

LFG meets diachronic typology in Indonesian Austronesian: how reciprocal meaning migrates under morphological attrition

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BACKGROUND AND ISSUES. Reciprocal constructions¹ are a classic “mapping problem”: a language-specific formal strategy may encode reciprocity within a single clause, even though the semantic relation involves multiple predications and a permutation of semantic roles across a set of participants. As Nordlinger (2023:71–72) notes, this forces grammars to overlay multiple propositions onto one clausal morphosyntax, often yielding non-canonical patterns of valency, transitivity, and grammatical relations. Developing a grammar of reciprocity through time—where LFG meets diachronic typology—this paper argues that in Indonesian Austronesian languages reciprocal meaning can migrate under morphological attrition: inherited formatives interact and reconfigure over time, so that dedicated reciprocal/middle material (**R-*, **si-*) may be retained, eroded, fused into more general valency operations (notably **pa-*), or replaced by other formal means (e.g., a locative/patient nominal and verbal marker **-an* (cf. reconstructions in Ross 1995; Blust 2013)) while reciprocal meaning is maintained, shifted, or only partially preserved. The diachronic puzzle, then, is not simply “loss vs retention”, but systematic reallocation of reciprocal content across morphology and argument structure, yielding learnable micro-contrasts across closely genetically related languages.

TYPOLOGICAL PATTERNS. Our empirical core draws on new fieldwork from Barrier Islands languages (Sigulai, Devayan, Nias, Sipora Mentawai), supplemented by Mandailing (Batak), Kodhi, Indonesian, Balinese, and Contemporary Javanese. Across these languages, reciprocal meaning is repeatedly redistributed across inherited resources, producing three recurring diachronic-typological patterns:

- **Pattern A — *pa-* absorbs reciprocal/middle (including within causative systems).** A single reflex of *pa-* can overtly form reciprocal/middle predicates with object suppression, and the same *pa-* material may simultaneously participate in a causative alternation in addition to yielding reciprocal-middle readings (micro-contrast: Kodhi *pa-* as a productive RECIP.MID with transitive bases (1) vs Nias *f-/fa-/fe-* where *fa-* is part of the causative system yet is also used in reciprocal middles (2)).
- **Pattern B — *si-* persists as a sociative/pluractional layer, but its function can be reanalysed.** Where *si-* remains productive, it correlates with reciprocal-type distinctions (notably simultaneous vs sequential reciprocity). Signature micro-contrast: **Sigulai** distinguishes general reciprocal-middle (*be-*) from a more explicitly sequential/pluractional reciprocal (*besi-*) (3), whereas **Devayan** shows a clean morphosyntactic split (actor voice *maN-* vs reciprocal derivation *maN-si-* vs passive *ni-*)(4). In **Sipora**, (5), by contrast, *si* is retained largely in form (as part of a transitiviser) while its reciprocal-pluractional contribution is absorbed by *pa-*—a clear case of function migrating while exponence remains.
- **Pattern C — *-an* takes over reciprocal-pluractional packaging (often with circumfixation and/or reduplication).** Reciprocal-pluractional meaning can be (re)allocated to **-an*, yielding circumfixal patterns with obligatory *-an* (e.g. Indonesian *ber-an* as in *berpelukan/*berpeluk* ‘hug each other (once, simultaneously)’, or Mandailing *marsi-an* (6), or, in more advanced attrition, *-an* as the primary reciprocal/middle marker (as in Contemporary Javanese) (7), where the stem’s REDUP(lication) marks sequential reciprocity/pluractionality.

LFG ANALYSIS. The analysis is framed as a diachronic typology in LFG: we treat the evolution of reciprocal marking as a set of small, learnable reanalyses in the correspondence between m-structure/c-structure exponence, a-structure (argument structure), and f-/s(em)-structure, rather than as a monolithic “loss of function.” This approach follows Booth & Butt’s (2023:906–907) argument that LFG’s modular parallel architecture is particularly well suited to modelling change, because it separates surface form from grammatical function and feature systems, allowing

¹ Following Nordlinger (2023), Dalrymple et al. (1998), and Hurst (2012), we distinguish reciprocal constructions from reciprocity/reciprocal meaning. Reciprocal constructions are language-specific formal strategies conventionally associated with the expression of reciprocity; reciprocity itself is the semantic configuration involving mutual participation across the same set of participants. The mapping is not one-to-one: reciprocal constructions may develop middle, sociative, pluractional or related readings, while reciprocal meaning may also be expressed lexically or compositionally without dedicated reciprocal morphology. Thus, Kodhi *pa-tobhoko* ‘meet each other’ (1b) is a reciprocal construction, whereas plain *tobhoko* with an object (1a) is non-reciprocal; likewise, Mandailing *mar-suo* (6a) may but need not imply reciprocity, especially when the subject is singular and the co-participant is expressed as an oblique.

structural reanalysis without immediate overt morphological replacement. The Barrier Islands facts provide a concrete test case: surface **si-* can erode, fuse, or be resegmented, while reciprocal semantics— understood here as reciprocity that may be encoded morphologically, lexically, or constructionally— may remain stable, shift in subtype (simultaneous vs sequential), or relocate its locus of exponence.

A key analytical move is to distinguish two causative/transitivizing heads that interact differently with reciprocity: (i) the CAUSE_fused type, associated with reflexes of **pa*, schematicised in (8), compatible with role fusion at a-structure (A=U) (indicated by index *i*)², licensing reciprocal-middle readings and encouraging CAUS-RECIP-MID syncretism, and (ii) the CAUSE_disjoint type (e.g. Indonesian *-kan*, Balinese *-ang*), disfavoring role fusion and therefore disfavoring CAUS-RECIP syncretism.³ The typological payoff is that (8) predicts where dedicated reciprocal material (**R-*, **si-*) is likely to remain productive, and where it is likely to become redundant and be reallocated.

Within this architecture, PMP **si-* is reconstructed as a sociative/pluractional operator whose original meaning ('doing-it-together', collective event construal) aligns naturally with what Nordlinger (2023:72–73) characterizes as the additional semantic overlay required for prototypical reciprocity. In languages where the **si-* contrast is still productive, we model **si-* not as a separate predicate head but as contributing a feature bundle at f-structure—e.g. (↑VNUM)=*pl.event* and (↑RECIP-TYPE)=*seq/non.simult* (9b)—on top of reciprocal/middle information that already imposes A=U fusion in the lexical entry, carried by the head PRED, (9a). This captures Sigulai *be-* (general reciprocity) vs *besi-* (sequential/pluractional reciprocity) as a transparent compositional difference. Conversely, where **si-* is no longer productive, its contribution is shown to be re-expressed by other resources (e.g. **-an* or reduplication) or absorbed by the CAUSE_fused system.

CONTRIBUTIONS AND BROADER RELEVANCE. Our contribution is designed to be legible beyond Austronesian. More generally, we argue that “meaning migration” is a cross-linguistically available change type: when reciprocity is encoded by tightly integrated valency/voice morphology, erosion targets dedicated exponents first, while reciprocal semantics can persist as reallocated features (e.g. event plurality, distributivity) or as shifts in linking constraints—precisely the kind of reanalysis LFG is designed to model (Booth & Butt 2023). Empirically, the paper provides new Barrier Islands evidence for the internal composition of reciprocal markers and for a grammaticized split between general and sequential/pluractional reciprocity. Typologically, it proposes an explicit diachronic pathway for how reciprocal meaning is maintained, redistributed, or lost under morphological erosion, responding to Nordlinger’s call for tighter connections between morphosyntactic form and semantic typologies of reciprocity (Nordlinger 2023:71, 89). Theoretically, it extends existing LFG work on reciprocals (Dalrymple et al. 1998; Hurst 2012; Haug & Dalrymple 2020) by integrating reciprocal semantics with a-structure role fusion and by showing how the LFG notion of correspondence across parallel structures can be used as a formal typology of reanalysis through time (Booth & Butt 2023).

The broader claim is that “diachronic typology in LFG” is not merely compatible with LFG’s architecture but allows the architecture to perform vital explanatory work. Changes in exponence become shifts in the distribution of features and mapping constraints across m-, c-, a-, f- and sem-structure, yielding the following testable predictions about how reciprocal systems reconfigure (to be discussed fully in the paper): (i) CAUSE_fused systems favor CAUS-RECIP-MID syncretism via A=U, whereas CAUSE_disjoint systems resist it; (ii) If *si-* survives productively, it should correlate with event plurality/sequentiality distinctions (rather than just “reciprocal”); (iii) When dedicated reciprocal exponents erode, *-an*/reduplication should take over RECIP-TYPE / VNUM packaging first, while A=U may remain lexically entrenched.

DATA POINTS

² The slightly complex notation of “(i=j)” associated with the second argument in (8) allows for the possibility a dyadic alternation placing a subset of the plural participants involved in reciprocity as an oblique in a strictly intransitive MID construction, as in Indonesian *X bertemu dengan Y* ‘X met with Y’. It also allows MID-prefixed verbs such as Nias *fa-bōzi* to have either a reciprocal reading as in (2a), or simply a pluractional reading without reciprocity (Brown 2001:563). Our fused [A=U] analysis is a conservative LFG many-to-one mapping operation, to capture the intransitivising effect in reciprocal-middle formation, compatible with Alsina’s (1996) a-structure binding and Rákosi’s (2008) argument unification/role clustering, implemented in the present paper in a syntacticised argument structure in the sense of Manning (1996) (cf. Arka & Manning 2008) and intended to be diachronically extendable as successive reanalyses in the locus of reciprocal/middle encoding.

³ No contrasting schema is given here due to space; but see Arka et al (2026).

- 1 Kodhi: non-reciprocal transitive vs reciprocal construction (with object suppression) (Ganggho Ate, in progress)
 - a. A=tobhoko=ya a Komi b. A=pa-tobhoko
 3PL.NOM=meet=3SG.ACC DEF.SG Komi 3PL.NOM=RECIP-meet
 'They met the Komi.' [KOD19-MH Maghu Rumba] 'They meet each other.'
- 2 a. Nias: reciprocal middle *fa-* b. Nias: *m-/f-* (MID/CAUS) alternations (Brown 2001:233)
Fa-bözi ira m-aoso 'get up, wake up' *f-aoso* 'raise'
 MID-hit 3PL.MUT *m-e'e* 'cry' *f-e'e* 'make cry'
 'They hit each other/one another.'
- 3 Dalua *yalafe afainga ana ila fa-bukha akhuli ila besi-sapo.* (Sigulai)
 two woman recent just 3PL.ABS MID-meet immediate 3PL.ABS RECIP-greet
 'The two women just met, and they immediately greeted each other'
- 4 Devayan (Simeulue): actor voice vs. reciprocal vs. passive
tenang 'kick' → (a) *maN-enang* (b) *maN-si-tenang* (c) *ni-tenang*
 AV-kick AV-RECIP-kick PASS-kick (be kicked)
 'kick' 'kick each other' 'be kicked'
- 5 Sipora Mentawai: a. reciprocal middle *pa-*; b. NAV transitiviser *pa-*; c. AV transitiviser *masi-*
 a. *pa-lakkai sia* b. *Nera sikkoinan* [*si=pasi-matei-ake' si-manteu*]
 RECIP-hug 3PL That crocodile REL=TR-dead-CAUS SG.PERS-male
 'They hug each other.' (Arka 2024) 'That's the crocodile that killed the man.' (Keith and Arka 2025)
 c. *Si-manteu nera masi-lakkai-ake' si-nanalep.* (transitive, non-RECIP)
 SG.PERS-male DEM.DIST AV.TR-hug-APPL SG.PERS -female
 "That man hugs the woman."
- 6 Batak Mandaling, *mar-/marsi- (-an)*: reciprocal construction vs. broader middle/non-reciprocal uses
 a. *bisa ia mar-suo dohot gandak=nia* b. *<marsi>tenju<an> daganak i*
 can 3SG MID-meet with girlfriend=3sg.poss <RECIP>hit child DEM.DIST
 '...he can meet his girlfriend.' 'The kids are hitting each other.'
 c. *marsi-ajar bahasa mandeling danak i* d. X *mang-ajar danak i*
 MID-teach language PN child DEM.DIST AV-teach child DEM.DIST
 'That kid is learning Mandailing language.' 'X is teaching that kid'
- 7 *Anak lan ibune (i) rangkul-an / (ii) rangkul-rangkul-an* (Contemporary Javanese)
 child and mother-DEF hug-AN REDUP-hug-AN
 'The child and her mother hugged each other, (i.) once, simultaneously/(ii) repeatedly'
- 8 **CAUSE_fused (**pa-*) and their interaction with reciprocity** (schematic)
 f-str: SUBJ (OBL)
 a-str: (↑PRED)= 'CAUSE_fused < ARG1_i > | (ARG2_ (i=j)), 'STEM.PRED <...j > '
 sem-str: AFFECT ([A] [U])
- 9 a. *ber-* (Ind)/*be-* (Sigulai) b. *si-* c. *-an* (Mandailing)
 (↑VOICE TYPE)=MID (↑VNUM)= *pl.event* (↑VNUM)= *pl.event*
 (↑SUBJ)σ= ↑σ [A=U]i (↑RECIP-TYPE)=*seq* (↑RECIP-TYPE)= *seq*
 (↑RECIP)=+ (↑ASPECT)= *perf*

REFERENCES. Alsina, A.1996. *The Role of Argument Structure in Grammar: Evidence from Romance*. Stanford: CSLI. ♦ Blust, Robert. 2013. *The Austronesian languages*. Canberra: Asia-Pacific Linguistics. ♦ Booth, Hannah & Miriam Butt. 2023. LFG and historical linguistics. In Mary Dalrymple (ed.), *Handbook of Lexical Functional Grammar*, 905–960. Berlin: Language Science Press. ♦ Dalrymple, Mary, Makoto Kanazawa, Yookyung Kim, Sam A. Mchombo & Stanley Peters. 1998. Reciprocal expressions and the concept of reciprocity. *Linguistics and Philosophy* 21(2). 159–210. ♦ Haug, Dag Trygve Truslew & Mary Dalrymple. 2020. Reciprocity: Anaphora, scope, and quantification. *Semantics and Pragmatics* 13(10). 1–62. ♦ Hurst, Peter. 2012. *Reciprocation strategies and the syntax of reciprocal constructions*. PhD dissertation, University of Melbourne. ♦ Kaufman, Daniel. 2018. Inner and outer causatives in Austronesian: A diachronic perspective. *McGill Working Papers in Linguistics* 25(1). 201–215. ♦ Nordlinger, Rachel. 2023. The typology of reciprocal constructions. *Annual Review of Linguistics* 9. 71–91. ♦ Rákosi, György. 2008. "The argument structure of inherently reflexive and reciprocal predicates." In *Reciprocals and reflexives: theoretical and typological explorations*, edited by E Koenig and V Gast. Amsterdam: John Benjamins. ♦ Zoetmulder, P. J. (1982). *Old Javanese-English Dictionary*. 's-Gravenhage: Martinus Nijhoff.