

# Information structure and syntactic choices in Kelabit

Charlotte Hemmings, University of Oxford

charlotte.hemmings@ling-phil.ox.ac.uk

## 1. Introduction

- ❖ This paper investigates the role of information structure in determining syntactic choices in Kelabit, a Western Austronesian language spoken in Northern Sarawak (Kroeger 1998).
- ❖ The syntactic choices explored are:
  - voice construction
  - word order
  - case form of pronouns
- ❖ Like other Western Austronesian languages, Kelabit has SYMMETRICAL VOICE alternations:

### (1) *Kelabit*

#### a. Actor Voice

Nengelaak    *nuba'*                    **tesineh nedih.**  
PFV.AV.cook    rice                                    mother 3SG.POSS  
'Her mother cooked rice.'

#### b. Undergoer Voice

Linaak            *tesineh nedih*                    **nuba'.**  
PFV.UV.cook    mother 3SG.POSS                    rice  
'Her mother cooked rice.' (elicitation, fieldnotes)

- ❖ These allow different mappings of arguments to functions without changes to the syntactic transitivity (Riesberg 2014):

Actor Voice:            Actor = **Subject**, Undergoer = *Object*

Undergoer Voice:      Undergoer = **Subject**, Actor = *Object*

- ❖ Kelabit also has flexible word order for the subject, which can occur either pre- or post-verbally. The object always follows the verb.
- ❖ In actor voice, VSO order is also possible but less frequent than the other word orders

### (2) *Kelabit Word Order in Actor Voice*

#### a. SVO

**La'ih sineh**    ne-kuman            *bua'*    *kaber.*  
man    DEM    PFV-AV.eat            fruit    pineapple  
'The man ate pineapple.'

b. **VOS**  
 Ne-kuman *bua' kaber* **la'ih sineh.**  
 PFV-AV.eat fruit pineapple man DEM  
 'The man ate pineapple.'

c. **VSO**  
 Ne-kuman **la'ih sineh** *bua' kaber.*  
 PFV-AV.eat man DEM fruit pineapple  
 'The man ate pineapple.'

*Kelabit Word Order in Undergoer Voice*

d. **SVO**  
*Bua' kaber kinan la'ih sineh*  
 Fruit pineapple UV.PFV.eat man DEM  
 'The man ate pineapple.'

e. **VOS**  
 kinan la'ih sineh *bua' kaber dih*  
 UV.PFV.eat man DEM fruit pineapple DEM  
 'The man ate the pineapple' (elicitation, fieldnotes)

- ❖ In general, UV tend to be verb-initial and AV clauses are generally SVO by default.
- ❖ Clause-final subjects are typically definite/given.
- ❖ There are two other word order constructions that allow information to be expressed in a pre-verbal position: hanging topic constructions & focus fronting:

(3) *Kelabit Hanging Topic Constructions*

a. Paul kedieh, nekuman *bua' ebpuk t=ieh*  
 Paul EMPH.3SG AV.PFV.eat fruit passion PT=3SG.NOM  
 'As for Paul, he ate passion fruit'

b. *Bua' ebpuk suk na'ah ih, kinan Paul n=idih*  
 fruit passion REL afore PT UV.PFV.eat Paul PT=DEM  
 'As for the passionfruit, Paul ate it.' (elicitation, fieldnotes)

(4) *Kelabit Focus Fronting*

a. **Peter** teh suk kuman *bua' kaber*  
 Peter PT REL AV.eat fruit pineapple  
 'It was Peter who ate the pineapple'

b. **Bua' kaber** teh kinan *Peter*  
 fruit pineapple PT UV.PFV.eat Peter  
 'It was pineapple that Peter ate' (elicitation, fieldnotes)

- ❖ Finally, Kelabit has DIFFERENTIAL ACTOR MARKING in the undergoer voice construction.
- ❖ The expected case-marking in Western Austronesian is summarised in Table 1:

*Table 1. Case-Marking in Western Austronesian*

	<b>Actor</b>	<b>Undergoer</b>
ACTOR VOICE	NOM	OBL
UNDERGOER VOICE	GEN	NOM

- ❖ Kelabit does not have OBL case for actor voice undergoers.
- ❖ Moreover, in Kelabit UV constructions both NOM and GEN alternate as a means of expressing UV actors:

(5) *Kelabit Differential Actor Marking*

a. **Undergoer Voice (GEN actor)**

Seni'er      *kuh*      **t=ieh**  
 UV.see      1SG.GEN      PT=3SG.NOM  
 'I saw him'

b. **Undergoer Voice (NOM actor)**

Seni'er      *uih*      **t=ieh**  
 UV.see      1SG.NOM      PT=3SG.NOM  
 'I saw him'

- ❖ Consequently, speakers make syntactic choices in terms of VOICE, WORD ORDER, and CASE FORM when expressing transitive events.
- ❖ Since information structure is known to affect these choices in other languages, we can ask whether information structure plays a role in determining syntactic choices in Kelabit?

## 2. Information Structure

- ❖ Information structure can be understood as a formal mechanism for facilitating effective information exchange or update (Dalrymple & Nikolaeva 2011, Erteschik-Shir 2007)
- ❖ Information is essentially built up of propositions, structured according to what the hearer is presupposed to know, and what they are to learn as a result of communication.
- ❖ The most important and well-defined roles cross-linguistically are TOPIC and FOCUS (Krifka 2008, Lambrecht 1994: 127, 213):

*Information Structure Roles*

➤ **Topic**

An entity that the speaker identifies and about which a proposition is made.

➤ **Focus**

The informative part of the proposition that makes an utterance into an assertion and indicates the presence of alternatives.

- ❖ We can partition clauses into a) topic vs comment and b) focus vs background.

- ❖ These are identified in Kelabit using the following methods:
  - Information structure DIAGNOSTIC TESTS and grammaticality judgements (cf. Lambrecht 1994, Van der Wal 2016)
  - Analysing examples in context in a NATURALISTIC TEXT CORPUS (Hemmings 2019)
  - Using the ‘unhappy rats’ TRANSLATION TASK in which the same sentence is presented for translation in differing information structure contexts (Latrouite & Riester 2018).

### 3. Word Order & Information Structure

- ❖ Fronting can be used as a means of ordering focus before background (6):

(6) *Kelabit*

**Context: ‘Did Andy hit John yesterday?’ No...**

- a. **[Paul]<sub>focus</sub>**    *teh*    *suk*    *nemupu’*    *ieh*  
      Paul            PT     REL    PFV.AV.hit    3SG.NOM  
      ‘It was Paul who hit him (John)’                                 [narrow focus on actor]
- b. **[Paul]<sub>focus</sub>**    *teh*    *suk*    *pinupu’*    *neh*  
      Paul            PT     REL    PFV.UV.hit    3SG.GEN  
      ‘It was Paul that he (Andy) hit’                                 [narrow focus on undergoer]
- c. [*nemepag*    *Paul*]<sub>focus</sub>    **teh=ieh**  
      AV.PFV.slap    Paul                             PT=3SG.NOM  
      ‘He (Andy) slapped Paul’                                         [predicate focus on verb+undergoer]
- d. [*pipag*        *uih*]<sub>focus</sub>    **teh=ieh**  
      UV.PFV.slap    1SG.NOM                             PT=3SG.NOM  
      ‘I slapped him (John)’     [predicate focus on verb+actor]
- e. [*edto*    *ma’un*]<sub>focus</sub>    **teh=ieh**        *nemupu’*    *ieh*  
      day    before                             PT=3SG.NOM    AV.PFV.hit    3SG.NOM  
      ‘It was the the day before yesterday that he hit him’ [narrow focus on adjunct]  
      (elicitation, fieldnotes)

- ❖ These orders place focus before background information as is common in languages that follow the PRINCIPLE OF NEWSWORTHINESS (Mithun 1992)
- ❖ However, there is no one-to-one link between position and information structure role, since it is not only initial subjects that can be focused.
- ❖ *In-situ* object can also have a narrow focus reading (7) and basic order AV clauses are ok in most contexts (8).

(7) *Kelabit*  
**Context: Did Andy hit John yesterday? No...**

a. **Focused Undergoer**

nemupu' [Paul]<sub>focus</sub> t=ieh  
 AV.PFV.hit Paul PT=3SG.NOM  
 'He hit Paul'

b. **Focused Actor**

pinupu' [Paul]<sub>focus</sub> t=ieh  
 UV.PFV.hit Paul PT=3SG.NOM  
 'Paul hit him.'

c. **Focused Adjunct**

pinupu' neh [edto ma'un]<sub>focus</sub> t=ieh  
 UV.PFV.hit 3SG.GEN day before PT=3SG.NOM  
 'It was the day before that he hit him' (elicitation, fieldnotes)

(8) *Kelabit*

a. **Narrow Focus on Undergoer**

Q. kuman *enun* t=ieh?  
 AV.eat what PT=3SG.NOM?  
 'What is he eating?'

A. neh ieh kuman [bua' kaber neh]<sub>focus</sub>  
 DEM 3SG.NOM AV.eat fruit pineapple DEM  
 'He is eating the pineapple'

b. **Broad Focus on Verb+Undergoer**

Q. naru' *enun* Peter?  
 AV.do what Peter?  
 'What is Peter doing?'

(1) neh Peter [kuman bua' kaber]<sub>focus</sub>  
 DEM Peter AV.eat fruit pineapple  
 'Peter is eating pineapple'

c. **Sentence Focus**

Q. Kapeh tebey'?  
 how actually  
 'What happened?'

A. [nih Peter kuman bua' kaber nedih]<sub>focus</sub>  
 DEM Peter AV.eat fruit pineapple 3SG.POSS  
 'Peter is eating pineapple' (elicitation, fieldnotes)

- ❖ Moreover, the same information structure context can prompt speakers to choose different word orders:

(9) *Kelabit Unhappy Rats*

**Context:** *Cats are so aggressive. They chase squirrels. They chase birds. Some even chase dogs. I heard that cats were seen chasing a small kangaroo in Australia. They also chase rats, of course. But that is good.*

a. **AV SVO**

Ideh ngalo labo puur. Ideh ngalo manuk [...]

‘They chase squirrels, they chase birds’

ideh	peh	ngalo	labo i’eyk	meto’
3PL.NOM	PT	AV.chase	rat	as.well

‘They also chase rats’

f. **AV VSO**

Ngalo tideh labo puur. Ngalo tideh manuk [...]

‘They chase squirrels, they chase birds’

ngalo	t=ideh	labo i’eyk	meto’
AV.chase	PT=3PL.NOM	rat	as.well

‘They also chase rats’

g. **AV VOS**

Metanur labo puur n=ideh.

AV.chase squirrel PT=3PL.NOM

‘They chase squirrels’

Metanur manuk nideh [...] kinch tideh metanur labo i’eyk

‘they chase birds [...] they also chase rats’

h. **UV VOS**

Tu’en deh metanur teh labo puur. Tu’en deh metanur teh manuk [...]

‘They chase squirrels, they chase birds’

Tu’en	deh	metanur	ayu’	teh	labo i’eyk. <sup>1</sup>
UV.IRR.DO	3PL.GEN	AV.chase	EMPH	PT	rat

‘They really/also chase rats’ (unhappy rats translation task)

- ❖ Hence, all the different word orders in AV, as well as UV constructions, can be used in a context where the actor is a continuing topic.
- ❖ Consequently, word order can be used as a strategy to mark information structure and in particular fronting can be used to indicate the focus of a sentence.

<sup>1</sup> Nb. This is an alternative periphrastic strategy for expressing undergoer voice using the UV irrealis form of the verb ‘to do’ *tu’en* + actor + AV.verb + undergoer.

- ❖ But there is no one-to-one link between word order, grammatical function and information structure role.

#### 4. Differential Marking

- ❖ As in other languages (Dalrymple & Nikolaeva 2011, Witzlack-Makarevich & Seržant 2018), differential marking in Kelabit appears to be triggered by information structure.
- ❖ GEN actors in UV are typically continuing topics (as would be expected of actors/pronouns (Witzlack-Makarevich & Seržant 2018: 11):

(10) *Kelabit*

**Context:** story about Dayang Beladan, a turtle who had her prized instrument stolen by a monkey. She now has her instrument back but has spotted the monkey again...

Nalap	[ <i>neh</i> ] <sub>topic</sub>	<b>pupu'</b>	
UV.PFV.fetch	3SG.GEN	hitting.implement	
'She [Dayang Beladan] fetched something to hit with'			

Nukab	[ <i>neh</i> ] <sub>topic</sub>	<b>bubpu'</b>	<b>daan</b>
UV.PFV.open	3SG.GEN	door	hut
'Opened the door to the hut'			

Nalap	[ <i>neh</i> ] <sub>topic</sub>	<b>dteh</b>	<b>kayuh</b>
UV.PFV.fetch	3SG.GEN	one	stick
'Picked up a piece of wood'			

Nulin	[ <i>neh</i> ] <sub>topic</sub>	<b>kuyad</b>	<b>sineh</b>
UV.PFV.throw	3SG.GEN	monkey	DEM
'And threw it at the monkey' (folk story, PDA10112013CH_01)			

- ❖ NOM actors in UV constructions mark a contrastively focused actor *and* an undergoer topic:<sup>2</sup>

(11) *Kelabit*

**Context:** discussing necklaces made by the speaker and the speaker's aunt. Pointing to a particular necklace on the table...

'I've known how to make necklaces since I was young, I used to string beads following a great aunt of mine [...] She would make bead caps in the past, of orange beads. I'd watch her doing it. Then I'd make my own orange bead cap'

- a. Kayu' inih, senuuk [u*ih*]<sub>focus</sub> **neh.**  
 Like DEM UV.PFV.string 1SG.NOM DEM  
 'Like this one, I strung that [pointing to the bead cap on the table].'

<sup>2</sup> The use of NOM actors in UV constructions was infrequent in the narrative corpus I analysed, containing six pear story retellings, five traditional folk stories and 3 news reports. It may be more common in conversational data.

(12) *Kelabit*  
 Setu'uh            neh,    nalap            [ieh]<sub>focus</sub>        **t=ieh**  
 actually            DEM    UV.PFV.take    3SG.NOM        PT=3SG  
 'But actually *he* took it'

- ❖ The link between NOM and contrastive focus, and GEN and topic status, is confirmed by looking at information structure diagnostic tests.
- ❖ In contexts where the actor is in focus (13), NOM is preferred. In contexts where the actor is a topic (14), GEN is preferred:

(13) *Kelabit Actor = Focus*

a. **Context: who saw him?**

Seni'er            [uih]<sub>focus</sub>        **t=ieh**  
 UV.PFV.saw    1SG.NOM        PT=3SG.NOM  
 'I saw him' (\*kuh)

b. **Context: fight over who hit some third person first...**

Pinupu'            [uih]<sub>focus</sub>        **t=ieh**            pu'un, am    dih    iko  
 UV.PFV.hit    1SG.NOM        PT=3SG.NOM    first    NEG    DEM    2SG.NOM  
 'I hit him first, not you' (i.e. you didn't hit him first) (\*kuh)

(14) *Kelabit Actor = Topic*

**Context:** Once upon a time there were two people. One was called Peter. One was called Paul. Peter ate a pineapple...

[Paul            kedieh]<sub>topic</sub>,    kinan            neh            **bua'    ebpuk**  
 Paul            3SG.EMPH    UV.PFV.eat    3SG.GEN        fruit    passion  
 'As for Paul, he ate the passion fruit' (\*ieh)

- ❖ Consequently, the use of NOM actors in UV is licensed by contrastive focus.
- ❖ This conforms to a common pattern of DIFFERENTIAL ACTOR MARKING cross-linguistically (Fauconnier 2011, Fauconnier & Verstraete 2014, McGregor 2010, Witzlack-Makarevich & Seržant 2018)
- ❖ Nonetheless, not all topics in Kelabit are GEN marked since subject pronouns are in NOM case.
- ❖ Moreover, the use of NOM actors in UV is not the only means of marking a contrastively focused actor – they can also be fronted in an AV construction:

(15) *Kelabit Contrasted Actor*

**Context:** 'If I don't hold up the ceiling, it will fall in, he said.'

**Actor Voice**

- a. Uih            teh            ne-ngimet    inih    keneh  
 1SG.NOM        PT            PFV-AV.hold    DEM    he.said  
 'I am the one holding this [the ceiling] up, he said (and not anyone else).'  
 (folk story, BAR17082014CH\_06)



- ❖ Thus there is no one-to-one link between form and information structure but a marked construction (NOM actor in UV) can be used as a strategy to convey a marked information structure reading.

## 5. Voice Construction

- ❖ A long-standing question among Austronesianists is what determines voice choice and whether this is linked to information structure (see Chen & McDonnell 2019 for an overview)
- ❖ In Kelabit, voice interacts with word order and differential marking since only subjects can appear pre-verbally and DAM is restricted to UV. Thus, information structure may determine voice choice if speakers wish to use marked constructions.
- ❖ However, it is not the case that voice (i.e. the mapping of arguments to functions) is determined by information structure or the role of the ‘subject’ as topic or focus.
- ❖ This is evident from the previous two sections, which showed that:
  - Different word orders within AV or UV can be associated with different focus-background partitions (see section 3)
  - Different case-forms within UV can be associated with different information structure roles for the non-privileged argument (see section 4).
- ❖ Nonetheless, it may be that the use of AV/UV is preferred in certain information structure contexts, as has been argued for other Western Austronesian languages (Latrouite & Riester 2018)
- ❖ To explore this, I used the unhappy rats translation task in which there are several short paragraphs for speakers to translate.
  - The first 6 paragraphs repeat the sentence ‘cats chase rats’ in different information structure contexts. In this case, actor and undergoer are both indefinite and generic.
  - The second 6 paragraphs repeat the sentence ‘my sister kicked my dog’ in different information structure contexts. In this case, the actor and undergoer are definite.
- ❖ Latrouite & Riester (2018) argue that information structural prominence is a key factor in voice choice in Tagalog. They define prominence as having a non-default mapping whereby the default for actors = topic, and the default for undergoers = focus. This leads to the following hypotheses:
  - If the undergoer has a non-default mapping (topic), UV is preferred
  - If actor has a non-default mapping (focus), AV is preferred
  - If both actor & undergoer have default mappings, voice choice is determined by other parameters (e.g. the definiteness of the undergoer)
  - If both actor & undergoer have non-default mappings, the focality of the actor appears to be more prominent and AV is preferred.
  - Non-default mappings may also be expressed using word order/ marked constructions rather than through voice choice alone.
- ❖ A similar case could be made for Kelabit...

Table 2. *Unhappy Rats Results (Generic Undergoer)*

Context	AV	UV
1. U = topic, V+A = new	5	1
2. U = topic, V = given, A = contrasted	2	4
3. A = topic, V+U = new	4	2
4. A+U = contrasted, V = given	5	1
5. All focus	5 <sup>3</sup>	0
6. A = topic, U = contrasted, V = given	5	1
	<b>26/35</b>	<b>9/35</b>

Table 3. *Unhappy Rats Results (Definite Undergoer)*

Context	AV	UV
1. U = topic, A+V = new	6	0
2. U = topic, A = contrasted	6	0
3. A = topic, V+U = new	1	5
4. All focus	6	0
5. A = topic, U = contrasted, V = given	1 <sup>4</sup>	4
6. A+U = topic, V = new	0	6
	<b>20/35</b>	<b>15/35</b>

- ❖ In contexts 1 & 2, both actor & undergoer have non-default mappings. The hypothesis from Tagalog was that this would prompt AV and this generally applies in Kelabit too:

(16) **Actor Voice**

Kineh           teh   kinanak           dedtur kudih   nemetey'   ieh  
 Like.that   PT   sibling           girl   1SG.POSS PFV.AV.kick   3SG.NOM  
 'My sister also kicked him'

- ❖ The exception is context 2 with the generic undergoer where a number of consultants chose UV constructions. However, in almost all of these, the contrasted actor is expressed as a hanging topic. This may represent the givenness of the undergoer and the contrasted status of the actor:

(17) **Undergoer Voice + Actor Hanging Topic**

Useyng           peh,   debpen           deh           teh   labo   i'eyk  
 cat               PT   UV.IRR.catch   3PL.GEN   PT   rat  
 'Cats, they also catch rats'

- ❖ In all focus contexts, e.g. 5 for generic undergoers and 4 for definite undergoers, where the actor has a non-default status, only AV constructions were used:

<sup>3</sup> One speaker forgot to translate this sentence in the paragraph

<sup>4</sup> One clause expressed using a non-voice marked verb.

(18) **Actor Voice**

Mey teh kinanak dedtur kudih nemetey' uku' kudih kail-kail  
and PT sibling girl 1SG.POSS PFV.AV.kick dog 1SG.POSS hard-REDUP  
'And my sister kicked my dog very badly'

- ❖ Similarly, in context 4 for generic undergoers where both actor & undergoer are new/contrasted and the verb is given, AV is the majority choice:

(19) **Actor Voice**

Useyng peh ngalo mey ngenep labo i'eyk  
cat PT AV.chase and AV.catch rat  
'Cats also chase and catch rats'

- ❖ In context 6 for definite undergoers, where the undergoer has a non-default mapping of topic, UV is used:

(20) **Undergoer Voice**

Kerepen neh teh ieh temidteh ih.  
UV.IRR.bite 3SG.GEN PT 3SG.NOM sometimes  
'He sometimes bites her'

- ❖ Finally, in contexts where both actor & undergoer have default mappings (e.g. contexts 3 & 6 for generic undergoers, and contexts 3 & 5 for definite undergoers) the choice of voice appears to depend to a certain extent on the definiteness of the undergoer.
- ❖ For generic undergoers, AV is the majority choice:

(21) **Actor Voice**

Useyng meto' ngalo mey ngenep labo nuk merar  
cat as.well AV.chase and AV.catch rat REL big  
'Cats also chase and catch big rats'

- ❖ For definite undergoers, UV is the majority choice:

(22) **Undergoer Voice**

Tu'en neh metey' teh uku' kudih  
UV.do 3SG.GEN AV.kick PT dog 1SG.POSS  
'She kicks my dog'

- ❖ Consequently, voice choice in Kelabit can be seen to follow similar patterns to Tagalog in that non-default mappings between semantic roles and information structure roles may prompt the selection of AV over UV.
- ❖ However, the study reaffirms that the information status of the privileged argument itself does not determine voice choice – in fact, much as in naturalistic corpora, UV constructions appear most frequently in the unhappy rats translation task in contexts where the actor is a topic, regardless of the status of the undergoer.

## 6. Conclusion

- ❖ Information structure can play a role in unexpected syntactic choices, e.g. verb-initial word order in AV, differential use of NOM in UV
- ❖ This shows that symmetrical voice languages can be affected by the same information structure considerations as ergative and accusative languages.
- ❖ However, there is no one-to-one correlation between word-order, case form, voice and information structure. Instead they combine and interact to express information in context.
- ❖ This supports treating symmetrical voice as a syntactic alternation in the mapping of arguments to functions, rather than an information-structurally driven alternation in the encoding of topic/focus.

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## References

- Chen, Victoria & Bradley McDonnell. 2019. Western Austronesian Voice. *Annual Review of Linguistics* 5, 173-195.
- Dalrymple, Mary & Irina Nikolaeva. 2011. *Objects and Information Structure*. Cambridge: Cambridge University Press.
- Erteschik-Shir, Nomi. 2007. *Information structure: The syntax-discourse interface*. Oxford: Oxford University Press.
- Fauconnier, Stefanie. 2011. Differential Agent Marking and animacy. *Lingua* 121(3), 533-547.
- Fauconnier, Stefanie & Jean-Christophe Verstraete. 2014. A and O as each other's mirror image? Problems with markedness reversal. *Linguistic Typology* 18(1), 3-49.
- Hemmings, Charlotte. 2019. "Documentation of the Kelabit Language, Sarawak, Malaysia." SOAS, Endangered Languages Archive. <https://elar.soas.ac.uk/Collection/MPI1029735>.
- Krifka, Manfred. 2008. Basic notions of information structure. *Acta Linguistica Hungarica* 55(3-4), 243-276.
- Kroeger, Paul R. 1998. Language Classification in Sarawak: A Status Report. *The Sarawak Museum Journal* 53(74), 137-173.
- Lambrecht, Knud. 1994. *Information Structure and Sentence Form: Topic, Focus, and the Mental Representations of Discourse Referents*. Cambridge: Cambridge University Press.
- Latrouite, Anja & Arndt Riester. 2018. The role of information structure for morphosyntactic choices in Tagalog. In Sonja Riesberg, Asako Shiohara & Atsuko Utsumi (eds.), *Information Structure in Austronesian Languages*. Berlin: Language Science Press.
- McGregor, William B. 2010. Optional ergative case marking systems in a typological-semiotic perspective. *Lingua* 120(7), 1610-1636.
- Mithun, Marianne. 1992. Is Basic Word Order Universal. In Doris L. Payne (ed.), *Pragmatics of Word Order Flexibility*, 15-61. Amsterdam: Benjamins.
- Riesberg, Sonja. 2014. *Symmetrical voice and linking in western Austronesian languages, Pacific Linguistics*. Berlin: De Gruyter Mouton.
- Van der Wal, Jenneke. 2016. Diagnosing focus. *Studies in Language* 40(2), 259-301.

Witzlack-Makarevich, Alena & Ilja A. Seržant. 2018. Differential argument marking: Patterns of variation. In Alena Witzlack-Makarevich & Ilja A. Seržant (eds.), *The Diachronic Typology of Differential Argument Marking*. Berlin: Language Science Press.

## Appendix

### Generic Undergoer

#### Context 1. Undergoer = Topic, Actor & Verb = New

*Rats live stressful and dangerous lives. The noise of the traffic makes them nervous and sick. Dogs chase them. And also cats catch and kill rats, when they get the chance.*

1. Useyng ih    peh,    ngenep            idih    ngatey teh=ideh    labo i'eyk  
 cat    DEF    PT    AV.catch    and    AV.kill PT=3PL.NOM    rat  
 'Cats, they also catch and kill rats' = **AV, VSO**
  
2. Beruh teh    useyng            ngenep            mey    ngatey labo    nih  
 also    PT    cat            AV.catch    and    AV.kill rat    DEM  
 'Cats also catch and kill rats' = **AV, SVO**
  
3. Kineh            teh    useyng            dih    ngenep            mey    kuman ideh  
 Like.that    PT    cat            DEM    AV.catch    and    AV.eat 3PL.NOM  
 'Cats also catch and kill them' = **AV, SVO**
  
4. Useyng            ngenep            labo i'eyk    mey    ngatey            deh  
 cat            AV.catch    rat            and    AV.kill            3PL.GEN  
 'Cats also catch and kill rats' = **AV, SVO**
  
5. Useyng            peh    ngatey            labo i'eyk  
 cat            PT    AV.kill            rat  
 'Cats also kill rats' = **AV, SVO**
  
6. Debpen            mey    petayen            useyng            teh    labo  
 UV.IRR.catch    and    UV.IRR.kill    cat            PT    rat  
 'Cats also catch and kill rats' = **UV, VOS**

#### Context 2. Undergoer = Topic, Actor = contrastively focused, Verb = Given

*It is not only wolves and foxes that threaten rats and catch them. Cats also catch rats and eat them afterwards.*

1. Useyng            peh    ngenep            labo i'eyk  
 cat            PT    AV.catch            rat  
 'Cats also catch rats' = **AV, SVO**
  
2. Useyng            peh    kereb    ngenep            labo i'eyk    nih  
 cat            PT    can    AV.catch            rat            DEM  
 'Cats also catch rats' = **AV, SVO**

3. Useyng      peh,    tu'en    deh                    ngenep      teh      labo i'eyk  
 cat            PT      UV.do   3PL.GEN            AV.catch    PT      rat  
 'Cats, they also catch rats' = **UV, VOS**

4. Useng peh,    tu'en    neh                    ngenep      labo i'eyk    dih  
 cat    PT      UV.do   3SG.GEN            AV.catch    rat            DEM  
 'Cats, they also catch rats' = **UV, VOS**

5. Useyng      peh,    debpen      deh                    teh      labo    i'eyk  
 cat            PT      UV.IRR.catch   3PL.GEN            PT      rat  
 'Cats, they also catch rats' = **UV, VOS**

6. Debpen      useng    teh      labo  
 UV.IRR.catch   cat    PT      rat  
 'Cats also catch rats' = **UV, VOS**

**Context 3. Actor = Topic, Verb & Undergoer = New/focused**

*Cats are silly creatures with nothing but nonsense on their minds. They climb up on curtains, they bring home mice. Cats also chase and catch big rats, when they are in the mood. Who wants to have a big rat in their house?*

1. Useyng      peh      ngalo                    mey    ngenep      labo ruma'    nuk  
 cat            PT      AV.chase            and    AV.catch    rat            REL  
  
 merar      ih  
 big        DEF  
 'Cats also chase and catch big rats' = **AV, SVO**

2. Useyng      meto'                    ngalo                    mey    ngenep      labo nuk    merar  
 cat            as.well                    AV.chase            and    AV.catch    rat    REL    big  
 'Cats also chase and catch big rats'

3. Kineh      t=ideh                    metanur                    mey    ngenep      labo i'eyk  
 Like.that    PT=3PL.NOM            AV.chase            and    AV.catch    rat  
  
 nuk        merar    dih  
 REL        big      DEM  
 'Cats also chase and catch big rats' = **AV, SVO**

4. Useyng      peh,    tu'en    deh      metanur      teh      labo i'eyk    nuk merar  
 cat            PT      UV.do   3PL.GEN    AV.chase    PT      rat            REL big  
 'Cats also chase and catch big rats' = **UV, VOS**

5. Kereb      teh      ideh                      ngenep              labo i'eyk      nuk      merar  
 can          PT      3PL.NOM          AV.catch          rat              REL      big  
 'They can catch big rats' = **AV, SVO**

6. Tu'en      useyng ngalo      mey debpen              neh      teh      labo      nuk merar  
 UV.do      cat      AV.chase and      UV.IRR.catch      3SG.GEN PT      rat      REL      big  
 'Cats also chase and catch big rats' **UV, VOS**

**Context 4. Actor & Undergoer = contrasted, Verb = given**

*Life in the wilderness is pretty cruel. Lions chase and catch antelopes, sharks catch tunafish and happen to get caught and killed by humans themselves. Even here in the city these cruel laws of nature can be observed. (Our domestic) cats also chase and catch rats, and some also bring them home to continue playing with the bleeding creature.*

1. Useyng      peh      ngalo              mey      ngenep              labo i'eyk  
 cat              PT      AV.chase          and      AV.catch          rat  
 'Cats also chase and catch rats' **AV, SVO**

2. Useyng      nuk      aya'      tauh      nih, ideh              ngenep              labo i'eyk  
 cat              REL      pet      1PL.INCL DEM 3PL.NOM          AV.catch          rat  
 'Our domestic cats also catch rats', **AV, SVO**

3. Useyng      ineh      metanur              mey      ngenep              labo i'eyk  
 cat              DEM      AV.chase          and      AV.catch          rat  
 'cats also chase and catch rats', **AV, SVO**

4. Useyng      metanur              labo i'eyk  
 cat              AV.chase          rat  
 'Cats chase rats' **AV, SVO**

5. Useyng      peh      metanur              labo i'ek  
 cat              PT      AV.chase          rat  
 'cats also chase rats' **AV, SVO**

6. Tu'en useyng              ngalo              mey      debpen              neh              labo  
 UV.do cat              AV.chase          and      UV.IRR.catch      3SG.GEN          rat  
 'cats chase and catch rats', **UV, VOS**

**Context 5. All focus**

*When I look out of the window, I see only unhappiness and violence. Dogs chase hens and make them lose their feathers. Old bitter women scream at children and make them cry. And also (our domestic) cats catch and kill innocent rats, when no one is looking*

1. useyng              ngenep              mey      ngatey labo i'eyk      nuk      doo'      udeng  
 cat              AV.catch          and      AV.kill rat              REL      good      stay  
 'cats catch and kill innocent rats' **AV, SVO**

2. Kineh           teh     useyng           ngenep           medting           ngatey labo i'eyk  
Like.that       PT     cat                AV.catch         until             AV.kill rat

nuk    na'am kudeh-kudeh nih  
REL   NEG   how-REDUP   DEM  
'Cats also catch and kill innocent rats', **AV, SVO**

3. Kineh           teh     useyng           ngenep           mey   ngatey labo i'eyk  
Like.that       PT     cat                AV.catch         and     AV.kill rat

nuk    na'am inan   sala'   ineh  
REL   NEG   EXIST   wrong   DEM  
'cats also catch and kill innocent rats' **AV, SVO**

4. Useyng           peh     ngenep           idih   ngatey labo i'eyk     nuk   doo' udeng  
cat                PT     AV.catch         and   AV.kill rat           REL   good stay  
'Cats also catch and kill innocent rats' **SV, SVO**

5. Meto' ieh                   ngenep           mey   ngatey labo i'eyk     nuk   doo' udeng  
Also   3sg.nom         av.catch         and   av.kill rat           rel   good stay  
'He/she also catches and kills innocent rats' **AV, SVO**

**Context 6. Actor = topic, Undergoer = contrasted, Verb = given**

*Cats are so aggressive. They chase squirrels. They chase birds. Some even chase dogs. I also heard that cats were seen chasing a small kangaroo in Australia. They also chase rats, of course. But that is good.*

1. Ideh            peh     ngalo           labo i'eyk     meto'  
3PL.NOM       PT     AV.chase       rat             also  
'They also chase rats' **AV, SVO**

2. Ngalo           t=ideh           labo i'eyk     meto'  
AV.chase       PT=3PL.NOM   rat             as.well  
'They also chase rats', **AV, VSO**

3. Kineh           t=ideh           metanur       labo i'eyk  
Like.that       PT=3PL.NOM   AV.chase       rat  
'They also chase rats' **AV, SVO**

4. Doo'   meto'           ngalo           deh           labo i'eyk  
good   as.well         AV.chase       3PL.GEN       rat  
'They also chase rats' **AV, VSO**

5. Tu'en   deh           metanur       ayu'   teh     labo i'eyk  
UV.do   3PL.GEN         AV.chase       EMPH   PT     rat  
'They also chase rats' **UV, VOS**

6. Ngalo           teh     ideh           labo   meto'  
AV.chase       PT     3PL.NOM       rat   as.well  
'They also chase rats' **AV, VSO**



*Definite Undergoer*

**Context 1. Undergoer = topic, Verb & Actor = new**

*My dog is the poorest dog in the world. He got abandoned as a puppy and almost starved. He got into an accident and lost a leg. Once an eagle attacked him. That is why there is a scar between his eyes. Also my sister kicked him so hard, when she was young, that he lost all trust in human beings.*

1. Kineh meto' suk kinanak kudih nemetey' ieh kail-kail  
Like.that as.well REL sibling 1SG.POSS PFV.AV.kick 3SG.NOM hard-REDUP  
'My sister also kicked him really hard' **AV, SVO**
2. Kineh teh kinanak dedtur kudih nemetey' ieh  
Like.that PT sibling girl 1SG.POSS PFV.AV.kick 3SG.NOM  
'My sister also kicked him' **AV, SVO**
3. Kineh teh kinanak dedtur kudih nemetey' ieh ma'it-ma'it  
Like.that PT sibling girl 1SG.POSS PFV.AV.kick 3SG.NOM hurt-REDUP  
'My sister also kicked him badly' **AV, SVO**
4. Ieh nemetey' uku' nih kail-kail  
3SG.NOM PFV.AV.kick dog DEM hard-REDUP  
'She kicked the dog hard' **AV, SVO**
5. Meto' kinanak dedtur kudih nemetey' ieh kail-kail  
as.well sibling girl 1SG.POSS PFV.AV.kick 3SG.NOM hard-REDUP  
'My sister kicked him hard' **AV, SVO**
6. kinanak kudih suk dedtur nemetey' ieh ma'it-ma'it  
sibling 1SG.POSS REL girl PFV.AV.kick 3SG.NOM hurt-REDUP  
'My sister kicked him badly' **AV, SVO**

**Context 2. Undergoer = topic, Actor = contrasted, Verb = given**

*No-one likes my dog. The neighbor is afraid of him. My siblings think he is too ugly to be caressed and kick him regularly. To be honest, my best friend has also kicked my dog more than once. He also abhors this cute little dog*

1. ruyud kudih suk leng-leng muneng ngekuh pengeh  
friend 1SG.POSS REL very-REDUP close to.me already  
  
nemetey' uku' kudih murih let ngen edteh ruka  
PFV.AV.kick dog 1SG.POSS often from with one time  
'My best friend has also kicked my dog more than once' **AV, SVO**
2. lun ruyung kudih peh murih ruka teh nemetey' ieh  
friend 1SG.POSS PT often time PT PFV.AV.kick 3SG.NOM  
'My friend also kicked him many times' **AV, SVO**

3. rurum kudih suk eleng muneng ngekuh peh nemetey' ieh  
 friend 1SG.POSS REL very close to.me PT PFV.AV.kick 3SG.NOM

mintuda' ruka  
 several time

'My best friend also kicked him several times' **AV, SVO**

4. Kawan kudih suk leng doo' peh tuda' ruka meto' ieh  
 friend 1SG.POSS REL very good PT several time as.well 3SG.NOM

nemetey' uku' kudih  
 PFV.AV.kick dog 1SG.POSS

'My best friend also kicked my dog several times' **AV, SVO**

5. Ruyud kudih suk leng-leng doo' ngekuh peh  
 friend 1SG.POSS REL very-REDUP good to.me PT

nemetey' uku' kudih tuda' ruka  
 PFV.AV.kick dog 1SG.POSS several time

'My best friend also kicked my dog several times' **AV, SVO**

6. edteh lun ruyung kuh eleng-eleng maley ngekuh,  
 one friend 1SG.GEN very-REDUP used to.me

pengeh teh ieh nemetey' uku' kudih lem tuda' ruka  
 already PT 3SG.NOM PFV.AV.kick dog 1SG.POSS in several time

'a best friend of mine, he already kicked my dog many times' **AV, SVO**

### Context 3. Actor = topic, Verb & Undergoer = new

*My sister is so mean. She must be the meanest person in the world. She tricks people whenever she can. She steals money. She even stole my sister's money once. She also kicks my dog, whenever she feels like it.*

1. Tu'en neh metey' teh uku' kudih  
 UV.do 3SG.GEN AV.kick PT dog 1SG.POSS  
 'She kicks my dog' **UV, VOS**

2. Tu'en neh metey' teh uku' kudih  
 UV.do 3SG.GEN AV.kick PT dog 1SG.POSS  
 'She kicks my dog' **UV, VOS**

3. Tu'en neh metey' teh uku' kudih  
 UV.do 3SG.GEN AV.kick PT dog 1SG.POSS  
 'She kicks my dog' **UV, VOS**

4. Tu'en metey' teh uku' kudih  
 UV.do AV.kick PT dog 1SG.POSS  
 'She kicks my dog' **UV, VOS**
5. Tu'en neh metey' teh uku' kudih kidih-kidih  
 UV.do 3SG.GEN AV.kick PT dog 1SG.POSS always  
 'She always kicks my dog' **UV, VOS**
6. Murih teh ieh metey' uku' kudih.  
 often PT 3SG.NOM AV.kick dog 1SG.POSS  
 'She often kicks my dog' **AV, SVO**

#### **Context 4. All focus**

*People are so aggressive these days. Take yesterday, someone drilled a hole into a car to steal gasoline. Then someone pushed away the neighbour's kid so that he almost fell in front of a car. Also my sister kicked my dog very badly. The poor little guy cannot walk properly anymore.*

1. Kinanak detur kudih nemetey' uku' kudih ngen padan kereb.  
 Sibling girl 1SG.POSS PFV.AV.kick dog 1SG.POSS with strength  
 'My sister kicked my dog very badly' **AV, SVO**
2. Mey teh kinanak dedtur kudih nemetey' uku' kudih kail-kail  
 And PT sibling girl 1SG.POSS PFV.AV.kick dog 1SG.POSS hard-REDUP  
 'And my sister kicked my dog very badly' **AV, SVO**
3. Kineh teh kinanak dedtur kudih nemetey' uku' kudih bura'-bura'  
 Like.that PT sibling girl 1SG.POSS PFV.AV.kick dog 1SG.POSS wound-REDUP  
 'And my sister kicked my dog very badly' **AV, SVO**
4. Kineh teh kinanak dedtur kudih metey' uku' kudih pereg-pereg  
 Like.that PT sibling girl 1SG.POSS AV.kick dog 1SG.POSS bad-REDUP  
 'And my sister kicked my dog very badly' **AV, SVO**
5. Meto' kinanak dedtur kudih nemetey' uku' kudih kail-kail  
 as.well sibling girl 1SG.POSS PFV.AV.kick dog 1SG.POSS hard-REDUP  
 'And my sister kicked my dog very badly' **AV, SVO**
6. Pengeh teh kinanak kudih nemetey' uku' kudih kail-kail.  
 Already PT sibling 1SG.POSS PFV.AV.kick dog 1SG.POSS hard-REDUP  
 'My sister already kicked my dog very badly' **AV, SVO**

#### **Context 5. Actor = topic, Undergoer = contrasted, Verb = given**

*It is not only birds and cats that my sister hates and kicks when she gets a chance. She also kicks my dog.*

1. Tu'en neh                    metey'                    meto' uku'    kudih  
 UV.do 3SG.GEN            AV.kick            as.well dog    1SG.POSS  
 'She also kicks my dog' **UV, VOS**
  
2. Tu'en neh                    metey'                    teh    uku'    kudih            meto'  
 UV.do 3SG.GEN            AV.kick            PT    dog    1SG.POSS        as.well  
 'She also kicks my dog' **UV, VOS**
  
3. Murih t=ieh                    metey'                    uku'    kudih            meto'  
 often PT=3SG.NOM        AV.kick            dog    1SG.POSS        as.well  
 'She often kicks my dog as well' **AV, SVO**
  
4. Tu'en neh                    metey'                    teh    uku'    kudih            beruh.  
 UV.do 3SG.GEN            AV.kick            PT    dog    1SG.POSS        also  
 'She also kicks my dog' **UV, VOS**
  
5. Kineh                    teh    taru'                    neh                    uku'    kudih.  
 Like.that            PT    do.root                    3SG.GEN            dog    1SG.POSS  
 'She does the same to my dog' **no voice**
  
6. Tu'en neh                    metey'                    teh    duih                    uku'    dih    meto'  
 UV.do 3SG.GEN            AV.kick            PT    1SG.POSS            dog    DEM    as.well  
 'She also kicks my dog' **UV, VOS**

**Context 6. Actor & Undergoer = topic, Verb = new**

*My sister and my dog do not really get along. My dog barks at my sister. He also bites her sometimes.*

1. Kerepen                    neh                    teh    ieh                    temidteh ih.  
 UV.IRR.bite    3SG.GEN            PT    3SG.NOM            sometimes  
 'He sometimes bites her' **UV, VOS**
  
2. Temidteh                    dih    tu'en neh                    ngerep teh    ieh                    meto'  
 sometimes        DEM    UV.do 3SG.GEN            AV.bite PT    3SG.NOM            as.well  
 'Sometimes he also bites her' **UV, VOS**
  
3. Temidteh                    dih    tu'en neh                    ngerep                    t=ieh.  
 sometimes        DEM    UV.do 3SG.GEN            AV.bite                    PT=3SG.NOM  
 'Sometimes he bites her' **UV, VOS**
  
4. Tu'en neh                    ngetep                    t=ieh                    temidteh ih.  
 UV.do 3SG.GEN            AV.bite                    PT=3SG.NOM        sometimes  
 'He bites her sometimes' **UV, VOS**
  
5. Temidteh                    dih    tu'en neh                    ngerep                    teh    kinanak    kudih  
 sometimes        DEM    UV.do 3SG.GEN            AV.bite                    PT    sibling    1SG.POSS  
 'Sometimes he bites my sister' **UV, VOS**

6. Temidteh     dih     ketebpen     uku'     kudih     teh     suk     kinanak     dedtur     kudih.  
sometimes     DEM     UV.IRR.bite     dog     1SG.POSS     PT REL     sibling     girl     1SG.POSS  
'Sometimes my dog bites my sister' **UV, VOS**