Co-Indexing System and the Changing Face of Austronesian Voice: Insights from Sipora Mentawai

I Wayan Arka (Australian National University/Universitas Udayana) & Emma Keith (Australian National University)

INTRODUCTION. This paper presents an LFG analysis of the synchronic and diachronic typology of voice and pronominal indexing in Sipora Mentawai (SM) (mwv, ISO639-3, Barrier Islands, Austronesian (AN), Indonesia), drawing on recent fresh fieldwork data. The study situates SM within Western Austronesian, a subgroup of AN characterized by symmetrical voice (i.e., A/U are equally selectable as SUBJ without PASS-like demotion). SM exhibits unusual and intriguing features, including pronominal co-indexing affixes reflecting NOM alignment and the loss of the PIVOT-SUBJ-only constraint typically associated with AN symmetrical voice. These traits distinguish SM from Indonesian-type AN languages but align it with neighbouring Barrier Islands languages like Enggano and, in some respects, with central-eastern AN languages such as Kambera (Klamer 1996). We demonstrate that LFG's modular and parallel architecture provides a robust framework for analyzing how these properties interact and evolve, shaping SM's typological profile.

KEY DATA POINTS. Like Enggano (Hemmings and Dalrymple to appear, Hemmings to appear), SM develops two different sets of bound pronominals on the verb, but unlike Enggano the sets include nominative suffixes in addition to indexing prefixes.[1] Crucially, SM prefixes signify irrealis (IRR) by default (i.e., possibly overridden by presence of the REAL(is) *a-* and PERF *-an* (< the PAN PV marker **-an*), as seen in the contrast in (1).

1	a.	***ra**-matei-ake*	*sikoinan.*	b. *a-**ra**-matei-ake(-an)*	*sikoinan.*
		3PL(.IRR)-dead-CAUS	crocodile	REAL-3PL(.IRR)-dead-CAUS(-PERF)	crocodile
		'They will kill the crocodile.'		'They (have) killed the crocodile.'	

Like Enggano, SM exhibits erosion of its AN voice, notably the loss of its AN voice symmetricality property, giving rise to multiple 'active' transitive sentences. In addition to the ones with the pronominal prefix as in (1), SM still retains a reflex of AN AV (Actor Voice) verbal morphology *masi-* in the active transitive structure as shown in (2a). The co-indexing system in SM allows alternative structures shown in (2a-b), with the same logical meaning, albeit distinct information structure. We argue that (2b) is not a PASS(ive) or UV (Undergoer Voice) counterpart of (2a) although it is translatable into English passive free translation. Structures (2b) and (1a-b) are syntactically 'active' transitive, just like structure with *masi-* (2a); i.e. Actor (A) in these structures with the co-indexed verbs is SUBJ.

2	a. Si Yosep	**masi**-itco'	$[HP]_U$	b.	HP	nera	a-**i**-itco'	si Yosep
	ART Yosep	AV-see	mobile.phone		mobile.phone	that	REAL-3SG.A-see	ART Y
	A		U		U			A
	'Yosep saw a/the mobile phone.'				'The mobile phone was seen by Yosep.'			

In our analysis, the prefix *i-* in (2b) is not a PASS (or UV) marker, despite its formal resemblance with the passive markers in other AN languages in western Indonesia, such as *ni-* (Nias) and *di-*(Enggano). At its current stage of evolution, SM *i-* remains pronominal and referential. In LFG's formalism, it carries (↑PRED)='pro' as shown in (9b) below. Critical evidence comes from the content question in (3a). This demonstrates that, as a coindexing referential pronoun, it cannot be questioned. Consequently, only reading (3a.i)—which questions the OBJ—is possible, while reading (3a.ii)—which questions the SUBJ (index *j*)—is unacceptable. Note that in the declarative equivalent structure (3b), where SUBJ and OBJ are equal in animacy, the sentence is ambiguous (out of context), as indicated by possible indices *i/j* linked to both co-arguments.

The concomitant loss of AN voice symmetricality entails the disappearance of the privileged PIVOT/SUBJ-only constraint, the hallmark of AN voice symmetricality. We discuss two pieces of evidence coming from complex structure formation. First, consider the embedded clausal ADJUNCT and COMP structures in (4a-b), which demonstrate that the (prefixed) SUBJ in Sipora Mentawai (SM) does not bear a privileged PIVOT function. That is, unlike in Indonesian-type languages with a robust symmetrical voice system, such as Balinese (example (5)), the prefixed SUBJ in SM cannot be gapped (or controlled), as indicated by **( )*. Its properties align with those of SUBJ in the AN co-indexing languages of eastern Indonesia, such as Kambera (Klamer 1996). Notably, in the equivalent Balinese structure in (5), the selected Actor=PIVOT-SUBJ argument must be syntactically controlled (i.e., gapped). The verbal voice in Balinese, **AV ng-** in (5) clearly marks A=SUBJ/PIVOT selection.

[1] The complete prefix set is: *ku-* (1SG); *ta-* (1PL.INCL); *ku- kai* (1PL.EXCL); *nu-* (2SG); *nu- kam* (2PL); *i-* (3SG); and *ra-* (3PL). The suffix set is: *-ku* (1SG); *-ta* (1PL.INCL); *-mai* (1PL.EXCL); *-nu/-m* (2SG); *-mui* (2PL); *-na* (3SG); and *-ra* (3PL) . The suffix set is inherited from the PMP NOM2 paradigm (cf. Ross 2006), while the prefix set seems to be a unique areal innovation.

3 a. *Kasei_j* *a-**i**-kukru* [*jojok* *nera*]_*i*?
who REAL-3SG.A_*i*/**j*-chase dog that
i) 'Who was chased by the dog?/Who did the dog chase?'
ii) ?* 'Who chased the dog.'

b. *Yosep_ i/j* *a-**i**-kukru* [*jojok* *nera*]_*i/j*?
Yosep REAL-3SG.A_*i/j*-chase dog that
i) 'Yosep chased the dog.' (Yosep=A/SUB, 'dog'=pt/OBJ) (preferred)
ii) 'Yosep was chased by the dog?' (Yosep=P/OBJ, 'dog'=agt/SUBJ)[2]

4 a. a-mei **aku** ka pelabuhan [*(**ku**-)gaba iba si-abeu]$_{ADJUNCT}$ *(ku- is obligatory)*
REAL-go 1SG LOC harbour 1SG-look.for fish REL-large
'I went to the harbour to look for big fish.' [Sipora Mentawai]

b. **Aku** **masi**-guglu-ake' toga nera [*(**i-**)kukru jojo]$_{COMP}$ *(i- is obligatory)*
1SG AV-command-APPL child that 3SG-chase dog
'I made the child chase the dog.' [Sipora Mentawai]

5 Made Rawi macelep [_ **ng**-aba/*aba yeh a lumbur]$_{XADJUNCT}$
name MID.enter SUBJ **AV**-bring/**UV.**bring water one glass
'Made Rawi entered bringing a glass of water.' [Balinese, Arka 2003:24]

Second, intriguing evidence comes from relativisation: OBJ in SM can be relativised, even in the active structure with an overt AV prefix *masi-* as seen in (6). This is impossible in the Indonesian-type languages with symmetrical voice. OBJ relativisation is made possible in SM due to its evolution in allowing IHRC (internally headed relative clause), which (unlike in Balinese) requires no 'extraction' privileging SUBJ. In our analysis the relativised head in (6) is a zero pronoun in the SUBJ position (reading i) or in OBJ position (reading ii). Relativised argument ambiguity is the hallmark of IHRC cross-linguistically (REFS). SM also allows a RC marked by the affixal clitic *si=*, example (7). Note the same morpheme (*si*) appears before a proper name (e.g., *Si Tiur*), traditionally glossed as ART(icle). Following the Occam's Razor principle, we provide a unified analysis, assigning the category of D (cf. the entry in (9d)) for both ART and REL(ativiser).

6 [a-*masi-kukru* *jojok* *nera*]$_{IHRC}$ *niate* *si* *Tiur*
REAL-AV-chase dog that COP ART Tiur
(i) The one who chased the dog is Tiur (A-SUBJ relativisation)
(ii) The one who the dog chased is Tiur (P-OBJ relativisation)

7 [nganga **si**=buru' [**si**=kau-ra_*i* [tai kebbuk-at-ta]_*i*]$_{REL.CLAUSE}$
language REL=old REL=give-3PL.NOM PL.PERS older.sibling-NMLZ-1PL.INCL.POSS
'The old language that our ancestors gave.' [Sipora Mentawai]

LFG ANALYSIS. The proposed LFG analysis for SM consists of information specification in lexical entries, c-str and m-str formulation, and related constraints. We adopt a traditional morpheme-based morphology with the m-str generated by the word-formation rule informally shown in (8). Sample entries are given in (9). In terms of c-str, we adopt an LFG-version of X-bar syntax (cf., Kroeger 1993, Bresnan et al. 2015) to account for SM configurational syntax. That is, while featuring argument co-indexation, SM differs from Kambera in having a relatively rigid word order. Strong evidence for a VP structure includes the fact that OBJ must be post-verbally adjacent to its V head when it is not given pragmatic focus, and sentential adverbials like *sokat* 'yesterday' cannot intervene in the [V NP.OBJ] sequence. The core (IP) with its extended maximal structure (CP) shows contrastive DF in [Spec, CP], with SUBJ as

[2] Inserting the pronominal copy *nia* immediately after the verb, as shown below, disambiguates the structure; only reading (ii) is acceptable. This is explained by the interaction of discourse pragmatics (anaphoricity/i-str) and syntax in SM: the pronominal copy in the OBJ position must find a pragmatically prominent antecedent, preceding it in a higher left-peripheral position. This DP, bearing contrastive TOP, is analyzed as a 'dislocated' NP. Due to the uniqueness condition and its backgrounding, making it pragmatically less prominent, the DP 'dog' cannot serve as the antecedent of OBJ *nia*. Consequently, reading (i) is unacceptable.
[*Yosep_j*]TOP-C [[*a-**i**-kukru* [nia]$_{OBJ}$ *j*]$_{V'}$ [*jojok* *nera*]$_{SUBJ}$_*i*]$_{VP}$
Yosep REAL-3SG_*i*-chase 3SG dog that
(i) * 'Yosep chased the dog.' (Yosep=SUB, 'dog'=OBJ);
(ii) 'Yosep was chased by the dog?' (Yosep=OBJ, 'dog'=SUBJ).

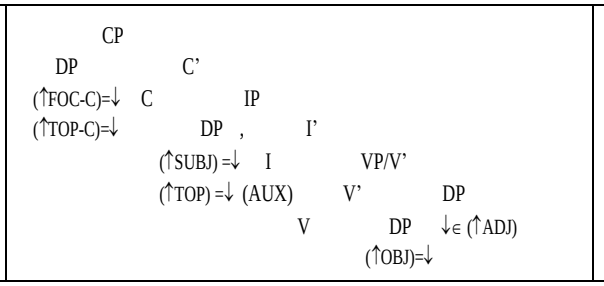
the default TOP in [Spec, IP]. The post verbal free NP, co-indexing the pronominal prefix *i-* (cf. examples (2b), (3a)), functions either an ADJ within VP/outside IP, or the default TOP/SUBJ (example (3b, reading i).

8 V → (MOOD.PREF) + (PRON.PREF) + (VOICE.PREF)+ V.STEM + (PRON.SUFF) + (ASP.SUFF)

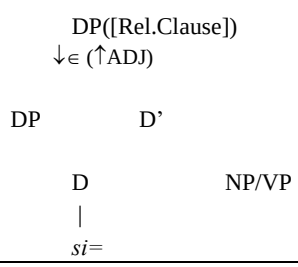
9 Sample lexical entries:

a. *a-* MOOD.PREF (↑MOOD)=REAL b. *-an* ASP.SUFF (↑ASP)=PERF
c. *masi-* VOICE.PREF (↑SUBJ)σ = ↑σ ACTOR d. *si* D ((↑PRED)= 'pro') (↑DEF)= +
e. *kukru* V.STEM (↑PRED)= 'chase<ACTOR, UNDERGOER>'
e. *i-* PRON.PREF ((↑MOOD)=IRR) (↑SUBJ)=↓
(↑SUBJ)σ = ↑σ ACTOR (↓PRED)='pro' (↓PERS)=3 (↓NUM)=SG.

10 a.



b.



The IHRC (without *si=)* in (6) is analysed as an embedded clausal unit (i.e., a finite IP containing REAL MOOD) that functions as SUBJ of the copula *niate*. Its partial f-structure is shown in (11). The RC with *ki=* in (7) will have a different c-ctr, forming a DP (as it is headed by D *ki=*, cf. (10b). However, its f-str is similar to (11), differing only in that it functions as an ADJ of the matrix PRED, whose value is 'language' instead of 'pro' (tag [1]). (Its c-str and f-str are not shown here due to space limitation.)

11

PRED	'BE<SUBJ, PREDLINK>'		
PREDLINK	[PRED 'TIUR']		
SUBJ	PRED	[1]	
	ADJUNCT	TYPE	*relative*
		FOCUS	[2]
		PRED	'chase<SUBJ OBJ>
		SUBJ	PRED 'dog'
			DEF +
		OBJ	[2][PRED [1]['pro']]
		MOOD	REAL

CONCLUSION. This paper makes an empirical contribution to language typology and AN studies by presenting new, salient data on grammatical relations and the co-indexing system in SM. The discussion is typologically framed within the diachrony of AN voice symmetricality, arguing that the emergence of the pronominal indexing system and nominalization via IHRC has led to the decline of AN voice symmetricality. We have demonstrated how LFG provides a framework for capturing the complexities of the morphosyntax-pragmatics interface in SM. The full paper will present additional data and further develop the LFG-based analysis, contributing theoretically to the diachronic typology of grammatical relations, nominalization, and voice-alternating systems in AN and beyond.

REFERENCES. Bresnan, J., et al. 2015. *Lexical-Functional Syntax (second edition)*. Oxford: Wiley-Blackwell. **Hemmings**, C. to appear. "Verbal morphosyntax in Enggano " In *Enggano: Historical and Contemporary Perspectives*, edited by I W Arka, et al. Canberra: Asia-Pacific linguistics. **Hemmings**, **C, and M. Dalrymple**. to appear. "Relative clauses in Enggano." In *Enggano: Historical and Contemporary Perspectives*, edited by I W Arka, et al. Canberra: Asia-Pacific linguistics. **Klamer, M**. 1996. "Kambera has no passive." *NUSA* 39:12-30. **Kroeger, P.** 1993. *Phrase Structure and Grammatical Relations in Tagalog*. Stanford: CSLI Publications.