.F	✓	✗	✓	✗	✗	✓	(3)
C	<i>-sese</i>	PL	✓	✓	✗	✓	✓	✓	(1)
D	<i>-sese</i>	absent	✓	✓	✓	✓	✓	✓	(30)
E	<i>-se ... -se</i>	M.SG	✓	✗	✓	✗	✗	✓	(5)
F	<i>-se ... -se</i>	F.SG	✓	✗	✓	✗	✗	✓	(6)
G	<i>-se ... -se</i>	SG.F + SG.M	✓	✗	✓	✗	✓	✗	(7)
H	<i>-se ... -se</i>	PL	✓	✓	✗	✓	✓	✓	(4)
I	<i>-se ... -se</i>	absent	✓	✓	✓	✓	✓	✓	(35)

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