

Western Austronesian Applicative Constructions

*Continuity and Change
in Form and Meaning*

Christina L. Truong

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Western Austronesian Applicative Constructions

Endangered and Lesser-Studied Languages and Dialects

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By

Christina L. Truong



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Abbreviations

I, II, III	denotes inclusion in sets of pronominal forms
1	first person
2	second person
3	third person
A	most agent-like argument of transitive clause
ABIL	abilitative
ABS	absolutive
AC	applicative constructive
ACC	accidental or unexpected
ADDR	addressee role
ADVZ	adverbializer
AGT	agent role
AM	applicative morpheme
APPL	applicative
APASS	antipassive
AppP	applied phrase
AV	voice in which A is the privileged syntactic argument
BC	base construction
BEN	benefactive, beneficiary role
BV	beneficiary voice
CAUS	causative
C	consonant
CIRC	circumstantial role, e.g. reason or purpose
CL	classifier
CMPL	completive
CN	common noun
CONT	content role
COM	comitative role
COMP	comparative
CORE	core argument
CN	common noun
CSR	causer role
CV	circumstantial voice
DAT	dative
DEF	definite
DEIC	deictic marker
DEM	demonstrative

DIR	directional
DIST	distal
DISTR	distributive
DV	dative voice
EMPH	emphatic
EXCL	exclusive
EXPR	experiencer role
FAM	familiar
GEN	genitive
GER	gerund
GOAL	goal role
HON	honorific
HORT	hortative
ICP	incompletive
IMP	imperative
INCL	inclusive
INST	instrumental, instrument role
INTENS	intensive
INTR	intransitive
IRR	irrealis
IV	instrumental voice
LNK	linker
LOC	locative, location role
LV	locative voice
MED	medial
NEG	negative
NM	noun marker
NMLZ	nominalizer
NOM	nominative
NP	noun phrase
NPST	non-past tense
NPIV	non-pivot core argument
NRLS	non-realis
NVOL	non-voluntary
OBJ	object
OBL	oblique
P	patient-like argument of transitive clause
PA	personal article
PAN	Proto Austronesian
PART	participial

PASS	passive
PAT	patient role
PERF	performance role
PFV	perfective
PFX	prefix
PL	plural
PLUR	pluractional
PIV	pivot argument
PMP	Proto Malayo-Polynesian
PN	personal name marker
POL	polite
POSS	possessive
POT	potentive
PP	prepositional phrase
PRED	predicative
PREP	preposition
PROG	progressive aspect
PRON	pronominal marker
PROX	proximal
PRT	particle
PST	past tense
PUNCT	punctiliar aspect
PV	voice in which P is the privileged syntactic argument
R	recipient-like argument of a ditransitive clause
REAS	reason role
RV	referent voice
RDP	reduplication
REL	relativizer
RLS	realis
S	single core argument of an intransitive clause
SEQ	sequential
SF	stem former
SG	singular
s.o.	someone
s.t.	something
STIM	stimulus role
STR	semi-transitive
SUBJ	subject
s.w.	somewhere
T	theme-like argument of a ditransitive clause

TAM	tense, aspect, modality
THM	theme role
TR	transitive
TV	theme voice
V	verb; vowel
VERB	verb marker

Introduction

1.1 What Are Applicatives?

The term applicative, as used in this study, refers to a clausal construction in which overt morphology on the verb or verbal complex coincides with the selection of a peripheral semantic role, such as a beneficiary, goal, or instrument, as a core clausal argument.

An example of an applicative construction (AC) from Sundanese is given in (1).¹ For comparison, a base construction (BC), or example with no applicative marking, is also shown. Sundanese is the principal language spoken in West Java, Indonesia.

- (1) Sundanese, Beneficiary-selecting applicative
- a. *Asep m-(b)awa sangu keur Lilis.*
 A. AV-bring cooked.rice for L.
 ‘Asep brought food for Lilis.’ (BC) (CT1-025)
- b. *Asep m-(p)ang-mawa-keun Lilis sangu.*
 A. AV-BEN.APPL-bring-BEN.APPL L. cooked.rice
 ‘Asep brought food for Lilis.’ (AC) (CT1-043)

One reason that ACs have been noticed, both by analysts and speakers alike, is that pairs of clausal constructions are observed in language, for which the lexical verb used is the same in both, but the presence of a particular morpheme co-varies with selection of a non-agent, non-patient role as a core argument. Such a pair of constructions is found in the relationship between (1a) and (1b), which differ in the presence of the circumfix *pang-* *-keun*. When the circumfix is absent as in (1a), a beneficiary participant, if expressed, must be realized as a prepositional phrase, e.g. *keur Lilis* ‘for Lilis’. When the circumfix is present as in (1b), the beneficiary participant may be realized as a bare NP, e.g. *Lilis*

1 For the sake of clarity, in glossed examples, initial stem consonants which are opaque due to morphophonological processes have been included in parentheses, as in *m-(b)awa* ‘to bring, to carry, AV’ in (1), which is pronounced [mawa], and is formed on the stem *bawa*. Further details are given in §2.2.1.

‘personal name’. Here, the bare NP beneficiary phrase represents a core clausal argument, meaning that (1b) is an example of an AC, and *pang-* *-keun* is an applicative morpheme (AM).

In this study, I seek to understand the nature of applicatives in the Austronesian languages of western Indonesia, Malaysia, Brunei, and Singapore—a region that I refer to as West Nusantara—and adjacent areas of the Philippines and mainland Southeast Asia. In many of these languages, the applicative alternations signaled by this type of verbal morphology—as well as causative, aspectual, and semantic alternations signaled by the same morphemes—are a foundational and distinctive property that shape and color the use of verbs throughout the entire language.

In the remainder of this introductory chapter, I describe the rationale and goals of the study (§ 1.2), the background of the study and sources of data used (§ 1.3), the scope of the study (§ 1.4), previous research on applicatives in West Nusantara languages (§ 1.5), the framework and assumptions I have adopted, including the definition of applicatives used (§ 1.6), and the organization of the book (§ 1.7).

1.2 Why Study Applicatives in Languages of West Nusantara?

The primary aims of this study are to understand the applicative systems of West Nusantara in cross-linguistic typological context, but also especially, to understand them on their own terms, in the context of the diachronic and synchronic systems of language in which they developed and are used. In this section, I outline some key reasons that applicatives in these languages deserve deeper investigation, and the motivations that shape the goals of this study.

To begin with, applicatives are a prominent feature in the grammatical systems of a large number of languages of West Nusantara, a linguistically diverse region in which over 300 languages are spoken. The languages indigenous to West Nusantara are genetically related, belonging to different subbranches of the Malayo-Polynesian branch of Austronesian languages, and by virtue of their geographic location, may be referred to as western Austronesian languages.

Two important properties of applicatives in these languages have proved problematic for previous approaches in the linguistic literature. First, the morphology that marks ACs in these languages is highly polyfunctional, yet the associated functions or meanings, e.g. applicativization, causativization, aspectual meanings, and so on, are far from discrete, but instead interconnected. Second, the distribution of these functions or meanings, and the forms of argument structure by which they are expressed, show a complex and varied

distribution—across lexical stems, across clausal types, and across AM forms, when multiple are available in a given language. This distribution is difficult or nigh impossible to predict or describe by rule, yet competent speakers of these languages clearly have internalized the patterns—both those which are generalizable and those which are highly specific—that give rise to this observed distribution. Furthermore, across the languages of West Nusantara, the forms of AMs and the properties of constructions marked with them show both a good degree of commonality and a range of diversity. Thus, for applicatives in these languages, there remains a need to (i) describe their range of functional and formal properties, (ii) investigate the distribution of these properties within and across languages, and (iii) explain how this distribution might have come to be. As such, examination of applicatives in West Nusantara languages represents an interesting test-case demonstrating the evolution of grammatical systems in a group of related languages.

Besides this, the diversity of ACs in these languages is not well-accounted for in large-scale typological studies of applicatives. Most broad cross-linguistic studies of applicatives include discussion of only a handful of languages of West Nusantara, and only limited types of data from these languages. While these constructions may be likened to similar phenomena in other language families, due to the polyfunctional nature of the morphemes that mark them, and their relationship with symmetrical voice alternations—a unique type of grammatical voice system found in many western Austronesian languages—they do not fit neatly into patterns considered typical or canonical for applicatives in the wider typological literature. Thus, study of the complexity and diversity of ACs in West Nusantara languages can enrich our understanding of applicatives as a cross-linguistic phenomenon, and help to build an adequately descriptive, nuanced, and representative typology of what these constructions are, and how they may come to be.

To address these issues, this study is designed with a number of specific objectives in mind. First, I seek to broaden and deepen available description of the diversity of applicatives in West Nusantara languages. For this reason, I include data from a large number of languages—with 85 languages represented in the largest samples—using both original data and existing sources. Second, I seek to clearly articulate the place of western Austronesian applicatives in broader cross-linguistic typological context. Throughout the book, I will compare findings about West Nusantara languages to previous studies on applicatives in functional and typological linguistics, noting areas where previous work should be expanded or revised. Third, I seek to capture the diversity and commonality of properties of ACs and the AMs that mark them in these languages, including their polyfunctional nature. To this end, I adopt

a constructional approach, whereby AM-marked constructions are treated as conventionalized pairings of a fixed form and consistent meaning, which may be organized into networks of related constructions with diverse properties. Lastly, throughout the study, both geographic and typological factors are considered in interpreting patterns of distribution in linguistic data, including how these factors may contribute to the retention of earlier features with continuity, or create conditions that give rise to diachronic change.

1.3 Background and Sources of Data

This study began as a project for a two-semester series of courses on Field Methods in Linguistics at UH Mānoa in Fall 2018 and Spring 2019. At that time, I met Dewi Setiani, a native speaker of Sundanese and graduate student in the Department of Education. I began working with Dewi to describe the verbal system of Sundanese, starting with spoken narrative texts recorded with Dewi by my classmates and I, and with a particular interest in applicative alternations.

Following this, I began compiling a database of languages of western Indonesia that show causative and applicative alternations with my doctoral advisor, Dr. Bradley McDonnell. This led to a number of small scale studies of applicatives in western Indonesian languages (e.g. Truong & McDonnell 2022, McDonnell & Truong 2024a). These projects revealed ways in which applicatives in these languages have been inadequately represented in the typological literature (see Pacchiarotti & Zuñiga 2022, and further discussion in Chapter 3).

Not long afterwards, I put on hold some prior plans to conduct fieldwork in Southeast Asia, and in-person research activities were curtailed due to the COVID-19 pandemic. In May 2021, Dewi and I began working together again, by which point she had graduated and returned to Bandung, Indonesia. We met remotely via video call for elicitation and annotation of original and published Sundanese language materials. She also made some new recordings in Bandung with herself as a speaker, and when safe, with a few other speakers. I also began work on an expanded database of languages of West Nusantara and their AM-marked constructions based on existing corpora, descriptive research, and pedagogical resources. The initial data collection in 2021 was funded by a Pre-dissertation Research Award from the Bilinski Educational Foundation. Other data compilation, analysis, and the writing of my dissertation were funded by a generous Bilinski Dissertation Fellowship. Some parts of the database were compiled based on personal fieldnotes from Bradley McDonnell including data provided by Khairunnisa for Ampenan Sasak, Hendi Feriza for Besemah (South

Barisan Malay), and Johan Safri and Wawan Sahrozi for Nasal. Together, these sources of data constitute the basis for this study.

1.4 Scope of the Study

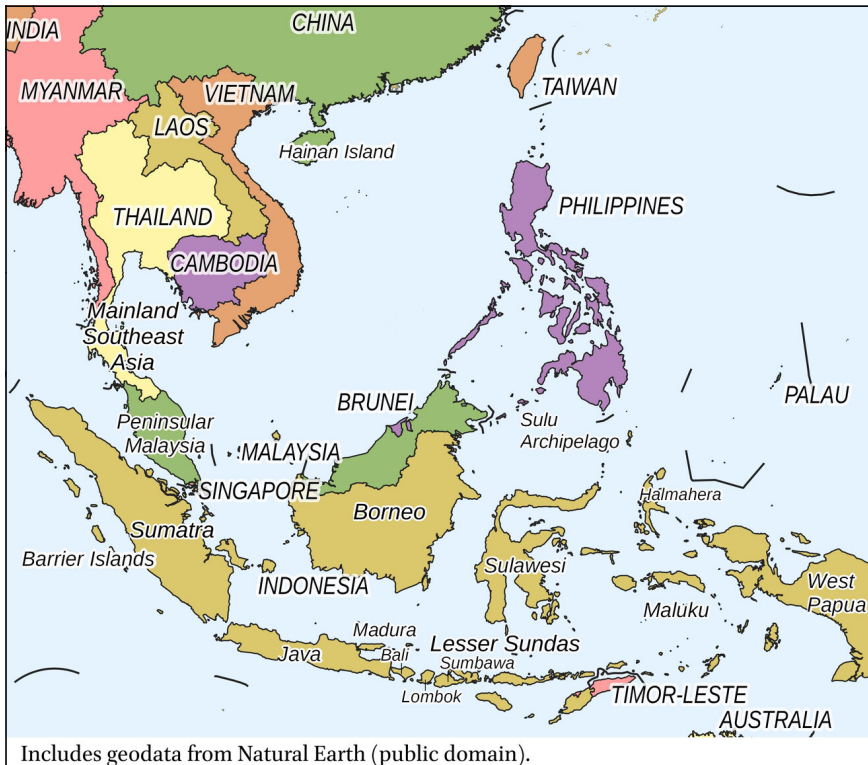
This study is focused the Austronesian languages of the West Nusantara region and those languages spoken outside of this region that are most closely related to these by way of exclusive subgrouping. The justification of this focus within the Austronesian family is described in the remainder of this section.

Because B. Evans (2003) has already conducted a comprehensive cross-linguistic study of applicatives in Oceanic languages, which make up nearly all of the 450 or so Austronesian languages of the Pacific, I leave those aside in favor of the Austronesian languages of Asia and Madagascar. These still number more than 700, which is impractical for deeper study. Among these, applicatives have been associated in particular by some authors with symmetrical voice languages of western Indonesia (Sumatra, Java, Kalimantan, and Bali) and central Sulawesi (Himmelman 2005: 175). This region is known to be rich with applicatives, and thus forms a solid center for this study, though I have chosen to apply slightly broader geographic and genetic criteria.

Geographically, I include in this study Peninsular Malaysia, Singapore, Brunei, Sumatra, the Barrier Islands, Borneo, Sulawesi, Java, Madura, Bali, Lombok, and Sumbawa (see Map 1). The languages of this region have sometimes been referred to in the literature as western Indonesian languages but I find that this term unnecessarily excludes Malaysia, Singapore, and Brunei. Thus, I use the term *West Nusantara* to refer to this geographic area and *the languages of West Nusantara* to refer to the Austronesian languages spoken therein.² The languages of West Nusantara may be considered a subset of the western Austronesian languages. Following Himmelman (2002), the term *western Austronesian*, as used in the title of this study, is “a cover term for all Austronesian languages spoken in Taiwan, the Philippines, mainland Southeast Asia, western Indonesia (Sulawesi and all islands to the west of it), Borneo and Madagascar, and also including Palauan and Chamorro” (7).³ Using West Nusantara as a geographic

2 Nusantara is a term referring to “the Indo-Malaysian archipelago, generally, without respect to national borders” (Klamer & Ewing 2010: 1). See also Pappas (2022: 4), who defines West Nusantara as “the region of Austronesian languages west of the Wallis line outside of the Philippines.”

3 This is a geographic designation rather than a genetic subgroup, and also should not be confused with the previously proposed subgroup called Western Malayo-Polynesian.



MAP 1 Map of Southeast Asia

focus allows for inclusion of a sizable number of the western Austronesian languages that are most likely to be rich in applicatives, while limiting the scope of the study for practical reasons.

It also makes sense to include languages reflecting an exclusively shared period of common development, even if some of these are presently spoken outside of West Nusantara due to historical migration. Thus I include all languages belonging to genetic affiliations within Malayo-Polynesian known to originate in West Nusantara. First, I include three well-defined higher-level subgroups primarily located in West Nusantara: Northwest Sumatra-Barrier Islands, including Gayo and Enggano (see Nothofer 1986);⁴ Celebic, including Tolitoli (see Mead 2003); and South Sulawesi (see Mills 1975; Adelaar 1994). Second, I include the Malayo-Chamic languages, which are broadly distributed

4 In recent work, Billings & McDonnell (2024) propose that Nasal, Enggano, and Gayo should be classified together with the Batak and Barrier Islands languages in an exclusive subgroup called Sumatran.

across West Nusantara and parts of mainland Southeast Asia. Third, I include all other lower-level subgroups representing non-Malayic indigenous Austronesian languages of Borneo (e.g. Land Dayak, the Greater Barito linkage, North Sarawakan, Sabahan, Melanau-Kajang, among others), Sumatra (i.e. Rejang, Lampungic, Nasal) and Java and the lesser Sundas as far east as Lombok (i.e. Javanese, Sundanese, Madurese, Bali-Sasak-Sumbawa). Finally, I exclude Moklen-Moken, Chamorro, and Palauan. These languages have been proposed to originate in Indonesia or the Philippines, but their genetic position within Malayo-Polynesian and migration history remain quite unclear.⁵ Altogether, the languages defined here number more than 300 in total (Eberhard, Simons & Fennig 2021) and include a degree of typological diversity, while being centered on West Nusantara.

1.5 Previous Research on Applicatives in West Nusantara Languages

In this study, I aim to more closely investigate applicatives in the languages of West Nusantara than has been done thus far in existing literature. In other language families, studies detailing the functions and properties of ACs and their non-canonical counterparts are found in increasing numbers and an increasingly wide range of languages (e.g. Bantu: Pacchiarotti 2020, Abkhaz-Adyge: O'Herin 2001, Salishan: Kiyosawa 2006, among others, see also § 3.2). In contrast, only a few languages of West Nusantara and limited types of data are frequently represented in broad cross-linguistic surveys of applicatives (e.g. Polinsky 2013; Peterson 2007) and in article-length investigations of applicatives (see below).

The languages of West Nusantara in which applicatives have received more attention include Indonesian (Dardjowidjojo 1971, 1974; Chung 1976; Kaswanti 1995, 1997; Arka 1993, 2009; Cole & Son 2004; Kroeger 2007), *Tukang Besi* (Donohue 1999, 2001), Javanese (Hemmings 2013; Nurhayani 2014; Vander Klok & Evans 2022), and to a lesser extent Balinese (Austin 2001; Arka 2003) and Totoli (Himmelman & Riesberg 2013; Riesberg 2014b). A few authors have also written on the historical development of certain morphemes with applicative functions in particular languages or subgroups found in West Nusantara (e.g. Beratha 1992 for Balinese, Mead 1998 for Bungku-Tolaki, Adelaar 2011 for Javanese). Some have also written on the development of AMs in rela-

5 See Smith (2017), which classifies each of these three as a separate primary branch of Malayo-Polynesian.

tion to proposed historical reconstruction or subgrouping at higher levels (e.g. Starosta, Pawley & Reid 1982; Sirk 1996; Ross 2002; Peterson 2007; Kikusawa 2012), though the data from languages of West Nusantara considered in such studies is not particularly detailed. On the whole, review of the literature on applicatives in West Nusantara languages reveals a number of significant gaps.

First, though grammatical descriptions of many individual languages of West Nusantara include verbal morphology with applicative functions, most of these languages have not been represented in any depth in typological studies of applicatives. Some examples include Toba Batak (van der Tuuk 1971 [1864–1867]), Karo Batak (Woollams 1996), Nias (Brown 2001), South Barisan Malay (McDonnell 2016), Kendayan (Salako) (Adelaar 2005b), West Coast Bajau (Miller 2007), Sundanese (Hanafi 1997), Betawi (Ikranagara 1975), Madurese (Davies 2010), Pendau (Quick 2007), Wolio (Anceaux 1952) and many more. Some new work on applicatives is becoming available, which is a promising sign (see e.g. Aznar, Döhler & Vander Klok 2023). Still, the extent to which the properties of ACs are similar across West Nusantara languages is not at all clear; in fact even closely-related languages or dialects may show differences in their inventory of AMs and distribution of functions, e.g. Ampenan Sasak (Truong & McDonnell 2022) as compared to Ngenó-Ngené Sasak (Austin 2001). Thus, data from a broader group of West Nusantara languages should be represented in an adequate typology of ACs.

Second, the range of syntactic properties found for arguments in ACs is not adequately represented in the existing literature. There is reason to believe that within individual languages, variance in the structural properties of ACs formed with the same stems might well be under-reported (Truong & McDonnell 2022). Many studies primarily exemplify constructed and elicited sentence data, and rely on only a limited number of examples. But even limited investigation of naturally-occurring language use reveals that there are different possible syntactic realizations in ACs for a selected peripheral participant, i.e. the *applied phrase*, and multiple treatments of the participant expressed as the patientive argument (P) in a non-applicative base clause, i.e. the *companion phrase*. For example, simple searches in available corpora of Indonesian or Sundanese sentences (Goldhahn, Eckart & Quasthoff 2012) show that the applied phrase can be expressed either as a core argument or an apparent oblique, while the companion phrase can be encoded as an apparent oblique (i.e. “demoted”), retained as P in a monotransitive AC, or expressed in a ditransitive AC where both the companion phrase and applied phrase are core arguments. Sometimes argument structure co-varies with the participant role of the applied argument. But other times, there appears to be variation in a

single language between different possible argument structures for constructions with the same verbal stem, same AM, and same set of participant roles. Thus, even for ACs in languages of West Nusantara that are often-discussed and neatly exemplified in the literature, the true range of syntactic properties and possible structures extends beyond that which is commonly acknowledged.

Third, there has been little investigation of the influence of lexical semantics on applicatives in these languages, even though there is reason to believe that it plays an important role. In English, it is well-documented that the verbal semantics conditions valency processes, e.g. ‘dative shift’, and other verbal alternations, e.g. passives, causatives, resultatives, and preposition drop (see Thompson 1990; Levin 1993; Rappaport Hovav & Levin 1998; Bresnan et al. 2007). Recent work in Bantu languages has also proposed that lexical semantics conditions selection of participant role for the applied phrase, but does not directly determine syntactic structure in ACs (Jerro 2016, 2021). Verbal semantics is also implicated in some analyses of applicatives in West Nusantara languages (Kroeger 2007, Himmelmann & Riesberg 2013). Despite this, in most studies such ACs are exemplified with only a small number of verbal stems. For example, Cole & Son (2004) argue that Indonesian *-kan* functions to license syntactic arguments. To support this analysis, they exemplify ten verbal stems in ACs with *-kan* (plus a number of others in non-applicative constructions). Yet it appears that many fine-grained semantic distinctions which influence verbal alternations are observed only over much larger samples of lexemes (cf. Levin 1993 in which 3000 English verb stems are classified into semantic subclasses that predict verbal alternations). As a result, it is not yet clear what components of semantic meaning influence the function of AMs in particular West Nusantara languages, and to what extent this explains variation in properties of ACs. Nor is it clear whether semantic effects are consistent across languages.

In light of the gaps in the literature identified here, this study gives special attention to broadening the description and cross-linguistic comparison of ACs in languages of West Nusantara, and their functions, properties, and usage.

1.6 Framework and Assumptions

The methods and lines of inquiry adopted in this study have been influenced by a number of typological, functional, and constructional approaches in linguistics. In this section, I lay out the assumptions that underlie this study and approach that I use in discussing applicatives.

1.6.1 *Applicatives as Constructions*

The definition of applicative that I will use is given below in (2).

- (2) An applicative construction (AC) is a kind of clausal construction in which overt morphological marking on the verbal complex coincides with the selection of a non-agent, non-patient semantic role to map to a core argument in the clause.

I use the term *applicative morpheme* (AM) to refer to the overt morphological marking that identifies an AC together with its argument structure, as described in (2). These markers themselves have also been referred to as applicatives elsewhere in the literature. In example (3), repeated from (1) above, the AM is the circumfix *pang-* *-keun*.

- (3) Sundanese, Beneficiary-selecting applicative
- a. *Asep m-(b)awa sangu keur Lilis.*
 A. AV-bring cooked.rice for L.
 'Asep brought food for Lilis.' (BC) (CT1-025)
- b. *Asep m-(p)ang-mawa-keun Lilis sangu.*
 A. AV-BEN.APPL-bring-BEN.APPL L. cooked.rice
 'Asep brought food for Lilis.' (AC) (CT1-043)

In (3b), the verb marked with the circumfix *pang-* *-keun* takes a semantic beneficiary, *Lilis* 'personal name' as a core argument, as evident from its coding without any prepositional marking, while in (3a), the sole non-agentive core argument is a theme *sangu*, 'rice', and the beneficiary is marked with the preposition *keur* 'for'. As mentioned above, in such a pair of clausal examples, the example which lacks marking with the AM is referred to as a *base construction* (BC). When a pair of constructions like that shown in (3) exists, I treat this like a minimal pair in phonological analysis; the contrast between the two example clauses constitutes one type of evidence that helps an analyst to identify the morphologically marked construction as a likely example of an applicative. I do not, however, assume that the clause constituting an AC and the corresponding clause constituting a BC are related by means of a derivational process, or that the correspondence seen between two such clauses is definitional of applicatives (cf. e.g. Dixon & Aikhenvald 2000, 2011).

Though I am certainly not the first to define an applicative as a type of construction (e.g. Peterson 2007), the adoption of a constructionist approach is a distinctive foundation for this study. Throughout this study, I argue that adopt-

ing a constructional approach to applicatives allows us to develop an insightful typology of western Austronesian applicative systems based on meaningful characteristics that influence the distribution, usage and development of ACs and other AM-marked constructions. While this approach is reflected in the definition given above, I consider it important to further qualify a number of the components of an AC.

I use the term *construction* to refer to a conventionalized pairing of form and meaning (see Goldberg 1995; 2006). I understand an applicative to be a type of clausal construction, meaning that, in examples of clauses found in usage which constitute ACs, aspects of a *fixed form* and *consistent meaning* must coincide across variable non-fixed lexical content that fills open slots in the construction.

The fixed form of an AC includes a number of key components. As mentioned above, ACs are characterized by overt morphological marking on the verbal complex, i.e. the presence of an AM. An AM is part of the fixed form of an AC, while compatible verbal bases constitute part of the variable, non-fixed lexical content that may fill an open slot in the construction. Furthermore, an AC is specified to be clausal; its form is consistent with that of a verbal clause. Based on Perek (2015), I understand that the fixed form of a clausal verbal construction, of which ACs are one type, includes the number and structural position of arguments of the verb that occur across observed examples in usage that share a consistent meaning. In the example of an AC in (3b), the fixed form includes two post-verbal NP slots, with the first mapping to a beneficiary role, and the second mapping to a theme role. The fixed form of an AC may also include other fixed words or morphemes, such as a particular preposition or modifier, or slots filled by one of a small, fixed set of words or morphemes.

Besides a fixed form, an AC has a consistent meaning. I understand this consistent meaning to include the semantic roles selected for clausal arguments and the mapping of these to slots in argument structure (see Perek 2015). In addition, the meaning of a AC can include particular semantic components ascribed to the event or state of affairs described by clauses that exemplify the construction. This is admittedly a broad statement, however, such components must be consistent across clauses with the same AM-marking, same (general) argument structure, and same mapping of semantic participants. Part of the undertaking in this study is to develop a typology of the components of consistent meaning observed across ACs in languages of West Nusantara, and to show that these meanings are integral to the development and use of these constructions. For example, the AC in (3b) includes a semantic component of substitution, whereby the fact that the agent brings the expressed theme relieves the beneficiary of the need to do so herself.

Based on the discussion above, we may augment the definition given in (2), to form the summary statement below:

- (4) An applicative is a clausal construction in which overt morphological marking on the verbal complex coincides with the selection of a non-agent, non-patient semantic role to map to a core argument in the clause. Across verbal bases, an AC may be identified by the specific number and/or structural position of its arguments, the semantic roles that map to these positions, and other consistent semantic properties of the event or state of affairs described by the clause.

As evident in the components of ACs that I have identified thus far, I consider both syntactic and semantic properties to be identificational of applicatives. In light of this, in the remainder of this section I also lay out in brief my assumptions about some important related topics: (i) grammatical relations and syntactic properties of arguments, and (ii) the nature of semantic roles and the relationship between semantic roles and argument structure.

1.6.2 *Grammatical Relations and Syntactic Properties of Arguments*

A *grammatical relation* is a syntactic relation that exists between a clausal argument and a clausal construction. I understand these relations to be construction-specific (see Bickel 2010), though they may be compared across constructions to form meaningful generalizations. Syntactic properties are used to identify grammatical relations, and it is helpful to distinguish two types of syntactic properties: *syntactic coding* of arguments and *syntactic behavior* of arguments.

Syntactic coding typically refers to morphological case marking of the argument, agreement marking or indexing of the argument on the verbal complex, and linear word order of the argument vis-a-vis other syntactic constituents in the clause. In many languages of West Nusantara, one important type of syntactic coding is the selection of pronominal forms used to express or index an argument from a particular set, which is commonly observed to co-vary with argument role, and thus grammatical relations.

An example from Pendau, a language of Central Sulawesi, is shown in (5).⁶ In Pendau, pronominal core arguments are in most cases coded with forms drawn from the set labeled ‘absolutive’ by Quick (2007), which includes first plural exclusive *ami* and third plural *jimo*, as in (5a). In certain constructions, how-

⁶ In examples from cited sources, orthographic conventions have generally been kept. Glosses and glossing conventions have been adjusted, however, for the sake of consistency.

ever, a pronominal argument expressing an agentive core argument must be drawn from the set labeled ‘genitive’, which includes third plural *nijimo*, as in (5b) (for more on alignment in West Nusantara languages, see § 4.2.6). Oblique pronominal arguments are coded by the absolutive set marked with a preposition, which is not shown in the example, e.g. *sono jimo* ‘with them’.

(5) Pendau, Use of pronominal sets

- a. *Ami non-(t)uju jimo.*
 1PL.EXCL.ABS AV.RLS-send 3PL.ABS
 ‘We sent them (on an errand).’ (AV)

- b. *Ami ni-tuju nijimo.*
 1PL.EXCL.ABS PV.RLS-send 3PL.GEN
 ‘They sent us (on an errand).’ (PV) (Quick 2007: 141)

Syntactic behavior refers to compatibility of a clausal argument with syntactic operations, such as relativization, raising, and control, among others. While syntactic behavior may be an useful indicator of grammatical relations, a number of important studies have shown that the syntactic behavior of arguments may differ between ACs and corresponding BCs, or across various types of ACs in particular languages (see e.g. Baker 1988b; Alsina & Mchombo 1990; Bresnan & Moshi 1990; Peterson 2007; among others).

Among the languages of West Nusantara we observe important differences across systems of voice and diathesis that drive alternations in the mapping of grammatical relations to argument structures (see also § 3.4, and § 4.4.3), as well as differences in the categories and terms used to label grammatical relations in particular studies. Thus to facilitate meaningful comparison across constructions and across languages, in describing and classifying ACs and other AM-marked constructions, I make frequent use of grammatical *macro-role labels* for arguments. S is used for the single argument of an intransitive clause, while A and P indicate the agentive argument and patientive argument, respectively, of a monotransitive clause (Comrie 1989). In a ditransitive clause, A, R, and T refer to the agentive argument, recipient-like argument, and theme-like argument, respectively (Haspelmath 2015).

For example, in Pendau, Quick (2007: 127–132) identifies a grammatical relation that may be called *pivot*, subject, or privileged syntactic argument. This relation is identified by relatively free word order, eligibility to head a relative clause, and the ability to license a floating quantifier and to control the subject (pivot) of an embedded clause. The pivot relation is exhibited by the agentive argument (A) in clauses like (5a), where the verb bears the prefix *noN-* in realis

mode, while the pivot relation is exhibited by the patientive argument (P) in clauses like (5b), where the verb bears *ni-* in realis mode. The former is called AV (for A-Voice, sometimes also called actor voice), while the latter is called PV (for P-Voice, sometimes also called patient voice or undergoer voice).

As part of the typological survey in this study, I have reviewed a large body of available literature on the morphology and syntax of individual languages and small clusters of languages of West Nusantara (see § 4.4 and § 6.7). Unfortunately, in the majority of cases, information about the syntactic behavior of arguments in ACs is not addressed in any level of detail, and more often than not, the same is true of BCs. Thus, I often rely on syntactic coding of arguments as evidence of grammatical relations when comparing and classifying ACs in particular languages. When information about syntactic behavior of arguments is available in source material (or can be determined from data therein), I have tried to include it. For further details on of the basic morphosyntax of West Nusantara languages, including voice and diathesis, see § 3.4 and § 7.3.

1.6.3 *Semantic Roles and Mapping of Roles to Argument Structure*

Semantic roles are labels that describe types of semantic relationships between a verb or other predicate and its arguments. Semantic roles form part of the semantic representation of a verbal clause, and are also commonly referred to as thematic relations, or participant roles. There are many approaches to semantic roles, and generally no agreement on a definitive list of roles which may have grammatical correlates in the languages of the world (see Comrie 1989: 58–59).

In this study, the set of labels used for semantic roles largely corresponds to the thematic relations used by Van Valin (2005: 53–59); which are more generalized than verb-specific roles and less generalized than Van Valin’s “semantic macro-roles.” However, for some lexical verbs commonly found to occur as bases in ACs in the languages of West Nusantara, none of the labels for thematic relations in that source are appropriately descriptive, e.g. the role of an addressee in events of communication. In such cases, I have adopted the labels for semantically similar roles (‘frame elements’) used in Frame Semantics (Fillmore & Baker 2012) and the Framenet lexical database⁷ (see Ruppenhofer et al. 2016; Johnson & Fillmore 2000). The primary semantic role labels used in this study are listed in Table 1.

A particular semantic role (or set of possible semantic roles) is assumed to be related to the argument structure of a clausal construction by a *mapping*. In this

⁷ <https://framenet.icsi.berkeley.edu/>

TABLE 1 Semantic role categories used in this study

Semantic role	Abbr.	Description
agent	AGT	an entity that intentionally causes some entity to be affected
addressee	ADDR	the recipient of a message in an event of communication
beneficiary	BEN	an entity that is affected advantageously by an event
causer	CSR	an entity that instigates the occurrence of an event
comitative	COM	an entity that accompanies another in an event
content	CONT	the content or topic of an event of communication or cognition
experiencer	EXPR	an entity that experiences a sensory impression, emotion, or internal state
goal	GOAL	the ending location of a entity that changes location
instrument	INST	an inanimate entity manipulated to some effect
location	LOC	the general or static location of an entity or event
reason	REAS	the prior reason to which the occurrence of an event is attributed
stimulus	STIM	the phenomenon that is perceived or brings about a sensation
theme	THM	an entity that is located in space or undergoes a change of location
patient	PAT	an entity that exists in an indicated state, or undergoes a change of state
performance	PERF	the experience generated by performers in a performing arts event
purpose	PURP	the intended purpose for which an event is undertaken

study, the formal properties of such a mapping are not considered (for examples of formalisms that express such relations see e.g. Van Valin 2005; Levin 1993; Perek 2015). I assume that a mapping relation constrains the interpretation of a clausal meaning, such that the referent of a particular position in the argument structure is interpreted as the type of participant specified by one semantic role (or one of a small set of roles) in the event or state expressed.

For example, in Pendau, based on the observed meanings of clauses with the lexical verb *tuju* ‘to send (on an errand)’, it can be inferred that *tuju* takes two core arguments, an agent that initiates the sending movement, and a theme that undergoes the sending movement. When the verb is marked with the AV prefix *noN-* as in (5a), the preverbal argument position maps to A, an agen-

tive argument. Thus, the preverbal NP, *ami* ‘we (excl.)’, must be interpreted as the agent. The immediate postverbal argument position maps to P, a patientive argument. Thus, *jimo* ‘them’ must be interpreted as the theme. Throughout this study, I will often refer to the mapping of semantic roles to argument structure, using the word *select*, e.g. in (5a) a theme argument is selected as P.

Likewise for the AC from Sundanese in (3b), a beneficiary and a theme role are both selected as non-A core arguments. In this example, the first postverbal NP slot maps to a beneficiary role, and the second postverbal NP slot maps to a theme role. Or, generalizing across similar clausal structures with two non-A core arguments in Sundanese, we may say that a beneficiary role is selected to map to the R argument, and a theme role is selected to map to the T argument in this type of AC.

1.7 Content and Structure

The remainder of this book is organized as follows. Chapter 2 presents a descriptive account of applicatives in Sundanese as a case study. Chapter 3 concerns approaches to applicatives in the literature, and the rationale for adopting a constructional approach to applicatives. Chapter 4 presents broad results from a typological survey of over 85 languages to establish the distribution of applicatives in the languages of West Nusantara. The presence of applicatives that alternate independently of symmetrical voice, a diachronic innovation, is found to be related to the breakdown of the Philippine-type voice system. Chapter 5 examines this distribution more closely to interpret these patterns according to geographic and typological factors. The distribution of languages that lack applicatives is found to be highly influenced by geography and contact effects disrupting the continuity of earlier constructions. Chapter 6 concerns AMs in West Nusantara languages, and the distribution of forms of these markers and their associated meanings. Key patterns in the distribution of applicative functions across AM forms are most likely inherited from earlier Philippine-type voice systems, while the distribution of non-applicative functions is more influenced by geography. Chapter 7 presents a functional typology of AM-marked constructions based on 24 languages of West Nusantara, with descriptive notes on diversity in the syntactic and semantic properties of these observed across languages. A short summary of major findings and discussion of implications concludes the book in Chapter 8.

Case Study: *Sundanese Applicatives*

In this chapter, I describe applicative constructions (ACs) in Sundanese, the principal language spoken in West Java, Indonesia, as a case study. In doing so, I aim to provide careful, detailed description of applicatives in a major language of West Nusantara that have not yet been studied in depth. Sundanese exhibits some particularly interesting ACs, such as an innovative and productive substitutive benefactive construction and constructions in which the applied phrase is marked with a preposition, yet has some properties characteristic of core arguments. However, Sundanese also clearly demonstrates common characteristics of applicative systems in West Nusantara. Because of this, I will also use this chapter to establish key terminology for this study.

As outlined in the previous chapter (§1.6), I use a constructional approach, in which an AC is understood as a clausal construction which constitutes a conventionalized pairing of form and meaning. The form of an AC includes the particular morphological marking found on the predicate, i.e., the AM, and elements of its clausal argument structure, including the number and structural position of clausal arguments. The meaning of an AC include the semantic relationships between clausal arguments and the events or states expressed, that is mapping of semantic roles, as well as other semantic components of verbal meaning. In describing Sundanese applicatives, with respect to form, I am sensitive to the fact that a particular verb stem bearing an AM may be used with more than one possible argument structure, and that the realization of argument structure may be influenced by syntactic characteristics of the verb root (e.g. base valency), and syntactic properties of the clause (e.g. grammatical voice), as well as pragmatic context. With respect to meaning, I am concerned with specific and somewhat narrowly defined semantic roles (see §1.6.3), semantic subclasses of verbs (e.g. emotion verbs, communication verbs), and the pragmatic inferences that clauses give rise to.

The constructional approach taken here allows example data with diverse characteristics to be classified into types of constructions on the basis of meaningful and well-defined similarities and differences in function and form, with more specific patterns and more general ones both being acknowledged (see Goldberg 2013 on varying levels of specificity in knowledge of language). Furthermore, a constructional approach avoids the need to strictly rely on correspondence between a base construction (BC) and an applicative construction (AC) taken to be derived or otherwise related to the BC (see Post & Modi 2022

on languages in which there are no BCs expressing the meaning or paraphrased meaning expressed by ACs, and related discussion in § 3.2). Instead, for any clausal construction that itself has a form and meaning, we may consider its characteristics to be evidence of its place vis-a-vis other constructions in a typology of applicatives. Accordingly, this chapter is organized around types of ACs based on shared elements of form and meaning, and includes discussion of constructions that share elements of form with ACs, i.e. AM-marked constructions, that are not necessarily classified as ACs due to the polyfunctional nature of these morphemes.

Data in this chapter were either collected using elicitation, taken from original recordings of natural connected speech, or compiled from published texts which were glossed by the author with a native speaker of Sundanese. The data presented primarily include glossed example sentences, with most of these taken from about 80 hours of recorded elicitation and glossing sessions with Dewi Setiani, a female speaker of Sundanese as spoken in Bandung, West Java.

Dewi was raised in West Bandung Regency by parents who are both native Sundanese speakers and who use conversational Indonesian only in limited contexts with non-Sundanese people. She attended primary and secondary school in West Bandung Regency, before attending Universitas Pendidikan Indonesia in Bandung City; in these contexts both Indonesian and Sundanese were used as languages of instruction, with English later taught as a subject. Dewi subsequently worked as science teacher and earned a Master's degree in Education at UH Mānoa. The period of time we worked together has spanned her early to mid-thirties. Dewi also facilitated the checking of some elicited sentences with a small number of other Sundanese speakers in West Bandung Regency, including her mother and sister.

Elicited sentences include examples representing the 80 verbal meanings from the Leipzig Valency Questionnaire (Hartmann, Haspelmath & Taylor 2013). Original recordings of connected speech include five short oral narrative texts. Written text used includes three published short stories and sentence data from the Leipzig Corpora Collection for Sundanese (see Goldhahn, Eckart & Quasthoff 2012).¹

1 Sentences from the Leipzig Corpora Collection for Sundanese are taken from the 2016 Wikipedia 30K corpus (<https://wortschatz.uni-leipzig.de/en/download/Sundanese>). In example references, this source is noted as MPI-SUN, followed by the line number of the sentence.

2.1 The Sundanese Language and Community

Sundanese is the language of the Sundanese ethnic group, and is spoken over roughly the western third of the island of Java in Indonesia, including West Java and Banten provinces, and some parts of Central Java. The Sundanese ethnic community today is made up of more than thirty million people, and almost all of these speak Sundanese (Eberhard, Simons & Fennig 2021). Most Sundanese people today are bilingual in Indonesian, the Malay-based national language of Indonesia, and there are some indications that Sundanese is at risk of marginalization in favor of Indonesian, especially in urban centers (see Ravindranath & Cohn 2014 on endangerment of local languages with large speaker populations in Indonesia). Despite this, Sundanese is used in all domains, including local print and broadcast media, and in education at all levels, from primary to university, alongside Standard Indonesian.

Sundanese has had extensive historical contact with Javanese and Malay (see Ewing 1999). In some proposals, Sundanese has been suggested to subgroup with the Malayo-Chamic languages, along with Madurese and Balinese-Sasak-Sumbawa (Adelaar 2005a), or with all of the aforementioned languages and Javanese at a higher level (Smith 2017). Despite this, I find a number of non-negligible differences between the applicative system of Sundanese and those of Javanese (Hemmings 2013; Vander Klok & Evans 2022) and Indonesian (a standardized Malay variety) with respect to the inventory of AMs, productivity of ACs, and properties of clausal arguments in such constructions. Like Javanese, Sundanese is known for a system of speech levels, the use of which is governed by social rank and etiquette.²

Previous research on Sundanese includes an early grammar by Coolsma (1904), language descriptions by Van Syoc (1959), Robins (1959), Hardjadibrata (1985), Clynes (1995a), Hanafi (1997), and Kurniawan (2013), Nothofer's (1980) dialect geography of West Java, and a number of dictionaries, such as Rigg (1862), Coolsma (1913), Satjadibrata (1948), Tamsyah (1997), Eringa (1984), and Hardjadibrata's (2003) *Sundanese-English Dictionary* based on Eringa's volume. Even so, despite the fairly large body of literature on Sundanese and its status as an important language of West Nusantara with a large number of speakers, Sundanese has attracted relatively little attention in research on western

2 Thus, Sundanese data used may show more than one lexeme with identical glossing, due to the fact that these items differ in register. For example, the pronoun *abi* or *abdi* 1SG is used in polite speech in some social contexts and belongs to the *lemes* ('refined') register, while *kuring* 1SG is used in more casual or familiar speech and belongs to the *kasar* ('common') register.

Austronesian voice and applicatives, and to date a detailed examination of the Sundanese applicative system has not been undertaken.

Sundanese examples are transcribed with the following orthographic conventions: <c> is a voiceless post-alveolar affricate, <j> is a voiced post-alveolar affricate, <y> is a palatal approximant, <ng> is a velar nasal, <ny> is a palatal nasal, <e> is schwa /ə/, <é> is an unrounded mid front vowel /e/ (or less frequently, /ɛ/), <eu> is an unrounded mid back vowel /ɤ/ (this vowel is often described as central and transcribed as /i/ in the literature on Sundanese). Other symbols used are consistent with their expected phonetic values. These orthographic choices are fairly standard in written Sundanese, though the acute accent on the mid front vowel is not always used.

2.2 Basic Morphosyntax

In this section, I describe properties of Sundanese morphosyntax which are relevant for understanding the syntax and semantics of Sundanese ACs.

Sundanese is a mildly agglutinative language. Common morphological processes include reduplication and affixation. Several types of reduplication are attested, as are morphological prefixes, suffixes, circumfixes, and infixes. Stacking of up to two prefixes and/or two suffixes on a single stem is not uncommon e.g. *di-pika-sieun* ‘to be feared’ cf. *sieun* ‘afraid’; *nga-réndéng-an-keun* ‘to sit next to each another’ cf. *réndéng* ‘be next to (s.t. or s.o.)’. Reduplication and (multiple) affixation may generally occur together, however a single stem appears to be limited to up to one reduplication process only.

Sundanese generally shows no morphological case marking on nouns. Prepositions are used to indicate logical, spatial, and temporal relationships, among others. Word order is predominantly subject-initial, though predicate-initial word order is also possible and reflects differences in information structure. In addition, arguments of the verb are often unrealized. This is commonly the case when an argument’s referent is recoverable in the discourse context or left open to interpretation through pragmatic inference (see Ewing 2019 for discussion on pragmatic motivations for use of predicates without arguments in Indonesian).

Grammatical tense is not marked on the verb in Sundanese. Temporal and aspectual information may be indicated by use of auxiliaries or adverbial modifiers but this is not required.³ Marking for number and person agreement on the predicate is very limited and always optional (see Kurniawan 2013: 23–26).

3 In many examples, I have chosen to use past tense in the English translation, but a correct

In the remainder of this section, I describe some basic properties of declarative intransitive, monotransitive, and ditransitive verbal clauses. In discussing types of clauses and clausal arguments, I employ the following terms following Comrie (1989) and Haspelmath (2015):

- *S* refers to the single core argument of an intransitive verb.
- *A* and *P* refer, respectively, to the most agent-like argument and the most patient-like argument of a monotransitive verb. Some authors also use *O* for the latter.
- *A*, *R*, and *T* refer to the arguments of a ditransitive verb. Such verbs commonly denote “transfer of an entity (*T*) from an agent (*A*) to a recipient (*R*)” (Haspelmath 2015). Thus, *T* refers to the theme-like argument, and *R* to the recipient-like argument in ditransitive clauses.

2.2.1 *Intransitive Verbal Clauses*

This section describes the basic properties of declarative intransitive main clauses. In such clauses, the single core argument (*S*) of an intransitive verb is encoded as an unmarked NP in preverbal position, if it is realized. The *S* argument may also be unrealized and interpreted from context.

In intransitive clauses, some lexical roots appear as the main verb without morphological marking. Examples are shown below in (6) and (7). Peripheral participants in intransitive clauses may be coded as oblique and expressed with a prepositional phrase, as with the goal phrase, *ka sakola* ‘to school’ in (7).

- (6) Sundanese, Intransitive clause

Abi luncat.

1SG jump

‘I jumped.’

(CT1-003)

- (7) Sundanese, Intransitive clause

Asep lumpat ka sakola.

A. run to school

‘Asep ran to school.’

(FM4-032)

Other verbal roots that appear without any morphological marking in intransitive clauses include *leumpang* ‘to walk’, *indit* ‘to depart’, *dongkap* ‘to come, arrive’, *diuk* ‘to sit’, *saré* ‘to sleep’, *paéh* ‘to die; be dead’, *ulin* ‘to play’, *cicing* ‘to

translation could also use the present tense. For example, the clause in (6) could be translated as ‘I jump’ or ‘I jumped.’

live, reside', *batuk* 'to cough', *ceurik* 'to cry', *lapar* 'to be hungry', *sedih* 'to be sad', and *resep* 'to be fond (of s.t.)'.

Another set of lexical roots must be marked with a voice prefix when they appear as the main verb in an intransitive clause. Examples (8) and (9) below show intransitive clauses in which the verb root is obligatorily marked with the nasal prefix, *ng-*, or its allomorph *nga-*.⁴ Again, the S argument is realized as an unmarked NP in preverbal position, and a peripheral participant may be expressed as a PP, e.g. *dina para* 'in the attic' in (9).

- (8) Sundanese, Intransitive clause

Bal nga-gulutuk.

ball AV-roll

'The ball rolled.'

(CT1-002)

- (9) Sundanese, Intransitive clause

Cai ng-(k)ucur dina para.

water AV-flow in attic

'Water flowed (down) in the attic (e.g. because the roof leaked).'

(CT1-024)

Other verbal roots that obligatorily take the nasal prefix in intransitive clauses include *tangtung* 'to stand/stand up', *iring* 'to follow along (with s.o.)', as in an activity', *sumput* 'to hide (o.s.)', *pikir* 'to think', and *carios* (or *omong*) 'to talk'.⁵

More examples of intransitive clauses are given below. The specific role of the participant that maps to S (e.g. agent, experiencer, etc.) is selected by the verb.

- (10) Sundanese, Intransitive posture verb

Abi diuk dina samak.

1SG sit on mat.

'I sat on a mat.'

(CT1-014)

4 The nasal prefix has the underlying form *ng-* (IPA /ŋ-/) and its surface forms include many stem-conditioned allomorphs. It triggers the morphophonemic process known as *nasal substitution* in which the nasal segment of the prefix coalesces with the initial segment of a stem when it is a voiceless obstruent (and sometimes /b/). This results in a single nasal stop segment at the same place of articulation as the underlying initial stem consonant. For the sake of clarity, this initial consonant has been included in parentheses in glossed examples, as in *ng-(k)ucur* 'to flow, AV' in (9), which is pronounced [ŋufɛur], and is formed on the stem *kucur*.

5 See also Hanafi (1997: 5–7) for discussion of a small number of verbs marked with the voice prefix *di-* that appear to be intransitive.

- (11) Sundanese, Intransitive communication verb

Euis ng-omong ka Udi kamari.

E. AV-talk to U. yesterday

'Euis talked to Udi yesterday.'

(CT1-015)

- (12) Sundanese, Intransitive emotion verb

Mariam ceurik di kamar.

M. cry in room

'Mariam cried in (her) room.'

(CT1-006 and Hanafi 1997: 22)

2.2.2 Monotransitive Verbal Clauses

For transitive verbs, the primary diathetical alternation is between A-oriented clauses marked with *ng-* and P-oriented clauses marked with *di-*. Example (13a) shows that when the verb *teunggeul* 'to hit' is marked with *ng-*, the A argument (agent) is encoded as an unmarked NP in preverbal position, while the P argument (patient) is encoded as an unmarked NP in postverbal position. When the same verb is marked with *di-*, as in (13b), the P argument is realized as an unmarked NP in preverbal position, while the A argument is realized as an NP marked with the preposition *ku* 'by' in postverbal position. Example (14) shows a similar alternation with the verb *cukur* 'to shave (s.o.); to cut (s.o.'s) hair'.

- (13) Sundanese, Transitive voice alternation

a. *Icih n-(t)eungeul Asep.*

I. AV-hit A.

'Icih hit Asep.' (AV)

b. *Asep di-teunggeul ku Icih.*

A PV-hit by S.

'Asep was hit by Icih.' (PV)

(CT1-019)

- (14) Sundanese, Transitive voice alternation

a. *Saep keur ny-(c)ukur palura.*

S. PROG AV-shave village.head

'Saep is shaving/cutting the hair of the village leader.' (AV)

b. *Palura keur di-cukur ku Saep.*

village.head PROG PV-shave by S.

'The village leader is being shaved/having his hair cut by Saep.' (PV)

(CT1-003)

Other syntactically transitive verbs roots which show a simple alternation between clauses marked with *ng-*, and clauses marked with *di-* (with no other obligatory morphological marking) are listed in Table 2.

In the examples above, an agent role maps to A and a patient role maps to P. Other mappings are also possible in accordance with the verbal semantics, e.g. agent and theme with verbs of conveyance and caused motion, or perceiver and stimulus with verbs of perception. Examples are given below in (15) and (16). As seen in (16c), the PV prefix *di-* may be replaced with the non-volitional prefix *ka-*, without a change in argument structure. This *ka-* denotes non-volitional action and can also have an abilitative meaning, i.e. ‘was able to’.

(15) Sundanese, Transitive caused-motion verb

- a. *Abi n-(t)eundeun cangkir dina méja.*
 1SG AV-put cup on table
 ‘I put the cup on the table.’

- b. *Cangkir di-teundeun dina méja ku abi.*
 cup PV-put on table by 1SG
 ‘The cup was put on the table by me.’

(CT1-022)

(16) Sundanese, Transitive perception verb

- a. *Abi n-(t)inggali poster film.*
 1SG AV-see poster movie
 ‘I looked at the movie poster.’

- b. *Poster film di-tinggali ku abi.*
 poster movie PV-see by 1SG
 ‘The movie poster was looked at by me.’

- c. *Poster film ka-tinggali ku abi.*
 poster movie NVOI-see by 1SG
 ‘The movie poster was seen by me (by chance).’

(CT1-043)

In (13)–(16), the mapping of semantic roles to argument structure—as evident from NP marking and word order—is accompanied by morphological marking on the predicate in the form of *ng-* or *di-*. In *ng-*marked clauses, the A argument, if realized, is encoded as an unmarked NP in preverbal position, and the P argument, if realized, is encoded as an unmarked NP in immediate postverbal position. Conversely, in the *di-* marked clauses, the P argument is encoded as an unmarked NP in preverbal position, and the A argument is encoded as

TABLE 2 Monotransitive Sundanese verbs

Processing of materials		
a.	<i>beuleum</i>	'to roast (s.t.)'
b.	<i>duruk</i>	'to burn (s.t.)'
c.	<i>kumbah</i>	'to wash (s.t.)'
d.	<i>pésék</i>	'to peel (s.t.)'
e.	<i>teukteuk</i>	'to cut (s.t.) with scissors'
Acts of creation		
f.	<i>jieun</i>	'to make (s.t.)'
g.	<i>pasak</i>	'to cook (s.t.)'
Transfer & conveyance		
h.	<i>bawa</i>	'to carry, bring (s.t.)'
i.	<i>cokot</i>	'to take (s.t.)'
j.	<i>kirim</i>	'to send (s.t.)'
k.	<i>pinjeum</i>	'to borrow (s.t.)'
Striking & application of force		
l.	<i>surung</i>	'to push (s.t.)'
m.	<i>tabrak</i>	'to strike, crash into (s.t.)'
Caused motion & placing		
o.	<i>pelak</i>	'to plant (s.t.), as of crops'
p.	<i>teundeun</i>	'to put, to place'
Perception		
q.	<i>ambeu</i>	'to smell/sniff (s.t.)'
r.	<i>déngé</i>	'to hear (s.t.)'
s.	<i>tinggali</i> (~ <i>tingali</i>)	'to see (s.t.)'

an NP marked with *ku* in postverbal position. Because the preverbal argument in such clauses shows evidence of syntactic privilege by virtue of behavioral properties (e.g. access to relativization, and patterns of control, see Kurniawan 2013), I will henceforth refer to the *ng*-marked clauses as A-Voice (AV) and the *di*-marked clauses as P-Voice (PV).

A of a monotransitive AV clause and P of a monotransitive PV clause show the same encoding as S in intransitive clauses. P of an AV clause is likewise encoded

as an unmarked NP, but it has a different position in word order. I will consider all of these to be core clausal arguments.

Although A arguments in PV clauses are marked with the preposition *ku*, there are some reasons to believe that these phrases are in fact arguments of the verb as they exhibit certain properties characteristic of core arguments which distinguish them from other obliques or adjuncts (see Riesberg 2014a and Arka & Manning 2008 for more on the intermediary status of non-subject actors in western Austronesian languages).⁶ For this reason, I will consider *ku*-marked agents in Sundanese PV clauses to be verbal arguments, and will consider PV clauses to be transitive rather than intransitive. However, the status of *ku*-marked agents has little bearing on our understanding of ACs, as it is P arguments rather than A arguments that participate in applicative alternations.

2.2.3 *Ditransitive Verbal Clauses*

As established above, transitive verb roots in Sundanese show a diathetical alternation between AV clauses marked with *ng-* and PV clauses marked with *di-*. A small subset of roots that show this alternation may take three core arguments with no additional morphological marking on the verb. Clausal constructions with more than two core arguments show some differences in AV compared to PV. Ditransitive mapping in PV is highly preferred as more natural with most lexical bases, and AV ditransitive clauses are rare in corpora.

Example (17) illustrates two possible mappings for the root *ajar* ‘to teach (s.t.) (to s.o.)’ in AV. In (17a), the clause is syntactically monotransitive. The agent role, i.e., *Pa Guru* ‘the teacher’, maps to A, and the content role, i.e. *matém-atika* ‘math’, maps to P, while a third recipient participant is expressed as an oblique PP, *ka Asep* ‘to Asep’. In (17b), the clause is syntactically ditransitive and there are three unmarked NP arguments. The agent maps to A, and the recipient and content are both realized as unmarked NPs occurring after the verb. It may be said that the recipient maps to R, and the content maps to T. Thus, a ditransitive clause represents one possible argument structure for the verb *ng-*

6 Kurniawan (2013: 38–41) shows that A arguments in PV clauses can bind a reflexive subject (i.e., P in a PV clause) and control the subject of an embedded clause. Furthermore, optional morphological marking on the verb for plural number with *-al-* (or allomorph *-ar-*) agrees with the *ku*-marked A argument of a PV clause just like it does with the unmarked A argument of an AV clause, and the unmarked S argument of an intransitive clause. Also, under certain conditions *ku* may be optionally omitted, such that A is encoded as an unmarked postverbal NP in some PV clauses. Similar patterns in other languages are discussed by Kroeger & Riesberg (2024).

ajar. In the structure shown in (17b), the NP expressing the content role may not appear as the first postverbal argument; it is not possible to reverse the structural position of the content and recipient roles.

(17) Sundanese, Ditransitive construction in AV

- a. *Pa Guru ng-ajar matématika ka Asep.*
 mister teacher AV-teach math to A.
 'The teacher teaches math to Asep.' (Monotransitive, AV)
- b. *Pa Guru ng-ajar Asep matématika.*
 mister teacher AV-teach A. math
 'The teacher teaches Asep math.' (Ditransitive, AV) (CT1-031)

A PV construction corresponding to (17b) is shown in (18). Here, the recipient is realized in preverbal position as an unmarked NP, that is, with encoding characteristic of a core argument. The semantic content participant is realized in postverbal position as an unmarked NP, again encoding characteristic of a core argument. Finally, the agent is realized as an NP marked with the preposition *ku*, which is typical of the A argument in PV clauses. This is a ditransitive clause in PV; in addition to one A argument, there are two non-A core arguments. Of these, the preverbal argument R maps to the recipient, which can be said to receive some knowledge, and the postverbal argument T maps to the content, which can be said to be transferred in the event.

(18) Sundanese, Ditransitive construction in PV

- Asep di-ajar matématika ku Pa Guru.*
 A. PV-teach math by mister teacher
 'Asep was taught math by the teacher.' (Ditransitive, PV) (CT1-031)

The verbal root *béré* 'to give (s.t.) (to s.o.)' can also form ditransitive clauses in PV without additional morphological marking on the verb. PV clauses with *béré* have two possible mappings. The first is syntactically monotransitive, as in (19a). Here, the theme role (i.e., *buku* 'book') maps to P, while the recipient (i.e., *ka budak* 'to the child') is realized as an oblique PP headed by the preposition *ka* 'to'. The agent maps to A and is realized as a *ku*-marked phrase. The second possible mapping is syntactically ditransitive, as in (19b). Now, the recipient *budak* 'child' is realized as an unmarked NP in preverbal position, while the theme, *buku* 'book' is realized as an unmarked NP in postverbal position. The agent again is realized as a *ku*-marked phrase. As in (18), there are two non-A core arguments, a preverbal recipient (R) and a postverbal theme (T).

(19) Sundanese, *Give* construction in PVa. *Buku di-béré ka budak ku abi.*

book PV-give to child by 1SG

'The book was given to the child by me.' (Monotransitive, PV)

b. *Budak di-béré buku ku abi.*

child PV-give book by 1SG

'The child was given a book by me.' (Ditransitive, PV) (CT1-026)

However, as shown in (20) below, ditransitive constructions are not possible in AV clauses with *béré*. In (20a), a grammatical monotransitive clause is shown. Only the agent and the theme map to core argument positions and are realized as unmarked NPs. The recipient is realized as an oblique PP, *ka budak* 'to the child'. Recipient and theme may not both appear as unmarked NPs after the verb, as shown in the unacceptable example in (20b).

(20) Sundanese, *Give* construction in AVa. *Abi m-(b)éré buku ka budak.*

1SG AV-give book to child

'I gave the book to the child.'

b. **Abi m-(b)éré budak buku.*

1SG AV-give child book

Intended: 'I gave the child a book.' (CT1-026)

In summary, a small number of roots in Sundanese allow syntactically ditransitive clausal constructions when the verb stem bears only a voice prefix *ng-* or *di-* and no other morphological marking. In such cases, R and T are selected by the verb and may be realized as unmarked NPs. Further restrictions on the syntactic realization of ditransitive constructions may apply. A ditransitive construction may be grammatical in PV but not AV, as shown for *béré* 'to give'. The linear order of the two non-A core arguments also is restricted; the R argument generally precedes the T argument in both AV and PV.

Besides *ajar* 'to teach' and *béré* 'to give', no other verbal roots in Sundanese appear in ditransitive constructions without suffixation with an AM, even those with cross-linguistically "typical" ditransitive verb meanings (see Haspelmath 2013, 2015). In elicitation sessions, constructed ditransitive clauses of this sort were reported as unacceptable in both AV and PV with the verbal roots *beuli* 'to buy', *jual* 'to sell', *pinjam* 'to borrow', *bawa* 'to carry, bring', and *jieun* 'to make'. For these and almost all other verbal roots, ditransitive constructions are

only observed when morphological marking in addition to a basic voice prefix appears on the verb, such as a causative or applicative affix.

2.3 Overview of Applicative Morphology

Having described the basic morphosyntax of Sundanese verbal clauses, I now turn to the main topic of this chapter, Sundanese applicatives. This section presents an overview of Sundanese AMs, that is, morphemes that may mark the predicate in a construction in which a peripheral semantic role is selected to map to a core argument. The constituent that expresses this semantic role will hereafter be referred to as the *applied phrase* (following Zuñiga & Creissels 2024). Evidence showing that these affixes should be considered AMs will be presented in following sections.

The inventory of AMs in Sundanese is given in Table 3. The second column shows possible semantic roles of the applied phrase in ACs marked by each AM. These include: addressee (ADDR), beneficiary (BEN), content (CONT), goal (GOAL), instrument (INST), location (LOC), stimulus (STIM), theme (THM), and performance (PERF). The third column lists other functions of the morpheme when it is found on verbal predicates, including marking causative constructions (CAUS), marking comparative degree constructions (COMP), and indicating pluractional aspect (PLUR), which denotes iterative, habitual or durative aspect and events with multiple actors and/or undergoers.

The suffix *-an* marks ACs in which the applied phrase is a location, goal, addressee, content, or stimulus. It forms causative and comparative degree constructions, and indicates pluractional aspect.⁷ It is also used to form verbs from non-verbal roots, e.g. *uyah-an* ‘to put salt on (s.t.)’ from *uyah* ‘salt (n.)’.⁸

The suffix *-keun* marks ACs in which the applied phrase is a theme, instrument, content, stimulus, type of performance, or beneficiary. The use of *-keun* in beneficiary-selecting ACs is less productive than the use of the circumfix *pang- -keun*. In addition to ACs, *-keun* forms causative constructions, and forms verbs from non-verbal roots, e.g. *tali-keun* ‘to tie (s.t.) to s.t.’, from *tali* ‘rope, string’.

7 Hanafi (1997) indicates that Sundanese *-an* also marks ACs with beneficiary applied phrases. However, he offers a single example with the root *hirup* ‘to live; alive’, which I consider to be more consistent with a causative construction than a benefactive applicative.

8 Sundanese also has a homophonous nominalizing suffix *-an*, e.g. *pikir-an* ‘(a) thought’ cf. *pikir* ‘to think’, *dagang-an* ‘product, ware’ cf. *dagang* ‘to sell, to trade’.

TABLE 3 Sundanese applicative morphemes

Affix	Role of Applied Phrase	Other verbal functions
<i>-an</i>	LOC, GOAL, ADDR, CONT, STIM	CAUS, PLUR, COMP
<i>-keun</i>	THM, INST, CONT, STIM, PERF, BEN	CAUS
<i>pang- -keun</i>	BEN	CAUS*

* This morpheme may select a causer and a peripheral applied phrase in the same clause.

The circumfix *pang- -keun* exclusively marks beneficiary-selecting ACs. I use the term *substitutive benefactive* to refer to constructions marked with *pang- -keun* because the presence of the circumfix indicates that the agent performs the action on behalf of, and in lieu of, a beneficiary. This type of construction is also called *deputative-benefactive* (see Peterson 2007; Van Valin & LaPolla 1997: 383; Kittilä & Zúñiga 2010: 14). The circumfix *pang- -keun* triggers nasalization of the initial consonant of the stem to which it attaches when this segment is a voiceless obstruent (or sometimes /b/). This occurs both in AV and PV verbal forms. This is not the same morphophonemic process as nasal substitution (which is triggered by the AV prefix *ng-*), because the velar nasal of *pang- -keun* and the initial stem consonant do not coalesce into a single surface segment but remain separate segments. The AV prefix *ng-* may be prefixed to stems bearing *pang- -keun*, but *ng-* always occurs farther to the left from the root. For example, the word *mangmalingkeun* meaning ‘to steal s.t. for s.o. (AV)’ is made up of the morphemes, *ng-* ‘AV’ + *pang- -keun* ‘BEN.APPL’ + *paling* ‘to steal’. The first /p/ of the circumfix undergoes nasal substitution and fuses with the AV prefix into a single word-initial consonant /m/, while the initial /p/ of the root is nasalized to /m/ but remains a distinct segment from the preceding velar nasal /ŋ/. The corresponding PV verb is *dipangmalingkeun*. Again there is no coalescence of segments at the morpheme boundary between the root and circumfix.

Note that I do not consider *pang- -keun* to be a co-occurrence of the *-keun* suffix and a separate prefix with the form *pang-* in contemporary usage. The circumfix *pang- -keun* occurs with many verbal roots for which affixation of *pang-* and/or *-keun* alone is not attested. For the root *paling* ‘steal’, for example, there is no stem or word **palingkeun*, nor stem or word **pangmaling*.

Some nominalizations do occur with a prefix with the shape *pang-* alone, especially instrument or agent nominalizations, e.g. *pangasuh* ‘nanny’ cf. *asuh* ‘to take care of’. However, unlike *pang- -keun*, the *pang-* nominalizing prefix triggers nasal substitution *with fusion* of segments when the first consonant

of the root is a voiceless obstruent. Thus for the root *tutu* ‘to pound (as of rice in the husk)’, the substitutive benefactive forms are *mangnutukeun* (AV) and *dipangnutukeun* (PV), each showing two adjacent nasal segments, but the instrument nominalization is *panutu*, with a single fused nasal segment (Hardjadibrata 2003: 856). Even though the nominalizing prefix *pang-* and the substitutive benefactive circumfix *pang-* *-keun* are distinct in modern Sundanese, it is possible that one source morpheme in an earlier form of Sundanese gave rise to both.

As evident from the discussion thus far, Sundanese AMs are highly polyfunctional. Furthermore, the functions listed above are not always discrete; in some constructions, the presence of a single AM on the verb may result in more than one semantic and/or syntactic effect in the clause, and it is not always easy to tease apart these functions.

In the remainder of this chapter, I describe clausal constructions in Sundanese that are marked with the AMs described above. I begin with constructions that meet the definition of an AC given in Chapter 1 (see §1.6.1). In these constructions, a peripheral semantic role (i.e. non-agent, non-patient role) is selected to map a core argument position when the verbal predicate is marked with one or more of these AMs. These constructions are described according to form of AM and the semantic role of the peripheral participant, or applied phrase.

2.4 Locative-Selecting Constructions Marked with *-an*

This section describes morphologically marked constructions in which a locative expression is selected as a core argument. A locative expression serves as the basis for describing the spatial position of an entity or event. In addition to expressions that describe a static or generalized spatial position (i.e. location), I also include here various types of expressions that describe the spatial position of an entity that undergoes a change of location (e.g. source, path, direction, or goal). Constructions which select a locative expression are marked with the suffix *-an* on the verb. For a number of bases, we observe a locative-selecting construction marked with *-an* in alternation with a theme-selecting construction marked with *-keun* (see §2.5 below).

2.4.1 Location-Selecting Constructions

With some verbal bases, the static location of an event is selected as a core argument when the verb is marked with *-an*. In examples (21)–(24), when the verb is marked with *-an* in the AC, the location role is selected to map to P,

and is expressed as an unmarked NP in immediate postverbal position. In the corresponding unmarked BCs, the location is expressed as a PP headed by the locative preposition *di* ‘in, at, on’ or its near equivalent *dina*.

(21) Sundanese, Location-selecting construction

- a. *Abi cicing di imah.*
 1SG stay in house
 ‘I live in a house.’ (BC)

- b. *Abi ny-(c)icing-an imah.*
 1SG AV-stay-LOC.APPL house
 ‘I live in a house.’ (AC)

(CT1-004)

(22) Sundanese, Location-selecting construction

- a. *Abi diuk dina samak.*
 1SG sit on mat
 ‘I sat on a mat.’ (BC)

- b. *Abi nga-diuk-an buku.*
 1SG AV-sit-LOC.APPL book
 ‘I sat on a book.’ (AC)

(CT1-014)

(23) Sundanese, Location-selecting construction

- a. *Beurit nga-liang di buruan imah.*
 rat AV-hole in yard house
 ‘The rat made a hole in the yard of the house.’ (BC)

- b. *Bapa nga-liang-an témbok.*
 father AV-hole-LOC.APPL wall
 ‘Father made a hole in the wall.’ (AC)

(CT1-027)

(24) Sundanese, Location-selecting construction

- a. *Asep m-(p)elak tangkal cau di kebon.*
 A. AV-plant tree banana in field
 ‘Asep planted banana trees in the field.’ (BC)

- b. *Asep m-(p)elak-an kebon ku tangkal cau.*
 A. AV-plant-LOC.APPL field with tree banana
 ‘Asep planted the field with banana trees.’ (AC)

(CT1-004)

Location-selecting constructions marked with *-an* in Sundanese are mono-transitive. If the BC is intransitive, as in (21)–(23), we observe an increase in valency when the verb is marked with *-an*. If the BC is transitive, as in (24), there is no increase in valency; the AM-marked construction remains mono-transitive. This type of construction may be called a *remapping* (Comrie 1985) or *valency-preserving AC* (Truong & McDonnell 2022). The semantic role that maps to P in the BC, in this case the semantic theme, i.e., that which is planted and put into the field, is “remapped.” In the AC marked with *-an*, the semantic theme is no longer realized as an unmarked NP, but as an oblique PP, i.e. *ku tangkal cau* ‘using/with banana trees’. I use the term *companion phrase* to refer to the constituent in the AC that expresses the semantic role that maps to P in the BC. Because the companion phrase is encoded differently in different constructions, I give attention to its syntactic realization in ACs when applicable. Both the valency-increasing and the valency-preserving location-selecting constructions exemplified here would be considered applicatives in most frameworks, because the presence of the morpheme *-an* can be said to “license” or “result in” the selection of a location as a core clausal argument.

In Sundanese, if a verb may select the location role to map to P in a BC with no AM-marking, when the verb is suffixed with *-an*, no change in argument structure is observed, as in (25). Instead, the construction marked with *-an* has pluractional aspect as part of its meaning. This is illustrated in example (25b).

(25) Sundanese, Pluractional location-selecting construction

- a. *Wadah runtah di-koréh ku abi.*
 container trash PV-dig.in by 1SG
 ‘The trash can was dug in by me’ (e.g. to see if my lost ring was there).
 (BC)
- b. *Tanah di-koréh-an ku Lilis n-(t)eang-an huwi.*
 ground PV-dig.in-PLUR by L. AV-look.for-PLUR yam
 ‘The ground was dug in **repeatedly** by Lilis (while) looking for yams.’
 (AC) (CT1-027)

The pluractional location-selecting construction described here would not be considered an AC in most frameworks, because no change in argument structure is observed under affixation with *-an* with verbs like *koréh* ‘dig’. Despite this, clauses like (25b) are clearly related to the location-selecting ACs shown in (21)–(24) in form and meaning. All of these show morphological marking of

the verb with *-an*, and all select a location role to map to P. Constructions in which *-an* is associated with a pluractional meaning are further discussed in § 2.9.2.

2.4.2 Goal-Selecting Constructions

With some verbal roots, the goal semantic role is selected to map to a core argument position when the verb is marked with *-an*, as in (26). Here, goal refers to an expression that describes the endpoint of an entity that changes location. In (26b), the goal, *lima nagara di Asia* ‘five countries in Asia’ is expressed as the P argument of the verb, *nganjang-an* ‘visit (AV)’, and is realized as an unmarked NP in postverbal position. As shown in (26c), the goal argument can also be expressed as the P argument of a verb in PV that is marked with *-an*, in which case it may be realized as an unmarked NP in preverbal position. In the corresponding BC shown in (26a), the goal is expressed as an oblique PP, headed by the allative preposition *ka* ‘to’. The clauses marked with *-an* in this example would be non-controversially considered ACs. This example also shows that when the BC is intransitive, the goal-selecting AC in Sundanese is valency-increasing, resulting in a monotransitive AC.

(26) Sundanese, Goal-selecting construction

- a. *Wakil Presiden Kamala ng-angjang ka Indonesia.*
 deputy president K. AV-visit to Indonesia
 ‘Vice President Kamala (Harris) visited Indonesia.’ (BC)
- b. *Wakil Presiden Kamala ng-angjang-an lima nagara di Asia.*
 deputy president K. AV-visit-LOC.APPL five country in Asia
 ‘Vice President Kamala (Harris) visited five countries in Asia.’ (AC)
- c. *Lima nagara di Asia di-angjang-an ku wakil President Kamala.*
 five country in Asia PV-visit-LOC.APPL by deputy president
 K.
 ‘Five countries in Asia were visited by Vice President Kamala (Harris).’
 (AC) (CT1-028)

In some constructions marked with *-an*, in addition to the selection of a goal as a core argument, a change in the semantic meaning of the verb is also observed, as in (27). In the BC in (27a), the verb *datang* means ‘arrive’ or ‘come’. The clause is intransitive, with the goal expressed as an oblique PP, *ka imah* ‘to the house’. In the AC in (27b), the goal phrase, *imah Euis* ‘Euis’ house’, is realized as an

unmarked NP, and represents a core argument. There is also a subtle change in meaning, as the suffixed verb *ngadatangan* means ‘to visit, to call on (s.o.)’ rather than simply ‘to arrive (at), to come (to)’. This semantic change may be related to the aspectual functions of *-an*, which can have a durative meaning.

(27) Sundanese, Goal-selecting construction

- a. *Tah ai peuting=na polisi datang ka imah ...*
 EMPH EMPH night=DEF police arrive to house
 ‘That night the police came to the house ... [telling that the man had already died].’ (BC) (FM4-067)
- b. *Abi nga-datang-an imah Euis.*
 1SG AV-arrive-LOC.APPL house E.
 ‘I visited Euis’ house.’ (AC) (CT1-002)

Aspectual changes are also observed in the goal-selecting construction shown in (28) with the verb *teundeun* ‘to put, to place’. In the AC in (28b), the goal *lomari* ‘wardrobe’ is encoded as an unmarked NP, reflecting its status as a core argument. In addition, the clause takes on pluractional aspect, as reflected in the translation ‘has **many** cups put in it’. Again we see both a change in argument structure and a semantic change in meaning when the verb is marked with *-an*.

(28) Sundanese, Goal-selecting construction

- a. *Cangkir di-teundeun dina méja ku abi.*
 cup PV-put on table by 1SG
 ‘The cup was put on the table by me.’ (BC)
- b. *Lomari di-teundeun-an cangkir.*
 wardrobe PV-put-LOC.APPL cup
 ‘The wardrobe has many cups put in it (i.e. it is full of cups).’ (AC) (CT1-022)

Example (28) also shows that the goal-selecting AC allows for ditransitive argument structure. In the BC, the verb selects two core arguments, an agent and a theme, while the goal maps to an oblique PP. In the AC, the goal *lomari* ‘wardrobe’ is selected as the R argument and realized as an unmarked NP in preverbal position. The companion phrase, i.e. theme, is selected as the T argument and realized as an unmarked NP in immediate postverbal position.

The above examples show that the goal-selecting AC in Sundanese is consistently valency-increasing. When the unmarked verb root is intransitive (as with motion verbs like *datang* ‘arrive’), the goal-selecting construction is monotransitive, and P maps to the goal role. When the unmarked verb root is monotransitive (as with conveyance verbs like *teundeun* ‘put’), the goal-selecting AC is ditransitive, and R maps to the goal, while T maps to the theme. Examples of this type are non-controversially considered applicatives in most frameworks, however the semantic and aspectual affects observed are not necessarily considered typical for applicatives.

2.4.3 Path-Selecting Constructions

With certain verbal roots, a path is selected as a core argument when the verb is marked with *-an*. Here, path refers to an expression that describes the trajectory of an entity that undergoes a change of location. Any spatial description of a trajectory besides a source or goal may constitute a path.

In examples (29)–(30), the path is expressed as the P argument of a verb in the AC marked with *-an*. In both ACs, the path is realized as an unmarked NP in postverbal position. In corresponding BCs, the verb selects only one core argument, S, which maps to an agentive mover. Other semantic information about the spatial orientation of the motion described may not be expressed as an unmarked NP, but instead is realized as a PP. Note that the precise semantic relationship of the path argument to the event in ACs marked with *-an* depends on the base verb. In (29b), for which there is no exact monoclausal equivalent, the verb *luncat-an* means ‘to jump over’. In (29) the verb *lumpat-an* means ‘to overtake, surpass (s.o. or s.t.)’ and can refer to literally running past someone or simply surpassing another in some measure, e.g., test scores or ranking.

(29) Sundanese, Path-selecting construction

a. *Abi luncat ti solokan.*

1SG jump from canal

‘I jumped away from the drainage trench.’ (BC)

b. *Abi nga-luncat-an solokan.*

1SG AV-jump-LOC.APPL canal

‘I jumped over the drainage trench.’ (AC) (CT1-003)

(30) Sundanese, Path-selecting construction

a. *Ucing di-gebah-keun téh meni langsung lumpat ka jalan.*

cat PV-shoo-THM.APPL PRT very immediately run to street

‘The cat that was shooed off ran to the street right away.’ (BC)

(“lumpat” 2021)

- b. *Ujang nga-lompat-an Asep.*
 U. AV-run-LOC.APPL A.
 'Ujang overtook Asep (lit. Ujang ran past Asep).' (AC) (CT1-003)

In the above examples, the path-selecting AC marked with *-an* is monotransitive. Thus with intransitive verbal roots, this construction is valency-increasing. Examples of this type are non-controversially considered applicatives in most frameworks.

Some transitive verbs in Sundanese may select a path as a core argument without AM-marking. In these cases, suffixation of the verb with *-an* does not result in a change to argument structure, but an aspectual change with a pluractional meaning. An example is shown below in (31) with the verb root *térékél* 'to climb up (s.w.)'. In the BC in (31a), the agentive mover is selected to map to A, and is expressed as the *ku*-marked agent phrase following the verb *ditérékél*, which is in PV. The path is selected to map to P, and is expressed as an unmarked NP in preverbal position, i.e. *tangkal* 'tree'. In the AC in (31b), there is no change to argument structure; the clause remains monotransitive, and the mapping of roles to arguments is also unchanged. However, the clause has a pluractional meaning, as reflected in the translation 'was climbed up and down / all over', and denotes repeated or distributive climbing action in the event described.

(31) Sundanese, Path-selecting construction

- a. *Tangkal di-térékél ku abi.*
 tree PV-climb.up by 1SG
 'The tree was climbed up by me.' (BC)
- b. *Tangkal di-térékél-an ku abi.*
 tree PV-climb.up-LOC.APPL by 1SG
 'The tree was climbed up and down / all over by me.' (AC) (CT1-004)

In summary, the path-selecting construction is found with intransitive and transitive verbal roots in Sundanese. With intransitive verb roots (e.g. intransitive activity or motion verbs like *luncat* 'run'), when the root is affixed with *-an*, we observe a change in argument structure, as the path is now selected to map to a core argument. Such *-an* marked clauses represent valency-increasing ACs. On the other hand, with some transitive verbs (e.g. transitive motion verbs like *térékél*), a semantic path may be selected to map to P without any AM-marking. In such cases, when the verb is marked with *-an*, the path continues to be expressed as P, and the clause has a pluractional meaning. This

latter type of clause would not be considered an AC in many frameworks, but is clearly similar in form and function to valency-increasing path-selecting ACs.

2.4.4 *Category-Changing Locative-Selecting Constructions*

With certain nominal bases, denominal verbs marked with *-an* select a location as a core argument. For example, the verb *uyah-an* is composed of the noun *uyah* ‘salt’ and the locative applicative suffix *-an*. This verb takes a goal as a core argument, as shown in (32), where the P argument *sayur* ‘soup’ describes the entity to which salt is to be applied. A similar example with the base *céngék* ‘chili pepper’ is shown in (33). This type of construction is monotransitive.

- (32) Sundanese, Category-changing locative construction

Sayur teu di-uyah-an.

soup not PV-salt-LOC.APPL

‘The soup was not salted.’

(CT1-017)

- (33) Sundanese, Category-changing locative construction

Sayur di-céngék-an.

soup PV-chili-LOC.APPL

‘To the soup, chili pepper was added.’

(CT1-017)

For category-changing locative-selecting constructions, there is no possible comparison of a BC and an AC because the base cannot function as a verb without affixation of an AM. Even so, they are clearly related to locative-selecting applicatives. In terms of form, they are marked with *-an* on the verb, and show (minimally) monotransitive clausal argument structure. In terms of meaning, like the goal-selecting applicatives described in § 2.4.2, they denote motion events involving a change of location and select a semantic goal to map to P. While these constructions do not show selection of a theme or mover participant as a clausal argument, an inherent semantic theme is expressed by the root, i.e. *uyah* ‘salt’ or *céngék* ‘chili pepper’, which undergoes a change of location in the event described. Thus, these category-changing constructions show key properties in common with goal-selecting ACs in Sundanese.

2.5 Theme- and Instrument-Selecting Constructions Marked with *-keun*

This section describes constructions in which a theme or instrument is selected as a core argument. In Sundanese, such constructions are marked with the verbal suffix *-keun*. I use the label *theme* to refer to an entity that undergoes a change of location or which is located in space (see Van Valin 2005: 54). The label *instrument* refers to an inanimate entity manipulated to some effect (see Van Valin 2005: 58–59; Fillmore 1968). It is not always possible to clearly distinguish instruments from themes because the employment of a material object as an instrument commonly involves direction of that object into motion (see also Kroeger 2007, where the term “displaced theme” is used to describe certain instruments in constructions marked with Indonesian *-kan*). In this chapter, I use the term instrument only when there is a clear association between manipulation of an entity and an (intended) effect in the meaning of the clause. Constructions which select a (non-instrument) theme role as the applied phrase are described in § 2.5.1, while constructions which select an instrument as the applied phrase are described in § 2.5.2.

2.5.1 Theme-Selecting Constructions

With certain verbal bases, a theme argument is selected as the P argument and mapped to a core argument position when the verb is marked with *-keun*. An example is shown in (34) below. The BC in (34a) is monotransitive and the verb *tangkeup* ‘to put one’s arms around (s.t.), to embrace (s.o. or s.t.)’ selects an agent as its A argument, and a patient (or perhaps a target or goal) as its P argument. In the AC in (34b), the verb is marked with the suffix *-keun*. Now the verb selects a theme to map to P, i.e. an entity that undergoes a change in position, and in this case expresses the part of the agent’s body, *leungan* ‘arm’, that is directed to wrap around the patient. This example is a valency-preserving applicative, as the companion phrase, which expresses the patient argument in the AC, is realized as an oblique PP, *ka pamajikan* ‘around (his) wife’.

(34) Sundanese, Theme-selecting construction

- a. *Kuring ngan bisa n-(t)angkeup sirah budak dina dada.*
 1SG only can AV-hug head child on chest
 ‘I could only hug the child’s head on(to) (my) chest.’ (BC)
 (nar. text by Idris 2021)
- b. *Udi n-(t)angkeup-keun leungeun ka pamajikan.*
 U. AV-hug-THM.APPL arm to wife
 ‘Udi hugged his arm around (his) wife.’ (AC) (CT1-003)

(35) Sundanese, Theme-selecting construction

a. *Sendal palid.*

sandal drift.away

‘The sandal drifted away (i.e. was carried away by flowing water, as in a rain storm).’ (BC)

b. *Runtah di-palid-keun**ka walungan ku Udi.*

trash PV-drift.away-CAUS.THM.APPL to river by U.

‘The trash was set adrift into the river by Udi.’ (AC) (CT1-021)

Now consider example (35). In the BC in (35a), the verb *palid* ‘to drift away (as if carried by flowing water)’, is intransitive, and selects an entity in motion, that is, a theme, to map to S. In the AC in (35b), the verb is marked with the suffix *-keun*. The theme now maps to P, and in this case, it is expressed as the unmarked NP in preverbal position in a PV clause. In addition, an agent maps to A, which is realized as a *ku*-marked agent phrase. This type of construction may be considered a *causative* construction, because a volitional, instigating participant is added to the clause. However, there are also clear similarities between the construction in (35b) and that shown above in (34b). Both select a theme participant as the P argument when the verb is marked with *-keun*, while in neither case may the theme map to P in the unmarked BC. These examples show that there is not necessarily a clear-cut distinction between the causative and applicative functions of AMs like *-keun*.

(36) Sundanese, Theme-selecting construction

a. *Udi tos ny-(s)urung mobil ka imah.*

U. CMPL AV-push car to house

‘Udi pushed the car to/towards the house.’ (BC)

b. *Udi tos ny-(s)urung-keun mobil ka imah.*

U. CMPL AV-push-THM.APPL car to house

‘Udi pushed the car to the house.’ (AC) (CT1-027)

Another type of theme-selecting construction is shown in (36). In the BC in (36a), the verb *surung* ‘to push (s.t.)’ selects an agent as its A argument and a theme as its P argument. In the AC in (36b), the same verb is suffixed with *-keun*, but we see no change in argument structure; the agent again maps to A, and the theme to P.

In this type of construction, the presence of the applicative suffix *-keun* might be considered to have “no effect” (see Kroeger 2007: 15–16 on cases in

Indonesian where affixation of *-kan* “has no effect on the semantic or syntactic properties of the verb”). However, there are subtle semantic differences between the two clauses, as they have slightly different truth conditions. The sentence in (36a) is true in the case that Udi applied force to the cart in the direction of the house and Udi is done pushing, that is, he has stopped applying force. This statement can be true regardless of whether or not the car has reached the house. The sentence in (36b) is true in the case that Udi applied force to the cart in the direction of the house, and the cart arrived at the house. In the former, completive aspect, as indicated by the aspectual particle *tos*, applies only to the event of applying directional force to an entity. In the latter, completive aspect as indicated by *tos* applies to the event of applying directional force to an entity thereby causing it to move to an endpoint, or goal.

This example shows that the addition of an AM can trigger a change in the status of a semantic role in argument structure even if that role does not map to an unmarked (or direct) core argument position in the AC, but instead is encoded with prepositional marking. This suggests that applicative marking may be associated with changes in clausal argument structure that are not observable only from surface level encoding. One way of interpreting this type of evidence is to adopt the criteria used by Riesberg (2014a) for argumenthood, including the examination of pragmatic inferences bearing on the semantic relationship between a phrase and a verb. Applying these criteria, it is possible to infer from a reduced version of the AC, i.e. *Udi nyurungkeun mobil*, a version of the same clause in which the goal is replaced with its indefinite form, i.e. ‘*Udi pushed the car to somewhere*’. Under this analysis, the companion phrase expressing a semantic goal in clauses like (36b) has at least some intermediate degree of argumenthood distinguishing it from an adjunct. A reduced version of the BC, i.e. *Udi nyurung mobil*, does not support this same inference, by which evidence the phrase expressing the goal (or direction) in the BC has the status of an adjunct, not a verbal argument.

A similar situation is found with the verbal root *alung*, which means ‘to throw (s.t.)’. It appears that this verb may select a theme as its P argument without AM-marking, as in the phrase *ngalung bal/geulang* defined by Hardjadibrata (2003: 16) as “throw a ball/ring (in the night fair, etc.)”. However the base verb forms *ngalung/dialung* appear to be uncommon in contemporary usage based on lack of occurrence in corpora. Much more common are the AM-marked forms *ngalungkeun/dialungkeun* and *ngalungan/dialungan*.

As shown in (37), when the root *alung* ‘throw’ is marked with *-keun*, the theme role continues to be selected to map to P. It is expressed as an unmarked NP in postverbal position, *hiji batu gédé* ‘one large stone’. In addition, a semantic goal is expressed as a PP *ka imah Asep* ‘at Asep’s house’. The existence of

both an entity in motion (a theme) and an end-point (a goal) is inferrable from the reduced clause *Udi ngalungkeun*. This is reflected in the definition for *ngalunkeun* given by Hardjadibrata (1985: 16): “throw st. to so./somewhere, throw with st.”⁹

(37) Sundanese, Theme-selecting *throw* construction

Udi ng-alung-keun hiji batu gedé ka imah Asep.

U. AV-throw-THM.APPL one stone large to house A.

‘Udi threw a large stone at Asep’s house.’ (AC) (CT1-006)

If *alung* is suffixed with *-an*, the resulting construction shows no change in argument structure, but instead some semantic differences compared to clauses where *alung* is marked with *-keun*. This is exemplified in (38) below. Here the P argument, *batu* ‘stone’, again expresses a semantic theme, and the PP *ka imah Asep* ‘at Asep’s house’, again expresses a semantic goal. But in addition, the clause marked with *-an* takes a pluractional meaning, as reflected by the translation ‘threw stones / threw stones repeatedly’.

(38) Sundanese, Theme-selecting *throw* construction

Udi ng-alung-an batu ka imah Asep.

U. AV-throw-THM.APPL stone to house A.

‘Udi threw stones (repeatedly) at Asep’s house.’ (AC) (CT1-006)

The fact that base verb forms of *alung* ‘throw’ without AM-marking appear to be much less common in usage compared to the AM-marked forms suggests one possible stage of development for ACs: the base form of a verb might over time cease to be used as a predicate, while the affixed form is lexicalized. Thus, a speaker may be exposed to clauses marked with *-keun* on the root *alung*, but never a corresponding BC. Nevertheless, in Sundanese there is a strong generalized pattern of association between a set of formal elements, i.e. monotransitive clause structure and verbal suffixation with *-keun*, and certain elements of meaning, i.e. selection of a theme to map to P and a goal to map to a PP, and the eventive meaning ‘cause s.t. to move s.w.’ The fact that clauses marked with *-keun* on the root *alung* fit into this generalized pattern remains easily evident from observable usage of the theme-selecting construction with other lexical

9 The final phrase of this definition, ‘throw with s.t.’, suggests that *alung* may be used in *-keun* marked constructions that select a semantic instrument as a core argument. However, I have not found clear clausal examples illustrating this.

bases filling the verbal slot, even if a corresponding BC with *alung* does not exist as a reference point in the mind of a speaker or the paradigm of an analyst.

Another type of theme-selecting construction marked with *-keun* is shown in (39a) with the verb *béré* ‘to give’. In the BC in (39a), the theme maps to P, and the agent maps to A. This sentence can refer to the act of giving a gift or simply a transfer of physical position that is performed by the agent, e.g. ‘to hand (s.t.) to s.o.’. In the construction marked with *-keun* in (59b), the theme is also expressed as P, but the meaning of the sentence only refers to the act of physical transfer, i.e. ‘to hand over’, not the giving a gift. This appears to represent lexicalization of the affixed form of the verb, with a shift in meaning to ‘hand over, facilitate physical transfer’ from ‘give’.

(39) Sundanese, Lexicalized change in meaning

a. *Buku di-béré ka budak ku abi.*

book PV-give to child by 1SG

‘The book was given to the child by me / was handed to the child by me.’ (BC)

b. *Buku ti abi di-béré-keun ka budak ku mang=na.*

book ABL 1SG PV-give-THM.APPL to child by uncle=3SG

‘The book from me was handed over to the child by his uncle.’ (AC)

(CT1-026)

Finally, as mentioned above, for a number of verbal roots, we observe a location-selecting construction marked with *-an* in alternation with a theme-selecting construction marked with *-keun*. Some examples of this alternation are shown below. Note that in many such examples, the base verb is intransitive, and the AM-marked constructions are both causative and applicative, as an instigating causer is mapped to A when the verb bears the AM.

(40) Sundanese, Theme/location alternation

a. *Walungan Réprua ng-(k)ucur=na ka Laut Hideung.*

river Reprua AV-flow=3 to sea black

‘The Reprua River flows (down) into the Black Sea.’ (BC)

(CT1-023, based on MPI-SUN 29422)

b. *Gelas di-kucur-an cai ku Icih.*

glass PV-flow-CAUS.LOC.APPL water by I.

‘The glass has water poured onto it by Icih (e.g. because it needs rinsing).’ (AC)

(CT1-020)

- c. *Cai di-kucur-keun ku Icoh kana gelas.*
 water PV-flow-CAUS.THM.APPL by I. to glass
 ‘Icoh poured water into in a drinking glass.’ (AC) (CT1-020)

(41) Sundanese, Theme/location alternation

- a. *Acan gé anclo m useup=na, geus di-samber*
 hardly also touch.water fish.hook=DEF, already PV-pounce.on
mantén ku gabus.
 in.meantime by snakehead
 ‘The fish hook had hardly touched the water, when already it was swooped upon by a snakehead fish.’ (BC) (“*anclo m*” 2019)

- b. *Sayur kacang di-anclo m-an daun salam.*
 soup bean PV-touch.water-CAUS.LOC.APPL leaf bay.leaf
 ‘The bean soup had a bay leaf submerged into it.’ (AC) (CT1-020)

- c. *Kue di-anclo m-keun kana kopi ku Ujang.*
 cookie PV-touch.water-CAUS.THM.APPL to coffee by U.
 ‘The cookie was submerged into the coffee by Ujang.’ (AC) (CT1-020)

2.5.2 *Instrument-Selecting Constructions*

With some verbal bases, an instrument argument is selected as the P argument and mapped to a core argument position when the verb is marked with the suffix *-keun*.

(42) Sundanese, Instrument-selecting construction

- a. *Bal di-teunggeul maké tongkat kasti ku Udi.*
 ball PV-hit using bat kasti by U.
 ‘The ball was hit by Udi using a *kasti* bat. (*Kasti* is a game similar to baseball.)’ (BC)
- b. *Tongkat kasti di-teunggeul-keun kana bal ku Udi.*
 bat kasti PV-hit-THM.APPL to ball by U.
 ‘The *kasti* bat was used to hit the ball by Udi.’ (AC) (CT1-019)

In the BC in (42a), the patient is selected to map to P and is realized as an unmarked core argument, and the agent is selected to map to A and is realized as a *ku*-marked agent phrase. The instrument is realized as an oblique phrase headed by *maké* ‘using’.¹⁰ In the AC in (42b), the instrument, i.e. *tongkat kasti*

10 In Sundanese, the word *maké* and its alternate form *paké* derive from the verb *paké* mean-

'*kasti bat*' is now expressed as the P argument, and realized as an unmarked core argument in preverbal position. The companion phrase, which is the semantic patient, is now realized as an oblique PP headed by the preposition *kana* 'to, in, on, at'. Like the theme-selecting constructions we have seen so far, this example of an instrument-selecting AC is a monotransitive construction and, as the BC is also monotransitive, it is valency-preserving.

Example (43) below shows an instrumental AC with the verbal root *coél* 'to scoop up, take a little of (s.t.) by dipping (s.t.)'. In the BC in (43a), the semantic agent is selected to map to A and is realized as an unmarked core argument in preverbal position, and the semantic theme is selected to map to P and is realized as an unmarked core argument in immediate postverbal position. The instrument manipulated as the implement of the scooping action, i.e. *témpé* 'tempeh (k.o. fermented soybean cake)', is encoded as an oblique phrase, *maké témpé* 'using tempeh'. In the AC in (43b), the instrument role is now selected to map to the P argument, which is realized as an unmarked NP in immediate postverbal position. The semantic theme is now encoded as a PP headed by the preposition *kana* 'to, in, on, at'. Again we see that the instrument-selecting AC is monotransitive, and valency-preserving.

(43) Sundanese, Instrument-selecting construction

a. *Udi ny-(c)oel sambel maké témpé.*

U. AV-scoop chili.sauce using tempeh

'Udi scooped up (some) chili sauce using (a piece of) tempeh.' (BC)

b. *Udi ny-(c)oel-keun témpé kana sambel.*

U. AV-scoop-THM.APPL tempeh to chili.sauce

'Udi used (a piece of) tempeh to scoop up (some) chili sauce.' (AC)

(CT1-020)

Again, for a number of roots, an alternation is observed between a location-selecting construction marked with *-an* and an instrument-selecting construction marked with *-keun*. An example is given in (44).

ing 'to wear; to use'. However, these words have been grammaticalized and are used much like prepositions. Similar cases are found in other languages of western Indonesia including *Tukang Besi* (Donohue 1999: 333–334) and *Manado Malay*, a Malay-based creole spoken in North Sulawesi (Stoel 2005), though it is not always possible to differentiate clearly between grammaticalized prepositional use and use in serial verb constructions.

(44) Sundanese, Instrument/Location alternation

a. *Udi keur di-kurubun.*

U. PROG PV-bundled

'Udi is all bundled up (i.e. wrapped up, as in blankets)' (BC)

b. *Mobil di-kurubun-an maké terpal ku Udi.*

car PV-bundled-CAUS.LOC.APPL using tarp by U.

'The car was covered up with a tarp by Udi.' (AC)

c. *Terpal di-kurubun-keun ka budak.*

tarp PV-bundled-CAUS.THM.APPL LOC child

'The tarp was used to bundle up the child.' (AC) (CT1-022)

Likewise, with *rungkup* 'cover, spread over', an alternation is observed between a goal-selecting construction with *-an* as in (45a) and a theme- or instrument-selecting construction with *-keun* as in (45b).

(45) Sundanese, Instrument/Location alternation

a. *Udi nga-rungkup-an lanca maké mangkok.*

U. AV-cover-CAUS.LOC.APPL spider using bowl

'Udi enclosed the spider with a bowl.' (AC)

b. *Udi nga-rungkup-keun mangkok kana lanca.*

U. AV-cover-CAUS.THM.APPL bowl to spider

'Udi used a bowl to enclose a spider (lit. enclosed a bowl onto a spider).'

(AC) (CT1-022)

In the example below with the same verb taken from the Leipzig corpus, the instrumental meaning—manipulating an inanimate entity to some effect—is quite clear from the context.

(46) Sundanese, Instrumental use of *rungkup-keun**Ng-alung-keun atawa nga-rungkup-keun kecrik aya*

AV-throw-THM.APPL or AV-cover-CAUS.THM.APPL cast.net exist

dua ka-tangtu-an supaya hasil=na mekar jeung

two NMLZ-certain-NMLZ so.that result=DEF open.up and

nga-rungkup sasaran anu geus di-tangtu-keun.

AV-cover seek-NMLZ REL already PV-certain-CAUS

'With respect to throwing or casting a small cast-net (lit. using a small cast-net to enclose s.t.), there are two rules (to follow) so that the result

(is) (the net) opening up and covering the target that was already determined.’ (CT1-044, based on MPI-SUN 18000)

2.6 Beneficiary-Selecting Constructions Marked with *pang-* *-keun*

Sundanese has two morphologically marked constructions which select a beneficiary participant as a core argument. A beneficiary represents an entity (typically a person, though other animate entities are possible) who is affected advantageously by an event without being the agent or primary affected participant of the event (Kittilä & Zúñiga 2010: 2). This section describes beneficiary-selecting constructions marked with the circumfix *pang-* *-keun*. Beneficiary-selecting constructions marked with the suffix *-keun* are discussed in § 2.7.

Benefactive constructions marked with *pang-* *-keun* are frequent in usage and extremely productive across lexical bases in Sundanese. This type of construction has a substitutive benefactive meaning; it indicates that an agent performs an action on behalf of a beneficiary, who accrues a benefit in that the beneficiary does not have to perform this action her/himself (Kittilä 2005; Van Valin & LaPolla 1997).

(47) Sundanese, Substitutive benefactive construction

a. *Bapa nga-betot parahu Asep.*

father AV-pull boat A.

‘Father pulled Asep’s boat.’ (BC)

b. *Bapa m-(p)ang-metot-keun parahu Asep.*

father AV-BEN.APPL-pull-BEN.APPL boat A.

‘Father pulled Asep’s boat (for him).’ (AC) (CT1-034)

Consider the example above, in which the minimal difference between (47a) and (47b) is that in (47b), the verb is marked with the circumfix *pang-* *-keun*. Both clauses describe the action of pulling a boat to move it (e.g. to the edge of a body of water) with the verbal root *betot* ‘to pull, to yank’. In both clauses, an agent maps to the A argument and is realized as an unmarked core argument in preverbal position, while a theme maps to the P argument and is realized as an unmarked core argument in immediate postverbal position. However, the two clauses differ in meaning. When the verb is marked with *pang-* *-keun*, the sentence is understood to mean that Father pulled the boat belonging to Asep *on Asep’s behalf*, thereby relieving Asep of the need to do so. When the verb is unmarked, the sentence merely indicates that Father pulled the boat belonging

to Asep, and makes no comment on whether Asep (or any other party) benefited from this event, or whether Asep had a need to perform this action.

Note also that in (47b), the semantic beneficiary is not realized with encoding that we expect to see for a core argument (an unmarked NP, or *ku*-marked agent phrase). Instead the beneficiary participant is expressed as the possessor of the P argument (theme), and it is understood that the beneficiary is the same entity as the possessor through pragmatic inference. The expression of a beneficiary as a possessor is very common in Sundanese. Also common is for the beneficiary to be left entirely unmentioned in the clause.

An example of non-realization of the beneficiary is shown in (48) below, where the verb, *pang-neundeun-keun* ‘place (s.t.) for (s.o.)’, is a polite imperative form. In the pragmatic context, the hearer infers that the speaker is the beneficiary of the requested event, because the request implicates that the speaker desires the hearer—and not the speaker herself—to carry out the event.

(48) Sundanese, Substitutive benefactive imperative

Udi, pang-neundeun-keun balanja-an di dapur.

U. BEN.APPL-place-BEN.APPL shop-NMLZ in kitchen

‘Udi, please put the shopping purchases in the kitchen (for me).’

(CT1-022)

Apart from non-realization and expression as a possessor NP, the beneficiary participant in a clause marked with *pang- -keun* can be overtly expressed in two other ways.

First, the beneficiary can be selected as the R argument in a ditransitive clause and realized as unmarked NP. An example is given below in (49). In the BC in (49a), the theme is selected to map to P, and is realized as an unmarked NP immediately after the verb, which is in AV. In the AC shown in (49b), the verb again is in AV and it is marked with *pang- -keun*. Two unmarked NPs immediately follow the verb, first the beneficiary *Lilis* ‘personal name’, which maps to R, and then the theme *sangu* ‘cooked rice (and accompanying dishes)’, which maps to T. In the AC shown in (49c), the verb is in PV and marked with *pang- -keun*. The beneficiary again maps to R and is expressed as an unmarked NP in preverbal position. The theme again maps to T, and is expressed as an unmarked NP in immediate postverbal position.

(49) Sundanese, Beneficiary encoded as unmarked NP

a. *Asep m-(b)awa sangu keur Lilis.*

A. AV-bring cooked.rice for L.

‘Asep brought food for Lilis.’ (BC)

- b. *Asep m-(p)ang-mawa-keun Lilis sangu.*
 A. AV-BEN.APPL-bring-BEN.APPL L. cooked.rice
 'Asep brought food for Lilis.' (AC) (CT1-025)
- c. *Lilis di-pang-mawa-keun sangu ku Asep.*
 L. PV-BEN.APPL-bring-BEN.APPL cooked.rice by A.
 'Lilis had food brought for her by Asep.' (AC) (CT1-025)

Second, the beneficiary can be realized as an oblique PP in a monotransitive clause. In these cases the semantic role that maps to P in the BC continues to map to P in AC. Thus, there is no change in the mapping of the companion phrase in the clause marked with *pang- -keun*, as shown in (50). Here, the verb *bawa* 'to bring' is marked with *pang- -keun*, but the semantic theme *sangu* continues to be expressed as P and realized as an unmarked core argument. This holds both when the verb is in AV, as in (50a), and when it is in PV, as in (50b). In both cases, the beneficiary is expressed with the PP *keur Lilis* 'for Lilis'.

(50) Sundanese, Beneficiary encoded as PP

- a. *Asep m-(p)ang-mawa-keun sangu keur Lilis.*
 A. AV-BEN.APPL-bring-BEN.APPL cooked.rice for L.
 'Asep brought food for Lilis.'
- b. *Sangu di-pang-mawa-keun ku Asep keur Lilis.*
 cooked.rice PV-BEN.APPL-bring-BEN.APPL by A. for L.
 'Food was brought by Asep for Lilis.' (CT1-025)

Examples (49a) and (50) show that it is possible to for a beneficiary to be expressed with a PP in both a BC and an AC with the verb *bawa* 'to bring'. However, the semantic relationship between the verb and a beneficiary PP in the clause shows differences based on whether the verb is marked with *pang- -keun* or not. Let's return to the reduction and inference tests used by Riesberg (2014a) and apply them to examples (49a) and (50a). When the verb does not bear any AM, the reduced clause *Asep mawa sangu* does not support the inference that *Asep brought rice for someone*. This supports the analysis that the beneficiary PP in the BC is an adjunct. On the other hand, when the verb is marked with *pang- -keun*, from the reduced clause *Asep mawakeun sangu*, it is possible to infer that *Asep brought rice for someone*. This suggests that the beneficiary PP in clauses marked with *pang- -keun* has at least an intermediary status because it shows some properties of argumenthood. For this reason, I will treat the beneficiary PP in constructions marked with *pang- -keun* as oblique arguments.

The beneficiary-selecting construction marked with *pang-* *-keun* is highly productive in Sundanese. Bases that combine with *pang-* *-keun* in benefactive constructions may be agentive or non-agentive and stative or dynamic. However, verbs marked with *pang-* *-keun* always describe agentive and volitional actions, in keeping with the meaning of the construction, which denotes that an agent performs some action on behalf of another party.

An example of a benefactive construction with a stative base is given in (51). Here, the meaning of the construction marked with *pang-* *-keun* is both causative and benefactive; the bare stem *garing* refers to the state of being dry, while the affixed stem *pang-garing-keun* refers to the act of causing something to become dry on behalf of a beneficiary.

(51) Sundanese, Substitutive benefactive with stative base

- a. *Baju geus garing.*
 clothing already dry
 'The clothes are already dry.' (BC)
- b. *Baju Asep di-pang-garing-keun dina*
 clothing A. PV-CAUS.BEN.APPL-dry-CAUS.BEN.APPL LOC
mesin ku Ani.
 machine by A.
 'Asep's clothes were dried (for him) in the dryer by Ani.' (AC)
 (CT1-001)

Examples of benefactive constructions with dynamic intransitive bases are given below. Again, the meaning of the constructions marked with *pang-* *-keun* is both causative and applicative. In example (52), the base verb *ngucur* in the BC means 'to flow, as of liquids', while the verb *pang-ngucur-keun* in the AC means 'to make (s.t.) flow for s.o.'. A similar example is shown in (53) with the root *jogéd* 'to dance'.

(52) Sundanese, Benefactive construction with dynamic intransitive base

- a. *Cai hujan ng-(k)ucur=na ka solokan.*
 water rain AV-flow=3 to canal
 'Rain water flows into the drainage trench.' (BC) (CT1-023)
- b. *Pang-ngucur-keun cai kana ember.*
 CAUS.BEN.APPL-flow-CAUS.BEN.APPL water to bucket
 'Please pour water into the bucket (for me).' (AC) (CT1-024)

(53) Sundanese, Benefactive construction with dynamic intransitive base

a. *Euis jogéd keur abi.*

E. dance for 1SG

'Euis danced for me.' (BC)

b. *Wayang abi di-pang-jogéd-keun**ku Euis.*

puppet 1SG PV-CAUS.BEN.APPL-flow-CAUS.BEN.APPL by E.

'My shadow puppet doll was made to dance by Euis (for me).' (AC)

(CT1-039)

Example (54) shows *pang-* *-keun* with the transitive base *beuleum* 'to roast, grill'. The AC in (54b) is ditransitive, while the BC in (54a) is monotransitive.

(54) Sundanese, Benefactive construction with transitive base

a. *Bapa m-(b)euleum sampeu keur abi.*

Father AV-roast cassava for 1SG.

'Father roasted cassava for me.' (BC)

b. *Bapa m-(p)ang-meuleum-keun abi sampeu.*

father AV-BEN.APPL-roast-BEN.APPL 1SG cassava.

'Father roasted cassava for me.' (AC)

(CT1-002)

Example (55) below shows a benefactive construction with the transitive base *tinggali* 'to see'. The base verb *ninggali* means 'to see (AV)' and selects a perceiver experiencer to map to A as in the BC in (55a). This verb is neutral for volitionality of A in AV.¹¹ The affixed verb, *pang-ninggali-keun*, which is shown in imperative form in the AC in (55b), means 'watch (s.t.) for (s.o.)', and A must be volitional, as reflected in the English translation using the active perception verb 'watch' rather than the experiential perception verb 'see'. A similar example is given with the root *ambeu* 'to smell, sniff' in (56) below.

(55) Sundanese, Substitutive benefactive with experiential transitive base

a. *Déwi n-(t)inggali mobil Asep.*

D. AV-see car A.

'Dewi sees Asep's car.' (BC)

(FM4-046)

11 In PV, speakers may choose to use the voice prefix *ka-* to express non-volitionality, or the prefix *di-* to express volitional action. See also example (16) and the discussion of it in §2.2.2.

- b. *Pang-ninggali-keun pasak-an abi.*
 BEN.APPL-see-BEN.APPL cook-NMLZ 1SG
 'Please watch my cooking (for me) (e.g. as I need to step away).' (AC)
 (CT1-040)

(56) Sundanese, Substitutive benefactive with experiential transitive base

- a. *Abi ng-ambeu kue haneut.*
 1SG AV-smell cookie warm
 'I smelled warm cookies.' (BC)
 (CT1-039)
- b. *Pang-ambeu-an-keun minyak seungit éta.*
 BEN.APPL-smell-PLUR-BEN.APPL oil fragrant DIST
 'Please smell those perfumes (for me) (e.g. as I need to choose one).'
 (AC) (CT1-015)

Taken together, the above examples show that beneficiary-selecting constructions marked with *pang-* *-keun* are minimally monotransitive, and always valency-increasing. With transitive base verbs, an AC marked with *pang-* *-keun* selects three semantic roles that may map to a core argument: an agent (i.e. a volitional participant that performs the action), a "primary affected target participant" role (e.g. a semantic patient, theme, or stimulus, among others), and a beneficiary. With intransitive base verbs, ACs marked with *pang-* *-keun* are both causative and applicative, and again select three semantic roles that may map to core arguments: an instigating causer agent, a primary affected target participant, and a beneficiary argument. Of the three arguments selected in *pang-* *-keun* marked constructions, the beneficiary in particular shows variable mapping. If realized, the beneficiary can be expressed as an oblique PP in a monotransitive clause, the possessor of the P argument in a monotransitive clause, or the R argument of a ditransitive clause. The mapping of the affected target participant is determined in turn. In monotransitive clauses it maps to the P argument, while in ditransitive clauses, it maps to the T argument.

Even though the substitutive benefactive construction is extremely productive, not all verbal roots are frequently attested with it in usage. Due to the construction's substitutive benefactive meaning, in order for an example to be felicitous, the action described by the base verb must be considered necessary or obligatory for some party to perform, and it must be considered possible and beneficial to relieve this party of that necessity by performing the action on this party's behalf. Thus the usage of this construction is influenced by cultural and contextual factors. For example, the primary speaker I worked with reported that the verb *pangdaharkeun* with the intended meaning 'to eat for

(s.o.)' (cf. *dahar* 'to eat') would not generally be used because an agent's eating action would not relieve another party's need to eat. She also found it difficult to construct felicitous examples with the verb *pangliangkeun* 'to make a hole for (s.o.)' (cf. *ngaliang* 'to make a hole') as making a hole would not be considered the obligation of any person, and an animal which digs by instinct would not be relieved of the need to make a hole by action of a human agent on its behalf.

2.7 Beneficiary-Selecting Constructions Marked with *-keun*

Beneficiary-selecting constructions marked with *-keun*, as shown in (57) below, are reported by Hanafi (1997). However, in my data, such benefactives are rare; I found only a handful of examples during elicitation of meanings on the Leipzig valency questionnaire, in recorded natural texts, and in corpus resources.

(57) Sundanese, Beneficiary-selecting construction

a. *Udi m-(b)uka panto keur abi.*

U. AV-open door for 1SG

'Udi opens the door for me.' (BC)

b. *Udi m-(b)uka-keun abi panto.*

U. AV-open-BEN.APPL 1SG door.

'Udi opened the door for me.' (AC) (CT1-039 and Hanafi 1997: 23)

It is possible that the benefactive meaning associated with *-keun* is related to constructions in which marking with *-keun* indicates that the action is performed by a third party. Consider example (58) below, showing the verb *injeum* 'to borrow' in PV. In the BC in (58a), the theme (the item borrowed) is selected as P, and the agent which is selected as A is the borrower. In the construction marked with *-keun* in (58b), the theme is still the P argument, but the agent is a third-party (neither owner nor borrower) who facilitates the borrower's (temporary) possession of the theme. I interpret this construction as a type of causative, that is, the third party causes or lets the item be borrowed by the borrower.

(58) Sundanese, Third-party causative construction

a. *Buku téh bisa di-injeum ku manéh ...*

book PRT can PV-borrow by 2SG

'The book can be borrowed by you ... [but you must return it tomorrow].' (BC)

(Hardjadibrata 1985: 142)

- b. *Sapédah Asep di-injeum-keun ku Ema ka Udi.*
 bicycle A. PV-borrow-CAUS.THM.APPL by mother to U.
 ‘Asep’s bicycle was lent out by Mother to Udi (i.e. Mother let Udi borrow Asep’s bicycle).’ (AC) (CT1-003)

In other cases, transfer verbs marked with *-keun* show semantic effects from apparent lexicalization. Consider the examples below showing the verb *kirim* ‘to send’. Example (59a) shows that both the base form and the verb affixed with *-keun* can be used to mean ‘send (s.t.)’ without any detectable change in meaning. However in (59b), where it is explicitly specified that a third-party service is used to perform the sending action, the suffixed form of the verb is preferred. It appears that the construction marked with *-keun* can indicate involvement of a third-party who carries out the action, but this has undergone semantic bleaching because it is not usually feasible to send an item to a recipient without the involvement of a third-party carrier.

(59) Sundanese, Semantic bleaching with *-keun*

- a. *Abi ng-(k)irim(-keun) buku ka adi.*
 1SG AV-send(-THM.APPL) book to younger.sibling
 ‘I sent the book to (my) younger sibling.’ (No effect)
- b. *Abi ng-(k)irim-keun buku maké pos.*
 1SG AV-send-CAUS.THM.APPL book using post
 ‘I sent the book by mail (lit. had the book sent by the postal service).’
 (CT1-003)

2.8 Other Applicative Constructions

This section describes constructions in which the argument selected as P in a AM-marked clause has the semantic role of content, addressee (or other type of perceiver), stimulus, or performance.

With communication verbs, especially verbs of speaking, suffixation with *-keun* often marks a content-selecting construction, while suffixation with *-an* often marks an addressee-selecting construction. In corresponding BCs, the content of an utterance is expressed either as direct speech, in a clause headed by the complementizer *yén*, or as the complement of the verb *ngeunaan* ‘concerning, with regards to’ (from base *keuna* ‘to hit, affect’). The addressee in BCs typically is expressed as a PP.

An example is given below in (60) with the root *béja* ‘to inform; news’. When the verb is marked with *-keun*, as in (60b), the content (or topic) of the com-

munication event may be expressed as the P argument and realized as an unmarked NP in immediate postverbal position. When the same verb is marked with *-an*, as in (60c), the addressee may be expressed as the P argument and realized as an unmarked NP in immediate postverbal position.

(60) Sundanese, Content- and addressee-selecting constructions

- a. *Acéng teu bé-béja ka sa-saha ngeunaan k<al>bur=na*
 A. NEG RDP-inform to RDP-who concerning <PL>escape=DEF
b<ar>udak santri ti pasantrén.
 <PL>child student from religious.school
 ‘Acéng did not tell anyone about the students’ running away from the religious school. (BC)’ (Kurniawan 2013: 321)
- b. *Udi nga-béja-keun pa-damel-an Asep ka Pak*
 U. AV-inform-APPL NMLZ-work-NMLZ A. to mister
RT.
 neighborhood
 ‘Udi reported Asep’s job to the neighborhood officer (e.g. because it involves illegal activity).’ (AC) (CT1-044)
- c. *Pak RT nga-béja-an nu boga imah aya*
 mister neighborhood AV-inform-APPL REL own house exist
jelema di imah.
 person in house
 ‘The neighborhood officer informed the homeowner that a person had been in the house.’ (AC) (CT1-044)

A similar example is given in (61). The AC in (61b) shows that the semantic content may be expressed as P and realized as an unmarked NP when the verb is marked with *-keun*. The AC in (61c) shows that the addressee may be expressed as P and realized as an unmarked NP when the verb is marked with *-an*. There is also a semantic change in the meaning of the verb bearing *-an*; *carios-an* is used to mean ‘to scold, lecture’ while *carios* is more neutral and simply means ‘to talk’. The same meaning holds for *omong-an* ‘to scold, lecture’. Note that *omong* ‘to talk’ represents a more casual speech register, while *carios* is more polite.

(61) Sundanese, Content- and addressee-selecting constructions

- a. *Abi ny-(c)arios ka mama, “Ma, abi hoyong miliarian damel.”*
 1SG AV-talk to mother, mom 1SG want AV.look.PLUR work
 ‘I said to my mother, “Ma, I want to look for work.”’ (BC) (FM4-027-B)

- b. *Hayang urang kempel ny-(c)arios-keun pa-damel-an.*
 let 1PL gather AV-talk-APPL NMLZ-work-NMLZ
 ‘Let’s meet up and talk about the job.’ (AC) (FM4-027-B)
- c. *Pa Guru keur ny-(c)arios-an Udi.*
 mister teacher PROG AV-talk-APPL
 ‘The teacher is scolding/lecturing Udi.’ (CT1-040)

Other roots that are found with content- and addressee-selecting ACs include *carita* ‘to tell a story; story’, *harewos* ‘to whisper’, and *tanya* ‘to ask’.

With a number of stems denoting performing arts, suffixation with *-keun* marks a performance-selecting construction. Example (62) below shows an AC with the verb *ng-ibing* ‘to dance’ cf. *ibing* ‘a refined type of Sundanese dance’ (Hardjadibrata 2003: 327). The base verb is intransitive, as shown in (62a). A noun denoting the type of performance cannot be expressed as the P argument of the base verb, as shown in (62b). When the verb is marked with *-keun*, however, the type of performance can be expressed as the P argument and realized as an unmarked NP, as shown in (62a).

(62) Sundanese, Performance-selecting construction

- a. *Budak keur ng-ibing.*
 child PROG AV-dance
 ‘The child is dancing’. (BC)
- b. **Budak keur ng-ibing dangdut.*
 child PROG AV-dance k.o.dance
 Intended: ‘The child danced *dangdut*.’ (Ungrammatical)
- c. *Lilis ng-ibing-keun jaipong Kawarang.*
 L. AV-dance-APPL traditional.dance Kawarang
 ‘Lilis danced *jaipong* in the style of Kawarang.’ (AC) (CT1-031)

Example (63a) below shows an AC with the verb root *nyanyi* ‘to sing’. In the BC in (63a), we see that the NP expressing the performance may be realized as an unmarked NP in postverbal position when the verb is in AV. However, it is not grammatical for the performance to be selected as the P argument in pv, as shown in (63b). The performance may only be selected to map to P if the verb is suffixed with *-keun*, as shown in (63a). Base verbs like *nyanyi* ‘to sing’ may be considered semi-transitive because we do not see a full voice alternation in the mapping for two core arguments (A and P), as is otherwise observed for transitive verbs in Sundanese.

(63) Sundanese, Performance-selecting construction

- a. *Abi keur nyanyi lagu "Curug Cinulang."*
 1SG PROG sing song waterfall Cinulang
 'I am singing the song, "Waterfall of Cinulang":' (BC) (CT1-006)
- b. **Lagu di-nyanyi ku abi.*
 song PV-sing by 1SG.
 Intended: 'The/a song was sung by me.' (Ungrammatical) (CT1-003)
- c. *"Indonesia Raya" di-nyanyi-keun ku kabéh.*
 Indonesia great PV-sing-APPL by all
 "'Indonesia Raya" was sung by everyone.' (AC) (CT1-003)

Communication events described by content- and addressee-selecting ACs and performance events described by performance-selecting constructions may be generalized as kinds of caused perception events.¹² Thus we can characterize a communicator as a type of agent, an addressee as a type of perceiver, and the content of an utterance as a type of perceived phenomenon, which I include under the semantic role label *stimulus*, following Van Valin (2005). In the same way, we might characterize a performer as a type of agent, and a performance as a type of perceived phenomenon, or stimulus.

Other types of verbs in Sundanese in fact also show association of marking with *-keun* with selection of a perceiver argument, while marking with *-an* is associated with selection of a stimulus argument. The meaning of such constructions may be generalized as, 'to cause to perceive'.

For instance, with certain verbs describing expressions or gestures, marking with *-an* is associated with the selection of a role that represents an (intended) perceiver. In the BC in (64a), the verb *seuri* simply means 'smile'. When the same verb is suffixed with *-an* in the AC in (64b), *nyeurian* means 'to smile at (s.o.)'. The participant that maps to P, i.e., the one smiled at, can be considered an intended perceiver or a target in whose direction the gesture is perceivable.

(64) Sundanese, Perceiver-selecting construction

- a. *Ujang seuri (ka abi).*
 U. smile (to 1SG)
 'Ujang smiled (at me).'

12 For instance, in the Frame Semantics framework, communication events are considered to be a kind of caused perception event (see International Computer Science Institute 2001).

- b. *Ujang ny-(s)euri-an abi.*
 U. AV-smile-APPL 1SG
 'Ujang smiled at me.' (CT1-002)

Example (65) shows a similar construction with the verb *kieup* 'to blink'. When *kieup* is marked with *-an*, an intended perceiver is selected as the P argument. Note that a semantic change in the suffixed verb is also observed; while *kieup* means 'to blink', *kieup-an* means 'to wink at (s.o.)'.

(65) Sundanese, Perceiver-selecting construction

- a. *Ujang ng-(k)ieup.*
 U. AV-blink
 'Ujang blinked.'
- b. *Ujang ng-(k)ieup-an Icih.*
 U. AV-blink-APPL I.
 'Ujang winked at Icih.' (CT1-007)

Verbs of perception in Sundanese typically select a perceiver to map to A and a stimulus to map to P in BCs, as shown in (66a) with the verb *tinggali* 'to see'. When such verbs are marked with *-keun*, the clause may exhibit the structure shown in (66b). The meaning of the verb is now causative and an instigating causer is selected to map to A. However, perhaps contrary to expectation, the role that maps to A of the BC (the perceiver, or causee) is not remapped to P in (66b). Instead, the semantic stimulus continues to map to P. The perceiver is expressed as an oblique argument marked with the preposition *ka* 'to'. This type of construction is syntactically causative but also shares semantic properties with other stimulus-selecting ACs.

(66) Sundanese, Stimulus-selecting causative construction

- a. *Déwi n-(t)inggali mobil Asep.*
 D. AV-see car A.
 'Dewi sees Asep's car.' (BC)
- b. *Asep n-(t)inggali-keun mobil=na ka Dewi.*
 A. AV-see-CAUS.APPL car=3 to D.
 'Asep showed his car to Dewi.' (FM4-046)

A similar construction is found with the stative root *tembong* 'visible', which refers to the quality of being perceivable by sight.

(67) Sundanese, Stimulus-selecting causative construction

a. *Gunung tembong ti imah abi.*

mountain visible from house 1SG

‘The mountain is visible from my house.’

b. *Baju anyar di-tembong-keun ku Asep ka Icih.*

clothing new PV-visible-CAUS.APPL by A. to I.

‘The new clothing was shown by Asep to Icih.’

(CT1-032)

When the same verb is suffixed with *-an* we observe a different type of causative construction, which is exemplified in (68).

(68) Sundanese, Perceiver-selecting causative construction

Manuk n-(t)embong-an ka Udi.

bird AV-visible-CAUS to U.

‘The bird showed itself to Udi.’

(CT1-032)

Here, *nembongan* means ‘to show oneself (to s.o.)’. An instigating agent is selected to map to A, as we expect in a causative construction, however, the same participant is understood to be stimulus, i.e. that which is perceived. A perceiver participant is selected to map to a verbal argument that is realized as an oblique PP. This PP is not an adjunct because its indefinite form can be inferred from the reduced clause. That is, from the reduced clause *Manuk nembongan*, we can infer that ‘The bird showed itself to someone.’

On the other hand, with many perception verbs that take a stimulus as a core argument without AM-marking, we see no change in argument structure at all under suffixation with *-an*. With such roots, suffixation with *-an* may result in semantic changes to verbal meaning. In example (69) below, when the suffix *-an* appears on the perception verb *téang* ‘to see (s.o.), look for (s.t.)’, the clause may take a durative or iterative reading, i.e. ‘looking for (s.t.) for some time, looking repeatedly for (s.t.)’.

(69) Sundanese, Pluractional stimulus-selecting construction

a. *Abi keur n-(t)éang HP.*

1SG PROG AV-look.for mobile.phone

‘I am looking for my mobile phone.’ (BC)

- b. ... *lamun awak=na nu leumpang n-(t)eang-an ka-dahar-an.*
 while body=3 REL walk AV-look-PLUR NMLZ-eat-NMLZ
 '[the supernatural being was struck by someone] while its body was
 walking **looking around for food.**' (AC)
 (CT1-019, based on MPI-SUN 18295)

With verbs of emotion, suffixation with either *-an* or *-keun* may mark a stimulus-selecting construction, with the choice of suffix being lexically determined. Examples are shown below in (70) and (71). Note that the verbs meaning 'to cry' and 'to laugh' also appear as reduplicated forms suggesting intensity or iterativity in these examples.

- (70) Sundanese, Stimulus-selecting construction
- a. *Mariam ceurik lantaran indung=na maot.*
 M. cry because mother=3 die
 'Mariam cried because her mother died.' (BC)
- b. *Mariam ny-(c)eung-ceurik-an indung=na.*
 M. AV-RDP-cry-APPL mother=3
 'Mariam cried intensely about her mother.' (AC)
 (CT1-006, based on Hanafi 1997: 22)
- (71) Sundanese, Stimulus-selecting construction
- a. *Abi keur seuri.*
 1SG PROG smile
 'I am smiling.' (BC)
- b. *Abi keur seu-seuri-an.*
 1SG PROG RDP-smile-PLUR.
 'I am laughing.'
- c. *Ujang ny-(s)eung-seuri-keun Asep.*
 U. AV-RDP-laugh-APPL A.
 'Ujang laughed at Asep.' (AC) (CT1-002)

With certain verbs denoting events of cognition, both *-keun* and *-an* are found to mark content-selecting constructions, as shown in (72) below. Both the construction marked with *-keun* in (72b) and the construction marked with *-an* in (72c) select the content role to map to P. The verb *pikiran* means 'to reflect on (s.t.), to bear (s.t.) in mind', while *pikirkeun* means 'to think about (s.t.), think

(s.t.) over' (Hardjadibrata 2003: 626). These are quite close in meaning, but the former might be more durative.

(72) Sundanese, Content-selecting constructions

a. *Abi keur m-(p)ikir.*

1SG PROG AV-think

'I am thinking.' (BC)

b. *Abi keur m-(p)ikir-keun biaya sakola budak.*

1SG PROG AV-think-APPL fee school child

'I am thinking about the children's school fees.' (AC)

c. *Abi keur m-(p)ikir-an hutang.*

1SG PROG AV-think-APPL debt

'I am reflecting on (my) debt.' (AC)

(CT1-003)

In summary, Sundanese exhibits a variety of constructions marked with *-an* and *-keun* in which a peripheral semantic role is selected to map to a core argument. In constructions marked with *-keun*, the possible selected roles include the content of a communication event, the performance in a performance arts event, and the stimulus in caused perception events of various other types. In constructions marked with *-an*, the possible selected roles include the addressee of a communication event, the target or intended perceiver of a gesture, and the perceiver in caused perception events of other types. These two sets of constructions both describe events in which one participant causes (or intends to cause) another participant to perceive some stimulus, though they differ in the suffixal form marked on the verb and mapping of participants observed. Aside from these sets, we also observe that both *-keun* and *-an* may be associated with the mapping of a core argument to the stimulus role of an experiential emotion event, and both are likewise associated with the mapping of a core argument position to the content role of a cognition event. These types of constructions describe the internal experiences of animate entities. The AM-marked constructions described in this section are almost always monotransitive, though some also exhibit an oblique PP that operates like an argument, and these might be referred to as *extended monotransitive* clauses following Dixon & Aikenvald's (2000) use of *extended intransitive* and *extended transitive*. For most verbal roots that occur with AM-marked constructions found in this section, the corresponding BCs are intransitive (or semi-transitive), and the addition of the AM is valency-increasing. One exception is the set of transitive perception verbs that take a perceiver as A and a stimulus as P in BCs. For

such roots, the AM-marked clause generally is valency-preserving and retains mapping of the stimulus role to P, while also taking on a causative or pluractional meaning.

2.9 Other AM-Marked Constructions

In Sundanese, the AMs *-an* and *-keun* are also found on constructions in which their observable function is non-applicative. In such examples, the AM may function to form a causative construction, to indicate pluractional aspect, or to form a comparative construction, but does not appear to mark the selection of a peripheral semantic role as a core argument.

2.9.1 Causative Constructions

The suffixes *-an* and *-keun* both mark causative constructions in which an instigating agent is added to the argument structure and selected to map to A. Causative constructions with such AM-marking are quite productive.

Example (73) shows a construction marked with *-keun* on a stative base. The BC is intransitive, and the entity that exists in the state described by the root *pegat* ‘snapped, broken off, cut off’ (or enters this state) is the sole core argument, S. In the AC, the entity (causee) now is expressed as the P argument, while an instigating causer agent maps to A. A similar example is given in (74) with the suffix *-an* and the root *kiruh* ‘turbid, muddy’.

(73) Sundanese, Causative construction with stative base

- a. *Tali pegat.*
 rope snap
 ‘The rope snapped. / The rope is broken.’
- b. *Tali seuseuh-eun ka-pegat-keun ku Bapa.*
 rope wash-NMLZ NVOL-snap-CAUS by father
 ‘The clothesline was caused to snap by Father on accident.’ (CT1-018)

(74) Sundanese, Causative construction with stative base

- a. *Cai éta kiruh.*
 water DIST turbid
 ‘The water is turbid.’
- b. *Kuring ng-(k)iruh-an cai éta.*
 1SG AV-turbid-CAUS water DIST
 ‘I made the water turbid.’

(Hanafi 1997: 18)

Example (75) show a construction marked with *-keun* on a dynamic intransitive root. The BC is intransitive, and the entity that engages in the activity described by the root *lumpat* ‘to run’ is the sole core argument, S. In the AC, the entity that engages in the activity (causee) is expressed as the P argument, while an instigating causer maps to A. A similar example is given in (76) with the suffix *-an* and the root *dangdan* ‘to dress up, get ready’.

(75) Sundanese, Causative construction with dynamic intransitive base

a. *Asep lumpat ka sakolah.*

A. run to school

‘Asep ran to school.’

(FM4-032)

b. *Budi nga-lumpat-keun motor.*

B. AV-run-CAUS motorbike

‘Budi made the motorbike go fast (lit. run).’

(CT1-003)

(76) Sundanese, Causative construction with dynamic intransitive base

a. *Enéng keur dangdan.*

E. PROG dress

‘Eneng dresses up.’

b. *Kuring nga-dangdan-an Enéng.*

1SG AV-dress-CAUS E.

‘I made Eneng get dressed.’

(Hanafi 1997: 23)

With a number of roots, both *-an* and *-keun* mark causative constructions. An example is given in (77) below with the root *tiis* ‘cool’. Note that there are subtle semantic differences in the meanings of the affixed verbs; *tiis-keun* means ‘to let (s.t.) cool down’, while *tiis-an* means ‘to make (s.t.) cool’ and indicates more active intervention on the part of the agent.

(77) Sundanese, Causative construction with *tiis* ‘cool’

a. *Ntéh geus tiis.*

tea already cool

‘The tea is already cool.’

b. *Abi n-(t)tiis-keun ntéh.*

1SG AV-cool-CAUS tea

‘I let the tea cool down (e.g. by setting it aside before use).’

c. *Icih n-(t)iis-an cai maké és.*

I. AV-cool-CAUS water using ice

'Icih cooled the water using ice.'

(CT1-002)

2.9.2 Pluractional Aspect

In addition to marking causative and applicative constructions, the suffix *-an* often indicates pluractional aspect. Verbs marked with *-an* frequently describe iterative, durative, or habitual action, and events with distributed action and/or multiple P participants. The pluractional meaning of *-an* is highly productive, while its causative and applicative functions are more lexically restricted. Thus, with a large number of roots, *-an* freely occurs with no change in argument structure. Some examples are given below.¹³ As reflected in the free translations, in the clauses without *-an*, the event is viewed as a singular whole. In the clauses marked with *-an*, the event may be indicated to be repeated, as in (78b), to involve many participants, as in (79b), or to be habitual, as in (80b).

(78) Sundanese, Pluractional aspect

a. *Drona m-(p)énta bantu-an ti ba-batur-an=ana.*

D. AV-ask.for help-NMLZ from RDP-friend-NMLZ=3

'Drona asked for help from his friends.'

b. *Abi m-(p)énta-an bantos-an ti pamaréntah.*

1SG AV-ask.for-PLUR help-NMLZ from government

'I asked for help from the government a number of times.' (Pluractional)

(CT1-016)

(79) Sundanese, Pluractional aspect

a. *Budak di-béré buku ku abi.*

child PV-give book by 1SG

'The child was given a book by me.'

b. *Budak nu sunat-an di-béré-an co-coo-an.*

child REL circumcision-NMLZ PV-give-PLUR RDP-play-NMLZ

'The child who was circumcised was given many toys.' (Pluractional)

(CT1-026)

¹³ In example (78) the root *bantu* is the standard Sundanese word meaning 'help', and is neutral in speech register, while *bantos* is a non-standard variant used by some younger speakers as the equivalent of *bantu* in the *lemes* ('refined') register.

(80) Sundanese, Pluractional aspect

a. *Abi m-(b)éré buku ka budak.*

1SG AV-give book to child

'I gave the book to the child.'

b. *Pak Haji sok m-(b)éré-an duit ka Lilis.*

mister haji often AV-give-PLUR money to L.

'Pak Haji often gives money to Lilis.' (Pluractional)

(CT1-026)

2.9.3 *Marking with Multiple AMs*

In a benefactive AC marked with *pang-* *-keun*, the verb stem may consist of a root plus *-an*. In such cases, the resulting clause selects a beneficiary as an argument and also has a pluractional, causative, and/or locative applicative meaning. In some such clauses (but not all), the function of *-an* is purely non-applicative. Marking with multiple AMs in this manner does not appear to be used frequently in natural discourse, but this process is fairly productive as speakers will readily generate such forms over many lexical bases when asked.

(81) Sundanese, Multiple AM-marking

Abi di-pang-neundeun-an-keun balanja-an di dapur ku

1SG PV-BEN.APPL-place-PLUR-BEN.APPL shop-NMLZ in kitchen by

Udi.

U.

'I had many shopping purchases placed in the kitchen for me by Udi.'

(CT1-022)

(82) Sundanese, Multiple AM-marking

Tipi di-pang-maéh-an-keun ku Bapa.

television PV-BEN.APPL-dead-CAUS-BEN.APPL by father

'The television was turned off (for me) by Father.'

(CT1-003)

(83) Sundanese, Multiple AM-marking

Udi m-(p)ang-eusi-an-keun ember maké jambu.

U. AV-BEN.APPL-full-CAUS.LOC.APPL-BEN.APPL bucket using guava

'Udi filled up the bucket with guavas (for me).'

(CT1-024)

2.9.4 Comparatives and Other Degree Constructions

With stative roots expressing gradable attributes, suffixation with *-an* may mark a comparative degree construction. As shown below, the root suffixed with *-an* is the predicate, and is followed by an unmarked NP expressing an entity. A phrase headed by *tibatan* (or its short form *batan*) ‘than’ expresses the standard to which the entity is compared.

(84) Sundanese, Comparative degree construction

- a. *Jangkung-an adi=na tibatan lanceuk=na.*
 tall-COMP younger.sibling=3 than older.sibling=3
 ‘The younger sibling is taller than his/her older sibling.’
- b. *Baguer-an Pak RT tibatan palura.*
 kind-COMP mister neighborhood than village.head
 ‘The neighborhood officer is kinder than the village head.’
- c. *Bodas-an baju ieu tibatan éta.*
 white-COMP clothing this than DIST
 ‘This clothing is more white than that (clothing).’ (CT1-044)

This use of *-an* shows semantic similarities similar to causative constructions where *-an* appears on stative roots, e.g. *niisan* ‘to cool (s.t.)’ in example (77c) above. Both make reference to the degree of a gradable quality that some entity has or acquires. Furthermore, *-an* appears on stative roots in a related intransitive construction. The following examples are from Kurniawan (2013: 31).

(85) Sundanese, Comparative degree achievement construction

- a. *Orok téh nga-lintuh-an.*
 baby PRT AV-fat-COMP
 ‘The baby gets fatter.’
- b. *Manéhna rada nga-jangkung-an.*
 3SG rather AV-tall-COMP
 ‘She gets a bit taller.’ (Kurniawan 2013: 31)

Here, I note that not all stative roots in Sundanese require affixation with *-an* to express inchoative meanings. For instance, in (73) above, the stative root *pegat* can have a stative meaning e.g. ‘The rope is **broken**’, or an inchoative meaning, e.g. ‘The rope **snapped**.’ Besides this, the sentences in (85) do indicate a greater degree of an attribute, rather than simply the beginning of a state. For this rea-

son, I consider clauses like those in (85) to represent a comparative degree achievement construction (see Hohaus & Bochnak 2020) and I use the gloss COMP for ‘comparative’, where Kurniawan uses ‘inchoative’.

2.10 Summary and Discussion

In this chapter, I have described and exemplified the applicative system of Sundanese using the definition of applicatives outlined in the introductory chapter. These include: (i) locative- and goal-selecting ACs marked with *-an*, (ii) theme- and instrument-selecting ACs marked with *-keun*, and (iii) beneficiary-selecting ACs marked with *pang-* *-keun* (or rarely, *-keun*). Also presented were ACs that express various types of events, in which a stimulus, content, or perceiver, among others, is selected as the applied phrase.

In addition, I have presented a number of other clausal constructions that are not applicatives, but are marked with the same morphemes. These include causative constructions, pluractional meanings, and the formation of verbs from non-verbal bases, among others.

Throughout the chapter, I have endeavored to show a number of advantages to adopting a constructional approach in analyzing the applicative system of Sundanese. For emphasis, some of these are repeated here, using *-an* marked constructions for illustration. Goal-selecting constructions with *-an* are listed for four bases in Table 4, along with representations of the argument structure in the form of a *frame* for the AC and BC (if one exists). Full clausal examples for these were given above in § 2.4.2, § 2.4.4, and § 2.5.

We can identify the four ACs shown in the table as examples of one generalized construction in which different lexical bases may fill the verbal slot. The consistent elements of form include the presence of the suffix *-an* on the verb, an argument structure with (maximally) three arguments, and in this particular set of examples, the occurrence of the PV prefix *di-* on the verb. A consistent meaning which may be generalized across bases also is observed. This includes the mapping of a goal role to the preverbal P argument, and a eventive meaning that may be expressed as “an agent causes motion of a theme to a goal”.

If we were to define an AC in terms of its correspondence to—or derivation from—a BC, the examples with *uyuh-an* ‘to put salt on (s.t.)’ and *alung-an* ‘to throw at (s.t.) (s.t.)’ would be problematic, as the former cannot be used as a verbal predicate without *-an*, and the latter is not used as a verbal predicate without *-an* or *-keun* by some present-day speakers.

Furthermore, in these four examples the non-applicative meanings or functions of the AM *-an* are not distinct from its applicative functions. Thus, even

TABLE 4 Sundanese goal-selecting constructions compared

Base	AC Frame	BC Frame
<i>teundeun</i> 'to place'	[GOAL] <i>di</i> -[X]- <i>an</i> [THM] <i>ku</i> [AGT] 'place at (s.w.) (many items)'	[THM] <i>di</i> -[X] <i>ka</i> [GOAL] <i>ku</i> [AGT] 'place (s.t.) to s.w.'
<i>alung</i> 'to throw'	[GOAL] <i>di</i> -[X]- <i>an</i> [THM] <i>ku</i> [AGT] 'throw at (s.t.) (s.t.)'	[THM] <i>di</i> -[X] <i>ka</i> [GOAL] <i>ku</i> [AGT] 'throw (s.t.) to s.w.' (infreq. use)
<i>anclom</i> 'touch water'	[GOAL] <i>di</i> -[X]- <i>an</i> [THM] <i>ku</i> [AGT] 'put into (some liquid) (s.t.)'	[THM] [X] 'touch water'
<i>uyah</i> 'salt (n.)'	[GOAL] <i>di</i> -[X]- <i>an</i> <i>ku</i> [AGT] 'put salt on (s.t.)'	(none)

though *-an* often indicates pluractional aspect without selection of a peripheral role as a core argument, e.g. *teungeul-an* 'to hit repeatedly', in the case of *teundeun-an* 'to place at (s.w.) (many items)' the meaning is pluractional and at the same time the argument structure is consistent with that of an AC. Likewise, *-an* sometimes forms constructions that are strictly causative as with *dangdan-an* 'to make (s.o.) get dressed'. Still, in the case of *anclom-an* 'to touch to (some liquid) (s.t.)', the function of *-an* and the argument structure observed are consistent both with that of a causative construction, and that of a locative AC.

In a constructional approach, all these types of clauses can be meaningfully classified and related together in a constructional network. For Sundanese, we might define a larger construction type of [Goal-selecting Applicative], of which there are two subtypes, [Caused Motion Goal-selecting Applicative] and [Self-Motion Goal-selecting Applicative], each attracting bases according to the compatibility of their lexical semantics. Some examples of the caused motion subtype may also be said to belong to another [Morphological Causative] construction type, e.g. *anclom-an*, 'to put into (some liquid) (s.t.)'. Some examples of either the caused motion subtype or the self-motion subtype may belong to another [Pluractional Aspect] construction type, e.g. *teundeun-an* 'to place to (s.w.) (many things)' and *anjang-an* 'to visit (many places)'.

While I do not attempt to formally represent such a constructional network, the functional typology of ACs and other AM-marked constructions outlined in this chapter (and further developed in Chapter 7) lends itself neatly to this type

of categorization. It also allows for integration of clausal constructions that would be considered problematic under other approaches to applicatives, due to the nature of their relationships with corresponding BCs (or lack thereof). In Sundanese, such problematic examples occur with non-trivial frequency.

Thus, in this chapter I have explored the Sundanese applicative system as a featured case study, and identified some advantages to using a constructional approach in its analysis. In the following chapter, I examine some of the same issues at a much broader level. In it, I consider at length other common approaches to applicatives, and constructions which are problematic for these, as found in other language families and other languages of West Nusantara.

Towards a Typologically-Grounded, Constructional Approach to Applicatives

In this chapter, my goals are to situate the present study in the context of previous research on applicatives in the linguistic literature, and to explain the approach to applicatives that I have taken in this study. In § 3.1, I discuss definitions of applicatives used in functional and typological linguistic research, exploring commonalities, as well as differing understandings of applicatives which are found. In § 3.2, I present a number of attested constructions that have proved problematic for commonly adopted approaches to applicatives, first looking broadly at examples from diverse languages families, and then more narrowly at examples from previous research on languages of West Nusantara. In § 3.3, I show how such problematic constructions are better accounted for with adoption of a constructional approach to applicatives. In § 3.4, I discuss one particular challenge in developing a typology of applicative constructions (ACs) in West Nusantara languages, namely, the Philippine-type voice system, and alternations in Philippine-type languages that have proved difficult to classify in linguistic typology. In § 3.5, I discuss the relationship between applicatives and serial verb constructions, outlining the criteria by which I distinguish the two. In § 3.6, I conclude the chapter by demonstrating how ACs and other constructions marked with applicative morphemes (AMs) in West Nusantara languages are situated in a broader typology of verbal constructions in the framework of this study.

3.1 What Are Applicatives?

3.1.1 *Origins of the Term Applicative*

The term *applicative* comes from the Latin *verbos applicativos*, ‘applicative verbs,’ which was first used by Jesuit missionaries in descriptions of benefactive and malafactive constructions in Nahuatl and other Uto-Aztecan languages beginning in the 1500s (see del Rincón 1885; Carochi 1981). In Bantu languages, similar verbal constructions have been described in grammars dating to the 15th century, but only in the 1800s did the terms *applied form* or *applicative* come into use (see Pacchiarotti 2020). The traditions of research in these two language families have most influenced the study and definition of applicatives.

More recently, the term applicative has been applied to constructions found in many other languages and language families. Besides Uto-Aztecan and Bantu, Polinsky (2013), based on a survey of more than 180 languages, identifies Salishan, Mayan, and Austronesian as language families where applicatives are commonly found. Peterson (2007) identifies languages which have applicatives in a wide variety of genetic groupings and geographic areas, spanning the Americas, Africa, Australia, South and Southeast Asia, and Papua New Guinea—but only two languages of Eurasia, where he reports applicatives are rare. As Dixon (2012: 334–335) points out, what are now called applicatives have been described using a variety of other labels, and while the term applicative is in widespread use today, it is not used uniformly by all authors.

3.1.2 *Commonalities in Definitions of Applicatives*

Despite this lack of uniformity, examination of commonly-accepted definitions of applicatives in the literature reveals some major areas where authors are in agreement. In this section, I aim to describe these commonalities in terms which are broadly inclusive.

First, the term applicative describes a type of clause-level or predicate-level construction (i.e., an AC). It appears to be the mainstream view, particularly in functional and typological approaches, that ACs are marked by morphology or morphological processes on the verbal complex.¹ The morphemes that signal these constructions are also commonly called applicatives.

Second, in addition to morphological marking, ACs are characterized by the presence of a phrase that shows marked properties, which I will refer to here as the *applied argument* or *applied phrase*.² The AC shows unusual mapping of roles to argument structure, and the applied argument is often said to be “introduced,” “added,” or “allowed” in some fashion in this structure. Most authors agree that the applied argument in an AC must represent a different gram-

1 However, many authors working in generative grammar consider unmarked ditransitive alternations, such as English ‘dative shift’ to also constitute applicatives (e.g. Baker 1988a). In generative frameworks, applicatives are commonly understood as a syntactic element that introduces a non-core argument, and this element may be overt or non-overt (see McGinnis 2008). In the typological literature, a few authors do not distinguish between unmarked and formally marked verbal constructions with similar functions, but this is a minority view for applicatives. In practice, unmarked verbal constructions are not commonly identified as examples of applicatives, even by authors who would allow this in principle (e.g. Kulikov & Song 2010).

2 Following Zuñiga & Creissels (2024), I often employ the term *applied phrase* because it allows for inclusion of clausal constituents expressing a peripheral semantic role for which status as a clausal argument is unclear.

mathematical relation than that characteristic of A, the most agent-like argument in a basic transitive clause. In many typologies of voice and valency, this is in explicit contrast to causative constructions, which are defined by the introduction of an A argument (or a similar grammatical category) (e.g. Haspelmath & Müller-Bardey 2004; Dixon & Aikhenvald 2000).

Third, definitions commonly point to differences in the argument structure of ACs as compared to corresponding verbal constructions that lack the same distinctive morphological marking, that is, base constructions (BCs).³ In particular, two observations have been made about ACs: (i) the applied argument is syntactically similar to core arguments in BCs, and (ii) the applied argument shows semantic roles similar to non-core arguments in BCs. Authors typically describe the syntactic similarities in terms of syntactic coding and grammatical relations, and the applied argument is most commonly equated or likened to P, the most patient-like argument in a transitive construction. Authors commonly describe possible roles for the applied argument using lists or by equating them to roles characteristic of obliques or adjuncts in BCs.

To illustrate, let us consider the definition used in Peterson (2007), the most comprehensive systematic cross-linguistic study of applicatives to date. Peterson characterizes applicatives by stating: “Applicative constructions are a means some languages have for structuring clauses which allow the coding of a thematically peripheral argument or adjunct as a core argument. Such constructions are signalled by overt morphology” (2007: 1). He goes on to define ACs as “sentential structures which involve a participant that normally would not be instantiated in a core object relation, but rather as an oblique of one or another sort, in a core (usually direct object) instantiation” and stipulates that applicatives must be “highly productive across a significant portion of the verbal lexicon (all verbs, all transitive verbs, etc.)” (2007: 39). Peterson’s definition of ACs adheres closely to the commonalities I have outlined above, with the exception that he explicitly addresses productivity, while other authors in general do not.

Table 5 summarizes a number of definitions of applicatives which are widely cited and commonly-accepted in the linguistic literature. Columns in the table

3 Authors may describe such differences in reference to a “basic construction” (Polinsky 2013), “underlying clause” (Dixon 2012; Dixon & Aikhenvald 2000, 2011), “base predicate” (Zúñiga & Kittilä 2019), “base verb” (Bresnan & Moshi 1990), “original verb” (Payne 1997), and similar. A few make reference to non-applicative constructions by describing how arguments are “otherwise” (Baker 1988b; Creissels 2014) or “normally” realized (Peterson 2007). Some claim or imply that the applicative clause or predicate has a formal derivational relationship to a basic clause or predicate. Here, I use ‘base construction’ as a neutral, descriptive term and make no such claim.

from left to right indicate: (i) source citations, (ii) whether the authors consider overt morphological marking to be characteristic (or essential) for applicatives, (iii) wording used to characterize the relationship of the applicative to a special argument in the clause, i.e. the applied argument, (iv) wording used to describe the syntactic properties of the applied argument, and (v) descriptions characterizing the semantic properties of the applied argument. Note that some authors specify semantic properties of the applied argument directly, with lists or labels for groups of semantic roles. Others do so indirectly, by equating possible participant roles for the applied argument with participants encoded as non-core arguments in BCs, or by excluding participants encoded as core arguments in the same. Such indirect specifications are listed with a preceding [=] symbol in the rightmost column of Table 5.

Based on the definitions represented in Table 5 and the data used to exemplify them in the same sources, there is widespread agreement that possible roles for the applied argument include beneficiary, recipient, goal, instrument, and location, and usually also comitative (also called associate) and purpose (also called motive). On the other hand, agent is almost never included among possible or prototypical roles for the applied argument, and patient is sometimes included but very uncommonly. A few definitions (notably Peterson 2007, Zúñiga & Kittilä 2019, and perhaps Comrie 1985) appear to allow a patient role for the applied argument, at least in principle, provided that a corresponding patient participant is normally realized as a non-core argument in a corresponding BC.

In summary, definitions of applicatives in the literature share important commonalities. On this basis, we can describe applicatives in terms of a consensus definition as follows:

(86) Consensus definition of applicatives

The term applicative describes clausal constructions in which overt morphological marking on the verb coincides with differences in argument structure. In such clauses, an applied argument shows syntactic encoding and properties similar to core arguments in corresponding clauses that lack such morphological marking, especially P in a basic transitive construction. Despite this, possible semantic roles found for the applied argument are similar, not to roles found for core arguments, but those found for non-core arguments, such as obliques and adjuncts, in corresponding unmarked clauses. As such, an applied argument typically has the role of a non-agent and non-patient participant, such as a beneficiary, recipient, goal, or instrument, among others.

TABLE 5 Commonly-accepted definitions of applicatives

Source	Mrph. mrk.	Rel. to applied arg.	Syn. properties	Sem. properties
Baker (1988b, 1988a)	Not req'd	may "assign Case" to argument	"looks like" direct object	= "otherwise" oblique
Alsina & Mchombo (1990, 1993)	Yes	"introduces" argument	is an "internal argument"	= "expressed as obliques", "optional"
Bresnan & Moshi (1990; 1993)	Yes	"introduces" argument	is an "object argument"	= "expressed as oblique, if at all"
Payne (1997)	Yes	"brings onto center stage"	is a "direct object"	"peripheral roles"
Dixon & Aikhenvald (2000)	Yes	"adds" argument, which is "taken into the core"	is "in O function"	= "peripheral argument/function"
Mithun (2001)	Yes	"adds" to core arguments	role of "object, absolutive, or grammatical patient"	lists usual roles
Haspelmath & Müller-Bardey (2004)	Yes	argument "is supplied"	"status of a direct object"	"oblique roles"
Foley (2007)	Yes	"adds" argument	"[-oblique] [-A]"	= "erstwhile [+ oblique] NPs"
Peterson (2007)	Yes	"allows encoding of" argument	"in a core (usually direct object) instantiation"	= "normally" oblique, "peripheral"
McGinnis (2008)	Not req'd	"adding" argument	is an "object"	lists roles
Kulikov & Song (2010)	Not req'd	"adding" argument	is a "direct object"	"non-core semantic relations"
Creissels (2010, 2014)	Yes	may "promote," is "way to encode" argument	"identical or similar" to patient of transitive	= otherwise adjuncts, "cannot be core"
Polinsky (2013)	Yes	"increases" no. of arguments	is an "object"	= different than "base object"
Zúñiga & Kittilä (2019)	Yes	"allows" predicate to take argument	"corresponds to primary/ direct object"	= different from "base predicate"

3.1.3 *Differences in Definitions of Applicatives: What Do Applicatives Do?*

While it is clear that ACs differ in argument structure from patterns observed for corresponding BCs, we have already begun to see that authors vary in the way that they frame these patterns, and in the criteria used to identify the relevant differences. These in turn reflect key differences in authors' conceptual understanding of applicatives. Peterson (1999, 2007) has addressed parameters of variation among applicatives at length, though he focuses on *constructions* themselves, rather than on *definitions*. He identifies five parameters describing this variation. Pacchiarotti (2020) builds on this work by identifying how various definitions of applicatives in the literature address Peterson's parameters. In this section, I will refer to Peterson's parameters and a number of related concepts which are discussed by both these authors. But to describe how definitions of applicatives vary from each other, I organize my presentation of this material around the question of function, and one particular sense of function, i.e. "What do applicatives do?" I identify five conceptual approaches to this question, which are not necessarily mutually-exclusive with one another.

3.1.3.1 Approach 1: Applicatives as Argument-Promoting

Some definitions frame applicatives as a device that functions to promote an argument from the periphery of a clause into the core. This approach is related to Peterson's (1999: 41–45) parameter, "Optionality/obligatoriness of the construction." In this view, an applicative is primarily defined by a relationship between two clausal constructions that shows particular correspondences. The main verb in both constructions represents the same stem, and is considered underived in the BC, and morphologically derived in the AC. Between the two clauses, the following criteria generally apply: (i) a participant is realized as a syntactically oblique argument in the BC, and (ii) the same participant is realized as a core syntactic argument, usually P, in the AC. This relationship may be thought of as a transformation that applies to the "underlying" BC, producing the AC as its output. Schema or diagrams of clause structure are often used to represent this process. Definitions of applicatives that reflect this approach include Dixon (2012), Dixon & Aikhenvald (2011), and Foley (2007). In the literature on applicatives, the term 'optional' is used if speakers of a language have a choice between two constructions for expressing a particular participant role—as an oblique in a BC or as a core argument in an AC. In definitions that prioritize argument-promotion, only optional constructions are considered applicatives.

3.1.3.2 Approach 2: Applicatives as Argument-Introducing

In contrast to Approach 1, some definitions frame the function of applicatives as the introduction of an argument to the argument structure of a clause or

predicate. This view is broader with respect to the parameter of “Optionality/obligatoriness”. Definitions reflecting this approach are Alsina & Mchombo (1990, 1993), Bresnan & Moshi (1990, 1993), and Kulikov & Song (2010), among others. In the literature on applicatives, the term ‘obligatory’ means that the AC is the only means in a language to express a particular participant role in a monoclausal construction describing a verbal event. Authors who view applicatives as argument-introducing typically include both optional and obligatory ACs. But to distinguish applicatives from causatives, and sometimes also other verbal transitivizers, authors typically stipulate additional criteria related to syntactic properties or semantic roles of the introduced argument. Because of this, many definitions feature a combination of the argument-introducing view with another approach, especially the syntactic licensing function (Approach 4) or the role-mapping function (Approach 5) as described below.

3.1.3.3 Approach 3: Applicatives as Valency-Increasing

Some definitions frame applicatives as a morphological process that primarily functions to increase the valency of a clause. This view is related to Peterson’s (1999: 46–55) parameter, “Treatment of base and applicative objects”. This approach is especially reflected in Polinsky (2013), which states, “In an applicative construction, the number of object arguments selected by the predicate is increased by one with respect to the basic construction”, and “[a]n applicative construction is a particular instance of a double object construction.” Like Approach 1, Approach 3 relies on comparison of a BC with an AC. Here the primary criterion is an increase of one in the value of syntactic valency over the BC. As seen in Polinsky (2013), there might be no explicit reference to participant role or correspondence between arguments in the two clauses. Applied strictly, definitions that prioritize an increase in valency are narrow with respect to “Treatment of base and applicative arguments”. Under such definitions, a core argument must be added in an AC, and none of the original core arguments of the BC should be suppressed or “demoted” to non-core status.

In practice, however, the criterion of increased valency is rarely applied strictly for all types of BCs. In some typologies, applicatives are clearly considered a type of valency-increasing construction but certain ACs showing no change in the value of syntactic valency over corresponding BCs are also considered applicatives. For example, Dixon & Aikhenvald (2000: 12–14) describe applicatives and causatives as “two valency increasing derivations.” They go on to describe two schema for applicatives split by transitivity of the BC. An AC derived from an intransitive BC always expresses an O argument⁴ where there

4 The terms P argument and O argument are equivalent, with the former following Comrie (1989), and the latter following Dixon (1972).

was none before. In an AC derived from a transitive BC, however, “the argument which was in O function is moved out of the core into the periphery of the clause (and may be omitted)”. Under this type of definition, applicatives only necessarily increase syntactic valency with intransitive verbal bases (see also Haspelmath & Müller-Bardey 2004). Payne (1997) addresses observed differences in effect on syntactic valency explicitly. He writes:

In most cases, an applicative can be insightfully described as a valence increasing operation. ... For verbs that already have one direct object, the applicative either results in a three-argument (ditransitive) verb, or the ‘original’ direct object ceases to be expressed. In the latter case, the applicative cannot be considered a valence-increasing device, since the original and the resulting verb have the same number of arguments; rather the applicative simply ascribes a new, formerly, peripheral semantic role to the direct object. (Payne 1997: 186–187)

In summary, while applicatives are framed as a valency-increasing device in a number of definitions, this function might warrant qualification. An increase in valency might be observed only with verbal bases of lower transitivity values (e.g. intransitive bases only, or intransitive and monotransitive bases but not ditransitives). This in turn might be explained by limits on the maximum transitivity value for verbal constructions; it appears that in some languages verbal clauses are maximally monotransitive, but in others they are maximally ditransitive, or may not obey a strict maximum. These two factors—transitivity of the base and maximum clausal transitivity—are described in greater detail in Peterson’s (1999: 56–60) discussion of his parameter for “Transitivity restrictions”.

3.1.3.4 Approach 4: Applicatives as Syntactic Licensing

Some definitions frame applicatives as devices which license or allow an argument to appear in a particular syntactic realization, as reflected in syntactic coding, and/or access to syntactic operations or structural position. Like Approach 3, this view relates to the parameter, “Treatment of the base and applicative arguments”. However, definitions which prioritize syntactic licensing of one argument are in general broader, because they do not require that the participant expressed by P in the BC retain its original syntactic status when the same role is expressed in the AC. I refer to the constituent expressing this role in the AC as the *companion phrase* because it is a counterpart of the applied phrase, and is not always encoded as a core argument when a verb bears applicative marking (see McDonnell & Truong 2024a).

There is some variation in what exactly applicatives are said to license in this type of approach. In generative grammar, applicatives are often said to allow a non-core argument to move in particular ways in syntactic structure. Coding and syntactic properties of the applied phrase and companion phrase are explained as the result of this movement (see McGinnis 2008). Peterson (2007: 1) states that applicatives “allow the encoding of a thematically peripheral argument or adjunct as a core argument.” Creissels (2004: 6) writes, “In its canonical use, the applicative suffix licenses the presence of a direct object with a semantic role that the same verb devoid of the applicative suffix cannot assign to a direct object.” In a similar fashion, Zúñiga & Kittilä (2019: 53) characterize applicatives as operations that “allow” the predicate “to take a direct or primary object ... bearing a semantic role different from the one the base predicate would normally take (if any).” As seen in these last three examples, views that prioritize the licensing function of applicatives commonly also make reference to the possible semantic or participant roles of the licensed argument. Thus it is common to combine this approach with the view of applicatives as role-mapping (Approach 5).

3.1.3.5 Approach 5: Applicatives as Role-Mapping

Sometimes the function of applicatives is framed as selecting or signaling the mapping of semantic roles to particular arguments in the clause. For example, Payne (1997: 186–187) introduces applicatives by stating, “Some languages have operations whereby a verb is marked for the semantic role of a direct object.” Later, regarding non-valency-increasing ACs (as discussed above), he also writes, “the applicative simply ascribes a new, formerly, peripheral, semantic role to the direct object.” Also, a number of definitions discussed under Approach 4 above stipulate that the licensed argument in an AC bears a different semantic role than the argument that bears the same grammatical relation in the BC (e.g. Creissels 2010; Zúñiga & Kittilä 2019). Thus, a change in mapping of semantic role is implicit in these definitions.

Admittedly, selecting or signaling the mapping of semantic roles does not appear to be commonly identified as the single primary function of applicatives. Still, a description of possible semantic roles is quite commonly included in definitions that emphasize the argument-introducing (Approach 2) or syntactic licensing (Approach 4) functions of applicatives. For example, Pacchiarotti & Zúñiga (2022: 1) hold that one of three “fundamental attributes” of applicatives is that “there are multiple, typically ‘peripheral’ semantic roles that can be mapped onto the applied phrase (e.g. Beneficiary, Instrument, Location, etc.).” Similar statements and lists of usual semantic roles for the “added” argument are found in Mithun (2001) and Kulikov & Song (2010). This use of semantic roles in definitions of applicatives is related to Peterson’s (1999:

36–40) parameter “Semantic Role of the Applied Argument.” In general, while there is consensus about which semantic roles are most commonly found for the applied argument in ACs, there is less agreement as to whether the mapping of particular semantic roles to the applied argument is definitional of applicatives. Observed effects on the mapping of semantic roles to syntactic arguments might instead be described as the consequence or result of another primary function of applicatives, e.g. promoting an argument in a base structure (Approach 1) or introducing a new argument to an existing structure (Approach 2).

3.2 Problematic Constructions and Their Significance

Aside from conceptual issues, research in linguistic typology is also particularly concerned with the classification of language structures and describing and explaining structural diversity found across languages. In this section, I present a number of attested constructions in languages representing diverse language families that prove problematic for classification according to various definitions of applicatives, and similar constructions in West Nusantara languages.

3.2.1 *Problematic Constructions in Other Language Families*

Since there are many commonalities in definitions of applicatives, for a good number of constructions, there is some consensus. As a starting point, consider example (87) from Hakha-Lai [cnh, haka1240], a Tibeto-Burman language of western Burma.

(87) Hakha Lai, commitative applicative

- a. *kay-maʔ=hee ka-law ʔan-thlaw*
 1SG-PRON=COM 1SG.POSS-field 3PL.SUBJ-weed₁
 ‘They weeded my field together with me.’ (BC)

- b. *ka-law ʔan-la-thloʔ-pii*
 1SG.POSS-field 3PL.SUBJ-1SG.OBJ-weed₂-APPL
 ‘They weeded my field (together) with me.’ (AC) (Peterson 2007: 45)

Hakha Lai has fairly rigid Object-Verb word order. Evidence of grammatical relations in Hakha Lai includes word order, nominal case marking, and agreement marking for subject and object through affixation on the verb.⁵

5 Hakha Lai shows split alignment: NP arguments are marked ergative (A) or absolutive (S or P), while the agreement marking paradigm distinguishes subject (S or A) and object (P).

The BC in (87a) is monotransitive; there are two core arguments. The A argument is the agent, ‘they’, which is evident from the third plural subject agreement prefix *ʔan-* on the verb. The P argument is the patient, which is realized as the full NP *ka-law* ‘my field’ in preverbal position in unmarked absolutive case. The verb also shows zero-marking for third person singular object agreement. The comitative participant, *kay-maʔ=hee* ‘with me’ appears with the comitative case marker *hee* indicating that it is a clausal oblique.

The AC in (87b) is ditransitive. The verb is marked with *-pii*, the comitative applicative suffix and the clause now has three core arguments. The A argument, ‘they’, remains the same. The companion phrase *ka-law* ‘my field’ is again realized in preverbal position in absolutive case. This case marking and position indicates that ‘my field’ remains a core argument. The applied argument is the comitative participant ‘me’, which is shown to be an additional core argument by the first person singular object agreement prefix *la-* on the verb. Besides object agreement marking, Peterson (2007: 37) reports that comitative applied arguments show other syntactic properties characteristic of P (object) arguments in corresponding BCs; when an applied argument is expressed as a full NP, it also appears in preverbal position in unmarked absolutive case.

This example meets the consensus definition of applicatives outlined in §3.1.2. There is overt morphological marking on the verb that coincides with the expression of a peripheral semantic participant (in this case, a comitative) as an argument with the syntactic properties characteristic of P. In addition, it would qualify as an applicative under all of the five approaches described in §3.1.3: (i) it involves optional “promotion” of an oblique in the BC, (ii) it shows introduction of a new core argument, (iii) it shows an increase in syntactic valency as evident in the number of core arguments, (iv) it shows licensing of certain syntactic encoding for the applied argument, and (v) it signals mapping of a semantic role to a syntactic argument. I will call this type of construction a ‘canonical applicative’, because there is broad consensus that it constitutes an AC.

In contrast, there is no consensus on whether a number of other constructions found in the languages of the world should be classified as applicatives. I summarize some such constructions in Table 6. The first column gives labels for each type of construction. Most of these represent accepted terms in the literature on applicatives, but for the example from Abaza, I have coined a descriptive label, “indexing” applicative. The second column lists one language in which the type of construction is exemplified. These are largely drawn from Pacchiarotti (2020). The third column gives a short description of the construction, formulated in the terminology established thus far in this section.

TABLE 6 Constructions which pose challenges to definitions of applicatives

Label	Example	Description
Obligatory applicative	Tswana [tsn, tswa1253]	A peripheral participant is expressed as a core argument in an AC. This participant represents a semantic role which cannot be expressed as an oblique in a BC.
Redirective applicative	Halkomelem [hur, halk1245]	A participant with a peripheral semantic role is expressed as P—a core argument—in the AC. The companion phrase, i.e. participant expressed as the P of the BC is now encoded as an oblique.
Asymmetrical applicative	Chichewa [nya, nyan1308]	The applied phrase in an AC exhibits some or all syntactic properties usually observed for P in a BC. The companion phrase shows core encoding in the AC but may either retain or lose some such syntactic properties
“Indexing” applicative	Abaza [abq, abaz1241]	A peripheral participant is indexed on the verb. There is no change to argument structure. The companion phrase retains the syntactic properties observed for P in a BC.
Registration applicative	Otomí [otl, tila1239]	A peripheral participant takes on greater discourse salience in the AC, but is still encoded as an adjunct.

In light of the preceding discussion, the constructions in Table 6 challenge one or another approach to the conceptual understanding of applicatives presented in § 3.1.3, and in some cases, also the consensus definition of applicatives presented in example (86):

- **Obligatory applicatives:** These constructions are indistinguishable from canonical applicatives except for the fact that there exists no possible BC from which a thematically peripheral oblique argument can be “promoted” (see Creissels 2004; Post & Modi 2022). These present complications for the view that applicatives are primarily argument-promoting (Approach 1); they call into question what constitutes a BC and if correspondence with a BC is truly definitional for applicatives.
- **Redirective applicatives:** A peripheral participant is expressed as a core argument but this coincides with the “demotion” of another participant to oblique, resulting in no change in the value of syntactic valency (see Gerdts

1988). These challenge the view that applicatives are primarily valency-increasing devices (Approach 3) and show that syntactic valency is not inseparable from other key attributes of canonical applicatives.

- **Asymmetrical object applicatives:** In languages like Chichewa, it is not clear that all constructions formed with applicative morphology are truly ditransitive, representing an increase in syntactic valency. Instead, some such constructions appear to remain monotransitive, with object properties simply “dispersed” across the companion phrase and the applied phrase, depending on the semantic role of the latter (see Peterson 1999: 56). This highlights that it is non-trivial to evaluate syntactic valency (as required in Approach 3) and syntactic status (as practiced under some definitions reflecting Approach 4) and it may be more appropriate to decompose these concepts. It also shows that the syntactic effect of an applicative can be attenuated by lexical or semantic factors.
- **“Indexing” applicatives:** In Abaza, the presence of certain verbal prefixes coincides with pronominal cross-referencing of a peripheral participant on the verb. The argument expressing this role no longer receives prepositional marking, however, it does not acquire access to syntactic operations consistent with core argument status. In fact, O’Herin (2001) argues that there is no change in argument structure at all compared to the BC. These constructions show that syntactic coding may not be a reliable indicator of core argument status, which challenges definitions that use syntactic coding as criteria for applicatives (a subset of Approach 4). Additionally “indexing” constructions in Abaza do not fit neatly under the consensus definition of applicatives, as the peripheral participant, or applied phrase, is not an absolutive argument (consistent with P) nor an ergative argument. It is perhaps not a syntactic core argument at all.
- **Registration applicatives:** In these constructions, morphological marking on the verb coincides with greater discourse salience of a peripheral participant, but the argument expressing this participant remains a syntactic adjunct (Hernández-Green 2016). Like “indexing” constructions, these do not fit under the consensus definition of applicatives. They show some similarity to certain characterizations of applicatives discussed under Approach 5 (role-marking). But instead of signaling or marking an unusually prominent syntactic mapping for the peripheral participant (i.e., mapping to a core argument), they indicate an unusually prominent pragmatic status (i.e., topicality or salience). These constructions raise the question of whether discourse function must be considered in an adequate conceptual understanding of applicatives. In fact, while definitions of applicatives do not commonly make reference to discourse function, a number of authors rec-

ognize that discourse considerations are an important factor in the use and function of applicatives (Dixon & Aikhenvald 2000; Peterson 2007; Foley 2007).

In summary, there exist a number of constructions in the languages of the world which are quite similar to canonical applicatives in many ways, but do not qualify for inclusion under one or another definition of applicatives. We might call these ‘non-canonical’ applicatives. Examining the reasons that these fall outside of particular definitions reveals complications for developing reliable and explanatory criteria for applicatives. For example, these data call into question the necessity of a strict correspondence relationship between a BC and an AC. Also, in the absence of such correspondence relationships, the range of possible semantic roles for the applied phrase in an AC must be otherwise explained and distinguished. Furthermore, these data show that indicators of grammatical relations observed in BCs do not always pattern neatly in ACs. Thus, a useful definition of applicatives should address the fact that indicators of grammatical relations, e.g. agreement marking, case marking, access to syntactic operations, might vary by construction or even be split across arguments in various manners. Finally, these data point to some other ways in which the consensus definition of applicatives may be inadequate, as it does not account for factors outside of semantic role and syntactic realization of the applied argument which appear to influence observed properties of ACs, such as lexical semantics, language-specific restrictions on clausal transitivity, and discourse considerations.

In light of this, we see that there is a need for a more nuanced understanding of applicatives—one that accounts for the diverse properties and variation observed for canonical applicatives and that explains the relationship of these canonical applicatives to non-canonical applicatives. Coming to such an understanding in turn rests on the development of an adequately descriptive, nuanced, and representative typology of canonical and non-canonical ACs in the world’s languages. In the next section, I will argue that the languages of West Nusantara are particularly deserving of such study and that they represent an important test case for this due to the broad range of ACs they exhibit, showing diverse structural and functional properties.

3.2.2 *Polyfunctionality and Problematic Constructions in Languages of West Nusantara*

Based on a review of previous research on applicatives in West Nusantara languages (see §1.5), it is clear that ACs are found in a good number of languages of this region. In such studies, the examples of ACs most often reported and discussed largely fall within the common definition of applicatives out-

lined above; these may be considered canonical applicatives. One example of a canonical AC is given in (88) from *Tukang Besi*, a language of Southeastern Sulawesi.

(88) *Tukang Besi*, Beneficiary-selecting applicative

- a. *No-wila i daoa kene no-waliako.*
 3.RLS-go OBL market and 3.RLS-return
 'She went to the market and came back.' (BC) (Donohue 1999: 431)
- b. *No-wila-ako te ina-no i daoa.*
 3.RLS-go-APPL CORE mother-3.GEN OBL market
 'She went to the market for her mother.' (AC) (Donohue 1999: 232)

Donohue (1999) reports that the applied argument in such ACs, i.e. the beneficiary, shows coding and syntactic properties largely equivalent to that of P in a corresponding BC in terms of word order, agreement, case marking, and access to relativization and passivization. This type of applicative would also be considered 'optional', as it is possible to express a beneficiary as a non-core, dative marked phrase in a BC in *Tukang Besi* (see Donohue 1999: 333–335, and discussion in § 3.5 below).

In Standard Indonesian, certain beneficiary-selecting constructions marked with the applicative suffix *-kan* also appear to show canonical properties, as in example (89). In such ACs, the beneficiary applied argument shows coding and syntactic properties like that of P in a corresponding BC. It is encoded as an unmarked NP, and can be the privileged syntactic argument in a PV construction marked with *di-*.

(89) Standard Indonesian, Beneficiary-selecting applicative

- a. *saya mem-bawa surat itu kepada Ali.*
 1SG AV-bring letter DIST to A.
 'I brought the letter to Ali.' (BC)
- b. *saya mem-bawa-kan Ali surat itu.*
 1SG AV-bring-BEN.APPL A. letter DIST
 'I brought Ali the letter.' (AC) (Chung 1976: 41)

It is no wonder then, that tidy examples like these from the better-known cases (e.g. Indonesian, *Tukang Besi*) are commonly used to exemplify Austronesian languages in cross-linguistic studies of applicatives (alongside examples from Austronesian languages of the Oceanic subgroup such as Fijian, and some-

times East Nusantara languages closely related to Oceanic, such as Taba). Often missing from discussions of applicatives, however, are examples showing the breadth of variation of non-canonical ACs in Austronesian languages, and the diversity of functions associated with AMs marking such constructions. Preliminary investigation suggests that a large number of non-canonical ACs are attested in languages of West Nusantara. A sample of these are listed in Table 7. Most of these are described and exemplified in Truong & McDonnell (2022), on the basis of original fieldwork, investigation of corpora, and existing grammatical descriptions (see also van den Berg & Busenitz 2012; Donohue 1999).

Besides the non-canonical ACs given here, Truong & McDonnell (2022) identify several additional types of functions often marked with AMs in languages of West Nusantara. These include formation of morphological causative constructions, formation of comparative degree constructions, and semantic effects, such as indication of pluractional aspect and greater intensity. All of these except the intensive function were exemplified in Sundanese in Chapter 2. These functions or meanings are observed with great frequency on AM-marked clauses in the languages of West Nusantara, and are foundational to the role that AMs play in these verbal systems. Even so, they are not always viewed as particularly relevant to the study of applicatives in these languages.

Returning to the constructions listed in Table 7, these non-canonical ACs also generally show verbal affixation with the same AMs that mark canonical ACs like (88b) and (89b) above. Despite this, these problematic constructions show a different argument structure or relationship with a BC than seen with the canonical ACs, and do not fit neatly into one or another conceptual approach to applicatives. As such, there are many parallels between these constructions and the problematic constructions presented in Table 6 earlier:

- Like obligatory applicatives in Tswana, reason applicatives in Balantak (a language of eastern Sulawesi) and “lexically obligatory” applicatives found in a number of West Nusantara languages pose a challenge to the use of BCs in definitions of applicatives and the concept of “promotion”.
- Like asymmetrical applicatives in Chichewa, Tukang Besi purpose applicatives appear to allow object properties to be dispersed over two arguments.
- Like “indexing” applicatives in Abaza, Tukang Besi double applicatives show that indicators of grammatical relations observed in BCs may not neatly coincide as expected in ACs.
- Like registration applicatives in Halkomelem, certain *-ka* marked constructions in South Barisan Malay (a language of southern Sumatra) and *-kan* marked benefactive constructions in Indonesian show no apparent change in argument structure. Instead AM-marking appears to signal a special pragmatic or semantic status for a selected participant.

TABLE 7 Constructions in West Nusantara languages that pose challenges to definitions of applicatives

Example	Description
Balantak reason applicative	The complement of the verb in an AC marked with the AM <i>-kon</i> may be an entire clause expressing a reason (or motive). There is, of course, no alternative monoclausal BC.
“Lexically obligatory” applicative (e.g. Sundanese <i>alung</i> ‘throw’)	Certain verbal stems cannot function as a predicate in base form, only when affixed with an AM. In ACs, P expresses a peripheral participant. This is specific to certain lexical items, and has been found in Sundanese, Indonesian, and Sasak, among others.
Sundanese locative applicative	A location or goal participant is expressed as P in the AC. The participant expressed as the P of the BC (theme) is encoded with prepositional (oblique) marking when it appears as the companion phrase in the AC.
Tukang Besi purpose applicative	When the applied phrase expresses a purpose (motive), the companion phrase lacks access to most syntactic operations usually available to objects.
Tukang Besi double applicative	If two applicative suffixes are added the verb, the first applied object may bear core case marking, but has no syntactic object properties.
Pragmatic use of applicative <i>-ka</i> in S. Barisan Malay	For some verbal stems, there is no change in argument structure between the BC and the AC. However, the P argument in the AC tends to show special pragmatic properties, e.g. greater individuation or affectedness.
Indonesian benefactive applicative	A beneficiary participant is semantically entailed by the AM-marked verb, but may either be realized as a P argument or with prepositional (oblique) marking.

In summary, we see that both canonical and non-canonical ACs are represented in West Nusantara languages. These show diversity in key properties—both across and within individual languages—similar to that which is observed across languages of the world representing many different genetic families. Thus, study of West Nusantara applicatives—and crucially, inclusion of non-canonical ACs in this—is fertile ground for exploring a number of unresolved issues about applicatives as a cross-linguistic phenomenon. Some of these are listed below:

1. How can the function(s) of AMs be adequately and insightfully characterized, especially in light of observed variance in associated structures and observed polyfunctionality?
2. What syntactic and semantic properties of ACs are important to understanding their use and development? To what extent do these diverge from expected patterns?
3. How are properties of applicatives influenced by lexical, semantic, and pragmatic factors?

These issues will be explored through investigation of West Nusantara ACs in this study. In light of the preceding discussion, I have adopted a constructional approach to applicatives in this study, and in the next section, I show why this is well-suited to addressing the issues identified here.

3.3 Constructional Approaches as a Lens for West Nusantara Applicative Systems

As outlined in Chapter 1, in this study I seek to understand the applicative systems of West Nusantara in typological context, and also to understand them on their own terms, in the context of the diachronic and synchronic systems of language in which they developed and are used. Given the diversity of non-canonical ACs and other AM-marked constructions found in the languages of West Nusantara, it is my view that the consensus definition of applicatives and the previous approaches to applicatives discussed above do not serve the goals of the study well.

In Chapter 1, I proposed a definition of applicatives, which is repeated here for convenience in (90) from (2) in §1.6.1. This definition clearly draws in large part on the consensus definition of applicatives given above in §3.1.2.

- (90) An applicative is a clausal construction in which overt morphological marking on the verbal complex coincides with the selection of a non-agent, non-patient semantic role to map to a core argument in the clause.

In response to the issues identified above, to augment this definition, I have adopted a constructional approach in explaining what it means for an applicative to be a clausal construction. Specifically, in this approach an AC is understood as a conventionalized pairing of fixed form (i.e. AM-marking, clausal argument structure) and consistent meaning (i.e. mapping of a peripheral role to a core argument position, eventive meaning). The form of a construction is assumed to be only partially specified or fixed. Thus for an AC, the associa-

tion between form and meaning described above holds across variable lexical items that fill in slots for non-specified content in examples, especially the verbal bases that bear AM-marking (see § 1.6.1).

Using this approach allows me to delineate the object of study for this book without imposing distinctions that are not well-supported in the grammatical systems of West Nusantara languages. To illustrate, I return to different types of Indonesian *-kan* marked benefactive constructions mentioned in the previous section, which are exemplified in (91).

(91) Standard Indonesian, Beneficiary-selecting applicative

a. *Saya mem-(p)anggang-kan Eric roti.*

1SG AV-bake-APPL E. bread

'I baked Eric bread.' (AC)

b. *Saya mem-(p)anggang-kan roti untuk Eric.*

1SG AV-bake-APPL bread for E.

'I baked bread for Eric.'

c. *Saya mem-(p)anggang-kan roti.*

1SG AV-bake-APPL bread

'I baked bread for someone.'

(Cole & Son 2004: 341–342)

In an approach centered around ACs as conventionalized pairings of form and meaning, anytime two constructions show shared elements of form or shared elements of meaning, there is a clear way to identify and classify the relationship between the two, even if they differ in other observed properties. Across examples (91a)–(91c), a shared element of form is the marking of the verb with *-kan*, and a shared element of meaning is the accruing of benefit to some beneficiary. Differences across these are also observed. There is an alternation in the realization of the beneficiary participant, which is encoded as an unmarked NP in (91a), encoded as a prepositional phrase in (91b), and unrealized in (91c).

The relationships between these three AM-marked clauses leads to questions about how to explain this observed alternation: How did *-kan* come to be used in these three different structures? Is the coding of the beneficiary influenced by other properties of the *-kan* marked clause (e.g. length of applied phrase, (non)realization of the companion phrase, voice, mood, etc.)? Across alternating constructions, are there observed differences in the distribution of base lexemes, e.g. are some bases more likely to be used with non-realized participants? These questions are framed differently than questions that might arise when focusing on the relationships between BCs and ACs.

Viewing ACs in this way aids in developing a functional typology in which diverse AM-marked constructions may be classified with emphasis on distinctions that are meaningful in the internal linguistic systems of West Nusantara languages. Such distinctions might include differences observed in properties of ACs in A-oriented vs. P-oriented transitive clauses, or the distribution observed for types of ACs across available forms of AM-marking, and how this patterns across West Nusantara languages. This approach also emphasizes the fact that speakers' linguistic knowledge includes knowledge about specific items and knowledge of patterns of varying levels of generalizability across items or exemplars as observed in usage (see e.g. Goldberg 2006: 45–62). This aligns with the observation that AM-marked constructions in these languages are not equally compatible with all kinds of bases, and in frequent usage may be observed with a large number of bases, or only a small number of bases, or at the extreme end of lexicalization, perhaps with only one lexical item. For example, some Sundanese ACs discussed in Chapter 2 are highly productive across many lexical bases, while others apply narrowly to a small number of semantically similar verbs.

For these reasons, the constructional understanding of applicatives that I have outlined here and in §1.6.1 is the underpinning for this study, and informs the types of data that have been compiled, and the categories used in presentation of summary results and descriptive details in the following chapters of this book. In the remaining sections of this chapter, I explore two specific challenges that remain in relating applicatives in West Nusantara languages to their larger context, and show how I will address these in this study.

3.4 On the Problem of Philippine-Type Voice in a Study of Applicatives

The languages of West Nusantara, alongside Philippine and Formosan languages, are a subset of western Austronesian languages. Because of this, any discussion of verbal constructions in these languages requires frequent and substantive reference to the distinctive grammatical systems known as *symmetrical voice*. These systems have also been referred to as western Austronesian voice, 'focus', or 'trigger', and show important differences with well-known voice systems in the world's languages, such as active-passive systems (see Chen & McDonnell 2019; Riesberg 2014b; Himmelmann 2002). To be clear, not all languages of West Nusantara show symmetrical voice systems. Even so, because a symmetrical voice system was present in Proto Malayo-Polynesian (PMP) and Proto Austronesian (PAN) before that, systems of voice and diathesis in these

languages are either symmetrical in their synchronic form, or “asymmetrical” but nonetheless known to be derived from an earlier symmetrical system.

In western Austronesian symmetrical voice systems, each clause has one argument that is syntactically privileged, by virtue of access to syntactic operations (e.g. relativization, word order, quantifier float). I will call this argument the *pivot* (Foley & Van Valin 1984; Foley 2007). Affixes on the verb signal the selection of the semantic role (or possible roles) that maps to the pivot. In these systems, there is a paradigm of (symmetrical) voice alternations, each distinguished by its morphological marking, and the set of possible semantic roles that map to the pivot. Crucially, voice alternations in a symmetrical voice system include multiple transitive constructions, which generally take one pivot argument, and one or more *non-pivot* core arguments. An example with the verb ‘buy’ is given below from Balinese, which has a two-way symmetrical voice system.

(92) Balinese, Voice alternations

a. *Buku beli tiang di toko ento.*

book PV.buy 1SG at shop DIST

‘I bought **the book** in that shop.’ (PV, with patient pivot)

b. *Tiang m-(b)eli buku di toko ento.*

1SG AV-buy book at shop DIST

‘I bought the book in that shop.’ (AV, with agent pivot)

(Artawa 1998: 48)

In (92a) the verb takes no overt morphological marking, and the semantic patient, i.e., the thing bought, is the pivot argument (bolded). This represents the patient voice or P-Voice (PV) construction. In (92b), the verb is marked with the prefix *N-* (underlined), and the semantic agent, i.e., the buyer, is the pivot argument (bolded). This represents the actor voice or A-Voice construction (AV). In Balinese, the P argument in PV and the A argument in AV have unique access to syntactic operations. Only the pivot can be the head of a relative clause, and in non-finite subordinate clauses, only the referent of the pivot is controlled by an argument of the matrix clause, among other properties (see Arka 2003; Riesberg 2014b). The pivot appears in preverbal position in unmarked word order, with some variation possible due to pragmatic factors.

Besides the pivot argument, each clause in (92) has one additional unmarked NP, which is the non-pivot core argument. In the PV clause in (92a), the non-pivot core argument is the semantic agent, *tiang* ‘I’. In the AV clause in (92a),

the non-pivot core argument is the semantic patient, *buku* ‘the book’. This argument has strict word order in Balinese, and must immediately follow the verb (Wechsler & Arka 1998: 404–405).

Syntactically transitive clauses in Balinese must have a value for voice; each clause is either in AV or PV, but never both. Thus, AV and PV are contrastive values in the voice system of Balinese.

Balinese also shows applicative morphology in the form of suffixes *-in* and *-ang*. Examples of *-in* in a locative-selecting AC are shown in (93).

(93) Balinese, Locative-selecting applicative + Voice alternations

- a. *Toko ento beli-in tiang buku.*
 shop DIST PV.buy-LOC.APPL 1SG book
 ‘I bought the book in **that shop**.’ (AC in PV, with location pivot)
- b. *Tiang m-(b)eli-in toko ento buku.*
 1SG AV-buy-LOC.APPL shop DIST book
 ‘I bought the book in that shop.’ (AC in AV, with agent pivot)
 (Artawa 1998: 55)

In corresponding BCs, as in (92), a semantic location is realized as an oblique PP, i.e., *di toko ento* ‘in that shop’. In locative-selecting ACs marked with *-in*, as in (93), the semantic location is selected as a core argument, and encoded as an unmarked NP, i.e. *toko ento* ‘that shop’. On this basis, this construction meets the definition of an applicative as given in (2). Furthermore, just as in non-applicative transitive clauses, transitive clauses marked with *-in* in Balinese show an alternation between AV and PV. In PV applicative clauses, as in (93a), the location applied phrase shows encoding and syntactic properties consistent with status as the pivot argument. In AV applicative clauses, as in (93b), the location applied phrase shows encoding and syntactic properties consistent with status as a non-pivot core argument. The pivot in AV applicative clauses is the semantic agent, just as in base clauses.

In the same manner, in beneficiary-selecting ACs marked with *-ang*, the semantic beneficiary is selected as a core argument. These constructions again show an alternation between AV and PV, which determines whether the beneficiary maps to the pivot, or to a non-pivot core argument, as shown in (94).

(94) Balinese, Beneficiary-selecting applicative + Voice alternations

- a. *Cai beli-ang tiang buku-ne ene.*
 2SG PV.buy-BEN.APPL 1SG book-DEF PROX
 ‘I bought **you** this book.’ (AC in PV, with beneficiary pivot)

- b. *Tiang m-(b)eli-ang cai buku-ne ene.*
1SG AV-buy-BEN.APPL 2SG book-DEF PROX
'I bought you this book.' (AC in AV, with actor pivot)
(Artawa 1998: 55)

In examples (92)–(94), we consistently see that AV and PV contrast with one another, and they substantiate a basic voice category in Balinese for which every transitive clause must have a specified value. On the other hand, ACs exist outside of this paradigm. A verb marked with *-in* or *-ang* is neutral for the basic voice category in Balinese, which must be further specified, with AV and PV as possible values. For the sake of simplicity, I have not included examples of passive constructions in Balinese; passive constructions contrast with AV and PV but co-occur with ACs marked with *-in* and *-ang*. Note that in some varieties of Balinese, *-in* and *-ang* can co-occur with each other on the same verb (see Clynes 1995b). Thus we can identify two categories of constructions in Balinese that specify the mapping of semantic roles to grammatical relations, as presented in Table 8. One category may be labeled “basic voices” because one value for it is obligatorily specified in a clause, and a second category is identified as “applicatives”, as they show selection of a peripheral role as a core argument. A partial paradigm for basic voices and applicatives is given in Table 9.

TABLE 8 Overview of Balinese voice system

	Basic voices	Applicatives
Possible values	AV, PV, passive	beneficiary-, locative-selecting
Pivot-selection	determines mapping	neutral
Core argument selection	neutral	determines mapping
Valency	valency-neutral	increases valency
Clausal requirements	one value must be specified	requires add'l specification
Meets def. of appl. in (2)	No	Yes

While the voice system of Balinese supports a fairly straightforward division into two categories of verbal constructions—basic voice constructions and ACs—in many western Austronesian languages, we see a different type of organization. The Philippine-type symmetrical voice languages raise complications in a study of applicatives, because the categories for basic voices and applicatives are not distinct.

TABLE 9 Partial paradigm for Balinese verbs

	Base	Appl. 1	Appl. 2
PV	beli	beli-in	beli-ang
AV	m-(b)eli	m-(b)eli-in	m-(b)eli-ang
Passive 1	ka-beli	ka-beli-in	ka-beli-ang
Passive 2	beli-a	beli-in-a	beli-ang-a

An example illustrating a Philippine-type voice system is given in (95) from Kimaragang, a language of the Sabahan subgroup spoken in northeast Borneo.

(95) Kimaragang, Voice alternations

a. M-(p)anga-lapak **okuh** do niyuw.

AV-TR-split 1SG.NOM GEN coconut

'I will split a coconut/some coconuts.' (AV)

b. Lapak-on kuh it niyuw.

split-PV 1SG.GEN NOM coconut

'I will split **the coconut(s)**.' (PV)

c. Lapak-an kuh do niyuw it wogok.

split-DV 1SG.GEN GEN coconut NOM pig

'I will split some coconuts **for the pigs** (to eat).' (DV)

d. Nokurohtu n-i-lapak nuh do niyuw inoh

why PST-IV-split 2SG.GEN GEN coconut MED.NOM

dangol kuh?

bush.knife 1SG.GEN

'Why did you use **my bush knife** to split coconuts?' (IV)

(Kroeger 2005: 405)

Each voice construction in (95a–d), is distinguished by affixal marking on the verb (underlined) and the semantic role of the pivot argument (bolded). The pivot argument, if expressed, always appears in the case glossed as 'nominative.' In (95a), the verb is marked with the prefix *m-* and the semantic agent is the pivot; this represents the actor voice or A-Voice (AV) construction. In (95b), the verb is marked with the suffix *-on* and the semantic patient is the pivot; this represents the patient voice or P-Voice (PV) construction. In (95c), the verb

is marked with the suffix *-an* and the semantic beneficiary is the pivot; this represents the so-called dative voice (DV) construction, and is also used when the pivot is a goal, recipient, or a certain type of distributed location, among other roles. In (95d), the verb is marked with the prefix *i-*, and the semantic instrument is the pivot; this represents the instrumental voice (IV) construction.

(96) Kimaragang, LV construction

Siongoh l-in-apak-on dit tayar nuh?

where <PST>split-LV GEN 2SG.GEN

'Where did your tire burst?'

(Kroeger 1988: 233)

A fifth voice alternation, locative voice (LV), is illustrated in (96). In this construction a semantic location is the pivot (**bolded**), and the verb is marked with *-on* (underlined). The affixal marking for LV is homophonous to that of PV in non-past tense, but is distinct in past tense, where PV is zero-marked, meaning that it is distinguished by lack of other voice morphology. Past tense is marked with the infix *-in-*. Hence, the verb *lapak* 'split' has the past tense form *l-in-apak* in PV but *l-in-apak-on* in LV.

In Kimaragang, these five voice categories operate as a single paradigm. All main clauses and most dependent clauses require the specification of one and only one basic voice category, i.e., AV, PV, DV, IV, or LV. Each clause accordingly has one pivot argument, the semantic role of which is indicated by the morphological marking on the verb. However, some of the basic voice categories involve selection of a non-agent, non-patient peripheral role as a core argument—the pivot being a core argument. Thus DV, IV, and LV meet the definition of applicatives in (2), but AV and PV do not.

Properties of the voice constructions illustrated in the preceding Kimaragang examples are summarized in Table 10. In the context of the Kimaragang verbal system, there is one category of basic voice constructions with five contrastive values (see Foley 2008). This category is of major importance in the grammatical system of Kimaragang. Case marking, word order patterns, and syntactic operations all show sensitivity to the selection of the pivot. However, when a cross-linguistic definition of applicatives is applied, for these five voice constructions we might draw a distinction between non-applicative constructions (AV and PV) in which a peripheral semantic role is not selected to map to a core argument, and ACs (DV, IV, and LV) in which a peripheral semantic role is selected to map to a core argument. This distinction is of interest in a cross-linguistic study of applicatives like this one, and is certainly relevant when comparing the Balinese grammatical system to that of Kimaragang (see

TABLE 10 Overview of Kimaragang voice system

Basic voices		
Possible values	AV, PV, DV, IV, LV	
Pivot-selection	determines mapping	
Clausal requirements	one value must be specified	
	Subset I	Subset II
Values	AV, PV	DV, IV, LV
Core argument selection	neutral	determines selection
Valency	valency neutral	increases valency
Meets def. of appl. in (2)	No	Yes

Davies 2005 on similar comparisons for Madurese) but it is not of particular consequence in the internal organization of the grammatical system of Kimaragang.

Thus, on the one hand, viewed within the internal grammatical systems of individual western Austronesian languages, symmetrical voice alternations and pivot-neutral applicatives belong to two independent dimensions of clausal organization (see also Himmelmann & Riesberg 2013, on criteria to distinguish symmetrical voice and applicatives). Yet, on the other hand, constructions like Kimaragang DV, IV, and LV show strong similarities to applicatives in other languages. Following Haspelmath (2010) then, all five of the Kimaragang alternations presented above (AV, PV, DV, IV, and LV) may be considered to belong to a single language-specific *descriptive category* of symmetrical voice, while only three of those (DV, IV, and LV) belong to the *comparative category* of applicative.

Nonetheless, while Kimaragang DV, IV, and LV constructions may be classified as ACs, they show a property that is cross-linguistically unusual. The applied phrase (peripheral role selected to map to a core argument) in Kimaragang DV, IV, or LV clauses, is always realized as the most syntactically privileged argument, the pivot. In fact, the relevant peripheral roles generally cannot be expressed as a non-pivot core argument. I call constructions like Kimaragang DV, IV, and LV *pivot-selecting* applicatives. The fact that these constructions target the syntactically privileged pivot relation is a defining characteristic.

As discussed above, an important criterion in most definitions of applicatives is that the applied phrase has the coding and/or syntactic properties

characteristic of P in transitive clauses. Whether this represents a syntactically privileged position in clausal argument structure is incidental, rather than defining. If a BC in a given language shows a subject relation and an object relation, the applied phrase in a corresponding AC is not expected to have subject properties. That is, the applied phrase is not expected to show evidence of unique syntactic privilege as a grammatical subject might, but it may show object properties. If a BC in a given language shows an absolutive and an ergative relation, the applied phrase in a corresponding AC may show properties of the absolutive. That is, the applied phrase may show evidence of unique syntactic privilege to the extent that absolutive P arguments generally do so in the language. In neither case do we have evidence that the syntactically privileged relation is specifically targeted by the applicative. We simply see that the applied phrase in an AC may take properties characteristic of P in basic transitive constructions, whether these constitute evidence of syntactic privilege or not. Such applicatives are neutral with respect to syntactic privilege for the applied phrase.

Constructions like the Balinese ACs exemplified above, I will call *pivot-neutral* applicatives. These fit into the more general cross-linguistic pattern. In PV, the applied phrase shows coding and behavioral properties characteristic of the pivot relation, as would P in a corresponding BC in PV. In AV, the applied phrase shows coding and behavioral properties characteristic of the non-pivot core argument relation, as would P in a corresponding BC in AV. These applicatives are *pivot-neutral* because whether the applied phrase is syntactically privileged or not is incidental, rather than defining.

Because they expressly target the grammatical relation that is uniquely syntactically privileged, pivot-selecting ACs in Philippine-type languages like Kimaragang are not well-accounted for in typological work on applicatives to date.

Peterson's (2007) typological survey of applicatives does not include any Philippine-type languages, neither among the fifty languages of his sample with applicatives nor among the fifty without applicatives, and as far as I can tell, shows no examples of ACs that expressly target the privileged syntactic relation. Peterson does not discuss the pivot-selecting constructions of Philippine languages, except to speculate how morphological marking for LV and IV in PAN may have been grammaticalized from earlier prepositions or auxiliaries, as attested for applicatives in other families.⁶

6 Peterson (2007: 165–169) proposes that the PAN voice system developed from applicative

In the WALS feature on applicatives (Polinsky 2013), two Philippine-type languages are included in the map, and symbolized there as having applicatives. These are Tagalog, a language of the Philippines, and Paiwan, a Formosan language. However, there is no discussion in the text explaining how Philippine-type peripheral nonactor voices fit into the characterization of applicatives as a “type of double object construction,” and a construction in which “the number of object arguments selected by the predicate is increased by one with respect to the basic construction.” These constructions expressly result in mapping of the applied phrase to the pivot relation, and it is not at all clear that the pivot relation is similar to an object relation, or that the term “object” is relevant in Philippine-type languages. Nonetheless, the inclusion of two Philippine-type languages is a small step in the right direction, as it allows them to be compared with the other 164 languages in the sample (64 with applicatives) for a great number of typological features.

Finally, Zúñiga & Kittilä (2019: 122–129) do discuss Philippine-type voice alternations, but do not place them firmly under the category of applicatives. Instead, they view LV, IV, and CV alternations as a special type of “subjective undergoer nucleative” or “Philippine undergoer nucleative.” They write that the effect of these constructions “is equivalent to applicativization (which introduces the new argument to the syntactic core) plus passivization (which promotes the nonagent to subject)” (125). Their view is not too far my own; we agree that Philippine-type peripheral nonactor voice constructions are similar to applicatives, and also have unique properties not usually found in applicatives in other language families, with respect to targeting of a syntactically privileged relation. I go one step further than they do, in explicitly calling these constructions applicatives, under the subcategory “pivot-selecting applicative.”⁷

alternations in relative clauses that were extended to main clauses. Peterson's account is framed as an alternative to the proposed origin of PAN nonactor voices as reanalyzed nominalization structures (Starosta, Pawley & Reid 1982), but it does not seriously interact with the historical evidence for the nature of the PAN grammatical system or controversies surrounding this. See Chen (2017) for an deep discussion of evidence that Philippine-type voice morphology was present in both main clauses and relative clauses among the higher order groupings of PAN as reflected in present-day Formosan languages.

- 7 I also consider it important to distinguish the nonactor voice alternations in symmetrical voice languages from passive constructions. Unlike passives, in many symmetrical voice languages it can be demonstrated that the nonactor voice constructions are syntactically transitive rather than syntactically intransitive, and they are distinguished from intransitive voice categories in the same languages, including true passives, by morphological marking and syntactic properties of arguments.

This decision to include Philippine-type peripheral nonactor voices as applicatives in this study, and to distinguish them by the use of the term *pivot-selecting* as opposed to *pivot-neutral*, is desirable for multiple reasons. First, this approach clarifies the relationship of Philippine-type peripheral nonactor voices to cross-linguistic definitions of applicatives. There is a clear basis by which these constructions are included under the label applicative, especially if applicatives are defined in reference to core argument status for the applied phrase, rather than an “object” relation, which is less universally applicable. Second, this approach acknowledges that, as compared to ACs in many other language families and regions of the world, the pivot-selecting applicatives in western Austronesian languages have distinctive characteristics that do not necessarily have direct analogs in asymmetrical voice systems. These constructions can be classified as applicatives without reference to active-passive voice systems or ergative systems, and there is also no need to equate symmetrical voice systems with such. Third, even though I have exemplified here two voice systems of West Nusantara, which have *either* pivot-selecting ACs *or* pivot-neutral applicatives, there exists a whole spectrum of logical possibilities for configurations of symmetrical voice categories and applicative categories, and this terminology facilitates the description and comparison of this diversity as attested in West Nusantara and beyond. Finally, LV, CV, and IV affixes are in many cases cognate (or apparently cognate) with pivot-neutral applicative suffixes, and this approach allows for better recognition of potential diachronic relationships between pivot-selecting and pivot-neutral ACs accordingly.

3.5 On the Relationship between Serial Verb Constructions and Applicatives

Another challenge to articulating the place of West Nusantara applicatives in typological perspective lies in the relationship between applicatives and serial verb constructions. In a serial verb construction, a sequence of verbs are members of a single clause and “act together as a single predicate” without being compounded or marked for coordination, subordination, or other types of syntactic dependency (Aikhenvald 2006: 1). The meaning of a serial verb construction expresses a complex event, with verbs in the sequence “expressing various facets” of this event (Payne 1997: 307).

I have defined an applicative as a clausal construction in which morphological marking on the verbal complex coincides with the selection of a peripheral role to map to a core argument. At face value, the use of the term “morphologi-

cally marked” in this definition excludes serial verb constructions, which are a type of analytic construction, rather than a morphologically marked construction. That being said, some serial verb constructions clearly express meanings similar to those of applicatives. Like applicatives, they may express benefactive relationships, locative relationships, and instrumental relationships with respect to the event expressed by a clause. In addition, there are some shared formal characteristics. In both serial verb constructions and ACs, a peripheral semantic role may be realized as a core argument of a verb rather than an oblique or adjunct, though the fact that a serial verb construction contains more than a single verb suggests that the syntactic status of the phrase expressing the peripheral participant in the two types of constructions is not necessarily equivalent.

Complicating the relationship between ACs and serial verb constructions, in some cases, the distinction between morphological marking and analytic or syntactic means for installing an argument is not clear.

Tukang Besi, for example, as mentioned above has an applicative suffix *-ako*. Like other suffixes, *-ako* belongs to the same phonological word as the verb root, as reflected in word level stress patterns with primary stress on the penult (see example in Donohue 1994: 41). An example of *-ako* used as an applicative suffix is given in (97).

(97) Tukang Besi, Beneficiary-selecting applicative

a. *No-ala te kau.*

3.RLS-fetch CORE wood

‘She fetched the wood.’ (BC)

b. *No-ala-ako-e na ina-su.*

3.RLS-fetch-APPL-3.OBJ NOM mother-1SG.POSS

‘She fetched (it) as a favour for my mother.’ (AC)

(Donohue 1999: 231–232)

The suffix *-ako* is probably diachronically related to the independent morpheme *ako* ‘do for’, which, according to Donohue (1999: 333) shows ‘preposition-like behavior’ and is ‘best described as an atypical verb.’ In some uses, *ako* shows properties common to verbs, as it must take a subject indexing prefix when used as a main predicate as shown in (98). Also, in relative clauses in Tukang Besi, affixal marking indicates the grammatical relation of the head noun to the dependent clause verb, and *ako* takes such affixal marking, just like other verbs.

- (98) Tukang Besi, Use of *ako* as a main predicate

Mbea-do 'u-ako-naku wa?

not-yet 2SG.RLS-do.for-1SG.DAT.OBJ PRT

'Haven't you done it for me yet?'

(Donohue 1999: 333)

In other clauses with benefactive meanings, we see *ako* behave more like a light verb or preposition, as shown in (99). Here, *ako* is not part of the main verb stem. Unlike the example of suffixal *-ako* in (97b), here *ako* is non-adjacent to the main verb root *sai* 'make', and is positioned after the third person object suffix *-e* rather than before it. Unlike a main verb, however, in (99) *ako* is not fully inflected, as it bears no subject-indexing prefix, while *sai* bears the second person subject prefix *'u-*. This usage can be considered a serial verb construction with a benefactive meaning, or alternately be analyzed as simply as a BC showing prepositional marking of the beneficiary.

- (99) Tukang Besi, Use of *ako* in a serial verb construction

Mbea-do 'u-sai-e ako-naku wa?

not-yet 2SG.RLS-make-3.OBJ BEN-1SG.DAT.OBJ PRT

'Haven't you made it for me yet?'

(Donohue 1999: 334)

Thus, we can identify three constructional uses of a morpheme with the shape *ako* in Tukang Besi, each with similar meanings. We might also surmise that suffixal *-ako* has been grammaticalized from the independent morpheme *ako*. But we cannot necessarily determine whether *ako* in (99) behaves as a serialized verb or preposition.

Therefore, while I maintain the criterion "morphologically marked on the verbal complex" for applicatives, I acknowledge that other types of clausal constructions without morphological marking, especially serial verb constructions, may be closely related to applicatives and play a role in the diachronic development of applicatives. Not only can AMs develop from independent morphemes, including verbs or prepositions, at other times, morphological marking for applicatives can be lost while the alternation in argument structure and meaning remain active in the language (see discussion of unmarked applicative analogs in Mualang in §5.5.5, which resemble English 'dative shift').

When viewed in broader typological perspective, certain serial verb constructions are thus quite closely related to applicatives; they share aspects of meaning (semantic relationships expressed) and may share some aspects of form (mapping of peripheral role to a core argument position), while differing in other aspects of form (type of predicative marking). Of course, not all serial verb constructions are related to applicatives in this way. In addition to

expressing relationships commonly found for peripheral participants, e.g. beneficiary, instrument, or goal, serial verb constructions may indicate a sequence of events, the manner of action, a wide range of postural, spatial and directional relationships, and various aspectual categories (see Lovestrand 2021). Serial verb constructions also exhibit a wide range of structural characteristics which are outside the scope of the discussion here, and the inventory of lexical verbs used in serial constructions often far exceeds the typical range for the inventory of AMs in a given language. Furthermore as seen in *Tukang Besi*, compared to applicatives, serial verb constructions may be less highly grammaticalized. Within the Austronesian family, serial verb constructions are more prevalent in East Nusantara languages and Oceanic languages of Melanesia (see Crowley 2002), as compared to West Nusantara languages. So, while I will discuss serial verb constructions and similar analytic clausal constructions at times, this will be mostly restricted to situations in which they are relevant to the diachronic development of morphologically marked ACs, in keeping with the scope of this study.

3.6 West Nusantara Applicatives in Typological Perspective

In light of the discussion in the two previous sections of this chapter, as a summary of sorts in this section, I show how West Nusantara ACs may be related to one another and other types of verbal constructions in broad typological context. I do this using the framework of a construction as an association between a fixed form and a conventionalized meaning that I have adopted. Some dimensions of form and meaning distinguishing different types of clausal constructions with similar meanings to applicatives are given in Table 11.

For applicatives, morphological marking on the verb or verbal complex is a component of the form of an AC. This morphological marking (e.g. affixation) can be seen as a subtype of a larger category, which may be called ‘marking of the predicate.’ Compared to ACs, serial verb constructions may be said to make use of analytic marking of the predicate, because verbs used in such constructions generally operate as independent words and in some cases other elements may intervene, or typically intervene, between serialized verbs. Another possibility is simply lack of formal marking on the predicate. This is shown in languages that allow unmarked alternations in clausal argument structure like that observed in ‘dative shift’ in English or the aforementioned Mualang examples.

Another component of form of an applicative is the mapping of peripheral semantic roles to a core argument position in argument structure. Applicatives

TABLE 11 Typological dimensions relating applicatives to similar clausal constructions

Form: Marking of predicate	Form: Mapping of peripheral role	Meaning: Semantic relationship
morphological marking	privileged syn. arg.	benefactive
analytic marking	core argument	locative
no formal marking	oblique	instrumental
	adjunct	comitative
	possessor phrase	stimulus
		...

were originally conceptualized because such mapping was considered unusual and observed to co-vary with the marking of the predicate with applicative morphology. This was first noticed by linguists in clausal constructions in Uto-Aztecans and Bantu languages, and then in many other language families. In Philippine-type languages, a peripheral semantic role always maps to the privileged syntactic argument, i.e. the pivot, in certain symmetrical voice constructions, e.g. LV, CV, IV, which I have called pivot-selecting applicatives. This is not really unusual when viewed within the grammatical systems of these languages, because all basic transitive voice alternations in the languages expressly target the pivot relation. Nonetheless, in a broader typology, it is reasonable to classify these type of constructions as applicatives. There are also some resemblances between pivot-selecting applicatives and other applicatives in which peripheral participants are incidentally mapped to a privileged syntactic argument, e.g. the absolutive relation in ACs in certain Mayan languages. Pivot-neutral applicatives, on the other hand, show mapping of the peripheral role to a core argument. These show some resemblances to applicatives found in both ergative and accusative languages, depending on voice selection. Mapping of the peripheral role to an oblique argument or adjunct phrase is found in some types of non-canonical ACs mentioned in § 3.2. Turning to serial verb constructions, peripheral roles in these constructions may be realized as an object of a verb, which is a kind of core argument, though this might require further comment, as more than one verb is present in the clause. Beneficiary participants, expressed as the possessor of another core argument, as in certain Sundanese benefactive constructions, might also be included as another possible mapping for the peripheral participant.

Finally, all of these clausal constructions, that is ACs—be they pivot-selecting or pivot-neutral, more canonical or less canonical—together with serial

verb constructions and unmarked dative alternations, have in common that they show special treatment of one or more peripheral semantic roles, irrespective of the specific syntactic realization of this participant. Languages differ as to which of these roles are targeted in ACs, though there is general agreement on which roles are most canonical. However, serial verb constructions as noted above, show more diversity in the semantic relationships expressed as part of the constructional meaning, e.g. temporal relationships, logical relationships, and more diverse and finely differentiated participant roles.

Again, the framework that I have articulated here is not certainly not the only useful way to view applicatives and the relationships of ACs to other types of clausal constructions that express similar meanings. My purpose here is to demonstrate the ways that such clausal constructions might be related to applicatives, if constructions are understood as conventionalized pairings of fixed form and consistent meaning. Furthermore, as outlined here, this framework is particularly suited for my purposes in studying the applicatives of West Nusantara languages in typological perspective. Viewing ACs in this manner not only allows for inclusion of diverse types of AM-marked clauses in the object of study, it also helps to situate them in the context of the wider Austronesian family and in the context of other functionally similar verbal constructions. This in turn leads us to look for diachronic processes by which applicatives may arise from, or be replaced with, such functionally similar constructions in a given language.

In the following three chapters of this book, I describe results of a large-scale typological survey of the languages of West Nusantara, based on this understanding of applicatives. In each chapter, I examine particular patterns of distribution observed for applicatives and their properties, and the implications that these patterns have for understanding the nature and development of applicatives in this region.

The Distribution of Applicatives in West Nusantara Languages: *A Bird's Eye View*

4.1 Establishing the Basic Distribution

In the previous chapter, I showed that there are a number of significant gaps in the existing literature on applicative constructions (ACs) in languages of West Nusantara. In this chapter, I begin to address these gaps by establishing the distribution of applicatives in West Nusantara languages based on a large-scale typological survey designed to explore factors that may explain such distributional patterns.

The remainder of this section describes the goals of the survey and selection of languages for the sample. Then in § 4.2, I introduce the properties considered in the survey to establish the basic distribution of applicatives in West Nusantara and possible explanations for it. In § 4.3, I present an overview of results. In § 4.3.1, results of statistical tests of non-random association between individual features of the languages and the presence or absence of applicatives are summarized. Then in § 4.3.2, I present results of a multivariable modeling analysis using the random forest classification algorithm to show the relative importance of each feature in predicting whether a language has applicatives or not. In § 4.4, I show detailed results for individual structural properties of languages. These are generally of less importance for predicting the presence or absence of applicatives in West Nusantara languages, though morphological alignment and type of voice system do show statistically significant non-random association with occurrence and type of applicatives. Following this, I begin to consider the features of greatest importance in predicting the presence or absence of applicatives in West Nusantara: location and genetic affiliation. A bird's eye view summary of the distribution of applicatives by location and genetic affiliation is given in § 4.5. The chapter concludes with a summary of major findings in § 4.6.

On the whole, these results show significant areas of difference with some previous cross-linguistic studies of applicatives, and suggest that pivot-neutral applicatives are an areal feature of West Nusantara associated with the breakdown of the inherited four-way Philippine-type voice system.

4.1.1 *Goals of the Survey*

My goals for the typological survey are threefold. First, the most basic goal is to describe the distribution of languages with and without applicatives and key properties of the forms and meanings of ACs in languages which exhibit them. These findings are then used to inform the typology of ACs that I develop in Chapter 7. Second, I seek to determine whether there is a typological profile for languages with applicatives in West Nusantara, and if so, whether this profile corresponds to tendencies and structural correlations identified in previous studies (e.g. Peterson 2007; Polinsky 2013). Third, I aim to investigate patterns in the basic properties of form and meaning for applicatives in the languages of West Nusantara, especially relationships that explain how semantic and syntactic properties of ACs are distributed across West Nusantara.

I am also concerned with the historical development of applicative systems in these languages. Thus, in discussion of findings related to the survey's three goals, I identify implications for our understanding of this development. Here it is important to note that the languages of West Nusantara show two types of ACs as defined in this study. First, in some languages of West Nusantara we observe Philippine-type peripheral nonactor voice alternations—*pivot-selecting applicatives* as defined in §3.4 above. These constructions are inherited from Proto Malayo-Polynesian (PMP) and reconstructible to Proto Austronesian (PAN). They thus represent a form of continuity with earlier stages of development. Second, in many languages we observe applicatives that operate independently of the symmetrical voice paradigm—*pivot-neutral applicatives*, as defined in §3.4. These constructions are not found in PMP, and thus represent the result of diachronic change. Because I am particularly interested with ACs that developed within West Nusantara, I take care to distinguish between the two types in discussing survey results, and at many points I focus on the latter.

4.1.2 *Selection of Languages*

A final sample of 85 total languages was used in the typological survey. Map 2 shows languages of the sample (exclusive of Merina Malagasy and Suriname Javanese) by the primary location in which they are spoken.¹

As described in §1.4, the scope of the study includes the Austronesian languages belonging to genetic affiliations within Malayo-Polynesian that are identified as indigenous to the West Nusantara geographic area. One inherent

1 Throughout this study, maps showing language data include geospatial data from Glottolog 4.7 (Hammarström et al. 2022), which is used under the CC BY 4.0 license (<https://creativecommons.org/licenses/by/4.0/>).

difficulty in using genetic affiliation in the study is the fact that there are outstanding questions about the higher-level ordering of the Malayo-Polynesian languages of West Nusantara. Indeed, the higher-level ordering of all the languages belonging to Malayo-Polynesian outside of its Eastern Malayo-Polynesian branch is still unclear (see Donohue & Grimes 2008; Smith 2017), and these probably rightfully belong to numerous primary branches. Therefore, I rely on lower-level genetic groupings under Malayo-Polynesian that are well-established, meaning that most scholars generally agree that a given subgrouping is valid and, with minor exception, the individual languages and primary branches classified within it are clear. To maximize inclusion of the diversity, I erred on the side of over-differentiation in selecting genetic groupings.

An initial screening was conducted to evaluate available data for the languages based on the OLAC language resource catalog² and the Glottolog 4.7 references section (Hammarström et al. 2022). From the initial list, 137 of the 321 total languages were removed due to complete lack of resources relevant to morphology or syntax. For the remaining 184 languages, descriptive and pedagogical materials were reviewed, and a confidence rating assigned for the availability and reliability of information to be collected based on type and length of resource, publication status, publisher, subject matter category, and cursory review of the material whenever possible. Of these 184 languages, 76 received a high confidence rating and were advanced to the data compilation stage. However, four languages were subsequently removed; one because of incomplete information (Malayic Dayak [xdy, mala1480]), two because they are too similar to closely related varieties that have separate ISO-639-3 codes (Tukang Besi South [bhq, tuka1249], Standard Malay [zsm, stan1306]), and one because of discrepancies between the code listed and variety described (Bara Malagasy, [bhr, bara1369]).³ An additional 58 languages were given a medium confidence ranking. Of these, 13 were added to the sample to provide representation of an as yet unrepresented primary branch of a genetic grouping, a geographic region for a genetic grouping, or set of languages whose inclusion in a genetic grouping is disputed. Thus, 85 total languages are included in the final sample, (see list in Appendix 1).

² <http://www.language-archives.org/>

³ Due to coding discrepancies, data compiled from the description of Bazaar Malay as spoken in Singapore by Aye (2005) was reassigned from Sabah Malay [msi, saba1263], under which this resource is listed in Glottolog 4.7, to Malay [zlm, mala1479], which is a label used for Colloquial or local Malay varieties. Like Sabah Malay, Singapore Bazaar Malay is used as a lingua franca in inter-ethnic communication and its characteristics are highly influenced by the conditions of contact under which it originated.

Due to incomplete available information, the following were not represented in the sample: Mentawai [mwv, ment1249] and Simeulue [smr, sime1241], isolates within Northwest-Sumatra Barrier Islands; Limolang [ley, lemo1243], an isolate within South Sulawesi; Keninjal [knl, keni1248], an isolate within Malayic; Sanggau [scg, sang1339], an isolate within Land Dayak; Bintulu [bny, bint1246], an isolate within North Sarawak; New Caledonian Javanese [jas, newc1244], a Javanese language spoken in the Pacific region; Kajang (7 languages), a primary-branch of Melanau-Kajang; and Rejang-Sajau (5 languages), a subgroup listed by Eberhard, Simons & Fennig (2021). To compensate for this, relevant qualitative and descriptive data for a good number of languages with partially available information have been included in the discussion of survey results.

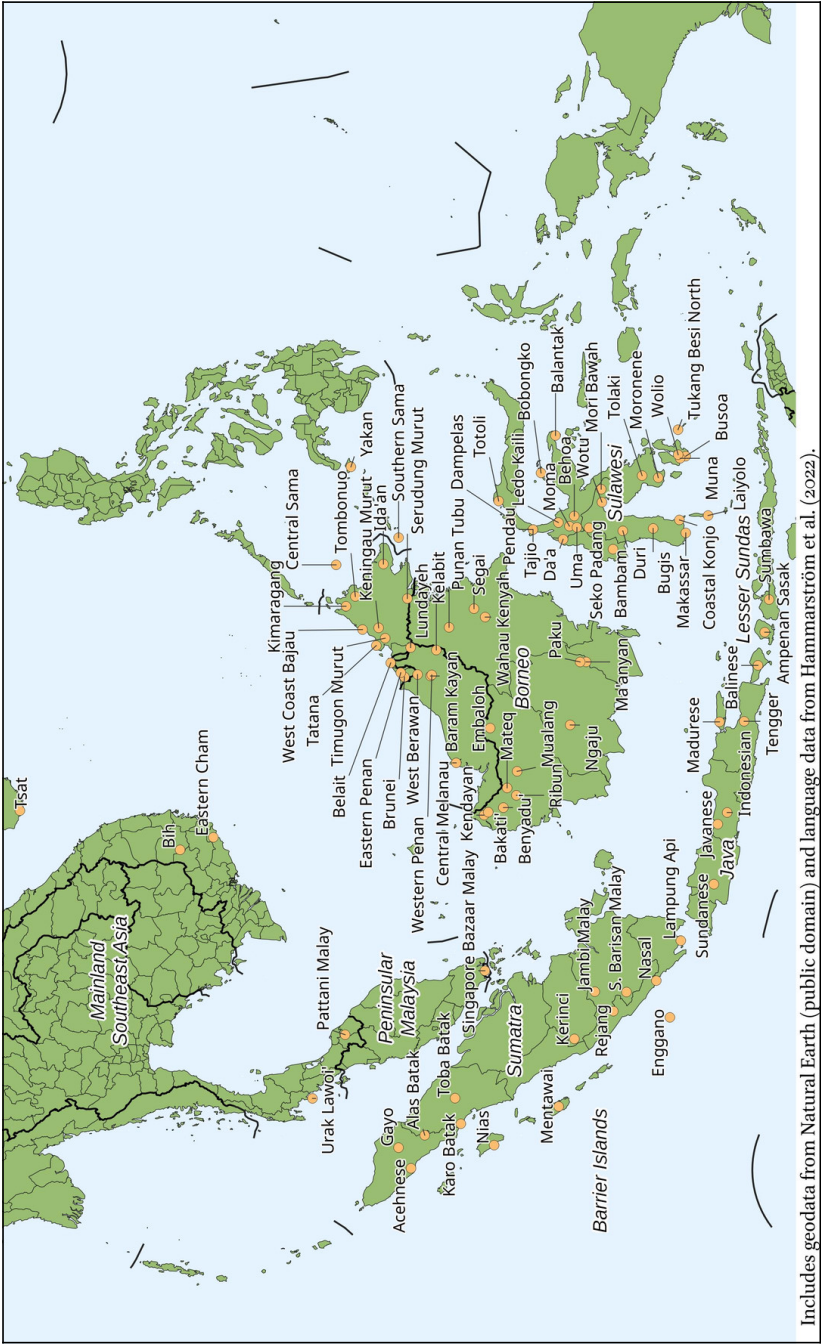
4.2 Properties Considered in the Survey

To establish the basic distribution of applicatives in West Nusantara and explore possible explanations for these distributional patterns, information on the languages of the sample was collected by means of a questionnaire (see Questionnaire A, Appendix B.1). Each language was assessed for the presence of applicatives and whether these co-occur with other basic voice constructions. Languages were also coded for a number of other properties investigated as possible explanations for the distribution of applicatives in the sample. These include general properties of language—geographic location and genetic grouping—and structural features of language, which comprise seven categories related to morphological and syntactic organization. The following subsections describe the types of data collected and motivations for the inclusion of each feature.

4.2.1 *Presence of Applicatives*

For each language in the sample, it was determined whether applicatives are present or absent based on available descriptions (see Questionnaire A, Pattern 8a), according to the definition given in (2) in § 1.6.1, which is repeated here for convenience as (100).

- (100) An applicative is a clausal construction in which overt morphological marking on the verbal complex coincides with the selection of a non-agent, non-patient semantic role to map to a core argument in the clause.



MAP 2 Languages included in the sample for the typological survey

4.2.2 *Co-occurrence with Other Constructions*

As discussed in § 3.4, certain constructions considered applicatives in this study represent alternations integral to the voice paradigms of Philippine-type languages (i.e., pivot-selecting applicatives), while others ACs are not part of the symmetrical voice paradigm (i.e., pivot-neutral applicatives). The former type generally is mutually exclusive with all other basic transitive voice constructions, e.g. AV, PV, while the latter type is not.

To aid in understanding possible interactions between applicatives and voice (or diathesis), data was collected on the co-occurrence of applicatives with other basic voice constructions (see Questionnaire A, Pattern 8b). For each language, it was recorded whether at least one applicative morpheme (AM) co-occurs with all the basic transitive constructions and any passive construction attested. If at least one AM co-occurs with more than one such construction (but not all), the language was coded for **partial** co-occurrence. Also recorded was whether the applied phrase shows evidence of syntactically privileged (pivot) status across basic clause types (Questionnaire A, Pattern 10). A language was considered to show pivot-neutral applicatives if it exhibits full or partial co-occurrence of an AM with other basic voice constructions, with pivot status being non-obligatory for the applied phrase. A language was considered to show pivot-selecting applicatives if it exhibits an AM that does not co-occur with other basic voice constructions, and with which the applied phrase is obligatorily selected as pivot. Note that it is possible for a language to show both types.

4.2.3 *Geographic Location*

Geographic location was coded in the survey according to major island grouping within West Nusantara and general region outside of West Nusantara. Coding values used for this pattern include six major island groupings: the Barrier Islands, Sumatra, Borneo, Java & Madura, Sulawesi, and the Lesser Sundas. Also used were four additional regions: the Philippines, East Africa, the Americas, mainland Southeast Asia (i.e., the region of continental Asia directly north of Peninsular Malaysia). Languages were coded according to the primary present-day location in which they are spoken. Two languages were classified as “other”: Standard Indonesian and Singapore Bazaar Malay.

4.2.4 *Genetic Grouping*

Languages were coded by genetic groups, and values were assigned according to the classification in Eberhard, Simons & Fennig (2021). This source tends to favor long-standing and conservative classifications (and is updated less frequently compared to the Glottolog catalog). The following genetic group-

ings were represented as coding values: Northwest Sumatra-Barrier Islands, Enggano, Tomini-Tolitoli, Kaili Pamona, Saluan-Banggai, Bungku-Tolaki, Muna-Buton, Wotu-Wolio, South Sulawesi, Chamic, Malayic, Bali-Sasak-Sumbawan, Madurese, Sundanese, Javanese, Rejang, Lampungic, Nasal, Greater Barito, Land-Dayak, Melanau-Kajang, North Sarawak, and Sabahan.

4.2.5 *Word Order*

Word order refers to the preferred order of the verb relative to other constituents in a main clause, particularly those expressing the core argument relations, S, A and P. Siewierska (1999) finds a generalized tendency for languages with applicatives to show verb-object word order.⁴ This parameter is relevant to West Nusantara languages, as a number of common applicative suffixes are suggested to be derived from captured prepositions (see Pawley & Reid 1979; Adelaar 1992). If this is the case we might expect that the verb will precede the P argument and that the A argument does not typically intervene.

In the survey, data on transitive word order was collected in order to determine if a correlation between V-P word order (Y/N) and the presence of applicatives holds for languages of the sample (see Questionnaire A, Pattern 1).

4.2.6 *Morphological Alignment*

Alignment refers the patterning of morphosyntactic properties of constituents that express the core argument relations S, A, and P. A major typological distinction is drawn between systems where the primary morphosyntactic indicators of grammatical relations pattern together for S and A, i.e., accusative alignment, from systems where these indicators pattern together for S and P, i.e., ergative alignment. Peterson (2007: 214–219) finds a correlation between the presence of applicatives and non-accusative alignment and some evidence of correlation between the presence of applicatives and ergative alignment in particular. He suggests that this is explained by the fact that the absolutive grammatical relation (S and P) typically has relatively high topicality, which is compatible with the function of some types of applicatives. He notes however, that these findings are complicated by areal patterns, particularly the pervasive nature of ergative alignment in Australian languages, and the absence of it in Africa.

Because many languages of West Nusantara exhibit mixed patterns of alignment, in this survey morphological alignment and syntactic alignment were coded separately.

4 Peterson (2007: 212–214) does not find a general correlation between word order and the presence of applicatives, however, the coding he uses does not distinguish for the relative position of P in the clause, only whether the verb is initial, medial, or final.

Morphological alignment refers to patterning of the morphological marking of nominal constituents expressing the core argument relations S, A, and P. Evidence of morphological alignment may include the use of case markers, articles, or other grammatical particles, as well as paradigmatic alternation in the forms of nouns and pronominal indexes when these co-vary with the core argument relations.

In the survey, data on morphological alignment was recorded on the basis of basic, declarative clauses (see Questionnaire A, Pattern 2). If marking or indexing of core relations differed by noun class (e.g. animacy, common vs proper noun, pronominal vs. full NP), the class showing the most distinctions was used. Coding values include **accusative**, **ergative**, and **neutral** alignment. To these, the value **mixed-NP_{IV}.A** was added because a large number of languages in the sample show distinct marking of the non-pivot A argument, when compared to other core arguments (see discussion of Penda pronominal sets in §1.6.2).

4.2.7 *Syntactic Alignment*

Syntactic alignment refers to patterning of syntactic properties that co-vary with core argument relations. Evidence of syntactic alignment includes word order and access of particular core argument relations to syntactic operations like relativization, control, and raising (see Keenan 1976 on ‘behavioral’ evidence, Arka 2003 for examples of a number of these applied in analysis of Balinese).

Data on syntactic alignment was recorded in the survey according to the most prevalent patterning of S, A, and P. The words “most prevalent” here are used to acknowledge that, in a given language, different syntactic operations may point to different patterns of alignment, and syntactic alignment patterns also may vary according to construction. My goal here is to identify distinctions between syntactic properties of S, A, and P that are highly pervasive in a given language and its structures. Coding values used for this pattern include **accusative**, **ergative**, **neutral**, **split-S**, **pivot-non-pivot**, and **mixed** (see Questionnaire A, Pattern 3).

4.2.8 *Symmetrical Voice and Diathesis*

Following Zúñiga & Kittilä (2019), I use diathesis to refer to particular mappings of semantic roles to grammatical relations, and grammatical voice to refer to types of diatheses that are coded and thus formally marked on predicates. Voice and diathesis are of particular interest in developing a typology of applicatives for West Nusantara languages because these languages are a subset of the western Austronesian languages, and as such, many of them show distinctive voice

systems that exhibit alternations between multiple basic transitive constructions, or symmetrical voice (see § 3.4).

Voice and applicatives are connected in western Austronesian languages in a number of important ways. In the literature on western Austronesian languages, a major typological division has been drawn between Philippine-type languages and Indonesian-type languages (Wolff 1996; Arka 2003; Himmelmann 2002, 2005). The Philippine-type languages, on the one hand, show alternations between one actor voice (AV) and two or more nonactor voices, e.g. patient voice (PV), benefactive voice (BV), locative voice (LV), instrument voice (IV), and/or circumstantial voice (CV). The Indonesian-type languages, on the other hand, show alternation between just two voices, one actor voice (AV) and one nonactor voice (PV). Philippine-type languages are relevant because many of the nonactor voices are considered (pivot-selecting) ACs under the definition used in this study (see § 3.4). Indonesian-type languages are relevant because the presence of (pivot-neutral) ACs that operate independently of symmetrical voice morphology has been identified as characteristic of this type in the literature (Himmelmann 2005). However, there may also be reasons to consider the Indonesian-type problematic and in general, too narrow to be appropriately descriptive of non-Philippine-type languages of West Nusantara (see § 5.7 below).

In order to clarify the typological relationship between voice and the presence of applicatives in the languages of West Nusantara, data on grammatical voice and diathesis were compiled (see Questionnaire A, Pattern 4). Coding values were defined according to the number of basic transitive constructions observed in the language. Languages coded as **Philippine-type** show three or more basic transitive constructions, distinguished by mapping of semantic role to grammatical relation. In languages coded as **marginal Philippine-type**, one or more of these constructions is non-productive or substantially restricted in distribution. Languages coded as **two-way symmetrical** show one A-oriented and one P-oriented basic transitive construction. In **marginal two-way symmetrical** languages, one of these constructions is non-productive or substantially restricted in distribution. Languages coded as **asymmetrical** show no alternations in basic transitive constructions distinguished by mapping of semantic role to grammatical relation.

4.2.9 *Morphological Case Marking*

In previous research Polinsky (2013) observes that “applicatives are commonly found in those languages that have little or no case-marking of noun phrases in a clause” and Peterson (2007: 222–223) finds a tendency for languages with applicatives to lack case markers. Meanwhile for western Austronesian lan-

guages, the use of phrase marking clitics that indicate grammatical case is associated with Philippine-type languages (Himmelman 2005), but it is not clear whether loss of morphological case-marking is related to the emergence of pivot-neutral applicatives.

To determine whether a relationship between lack of case-marking and the presence of applicatives holds for West Nusantara languages, case-marking patterns were recorded in the survey (see Questionnaire A, Pattern 5). A language was either coded for general use of morphological case marking (Y), no use of morphological case marking (N), or **limited** use, meaning that case-marking elements are found only with a small subclass of nominals, or marked only by means of sets of pronominal elements.

4.2.10 *Order of Noun-Possessor*

The linear order of possessed noun and possessor is one indicator of the extent of head or dependent marking in a language (see Nichols 1992). Peterson (2007) finds that languages with applicatives tend to be “extremely dependent marking.” A preposed possessor construction in which the possessor precedes the possessed noun (with or without a linker element) has also been put forward as a defining characteristic of a typological category for western Austronesian languages that contrasts with the category for symmetrical voice languages (see Himmelman 2005: 112–114, 163–165).

To investigate a possible relationship between order of noun and possessor and the presence of applicatives in the sample, data was compiled in the survey (see Questionnaire A, Pattern 6). Coding values include N-Poss, Poss-N, and **mixed**, meaning both linear orders are observed.

4.2.11 *Morphological Causative Constructions*

The relationship between applicatives and other valency-modulating constructions has been of interest in the literature. Peterson (2007) finds a tendency for languages with ACs to also show morphological causative constructions. Furthermore, AMs in the languages of West Nusantara also very commonly serve as markers of morphological causative constructions (see Truong & McDonnell 2022) and various explanations for this have been explored (see e.g. Shibatani & Pardeshi 2002).

Here, causative refers to a clausal construction in which an A argument is introduced with the semantic role of causer, i.e., the participant that instigates the event (Dixon & Aikhenvald 2000). Morphological causative means that morphological marking on the verb or verbal complex is associated with such argument structure.

In addition to AMs that function as morphological causative markers, many languages of West Nusantara show a reflex of PAN and PMP *pa- ‘causative of

dynamic verbs' (Blust 2003), which is a well-established reconstructed form. Of potential interest is distributional evidence that may shed light on the relative recency of the causative functions of AMs (e.g. compared to applicative functions) and the internal history of causative constructions in these languages, including possible functional replacement of causative *pa- with AMs.

To investigate the relationship between morphological causatives and applicatives, data was compiled in the survey (see Questionnaire A, Patterns 7a, 7b, and 7c). For each language, it was recorded whether a morphological causative construction is present (Y/N), the historical sources of the morphological causative markers, and productivity of the morphological causative markers derived from PMP *pa- (**high/medium/low**).

4.3 Overview of Results and Multivariable Analysis

In order to determine whether there is a typological profile for languages of West Nusantara with applicatives, and whether this profile is consistent with tendencies and correlations with properties of language found in previous studies, nine features described in the previous section were considered. Two of these, geographic location and genetic affiliation, are general properties of language. The other seven represent structural properties of language: verb-P word order, pattern of morphological alignment, pattern of syntactic alignment, type of voice system, presence of case-marking, order of noun and possessor, and presence of a morphological causative construction. This section gives an overview of results for two types of analysis done to determine the relationship of these nine features vis-a-vis the distribution of applicatives in languages of West Nusantara: (i) tests of nonrandom association for individual features (§ 4.3.1), and (ii) multivariable analysis using the random forest algorithm (Breiman 2001) for classification problems (§ 4.3.2). All statistical analyses described in this section were performed using R Statistical Software (v4.2.3, R Core Team 2023).

4.3.1 *Testing of Individual Features*

For individual features, Fisher's exact test was used to determine if there is a nonrandom association between the feature and (i) the presence of applicatives of any type, and (ii) the presence of pivot-neutral applicatives in the language. Fisher's exact tests were used rather than chi-squared tests because of low expected values ($n < 5$) for at least one categorical variable, i.e., coding value, for each feature. In such cases, the approximation of frequencies used in chi-square tests may be inadequate. Except for the voice system feature,

TABLE 12 Results of Fisher’s exact tests by feature

	Presence of applicatives (any type)	Presence of pivot-neutral applicatives
Feature	<i>p</i> -value (2-sided)	<i>p</i> -value (2-sided)
Location	< .001	< .001
Genetic group	.002	< .001
Verb-P word order	.014	.753
Morph. alignment	.036	< .001
Syn. alignment	.873	.806
Voice system	—	.009
Case marking	.158	.202
Order of N + Poss	.091	.167
Morph. causative	.081	.155

which does not have an independent relationship with the general presence of applicatives, two Fisher’s exact tests were performed for each of the nine features of language listed above.⁵ An alpha level of .05 was used for all statistical tests. Results of Fisher’s exact tests are reported in Table 12 as *p*-values (two-sided).

The results indicate that there is a statistically significant association between the presence of applicatives of any type and location ($p < .001$), genetic group ($p = .002$), verb-P word order ($p = .014$), and morphological alignment ($p = .036$). Likewise, the results indicate a statistically significant association between the presence of pivot-neutral applicatives and location ($p < .001$), genetic group ($p < .001$), and morphological alignment ($p < .001$). However, no statistically significant association was found between the presence of pivot-neutral applicatives and verb-P word order ($p = .753$). In addition, a statistically significant association is also indicated between the presence of pivot-neutral applicatives and type of voice system ($p = .009$). Detailed results for individual features representing structural properties of language are given below in § 4.4.

5 No test was performed for the relationship between the voice system feature and the general presence of applicatives. This is because the voice system feature is coded according to the number of transitive voice constructions distinguished by mapping of semantic role in the language, and all languages coded as ‘Philippine-type’ for voice have more than two distinct undergoer voices and thus always have pivot-selecting applicatives as defined in this study.

4.3.2 *Multivariable Modeling: Random Forest Analysis*

Testing for nonrandom association between individual features and the presence of applicatives in the survey data, as described above, is useful for comparison with previous studies identifying tendencies for languages with applicatives to show certain structural properties. However, to develop an adequate explanation of the distribution of applicatives in languages of West Nusantara, we also want to know the relative importance of the features surveyed, and the extent to which they are collectively useful for classifying languages into relevant types or groups (i.e., languages with and without applicatives generally, or languages with and without pivot-neutral applicatives specifically). For this purpose, a random forest analysis was performed to model the distribution of languages with and without applicatives in the survey using classification trees based on subsets of the features surveyed. Random forest analysis uses a machine-learning algorithm to yield estimates of overall and relative importance across many variables in classification tasks, as well as error estimates for accuracy of models using these variables in correctly classifying observations into categories (Breiman 2001). This analysis was performed using the random-Forest R package (Liaw & Wiener 2002).

The feature for syntactic alignment was excluded from the random forest analysis because of a large number of missing values (undetermined for 13 of 85 languages) and large p -values on the Fisher's exact tests indicating low probability of nonrandom association with the presence of applicatives of any type ($p = .873$) and with the presence of pivot-neutral applicatives specifically ($p = .806$). Accordingly, eight features of language were included in the random forest analysis: location, genetic grouping, verb-P word order, morphological alignment, voice system, case marking, order of Noun + Possessor, and presence of a morphological causative. Two target variables were again tested: (i) the presence of applicatives of any type in the language, and (ii) the presence of pivot-neutral applicatives that co-occur across other basic voice constructions.

Parameters for the random forest analysis were set based on typical default values identified in the literature on statistical methods and machine learning (see Probst, Wright & Boulesteix 2019). Because the target variable, i.e., presence of applicatives generally, or presence of pivot-neutral applicatives specifically, is categorical, a classification type tree, rather than regression type tree, was selected. For the parameter *mtry*, the number of variables to randomly sample as candidates at each split in the tree, the value 3 was used, based on the default value for classification (square root of the total number of variables, in this case $\sqrt{8} = 2.82 \dots$). The standard node size for classification, 1, was also used. The number of trees to generate was set to 2000 as a generally high value, as 500 or 1000 is normally the default value.

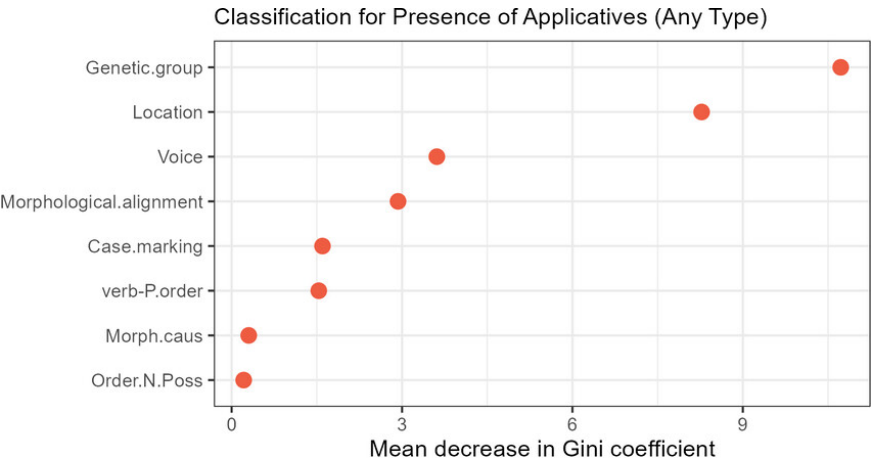


FIGURE 1 Importance of features for classification by presence of applicatives

For the presence of applicatives of any type in a language, the following results were found. The out-of-box estimate of error rate was 16.46 %, meaning that the trees generated by the random forest algorithm on average misclassify 16.46 % of the languages, and accurately classify the other 83.54 %. Variable importance is reported in Figure 1 as mean decrease in Gini coefficient, which is a measure of how each variable contributes to homogeneity in nodes below when chosen for a split in the decision tree. Variables with larger Gini coefficients produce splits in the tree that result in more accurate classification of observations into groups by the target variable; in this study, such variables thus have higher explanatory power for the presence or absence of applicatives. The two most important variables by far are genetic group and location, with mean decreases in Gini coefficient of 10.723 and 8.274 respectively. Of somewhat less importance are voice and morphological alignment, with mean decreases in Gini coefficient of 3.613 and 2.929 respectively. The four other variables are of relatively low importance, with mean decrease in Gini coefficient of less than 2.

For the presence of pivot-neutral applicatives, the following results were found. The out-of-box estimate of error rate was 18.99 %, meaning that the trees generated by the random forest algorithm on average misclassify 18.99 % of the languages, and accurately classify the other 81.01 %. Variable importance is reported in Figure 2. Again, the two most important variables are genetic group and location, though this time genetic group is the higher of the two. The mean decreases in Gini coefficient for location is 13.023, while for genetic group it is 14.280. The feature for morphological alignment shows a mean decrease in Gini coefficient of 3.991. The other five variables are of relatively low importance, with mean decrease in Gini coefficient of less than 2.

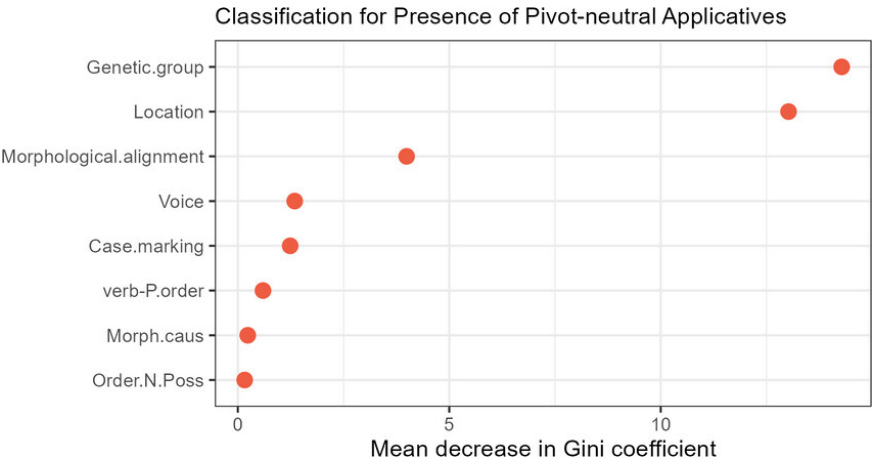


FIGURE 2 Importance of features for classification by presence of pivot-neutral applicatives

Overall, the random forest analysis shows that both the presence of applicatives generally and the presence of pivot-neutral applicatives specifically can be predicted in large part on the basis of the location in which a language is presently spoken, i.e., major island group within West Nusantara or general region outside of West Nusantara, and genetic affiliation within Malayo-Polynesian. While testing of individual features showed that morphological alignment and voice have a statistically significant non-random relationship with the presence of applicatives in the sample, these features are less useful for predicting if a given language of West Nusantara will show applicatives of any type or lack them, and only morphological alignment is moderately useful for predicting the presence of pivot-neutral applicatives. Of even less utility are the features for case marking, verb-P word order, presence of morphological causatives, and order of Noun + Possessor. In the following sections, the distribution of languages with and without applicatives is broken down in greater detail by sets of individual features. Structural properties of language are considered in § 4.4, while an overview of location and genetic affiliation is given in § 4.5.

4.4 Detailed Results for Structural Properties

This section presents detailed discussion of the results for individual features of languages, especially those showing a statistically significant nonrandom association with the presence of applicatives (all types) or the presence of pivot-neutral applicatives.

TABLE 13 Verb-P word order and presence of applicatives

Word order (A-oriented)	Presence of applicatives (any type)		Presence of pivot-neutral applicatives		TOTAL
	Yes	No	Yes	No	
Verb-P	44	25	39	30	69
Other than verb-P	12	0	8	4	12
TOTAL	56	25	47	34	81
%	69	31	58	42	

4.4.1 *Word Order*

In contrast to previous studies, the results of the survey do not support a tendency for languages with applicatives to show verb-P word order. In fact, as shown in Table 13, languages of the sample with predominant word order other than verb-P are more likely to lack applicatives of any type, and this association is statistically significant ($p = .014$). For four languages of the sample, predominant word order was undetermined. Of the remaining 81 languages, 36 % of languages with verb-P word order lack applicatives altogether (25 of 69), while no languages with other word orders lack applicatives (0 of 12). On the other hand, there is no statistically significant association between verb-P word order and the presence or absence of pivot-neutral applicatives ($p = .753$).

Further review of the source material reveals that languages that lack applicatives are far more likely to have predominant AVP order in A-oriented transitive constructions. In fact, as shown in Table 14, AVP is the predominant word order in A-oriented transitive constructions for 23 of 25 languages lacking applicatives (92 %), compared to 28 of 56 languages with applicatives of any type (50 %). Nineteen languages show predominant verb-initial word order, and these overwhelmingly have applicatives (95 %, 18 of 19). No languages of the sample show predominant verb-final order, while for 11 languages, the position of the verb can be either initial or medial in normal word order for A-oriented constructions.

Since we know that Philippine-type voice alternations—and therefore pivot-selecting applicatives—were present in PAN and PMP, these results cannot indicate that languages with AVP word order are simply less likely to develop applicatives of any type. Instead, I interpret this pattern to show that

TABLE 14 Clausal word order and presence of applicatives

Word order (A-oriented)	Presence of applicatives (any type)		Presence of pivot-neutral applicatives		TOTAL
	Yes	No	Yes	No	
Verb-medial (AVP)	28	23	27	24	51
Verb-initial (VAP and/or VPA)	18	1	11	8	19
Position of verb varies	10	1	9	2	11
TOTAL	56	25	47	34	81
%	69	31	58	42	

in languages of West Nusantara that underwent certain types of restructuring, a shift from the verb-initial word order prevalent in PAN to AVP word order coincided with loss of Philippine-type voice, as well as other factors that mitigated against the development or maintenance of pivot-neutral applicatives. That is, while the presence of applicatives is the norm for most languages of West Nusantara, AVP word order in the A-oriented construction may form part of one or more typological profiles for languages that lack applicatives in the sample. For further discussion of word order and lack of applicatives, see §5.4 on mainland Southeast Asia and Peninsular Malaysia and §5.5 on Borneo.

4.4.2 *Morphological and Syntactic Alignment*

As reported in §4.3.1, the results of Fisher’s exact tests show a significant non-random association between the feature for morphological alignment and the presence of applicatives of any type ($p = .036$), as well as the presence of pivot-neutral applicatives ($p = < .001$). In contrast, no significant relationship was indicated between the feature for syntactic alignment and the presence of applicatives, either generally ($p = .873$), or for pivot-neutral applicatives specifically ($p = .806$). Table 15 shows languages of the sample by pattern of morphological alignment.

Previously, Peterson (2007: 214–219) found a correlation between the presence of applicatives and non-accusative alignment, especially ergative alignment. The survey results differ quite a bit from those findings. The presence of applicatives in languages of the sample is overall fairly high across types of

TABLE 15 Morphological alignment and presence of applicatives

Morphological alignment	Presence of applicatives (any type)		Presence of pivot-neutral applicatives		TOTAL
	Yes	No	Yes	No	
Accusative	4	1	4	1	5
Ergative	9	0	9	0	9
Neutral	5	7	4	8	12
Pivot-Nonpivot	13	5	6	12	18
Mixed-NP _{IV} .A	19	12	18	13	31
Mixed (other)	9	1	9	1	10
TOTAL	59	26	50	35	85
%	69	31	59	41	

morphological alignment. An especially strong tendency to have pivot-neutral applicatives is found both in languages with ergative morphological alignment (100 %, 9 of 9) and those with accusative morphological alignment (80 %, 4 of 5). Languages with neutral morphological alignment show a greater proportion of languages lacking applicatives of any type in the sample; only 41 % of these languages (5 of 12) have applicatives.

4.4.2.1 Ergative Alignment

As in previous research, in the sample we observe a strong tendency for languages with ergative morphological alignment to have applicatives, and specifically pivot-neutral applicatives. However, the nine languages of the sample that show ergative morphological alignment and pivot-neutral applicatives—Uma, Mori Bawah, and all seven South Sulawesi languages—show little evidence of ergative syntactic alignment. For example, in Uma, absolutive enclitics index S and P in transitive clauses (both in AV and PV), while ergative proclitics index A (in PV only, A is not indexed in AV) (Martens 1988b: 172–175). Nevertheless, when it is the pivot, A (of AV) shows access to relativization, just as other pivot arguments do (i.e. P of PV, S of intransitives, S of non-volitional passives), as shown in examples in Martens (1988b). As a result, I categorize Uma as showing pivot-non-pivot syntactic alignment rather than ergative syntactic alignment. (For discussion of alignment in South Sulawesi languages, see § 5.6.1.)

Thus, as a group, the languages of the sample with ergative morphological alignment are not necessarily comparable to languages coded for ergative alignment in Peterson's (2007) study. For this reason, and because languages with ergative morphological alignment in the sample are concentrated in Sulawesi geographically and in the South Sulawesi genetic group in particular, the observed relationship between ergative alignment and the presence of applicatives in the study must be taken with a grain of salt.

4.4.2.2 Accusative Alignment

Turning to languages in the sample with accusative morphological alignment, we do not observe evidence that these languages are less likely to have applicatives, as might be predicted based on previous studies. Languages with accusative morphological alignment in the sample include Muna, Busoa, Laiyolo, Wolio, and Sumbawa. For this relatively small group of languages, 80% (4 of 5) show applicatives, compared to 69% (59 of 85) of languages in the total sample that show applicatives of any type. However, again these languages are not necessarily comparable to the group of accusative languages surveyed in Peterson (2007); at least one of these languages—Laiyolo—shows non-accusative syntactic alignment (Belding, Laidig & Maingak 2001). Areal patterns are also at play. Sumbawa, which does not have applicatives, is spoken in the transition area between West and East Nusantara languages (see §5.3). The other four languages have pivot-neutral applicatives, and are all spoken in Sulawesi, where the presence of such constructions is by far the norm (see §5.6).

4.4.2.3 Neutral Alignment

There are also languages of West Nusantara which morphologically distinguish between core and oblique arguments, but otherwise mark S, A, and P in the same manner. For most such languages in the sample, there is generally no distinction of separate sets of pronouns that co-vary with grammatical relations, and NPs are simply bare when they encode core arguments and marked with prepositions when oblique.⁶ In the sample, such languages are more likely to show no applicatives of any type; 58% (7 of 12) do not have applicatives, compared to 31% of the larger sample (26 of 85). Of these, five languages (Bih, Eastern Cham, Tsat, Urak Lawoi', Singapore Bazaar Malay) show extensive contact with non-Austronesian languages (see §5.4 on languages of mainland Southeast Asia and Peninsular Malaysia) and the remain-

6 Enggano, also classified as a language with "core/oblique" morphological alignment, differs from this characterization, as it makes use of noun-marking prefixes, see §5.1.

ing two languages, Matéq (Land Dayak) and Mualang (Malay) are both spoken in Borneo south of Sabah, where lack of applicatives is the norm (see § 5.5).

4.4.2.4 Mixed Alignment

Finally, I note that languages coded as “mixed (other)” for morphological alignment do not form one coherent category. Some of these languages, like Moronene and Sasak, show complex and variable use of pronominal clitics for person indexing (see Andersen & Anderson 2005; Khairunnisa 2022). Others, like Nias and Kerinci, make use of morphophonological alternations in the form of nominal arguments which show different patterns of co-variance with grammatical relations across types of constructions (see Brown 2001; Ernanda 2017). Still others, like Brunei Malay, show different patterns of person indexing with free pronouns and pronominal clitics across A-oriented and P-oriented constructions (see Clynes 2001). Note that during analysis, Acehnese, the only language coded for split intransitive morphological alignment, was collapsed into the “mixed (other)” category. Languages coded as “mixed (other)” show a strong tendency in the data to have pivot-neutral applicatives (90% or 9 of 10 languages). However, because these languages are so different from one another, not much can be taken from this fact, except to say that for these languages, as in the sample as a whole, a great diversity of patterns of alignment are observed across which applicatives may be found.

4.4.3 *Symmetrical Voice and Diathesis*

The results of Fisher’s exact tests show a significant nonrandom association between type of voice (or diathesis) system and the presence of pivot-neutral applicatives ($p = .009$). Table 16 shows languages of the sample by type of voice system.

Unsurprisingly, languages that show Philippine-type voice systems are far less likely than other languages of West Nusantara to show pivot-neutral applicatives. Of the languages in the sample coded as Philippine-type for voice, 80% (8 of 10) lack pivot-neutral applicatives. This tendency is likely due to functional overlap. Languages that retain the four-way voice distinctions found in PMP (or expand on it) already have a way to select peripheral semantic roles like location, beneficiary, instrument, and theme as a core argument in the form of location voice (LV) and circumstantial voice (CV) constructions. Such languages therefore usually do not also show pivot-neutral applicatives. The eight languages of the sample that retain productive Philippine-type voice and lack pivot-neutral applicatives all (8 of 8) show at least one voice category consistent with the functions of CV in PAN and PMP—i.e. selecting a beneficiary, instrument or theme as the pivot—and most (7 of 8) also show an LV category.

TABLE 16 Voice system and presence of pivot-neutral applicatives

Voice system	Presence of pivot-neutral applicatives		
	Yes	No	TOTAL
asymmetrical	7	6	13
marginal two-way	8	0	8
two-way symmetrical	30	20	50
marginal Philippine-type	3	1	4
Philippine-type	2	8	10
TOTAL	50	35	85
%	59	41	

More unexpected then, is the fact that a number of Philippine-type languages do have a system of pivot-neutral applicatives. In the sample, two languages of Sulawesi coded for Philippine-type voice also show pivot-neutral applicatives: Balantak (Saluan-Banggai) and Totoli (Tomini-Tolitoli). Notably, these two languages retain an LV voice category, but have entirely lost CV. In addition, three languages coded as marginal-Philippine-type (3 of 4) also show pivot-neutral applicatives: the Sama-Bajaw languages Central Sama and Yakan, and the Saluan-Banggai language Bobongko. These languages show a restricted distribution for both LV and IV, indicating that Philippine-type voice is being lost while pivot-neutral applicatives have developed. All together, these five languages of the sample thus show a clear transition between Philippine-type voice and pivot-neutral applicatives.

Turning to two-way symmetrical systems, 60 % of such languages in the sample (30 of 50) have pivot-neutral applicatives. Given that 59 % of languages in the entire sample show pivot-neutral applicatives, languages with two-way symmetrical voice systems cannot be said to show a special affinity for pivot-neutral applicatives in the West Nusantara context. Areal patterns are also at play. Of the two-way symmetrical voice languages with no applicatives of any type in the sample, 18 are spoken in Borneo (see § 5.5), and only two—Rejang, and Kerinci—are spoken in Sumatra (see § 5.1.1).

As another point of comparison, for languages of the sample with asymmetrical voice systems (no systematic contrast between A-oriented and P-oriented transitive constructions), about 54 % (7 of 13 languages) have pivot-

neutral applicatives. For languages with asymmetrical voice systems, the lack of applicatives again follows genetic and geographic patterns. The six languages with asymmetrical voice systems and no applicatives of any type (Tsat, Bih, Eastern Cham, Urak Lawoi', Singapore Bazaar Malay, Sumbawa) are primarily found in mainland Southeast Asia (4 of 6), and within the Chamic genetic group (3 of 6).

Pivot-neutral applicatives are more likely to be found in marginal two-way systems than any other coding category for voice. All eight languages with such voice systems in the sample show such applicatives. However, six of these belong to the South Sulawesi genetic grouping (see §5.6.1). Because of this, the strong relationship between marginal two-way symmetrical voice systems and pivot-neutral applicatives may be primarily due to common inheritance.

Given these observations, a number of conclusions can be drawn. First, pivot-neutral applicatives are much less likely to appear in Philippine-type languages where LV and especially CV are found as basic transitive voice constructions. Second, two-way symmetrical voice systems in West Nusantara do not show any special attraction to pivot-neutral applicatives, compared to other types of voice system. The survey results undercut the idea that the two-way symmetrical voice system and pivot-neutral applicatives are two characteristic features of an Indonesian-type category of western Austronesian languages in opposition to the Philippine-type category. Pivot-neutral applicatives in fact cut across West Nusantara languages of all types of symmetrical and asymmetrical voice systems. Third, the patterns that we observe for pivot-neutral applicatives in languages that show signs of impending loss or diminished distribution for CV, or both LV and CV, indicates that the development of pivot-neutral applicatives is related to the breakdown of Philippine-type voice. Finally, while pivot-neutral applicatives are found across languages with all types of voice systems, there are nonetheless clear pockets of languages that did not develop pivot-neutral applicatives—or did but lost them—following geographic and genetic patterns. These are primarily located in mainland Southeast Asia and Borneo. Accordingly, the lack of applicatives in these geographic areas is treated as a distributional fact requiring an explanation in the remainder of this chapter and the following chapter.

4.4.4 *Other Structural Features*

For remaining structural features—case marking, order of Noun + Possessor, and presence of morphological causatives, the results of statistical testing did not show any significant non-random relationship with the presence of applicatives generally, or the presence of pivot-neutral applicatives specifically. In the random forest multivariable analysis, these features were also of rela-

tively low importance. Note that for order of Noun + Possessor, and presence of morphological causatives, there was little diversity in the sample. In almost all languages of the sample (82 of 85), the noun precedes the possessor, while in just three—Kimaragang, Tsat, and Singapore Bazaar Malay—multiple possessor constructions are reported representing both possible orders. Similarly, almost all languages of the sample (81 of 85) have a morphological causative construction. For two languages there was no available information to determine this, and for another two—Tsat and Singapore Bazaar Malay—it appears that only analytic causative constructions are used and there are no productive morphological causative constructions. These results indicate that case marking, order of Noun + Possessor (as a proxy for head-initial vs. head-final structure), and the presence of morphological causatives are not important features that help to distinguish between languages of West Nusantara that have applicatives from those that lack them, and this holds for both applicatives in general and pivot-neutral applicatives specifically.

4.5 Location and Genetic Affiliation

As described in §4.3.2, based on the results of multivariable modeling through random forest classification analysis, location and genetic affiliation are by far the two most important features in the survey that may be used to classify languages by the presence of applicatives generally or the presence of pivot-neutral applicatives specifically. Because location and genetic affiliation show a large degree of overlap for many of the genetic groupings used in the survey, they are treated together in this section, which presents a summary of the distribution of applicatives by these two features, as well as in following chapter, where detailed results are given by major island grouping.

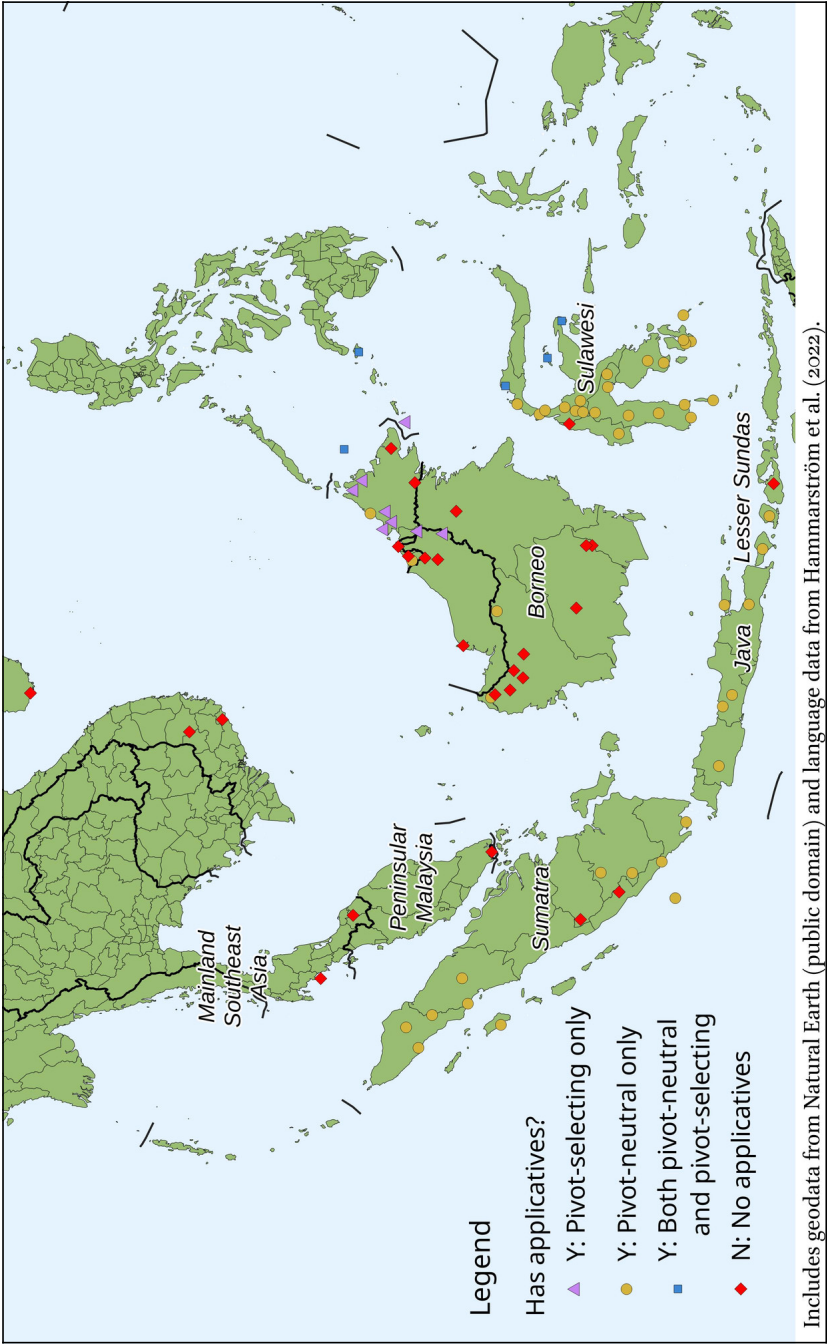
Table 17 shows languages of the sample by geographic location and presence of applicatives. The languages of the sample spoken in mainland Southeast Asia (north of Peninsular Malaysia) are characterized by a lack of applicatives; all five show no applicatives of any type. Languages of the sample spoken in Borneo also show a strong tendency to lack applicatives, especially pivot-neutral applicatives (23 of 27 lack such constructions). In contrast, languages of the sample spoken in Sulawesi show a strong tendency to have applicatives, especially pivot-neutral applicatives (25 of 26 languages).⁷

⁷ Note that Gorontalo-Mongondow, Sangiric, and Minahasan languages, which are spoken in the northernmost parts of Sulawesi and smaller islands off its northern coast, were not included in the study because they are more closely related to languages of the Philippines than those of West Nusantara proper. These languages generally show Philippine-type voice systems.

TABLE 17 Location and presence of applicatives

Location	Presence of applicatives (any type)		Presence of pivot-neutral applicatives		TOTAL
	Yes	No	Yes	No	
Africa	1	0	0	1	1
Barrier Islands	2	0	2	0	2
Sumatra	9	2	9	2	11
MSEA	0	5	0	5	5
Java	4	0	4	0	4
Borneo	11	16	4	23	27
Philippines	3	0	2	1	3
Lesser Sundas	2	1	2	1	3
Sulawesi	25	1	25	1	26
Americas	1	0	1	0	1
Other	1	1	1	1	2
TOTAL	59	26	50	35	85
%	69	31	59	41	

The geographic distribution of languages with and without applicatives in the sample is represented visually in Map 3. Not shown in the map but included in the sample are Merina Malagasy, spoken in central Madagascar in east Africa, and Suriname Javanese, spoken in Suriname in northern South America. Merina Malagasy has pivot-selecting applicatives only, while Suriname Javanese has pivot-neutral applicatives only. As seen in the map, languages with pivot-selecting applicatives that represent Philippine-type voice alternations are concentrated in northern Borneo (Sabah and adjacent parts of northeast Sarawak) and nearby areas of the southern Philippines. A handful of languages with Philippine-type voice alternations are also found in the northern third or so of Sulawesi. Languages with pivot-neutral applicatives are spread throughout West Nusantara, and are quite prevalent in Sulawesi, Java, and Sumatra. In the map, a conspicuous tendency for languages to lack of applicatives together is observed in Borneo south of Sabah and Mainland Southeast Asia (north of peninsular Malaysia).



MAP 3 Languages of the sample by presence of applicatives and type

Table 18 summarizes languages of the sample by genetic group and presence of applicatives. Many genetic affiliations considered in the survey are homogeneous with respect to the presence of applicatives generally and the presence of pivot-neutral applicatives specifically. For example, Land Dayak languages consistently lack all applicatives, while the Northwest Sumatra-Barrier Islands and South Sulawesi groups consistently show pivot-neutral applicatives only. A smaller number of genetic groups represent varied patterns for the presence of applicatives and/or type of applicatives attested, especially Malayic, Greater Barito, and to a lesser extent, Sabahan, and North Sarawak.

These results indicate that the presence or absence of applicatives in these languages, and the type of applicatives shown, is partially determined by genetic inheritance, but this is attenuated by geographic location.

TABLE 18 Genetic affiliation and presence of applicatives

	Presence of applicatives (any type)		Presence of pivot-neutral applicatives		
Genetic grouping	Yes	No	Yes	No	TOTAL
<i>Indigenous to Sumatra & Barrier Isl.</i>					
NW Sumatra-Barrier Islands	5	0	5	0	5
Enggano	1	0	1	0	1
Lampungic	1	0	1	0	1
Rejang	0	1	0	1	1
Nasal	1	0	1	0	1
<i>Indigenous to Java & Madura</i>					
Javanese*	3	0	3	0	3
Madurese	1	0	1	0	1
Sundanese	1	0	1	0	1
<i>Indigenous to Lesser Sundas</i>					
Bali-Sasak-Sumbawa	2	1	2	1	3
<i>Indigenous to Borneo</i>					
Greater Barito*	5	3	3	5	8
Sabahan	5	2	0	7	7
North Sarawak	2	5	0	7	7
Land Dayak	0	4	0	4	4
Melanau-Kajang	0	1	0	1	1

TABLE 18 Genetic affiliation and presence of applicatives (*cont.*)

	Presence of applicatives (any type)		Presence of pivot-neutral applicatives		
Genetic grouping	Yes	No	Yes	No	TOTAL
<i>Indigenous to Sulawesi</i>					
South Sulawesi*	7	0	7	0	7
Kaili-Pamona	4	1	4	1	5
Tomini-Tolitoli	4	0	4	0	4
Bungku-Tolaki	3	0	3	0	3
Muna-Buton	3	0	3	0	3
Wotu-Wolio	3	0	3	0	3
Saluan-Banggai	2	0	2	0	2
<i>Other genetic groupings</i>					
Malayic*	5	5	5	5	10
Chamic*	1	3	1	3	4
TOTAL	59	26	50	35	85
%	69	31	59	41	100

* These genetic groupings show a large degree of geographic dispersion from their original homeland for one or more members.

4.6 Summary and Implications

In this chapter, I have presented a bird’s eye view of the distribution of applicatives in West Nusantara on the basis of a large-scale typological survey, bringing together data from over 85 languages.

Overall, the results show that location and genetic grouping are the most important features that predict the presence of applicatives in the languages of West Nusantara. Even so, some structural features of language do show patterns of nonrandom association with the presence of applicatives and/or type of applicatives observed in these languages. Languages with AVP word order and those with neutral alignment tend to lack applicatives altogether. Languages with productive Philippine-type voice systems usually lack pivot-neutral applicatives, which otherwise are fairly widely distributed across languages with various structural features.

A number of implications can be drawn from the results presented in this chapter. First, pivot-neutral applicatives are much less likely to appear in languages with Philippine-type voice systems where LV and CV are found as basic transitive voice constructions. Second, two-way symmetrical voice systems in West Nusantara do not show any special attraction to pivot-neutral applicatives, compared to other types of voice system. The survey results undercut the idea that the two-way symmetrical voice system and pivot-neutral applicatives are two characteristic features of an Indonesian-type category of western Austronesian languages in opposition to the Philippine-type category (see also McDonnell & Chen 2022; Kaufman 2009; Ross 2002 for reasons that ‘Indonesian-type’ is not a coherent typological category for western Austronesian languages cf. Himmelmann 2002). Pivot-neutral applicatives in fact cut across West Nusantara languages of all types of symmetrical and asymmetrical voice systems, as well as many types of morphological and syntactic alignment. Third, pivot-neutral applicatives are often observed in languages that show signs of impending loss or diminished distribution for CV and/or LV. This indicates that the development of pivot-neutral applicatives is related to the breakdown of Philippine-type voice. Finally, while pivot-neutral applicatives are broadly distributed in West Nusantara, there are nonetheless clear pockets of languages that did not develop pivot-neutral applicatives—or did but lost them—following geographic and genetic patterns. These are primarily located in mainland Southeast Asia and Borneo. Accordingly, the lack of applicatives in these geographic areas is a distributional fact requiring an explanation.

In the following chapter, the results of the survey and possible explanations for these distributional patterns are taken up in greater detail, organized by major island grouping. This allows these results to be more clearly interpreted, and for the influence of location and genetic grouping to be examined in light of possible structural explanations for why some languages lack applicatives, others retained pivot-selecting applicatives, and some developed pivot-neutral applicatives in West Nusantara.

Interpreting Distributional Patterns through Geographic Typology

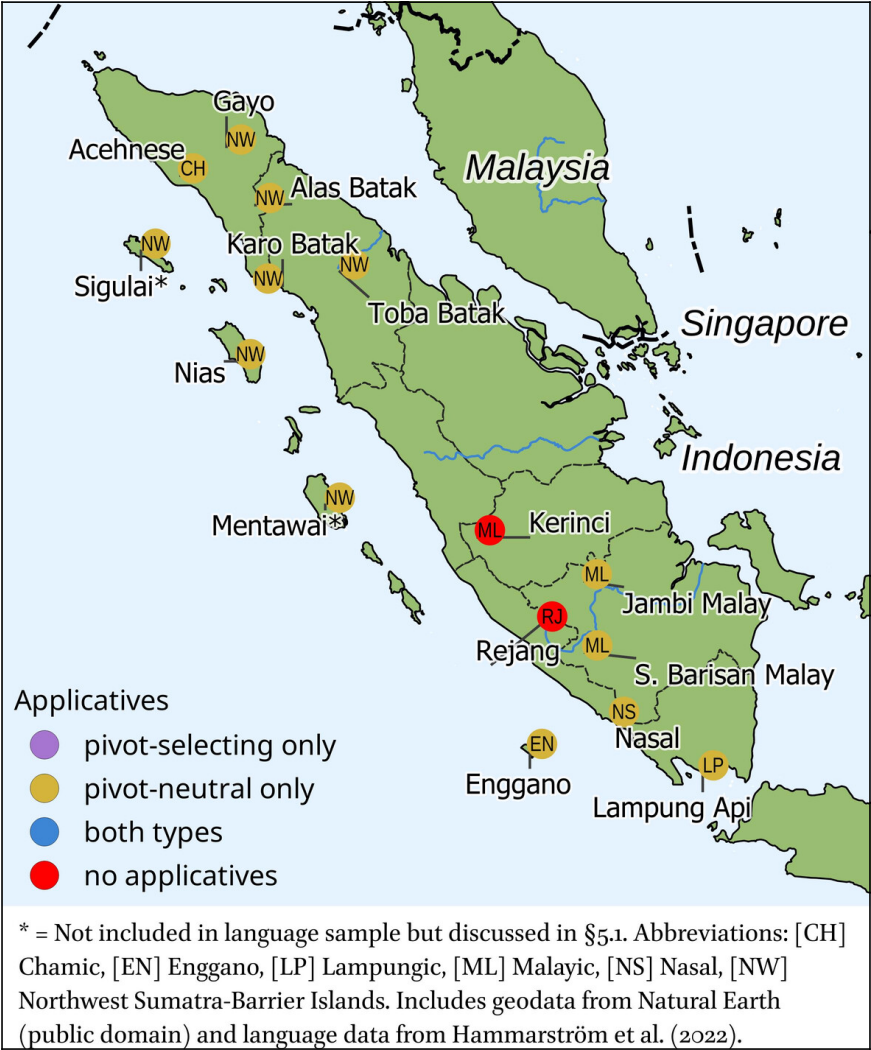
In this chapter, results of the typological survey are considered in greater detail through the lens of geographic typology. For each geographic subregion, a closer look is taken at the distribution of applicatives vis-a-vis the typological profile of languages in that subregion. These patterns are used to interpret the distributional results presented in the previous chapter, especially the reasons why some West Nusantara languages lack applicatives, others retained pivot-selecting applicatives, and some developed pivot-neutral applicatives.

This chapter is organized geographically, treating in turn the languages of Sumatra and the Barrier Islands (§ 5.1), Java and Madura (§ 5.2), the Lesser Sundas (§ 5.3), Mainland Southeast Asia and Peninsular Malaysia (§ 5.4), Borneo and the Southern Philippines (§ 5.5), and Sulawesi (§ 5.6). A summary of findings is given in § 5.7.

5.1 Sumatra and the Barrier Islands

Sumatra represents the westernmost of the major islands in West Nusantara, and the Barrier Island chain runs from north to south off its west coast. The languages of Sumatra and the Barrier Islands are diverse with respect to genetic affiliation within Malayo-Polynesian. They include (i) Malay languages (i.e. the Malay subbranch of Malayic), (ii) the Northwest Sumatra-Barrier Islands group, (iii) Acehnese, which belongs to the Chamic group, and (iv) some small outlier groupings and isolates including Enggano, Nasal, Rejang, and Lampungic.

As shown in Table 19, 13 languages of Sumatra and the Barrier Islands are included in the sample. Due to lack of adequate descriptive material, languages of the Barrier Islands are not well represented in the sample. To address this, in this section, when partial information is available I will make mention of two additional languages spoken in the Barrier Islands: Mentawai and Sigulai (Sikule) (Adriani 1928; Morris 1900; Kähler 1955; see also McDonnell & Truong 2024b). Both belong to the Northwest Sumatra-Barrier Islands group. An overview map of the languages of the sample in this geographic area and other languages discussed in this section is presented in Map 4.



MAP 4 Language overview for Sumatra and the Barrier Islands

Across all genetic groupings in Sumatra, the presence of pivot-neutral applicatives is the norm (11 of 13 languages of the sample),¹ and pivot-neutral applica-

¹ Acehnese is the only Chamic language spoken primarily outside of mainland Southeast. Unlike other Chamic languages (see §5.4), Acehnese does have one construction that may be considered an applicative: when the verb is marked with the prefix *peu-*, the clause may mean ‘administer ROOT onto/at an undergoer’ (Durie 1985: 79). This construction meets the definition of applicative used in this study because it selects a goal as a core argument. How-

TABLE 19 Typological survey results for Sumatra and the Barrier Islands

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Chamic	Acehnese	N	Y	asymmetrical	split-S	free
NWS-BI	Alas Batak	N	Y	two-way	mixed-NP _{IV} .A	AVP
NWS-BI	Karo Batak	N	Y	two-way	pivot-nonpivot	AVP
NWS-BI	Toba Batak	N	Y	two-way	mixed-NP _{IV} .A	VPA
NWS-BI	Gayo	N	Y	two-way	mixed-NP _{IV} .A	AVP
NWS-BI	Nias	N	Y	marg. two-way	mixed:other	VPA
Enggano	Enggano	N	Y	asymmetrical	neutral	AVP
Nasal	Nasal	Y	Y	two-way	pivot-nonpivot	AVP
Malayic	Kerinci Malay	N	Y	two-way	mixed:other	AVP
Malayic	Jambi Malay	N	N	two-way	mixed:other	AVP
Malayic	S. Barisan Malay	N	Y	two-way	mixed-NP _{IV} .A	AVP/VPA
Rejang	Rejang	N	N	two-way	mixed-NP _{IV} .A	AVP
Lampungic	Lampung Api	N	Y	two-way	mixed-NP _{IV} .A	AVP

tives are also found in Mentawai and Sigulai. Pivot-selecting applicatives are not found in Sumatra and the Barrier Islands (0 of 13), and there is no clear evidence that they can be reconstructed for any of the genetic groupings represented. Sporadic cases of lack of applicatives are found in two languages (2 of 13); Rejang and Kerinci do not have applicatives of any type (see § 5.1.1 below).

Pivot-neutral applicatives are found across languages with diverse types of voice systems in Sumatra and the Barrier Islands. They are found in languages with asymmetrical voice systems (2 of 2; Acehnese, Enggano) and one marginal two-way voice system (1 of 1; Nias),² as well as the large majority of two-way

ever, most other meanings associated with *peu-* are causative and not applicative, and the applicative usage is of limited productivity.

2 In main clauses and most dependent clauses, Nias does not show an alternation between A-oriented and P-oriented transitive constructions. A relic of symmetrical voice is found only in certain P-oriented relative clauses marked with *ni-*, in which the actor is frequently overtly expressed (see Brown 2001: 421).

symmetrical voice systems (8 of 10), the most common type of voice system in languages spoken on the island of Sumatra.³

Pivot-neutral applicatives are found across languages with diverse systems of morphological alignment as well. Quite common are systems of morphological alignment in which non-pivot A arguments have distinct forms compared to all other core arguments, especially for languages spoken on the island of Sumatra. In the sample, almost all such languages (5 of 6) show pivot-neutral applicatives. The remaining seven languages in the sample are split across four coding categories for morphological alignment: split intransitive (1), pivot-non-pivot (2), neutral (1), and mixed (other) (3). Nonetheless almost all of these languages (6 of 7) also have pivot-neutral applicatives.

The majority of languages of Sumatra and the Barrier Islands have AVP unmarked word order in A-oriented transitive constructions, with most of these (7 of 9) also showing pivot-neutral applicatives. Verb-initial word order is preferred in Nias and Toba Batak, which both have pivot-neutral applicatives (2 of 2), and this also appears to hold for Sigulai (see McDonnell & Truong 2024b: 422). In Acehnese, word order is relatively free, with the majority of clauses being verb-initial (Durie 1985: 191). In South Barisan Malay, the non-pivot immediately follows the verb, while the pivot has freer word order (AVP/VPA in AV). Both Acehnese and South Barisan Malay have pivot-neutral applicatives.

On the whole, it is clear that the presence of pivot-neutral applicatives is the norm in Sumatra and the Barrier Islands, and these constructions show a broad distribution, being found across all five genetic groupings, all four types of voice systems, and all five coding categories for morphological alignment represented, as well as both languages with verb-initial unmarked word order and those with verb-medial word order. Survey results for Sumatra and the Barrier Islands thus support the finding that the presence of pivot-neutral applicatives is not associated with a particular typological profile within West Nusantara.

In particular, the presence of pivot-neutral applicatives in Mentawai and Enggano, is telling. Mentawai has two pivot-neutral applicative suffixes, *-ake*, which forms instrument- and theme-selecting applicative constructions (ACs), and *-i*, which forms locative- and goal-selecting ACs (Adriani 1928: 69–70, 81–83). Mentawai speakers, as inhabitants of Siberut, Sipura, and the Pagai islands

3 Sigulai probably also represents an asymmetrical voice system, while Mentawai appears to be a two-way symmetrical system (see McDonnell & Truong 2024b: 417–420).

west of Sumatra, for many centuries had minimal contact with outsiders prior to first visits by British and Dutch colonists in the late 1700s. There is little sign of prior Indic or Islamic cultural influence in the Mentawai islands (Loeb 1928), including that of the powerful Malay-speaking kingdoms established in western Indonesia and Malaysia from the 7th century until the 16th century. Therefore, it is highly unlikely that applicatives were introduced to Mentawai via language contact.

Enggano, spoken on the southernmost of the Barrier Islands, is considered one of the most aberrant Austronesian languages due to its unusual lexicon, and has even been argued to be non-Austronesian though it is now fairly well-established that it belongs to Malayo-Polynesian (Edwards 2012). Enggano also shows unusual characteristics for West Nusantara in its grammatical system, including its system of case and alignment.⁴ Enggano makes use of nominal prefixes to distinguish core arguments from obliques (neutral alignment) and the forms of these prefixes co-vary with grammatical number, human vs. nonhuman referent, and status as a proper vs. common noun (Crowley n.d.). Enggano also has two pivot-neutral applicative suffixes, which are illustrated in examples (101) and (102).

(101) Enggano, Locative-selecting applicative

a. *kia ki-hẽkũ i-kuɔ eʔana.*

3SG VERB-sit LOC.CN-tree MED

'He is sitting in that tree.' (BC)

b. *kia ki-hẽkũ-hũĩ e-kuɔ eʔana.*

3SG VERB-sit-LOC.APPL CORE.CN-tree MED

'He is sitting in that tree.' (AC)

(Kähler 1940: 195, English translation & glosses added)

(102) Enggano, Instrument-selecting applicative

a. *kia ki-pudu e-kɔɔ iʔiɔ: u-bɔhɛ*

3SG VERB-kill CORE.CN-pig LOC.PREP OBL.CN-spear

'He killed the wild pig with a spear.' (BC)

4 The discussion of Enggano here is based on Crowley n.d., which relies on data from Kähler (1940). Newer documentary and descriptive work on contemporary Enggano is becoming available, including a forthcoming edited volume (Arka, Hemmings & Dalrymple in prep). Nonetheless, the older source material for Enggano is informative as it reflects the language as spoken before increased language contact with Malay/Indonesian and other languages of Sumatra.

- b. *kia ki-pudu-ʔa e-bohe iʔio: u-kɔɔ*
 3SG VERB-kill-INST.APPL CORE.CN-spear LOC.PREP OBL.CN-pig
 ‘He killed the wild pig with a spear’ (AC)
 (Kähler 1940: 196, English translation & glosses added)

Edwards (2012) offers two possible explanations for the aberrant nature of Enggano: “(i) that Enggano suffered contact effects with a non-Austronesian language present in the region prior to the appearance of [Malayo-Polynesian] languages, and/or (ii) that Enggano Island was relatively isolated from the rest of the Austronesian world.” If the latter case is true, the presence of pivot-neutral applicatives in Enggano further bolsters the argument that the distribution of pivot-neutral applicatives in West Nusantara is not primarily explained by language contact with culturally prominent languages. But even if it is not, Enggano’s unusual case markers and system of alignment still underscore another major finding of this chapter, that the presence of pivot-neutral applicatives is not associated with a particular typological profile within West Nusantara.

5.1.1 *Outliers in Sumatra*

In Sumatra and the Barrier Islands, only Kerinci (Malayic) and Rejang (isolate) lack applicatives completely. The other 11 languages of the sample—plus Mentawai and Sigulai—have pivot-neutral applicatives and these are almost exclusively marked with verbal suffixes. Only Acehese has an AC marked with a prefix, i.e. *peu-*, and this is of limited productivity.

Unlike other languages of Sumatra and the Barrier Islands, Rejang lacks suffixes of any type and uses only prefixes (McGinn 1982). This is likely the reason for the lack of applicatives in Rejang. However, we do not have evidence by which to determine whether (i) Rejang never had applicative suffixes, or (ii) some such suffixes were previously present but later lost (cf. the case of Mualang, where clausal alternations persist after the loss of applicative suffixes, see §5.5.5). Rejang is currently classified as an isolate within Malayo-Polynesian, and not much is known about its pre-history, including whether the language arrived in Sumatra after a period of development elsewhere in West Nusantara, such as Borneo (see McGinn 2009). Therefore, I consider this an open question, awaiting more historical evidence linking Rejang genetically or geographically with other languages of West Nusantara.

In Kerinci, it was not loss of suffixation per se, but phonological changes involving fusion of certain suffixes (and pronominal enclitics) to stems, that have resulted in a lack of applicatives (Yanti et al. 2018). It is clear that pivot-neutral applicative suffixes were among the morphemes lost through fusion, as

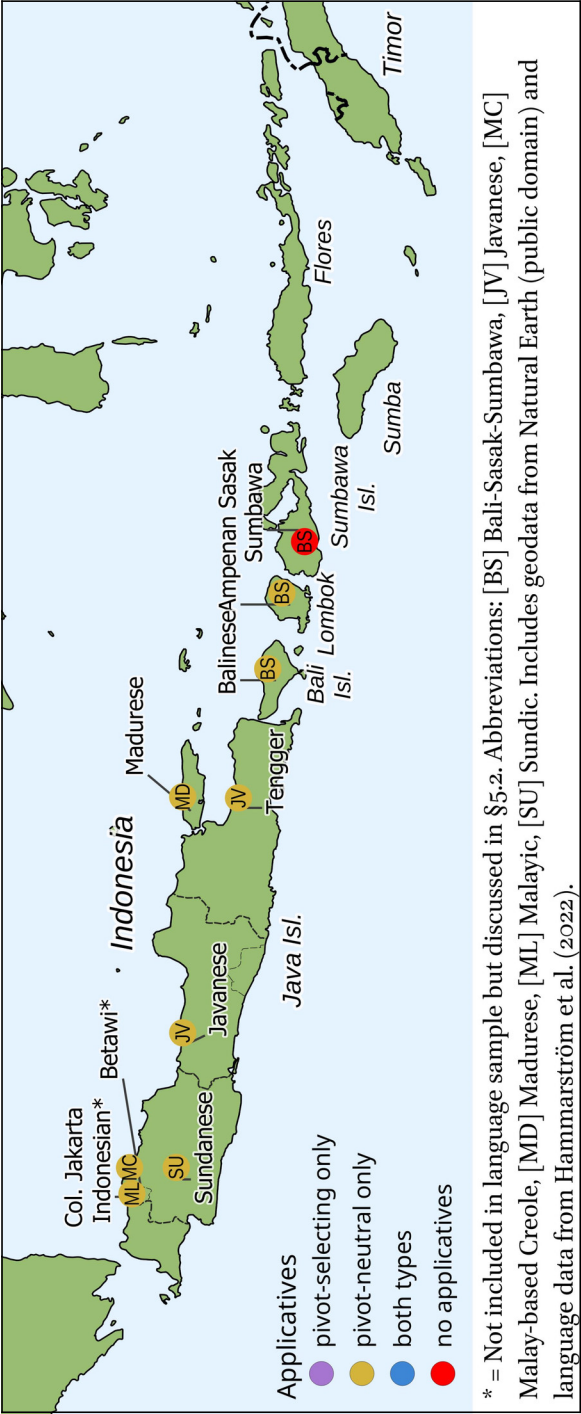
one such suffix, cognate with Standard Malay/Indonesian *-kan*, is found in remnant forms in the Tanjung Pauh variety of Kerinci, e.g. *kato-ka* ‘say (s.t.)’ (Yanti et al. 2018: 469). This process of fusion has resulted in radical changes in the grammar of Kerinci that have been of some interest in the literature, including the genesis of “absolute” and “oblique” forms of stems that color its unusual system of agreement and mixed system of morphological alignment (McKinnon, Cole & Hermon 2011; Yanti 2010).

5.2 Java and Madura

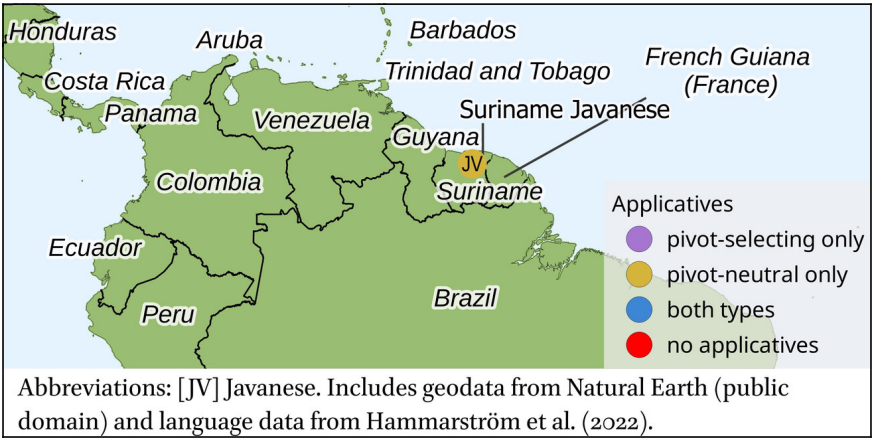
Java represents the most populous of the major islands in West Nusantara, and Madura, a smaller island off the northeast coast of Java. These islands are home to the Sundic languages, Javanese languages, and Madurese languages (see Map 5). Javanese languages are also found outside of West Nusantara in New Caledonia (Pacific region), and Suriname (a Caribbean nation of South America, see Map 6), where they are spoken by diaspora communities of ethnically Javanese people.

The survey sample includes one Sundic language, three Javanese languages, and one Madurese language, as shown in Table 20, which includes Standard Indonesian as well for reference. These languages share a similar typological profile. They have two-way symmetrical voice systems with pivot-neutral applicatives that are marked with verbal suffixes. In unmarked word order, the non-pivot argument immediately follows the verb, and the pivot argument is preverbal. Thus most have predominant AVP word order in AV, with VPA also possible. These languages have one distinct morphological marking for the non-pivot A argument and one for all other core grammatical relations. The type of marking may be dependent on the person category of the non-pivot A argument. In Sundanese and Madurese, the verb in a PV construction is marked with a voice prefix, and the non-pivot A argument is marked with a preposition meaning ‘with, by’ (i.e. *ku* in Sundanese and *bi* in Madurese). The preposition is optional if A immediately follows the verb as in unmarked word order, but obligatory in other word orders. In Javanese languages, third person non-pivot A arguments follow the same pattern for optional prepositional marking, while first and second person non-pivot A arguments are expressed with special proclitic pronominal forms that replace the PV voice prefix.⁵

5 The proclitic construction is reported to be rare with second person non-pivot actors and relatively uncommon with first person actors in Tengger, probably due to avoidance of these forms for politeness (Connors 2008: 146–147).



MAP 5 Language overview for Java, Madura, and the Lesser Sundas



MAP 6 Location for Suriname Javanese

TABLE 20 Typological survey results for Java and Madura

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Sundic	Sundanese	N	Y	two-way	mixed-NP _{IV} .A	AVP
Javanese	Javanese	N	Y	two-way	mixed-NP _{IV} .A	AVP
Javanese	Tengger	N	Y	two-way	mixed-NP _{IV} .A	AVP
Javanese	Sur. Javanese	N	Y	two-way	mixed-NP _{IV} .A	AVP
Madurese	Madurese	N	Y	two-way	mixed-NP _{IV} .A	AVP/VPA
Malayic	Std. Indonesian	N	Y	two-way	mixed-NP _{IV} .A	AVP

Also spoken on Java but not included in the survey sample are Betawi Malay and Colloquial Jakarta Indonesian, both spoken in and around the special administrative region of Jakarta, the capital of Indonesia. Betawi is the language spoken by the original inhabitants of the Jakarta area. It is not included in the survey due to its classification as a Malay-based creole by Eberhard, Simons & Fennig (2021). Colloquial Jakarta Indonesian is a variety of standard Indonesian influenced by Betawi. It is not included in the survey because it does not have a separate ISO-639-3 code, but shares one with Standard Indonesian. Like other languages of Java, both Betawi and Colloquial Jakarta Indonesian have two-way symmetrical voice systems and pivot-neutral applicatives marked with verbal suffixes (Ikranagara 1975; Sneddon 2006: 30–34).

Overall, the languages of Java and Madura show a fairly coherent typological profile, one that is also associated with Standard Indonesian and that is consistent with the defining features of the proposed Indonesian-type of western Austronesian languages. However, when viewed in light of the full results of the typological survey, this profile is too limited and does not explain the full distribution of pivot-neutral applicatives in West Nusantara.

5.3 The Lesser Sundas

The Lesser Sundas are a chain of islands stretching eastward from the east coast of Java (see Map 5). In the Lesser Sundas, only the westernmost islands of Bali and Lombok are considered to constitute part of West Nusantara, with Sumbawa, Sumba, Flores, and Timor generally being defined as part of East Nusantara (see Klamer & Ewing 2010). But because Balinese, spoken on Bali, Sasak, spoken on Lombok, and Sumbawa, spoken on Sumbawa Island, together form a well-defined lower-level subgroup of Malayo-Polynesian, all three are eligible for inclusion in the survey. Of the three languages, Sasak and Sumbawa form one primary branch, while Balinese represents another. As shown in Table 21, all three languages are included in the sample. In the case of Sasak, survey data was compiled based on the Ampenan variety (Khairunnisa 2022), which shows some differences with other Sasak varieties described by Austin (2001).

Though they represent a small, closely-related genetic grouping, Balinese, Sasak, and Sumbawa show important differences in their typological profiles. These languages show a cline of features, with Balinese being typologically similar to the languages of Java and Madura, Sumbawa being similar to other East Nusantara languages, and Sasak occupying an intermediate position.

The voice and applicative systems of Balinese were discussed in § 3.4 above. The language shows a two-way symmetrical voice system, with AV marked with the prefix *N-*, as well as pivot-neutral applicatives marked with two suffixal forms. In Balinese, third person non-pivot A arguments have a special morphological form that distinguishes them from other core arguments; these arguments may be expressed with the enclitic *=na*. In all other cases, core arguments are realized as bare NPs or full pronouns, when expressed. Normally, the pivot precedes the verb followed by the non-pivot argument; accordingly, the unmarked word order in AV is categorized as AVP. Balinese shows both prefixes and suffixes, with a relatively small number of total affixes (Shiohara & Arka 2024).

Like Balinese, Ampenan Sasak contrasts A-oriented and P-oriented transitive constructions, however the distinction between them is usually not mor-

TABLE 21 Typological survey results for the Lesser Sundas

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Bali-Sasak-Sumbawa	Balinese	N	Y	two-way	mixed-NPIV.A	AVP
Bali-Sasak-Sumbawa	Ampenan Sasak	N	Y	two-way	mixed:other	AVP
Bali-Sasak-Sumbawa	Sumbawa	N	N	asymmetrical	accusative	undet.

phologically marked on the verb (Khairunnisa 2022). Consequently, Ampenan Sasak may be considered a two-way symmetrical diathesis system. Like Balinese, Ampenan Sasak also shows pivot-neutral applicatives, but only one suffixal form is used to mark these. Ampenan Sasak shows a complex, mixed system of morphological alignment. In P-Diathesis, a non-pivot A argument expressed as an NP has special marking with *siq*. However, the use of clitic pronouns, which are extremely common, shows a different pattern of alignment: P arguments expressed as clitics must be enclitics regardless of diathetical construction, while A arguments expressed as clitics may be either proclitics or enclitics. In canonical word order, the pivot is preverbal; accordingly, the unmarked word order in A-oriented constructions is AVP. While Ampenan has a number of prefixes, its sole suffix is *-an*, which is highly polyfunctional, and is used to mark the verb in ACs (Khairunnisa & McDonnell in prep).

Sumbawa shows even greater differences with Balinese while sharing some characteristics with Ampenan Sasak. Sumbawa shows an asymmetrical diathesis system, and has “only one type of transitive construction with invariably bare verbs” (Shiohara & Arka 2024: 500). It does not have applicatives of any type. It shows accusative morphological alignment, with pronominal proclitics expressing the S and A core relations, but not P.⁶ In these respects, Sumbawa resembles other Austronesian languages of East Nusantara, which do not show morphological marking for voice, and make use of proclitics or prefixes indexing the clausal subject or agent (Klamer & Ewing 2010: 10). Many East Nusantara languages also do not have applicatives (though a few do, e.g. Taba, Bowden 2001). There is no identified predominant word order for transitive clauses in

6 Patterns for the third person proclitic differ slightly, as it is used only in transitive clauses, and thus only for A (Shiohara & Arka 2024).

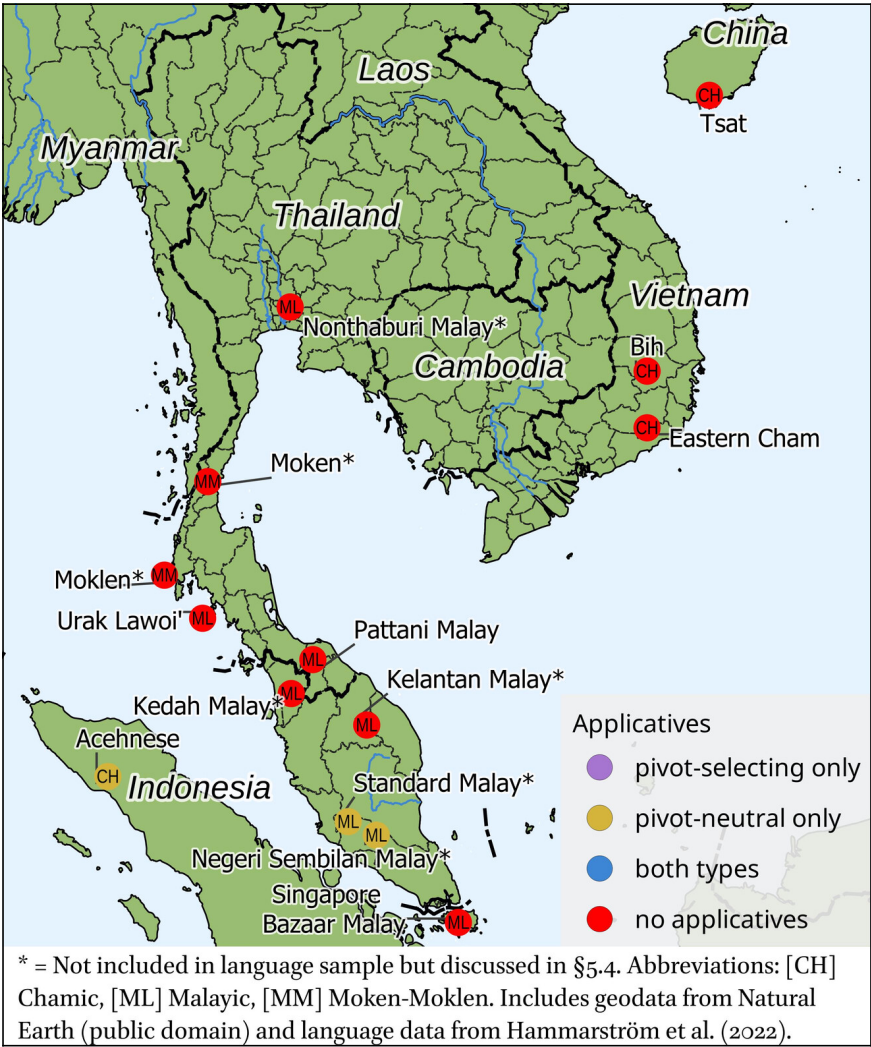
Sumbawa, however verb-initial clauses are most common in narrative texts (Shiohara & Arka 2024). Sumbawa shows only prefixes and no suffixes.

Bali-Sasak-Sumbawa represents a transition zone standing between the languages of Java and Madura to the west and East Nusantara languages to the east (Klamer & Ewing 2010). Balinese has the most verbal morphology including AV prefixal marking and two applicatives suffixes. Ampenan Sasak shows reduced morphological marking for voice and one applicative suffix. Sumbawa has the least verbal morphology and no applicatives. Further evidence of this transition is observed across Sasak dialects. Like Balinese, Ngenó-Ngené Sasak has two applicative morphemes (AMs), *-ang* and *-in*, and contrasts A-oriented and P-oriented constructions (Austin 2001). Menó-Mené Sasak has just *-ang*, making its applicative system similar to Ampenan Sasak, but its voice system is more like Sumbawa, as Menó-Mené does not show evidence of symmetrical alternations in voice or diathesis.

Because pivot-neutral applicatives are found in both primary branches of the subgroup, they can be reconstructed to Proto Bali-Sasak-Sumbawa. Pivot-neutral applicatives are unlikely to have been borrowed wholesale from Balinese into Sasak, as the AM suffix **-an*, reflected in Balinese, Ngenó-Ngené, and Menó-Mené as *-ang* (Austin 2001) and Ampenan Sasak as *-an*, is quite old. It is also found with applicative functions in Proto Malayic, which has been proposed to subgroup with Chamic and then Bali-Sasak-Sumbawa at some higher level under Malayo-Polynesian (Adelaar 2005a). Most likely then, Sumbawa represents a case of loss of pivot-neutral applicatives, apparently due to loss of suffixation and under the influence of neighboring East Nusantara languages.

5.4 Mainland Southeast Asia and Peninsular Malaysia

In this section, I present and discuss results of the typological survey for mainland Southeast Asia and Peninsular Malaysia. This geographic area includes (i) the Malay peninsula, which is considered part of West Nusantara and politically belongs to Malaysia, and (ii) other parts of Southeast Asia to the north of the Malay peninsula, which are not part of West Nusantara proper, and are governed by Myanmar, Thailand, Laos, Cambodia, Vietnam, and China (Hainan Island). Austronesian languages spoken in mainland Southeast Asia and Peninsular Malaysia include Chamic languages, Malay languages, and the Moken-Moklen languages, which are not included in the sample, but are discussed as a point of comparison in this section. Map 7 shows languages of the sample in this geographic area and other languages and varieties discussed in this section. A summary of results for languages of the sample is given in Table 22.



MAP 7 Language overview for mainland Southeast Asia and Peninsular Malaysia

Chamic is made up of 12 total languages, with four included in the sample. One of these, Acehnese, is spoken in Aceh Province in northern Sumatra, and is discussed in § 5.1 above, while the other three, Eastern Cham, Bih, and Tsat, are spoken in mainland Southeast Asia, and are discussed in this section. Within Malayo-Polynesian, Malayic languages are the most closely related to Chamic and are considered “next-of-kin” (Thurgood 1999).

Malay is a primary branch of the larger Malayic genetic group. Of the 42 Malayic languages, 33 are classified as Malay. Two Malay languages are spoken

TABLE 22 Typological survey results for mainland SE Asia and Peninsular Malaysia

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Chamic	Eastern Cham	N	N	asymmetrical	neutral	AVP
Chamic	Bih	N	N	asymmetrical	neutral	AVP
Chamic	Tsat	N	N	asymmetrical	neutral	AVP
Malayic	Urak Lawoi'	N	N	asymmetrical	neutral	AVP
Malayic	Pattani Malay	N	N	two-way [†]	mixed-NPIV.A	AVP
Malayic	Sing. Bazaar Malay	N	N	asymmetrical	neutral	AVP

[†] The Nonthaburi variety of Pattani Malay shows an asymmetrical voice system.

in mainland Southeast Asia and both are included in the sample: Pattani Malay and Urak Lawoi'. In addition, about nine Malay languages are spoken on the Malay peninsula, however, for many of these, there is little available grammatical description, aside from studies of phonological differences with Standard Malay. Four Malay languages and varieties not included in the sample will be discussed in this section on the basis of available information: Kedah Malay, Negeri Sembilan Malay, and the Nonthaburi and Kelantan varieties (which share one ISO-639-3 code with Pattani Malay). Standard Malay, the national language of Malaysia, is not included in the sample because of its similarities to Standard Indonesian, but will also be discussed here. Singapore Bazaar Malay, a Malay language used in interethnic communication in Singapore, just to the south of the Malay peninsula, is included in the sample (but was coded as "other" for location), and will be discussed in this section as a point of comparison.

The Austronesian languages of mainland Southeast Asia and northern Peninsular Malaysia show a strong tendency to lack applicatives altogether. Chamic languages spoken in mainland Southeast Asia all lack applicatives (3 of 3), as do Moken and Moklen (Larish 2005). Malayic languages spoken in mainland Southeast Asia (2 of 2; Pattani, Urak Lawoi') again lack applicatives, and this holds also for the Nonthaburi variety spoken in Central Thailand. In northern Peninsular Malaysia, Kedah Malay lacks applicatives (Omar 1981: 7), and Kelantan Malay shows only cases of fossilized applicative suffixes (Wu 2023).

Moving further southward, Negeri Sembilan Malay, spoken in southern Peninsular Malaysia, has productive pivot-neutral ACs formed with both *-i* and

-*kan* (Hendon 1966: 61–68), just like Standard Malay and Indonesian. On the other hand, Singapore Bazaar Malay lacks applicatives altogether.

Austronesian languages of mainland Southeast Asia and Peninsular Malaysia that lack applicatives tend to show typological features different from most other languages of West Nusantara. Chamic languages have asymmetrical voice systems (3 of 3), do not show morphological marking that distinguishes core arguments by grammatical relation (neutral alignment, 3 of 3), and show AVP word order in transitive constructions (3 of 3), with word order being important for interpreting grammatical relations. Urak Lawoi' and Singapore Bazaar Malay share these characteristics, as do Nonthaburi Malay (Tadmor 1995), Moken and Moklen (Larish 2005).

Pattani Malay as spoken in southern Thailand and the Kelantan dialect both appear to retain an alternation between an A-oriented transitive construction and a P-oriented transitive construction (two-way symmetrical voice), with special marking of the A argument in the P-oriented construction (Tadmor 1995: 249–250; Mahmood 1994: 201–207). The P-oriented construction in these varieties differs somewhat from the PV construction in Standard Malay/Indonesian. The PV prefix *di-* is not used to mark the verb; instead the morpheme (*a*)*no* precedes the verb, while another particle, *di/d* or *kə/kə/k* precedes the A argument.⁷ This construction shows some formal similarities to analytic PV constructions found in some languages of Borneo (e.g. Land Dayak languages, see § 5.5.2, and North Sarawak languages, see § 5.5.3).

Negeri Sembilan Malay, on the other hand, shows morphological marking of PV with *di-* and optional prepositional marking for non-pivot A arguments (Hendon 1966: 68–69), and thus is similar to Standard Malay/Indonesian and languages of Java and Madura described above.

5.4.1 *Language Contact, Restructuring, and the Loss of Applicatives*

We know that restructuring of Chamic languages happened in mainland Southeast Asia due to contact with Austroasiatic languages. This restructuring is characterized by phonological changes, i.e., reduction of multisyllabic words and development of final word stress, morphological changes, i.e., reduction of affixation and shift toward analytic or isolating word structure, and syntactic changes, i.e., development of more fixed word order, loss of case distinctions, and use of periphrastic constructions to express meanings similar to morphologically marked causatives and ACs in other West Nusantara languages (Thurgood 1999, 2010; Brunelle 2020).

⁷ The particle marking the A argument may also be realized as gemination on the initial consonant of the NP expressing A.

An example of a periphrastic construction with a benefactive meaning is given in (103). Here, the particle *brei*, which elsewhere may function as a full lexical verb meaning ‘give’, precedes the beneficiary, *kơ ñu* ‘for him’, which is always expressed as prepositional phrase in this type of construction. This construction is not an applicative as defined in this study because *brei* is an independent morpheme and its distribution is not closely tied to the verb or verbal complex; here the noun expressing the P argument, *brăm* ‘arrow’, and its modifiers intervene between the closest verb and *brei*. Instead, this type of clause may be classified as a serial verb construction (see § 3.5).

- (103) Bih, Periphrastic benefactive construction with ‘give’
Thô gơ magĩr ngã ana năn ngã leh ngã ana
 T. 3 PFV.try make crossbow DIST make PFV make crossbow
rĩ brăm, dua tlâu urăt, brei kơ ñu.
 whittle arrow two three CL BEN DAT 3
 ‘Thô tried to make a crossbow and some arrows for him.’
 (Nguyen 2013: 90)

The pattern of restructuring observed for Chamic is also borne out for Moklen and Moken. Both lack applicatives, lack productive affixation, and show word final stress (Larish 2005). Moklen is also reported to make “heavy use of serial verb constructions” (Larish 2005: 527).

Malay varieties of Thailand and northern Peninsular Malaysia show similar changes to those found in Chamic at lower time depths. There is no productive affixation at all in Nonthaburi Malay. Pattani Malay retains a single affix, nominalizing /-ε/, and all other inherited affixes are found only in loanwords or remnant forms (including causative *per-*, which is rare and has been reduced to initial gemination) (Tadmor 1995: 228–232). Kelantan Malay is similar to Pattani, except it retains limited use of *-i* as a causative or applicative suffix (Wu 2023). These varieties also form benefactive constructions by use of the verb meaning ‘give’, as shown in example (104) below. Urak Lawoi’, a Malay language spoken on islands in Southern Thailand, has no applicatives and shows several productive prefixes but no suffixes. Hogan (1988) writes that, “when [Urak Lawoi’] is compared with Bahasa Malaysia [Standard Malay], it is evident that it has a much smaller inventory of affixes, and that these are used much less frequently than the corresponding affixes in that language.” While Urak Lawoi’ has not developed word final stress, it shows signs of phonological reduction in non-final syllables, which include stressless “pre-syllables” and “minor syllables” that may bear stress but show a reduced number of phonemic contrasts in coda position compared to the final syllable (Hogan 1988: 11–12). A pattern

of reduced affixation may also be found in Kedah Malay. Omar (1981: 7) writes, “in the Kedah dialect of North Malaya there is hardly any verbal suffix, while the nominal suffix *-an* has a very low frequency. The causative function of *-kan* is, in this dialect, fulfilled by the prefix *pər-* or a verbal phrase consisting of two verbs, while its benefactive function fulfilled by a prepositional phrase.”

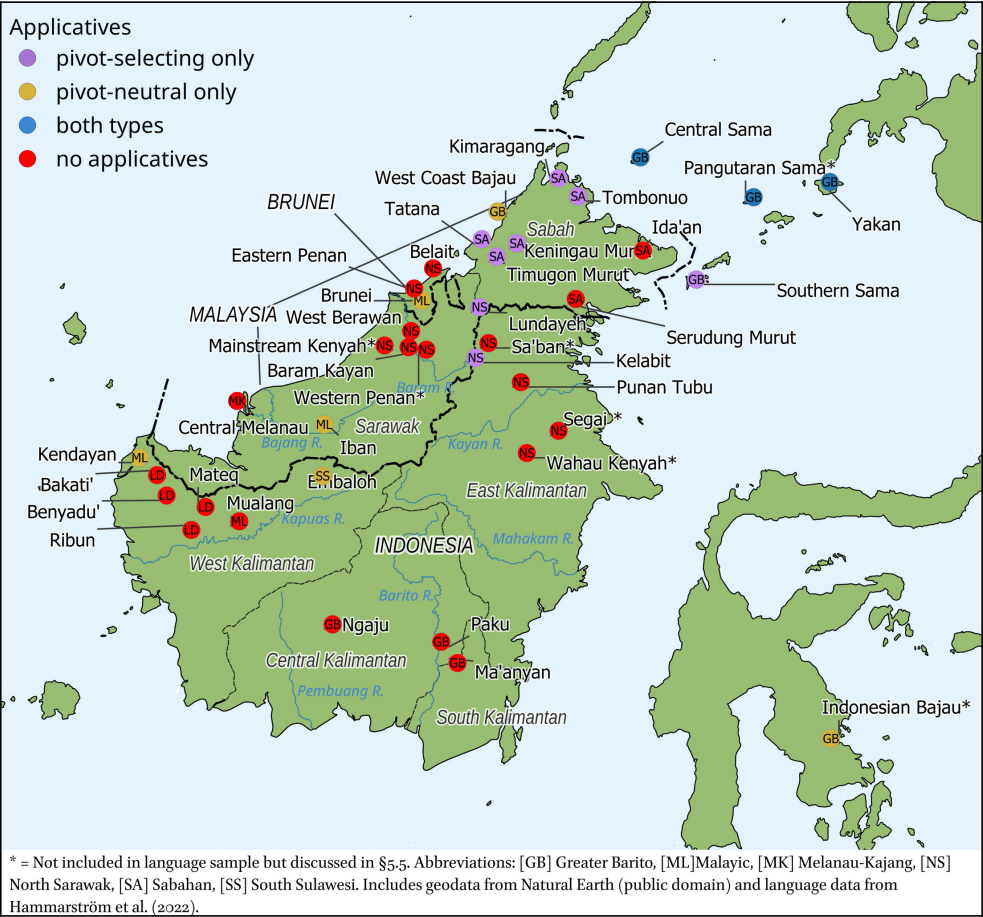
- (104) Nonthaburi Malay, Periphrastic benefactive construction with ‘give’
məʔ bli tpoŋ byi anəʔ makiŋ
 mother buy snack give child eat
 ‘The mother bought snacks for her children.’ (Tadmor 1995: 261)

Finally, Singapore Bazaar Malay, used as a language of interethnic communication in Singapore, has also been shaped by contact with non-Austronesian languages, especially Hokkien (Sinitic). It employs only compounding and reduplication in word formation, and no use of affixation (Aye 2005: 62). Serial verb constructions with the verb *kasi* ‘give’ are used to express recipient and beneficiary participants (Aye 2005: 290–292).

In summary, the Austronesian languages of mainland Southeast Asia and northern Peninsular Malaysia show a strong tendency to lack applicatives, and a distinct typological profile compared to most other West Nusantara languages. This is the result of language contact with non-Austronesian languages, which caused changes in word structure, a shift away from morphological processes of affixation, and a shift towards analytic structures, including the use of serial verb constructions to express some meanings elsewhere associated with applicatives.

5.5 Borneo and the Southern Philippines

In this section, I present and discuss results of the typological survey for languages of Borneo and nearby areas of the Southern Philippines. Borneo is the largest major island in West Nusantara and the most linguistically diverse, with about 200 total languages spoken on the island. This section is organized by genetic grouping, and covers Sabahan languages (§ 5.5.1), Land Dayak languages (§ 5.5.2), North Sarawak and Melanau-Kajang (§ 5.5.3), Greater Barito languages, including Malagasy and Sama-Bajaw languages which are geographically dispersed outside of Borneo (§ 5.5.4), and languages spoken in Borneo belonging to other genetic groupings (§ 5.5.5). Map 8 gives an overview of the distribution of applicatives in the languages of Borneo and the Southern Philippines discussed in this section.



MAP 8 Language overview for Borneo and the Southern Philippines

5.5.1 *Sabahan Languages*

As reflected in the their name, Sabahan languages are spoken across the Malaysian state of Sabah in northeastern Borneo, though some members of the group are also found in Brunei and parts of North Kalimantan Province adjacent to Sabah. As shown in Table 23, seven Sabahan languages are included in the sample.

Sabahan languages for the most part show productive Philippine-type voice systems (5 of 7 languages in the sample), and lack pivot-neutral applicatives (7 of 7). Sabahan languages are predominantly verb-initial (6 of 7) and typically exhibit systems of morphological alignment that mark the pivot grammatical relation distinctly from non-pivot core arguments (6 of 7 languages). They also tend to show complex systems of verbal morphology, as morpholog-

TABLE 23 Typological survey results for Sabahan languages

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Sabahan	Kimaragang	Y	N	Philippine-type	pivot-nonpivot	VAP/VPA
Sabahan	Keningau Murut	Y	N	Philippine-type	pivot-nonpivot	VAP
Sabahan	Timugon Murut	Y	N	Philippine-type	pivot-nonpivot	VAP/VPA
Sabahan	Tombonuo	Y	N	Philippine-type	pivot-nonpivot	VAP
Sabahan	Tatana	Y	N	Philippine-type	pivot-nonpivot	VPA
Sabahan	Ida'an	N	N	two-way	pivot-nonpivot	AVP
Sabahan	Serundung Murut	N	Y	two-way	mixed-NP IV.A	VPA

ical marking for several TAM categories appears on the verb (e.g. tense, volitionality, and non-indicative moods). In these respects Sabahan languages are more similar to Philippine and Formosan languages than other languages of Borneo. The common features of Sabahan languages noted here are broadly distributed, and are found across primary branches of Sabahan (i.e. Greater Dusunic [Kimaragang], Murutic [Timugon and Keningau Murut], and Paitanic [Tombonuo]).

5.5.1.1 Pivot-Selecting Applicatives in Sabahan

Most Sabahan languages show between four and six contrastive voice categories, of which two or three are pivot-selecting applicatives (see discussion of voice and applicatives in Kimaragang in § 3.4). Tatana shows six contrastive voices, presented in example (105).⁸ Of these six constructions, four can be considered pivot-selecting applicatives, namely, theme voice (TV), in which the pivot is a theme or object undergoing transfer, instrument voice (IV), “referent voice” (RV), in which the pivot is a semantic beneficiary, recipient, or content item, and finally, locative voice (LV), in which the pivot indicates the time or location of the event expressed by the clause.⁹ Morphological mark-

8 Tatana is considered an unclassified Sabahan language by Eberhard, Simons & Fennig (2021), but alternately, may subgroup with Murutic (Hammarström et al. 2022).
9 The construction that I call locative voice (LV) here is called “setting voice” by Dillon (1994). It should not be confused with the separate locative adversative construction marked with

TABLE 24 Partial paradigm for Tatana verbs

Voice category	Volitive		Non-volitive		Imperative
	Non-past	Past	Non-past	Past	
Actor voice (AV TR)	moN-	noN-	moko-	noko-	poN-
Patient voice (PV)	-on	-in- -Ø	mo- -Ø	no- -Ø	-o'
Theme voice (TV) [†]	i-	—	moko-	noko-	—
Instrument voice (IV) [†]	poN-	pinoN-	—	—	—
Referent voice (RV) [†]	-an	-in- -an	mo- -an	no- -an	-i'
Locative voice (LV) [†]	poN- -an	pinoN- -an	—	—	—

[†] These voice categories constitute pivot-selecting applicative constructions.

ing for pivot-selecting applicatives is closely integrated with verbal morphology for TAM in Sabahan languages. Table 24 presents a partial paradigm for verbal morphology in Tatana (Dillon 1994), which distinguishes volitive and non-volitive moods, and indicative and imperative moods, though not all TAM categories may be marked in all of the six voices.¹⁰

(105) Tatana, Philippine-type voice alternations

a. *Mom-(p)opot aku do daging karabau.*

AV.TR.NPST-chop 1SG.NOM DAT meat buffalo

'I am chopping buffalo meat.' (AV)

(Dillon 1994: 22)

b. *Boli-in ku dudungu' diti*

buy-PV 1SG.GEN banana this

'I am buying **these bananas**.' (PV)

(Dillon 1994: 44)

c. *I-taak ku sita' ku dokou*

CV-give 1SG.GEN shirt 1SG.GEN 2SG.DAT

'I'll give **my shirt** to you.' (TV)

(Dillon 1994: 47)

-on in Tatana. The locative adversative is not a basic voice category in Tatana (see Dillon 1994: 61–64).

10 Intransitive AV shows distinct marking from transitive AV in Tatana. For the sake of simplicity, the former is not included in Table 24.

- d. *Duit pam-(b)ali ku do kana'*
 money IV-buy 1SG.GEN DAT fish
 'I buy fish **with money**.' (IV) (Dillon 1994: 49)
- e. *Bali-an ku okou do dudungu.*
 buy-RV 1SG.GEN 2SG.NOM DAT banana
 'I am buying bananas **for you**.' (RV) (Dillon 1994: 52)
- f. *Kadai diti andang-andang pam-(b)ali-an ku*
 shop this RDP-usual LV-buy-LV 1SG.GEN
 'This shop is where I usually buy things.' (LV) (Dillon 1994: 60)

5.5.1.2 Outliers in Sabahan

Two Sabahan languages in the sample, Ida'an and Serudung Murut, are outliers in the group. Both have lost Philippine-type voice, and thus lost pivot-selecting applicatives. Neither shows evidence of pivot-neutral applicatives.

The voice system for Ida'an has been reduced to AV and PV for basic transitive constructions (Goudswaard 2005). The language shows other morphological and phonological characteristics unusual for Sabahan languages and more like that of the North Sarawak languages to the south, i.e., final stress, ablaut, and loss of all suffixation (Goudswaard 2005: 67–69). Ida'an also shows a shift away from verb-initial word order towards verb-medial word order (AVP in AV). Word order is an important indicator of grammatical relations, as only the pivot argument can precede the verbal predicate. Together, these are clues that Ida'an may have undergone a path of grammatical restructuring similar to that of many Borneo languages south of Sabah that completely lack applicatives, such as Land Dayak (§ 5.5.2) and North Sarawak languages (§ 5.5.3). It has also been suggested that Ida'an and Bonggi—both Northeast Sabahan languages—should be classified separately from the other (Southwest) Sabahan languages (Lobel 2013).

Serudung Murut is also analyzed as a two-way symmetrical voice system, with one A-oriented transitive construction (AV) and one contrasting P-oriented transitive construction (PV) (Townsend 2017). Unlike other Sabahan languages, in Serudung Murut pivot arguments and non-pivot P arguments are marked alike morphologically (use of bare NP or nominative free pronoun), while non-pivot A arguments have distinctive marking (use of genitive linker *nu* or genitive enclitic pronoun), see example (106) below.

It is not entirely clear why Philippine-type voice was lost in Serudung Murut. However, it appears that extreme lexicalization of verbal suffixes has occurred, obscuring the distinction between patient voice and some former circumstan-

tial voice (CV) category, i.e. a voice alternation in which an instrument, theme, or beneficiary is the pivot. Verb forms in undergoer-oriented transitive clauses in Serundung Murut may take either (i) suffixal marking *-on/-oʔ* or, (ii) suffixal marking *-in/-iʔ* in imperfective aspect and *-an* in perfective aspect (Townsend 2017: 27–29). The former is noted to occur with verbs that take patient-like P arguments, and the latter with verbs that take theme-like P arguments. Elsewhere in Sabahan, *-on* is the normal marker of patient voice, while *-an/-in/-iʔ* mark a type of CV in various TAM categories (as with Tatahan beneficiary-selecting RV discussed above).

Occurrences of *-an/-in/-iʔ* as verbal suffixes in Serundung Murut might thus be considered a type of degraded or non-productive pivot-selecting CV construction. However, the alternation between the two suffixal sets in the present-day language is completely lexically-conditioned; no single verb may take both sets, as shown in (106) for the verb *taak* ‘give’. The two suffixal sets therefore are not contrastive, and neither would mark a fully productive voice category on its own. For this reason, I consider Serudung Murut to represent a case of attrition of applicatives that can be attributed—at least in part—to lexicalization. Remnants of a former CV construction remain only as an apparent irregularity in the paradigm for morphological marking of PV.

(106) Serudung Murut, Voice alternations with ‘give’

a. *aku an-(t)aaak lamun sokou*
 1SG.NOM AV-give rice 2SG.OBL
 ‘I give rice to you.’ (AV)

b. *lamun taak-in=ku sokou*
 rice give-PV=1SG.GEN 2SG.OBL
 ‘Rice is given to you by me.’ (PV)

c. **taak-on*
 *ungrammatical, not a possible word (Townsend 2017: 29–30)

5.5.2 Land Dayak Languages

On the other end of Borneo from Sabah, we find the Land Dayak languages, a group of about 15 languages spoken in southwestern Borneo, including the far western extent of Sarawak state and bordering parts of West Kalimantan Province, stretching south into inland West Kalimantan. There is little linguistic description available for most Land Dayak languages. Four languages are included in the survey: Benyadu’, Bakati’, Matéq and Ribun. Two additional languages for which short sketches are available—Bidayuh Serian and Biatah

TABLE 25 Typological survey results for Land Dayak

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Land Dayak	Benyadu'	N	N	two-way	pivot-nonpivot	AVP
Land Dayak	Bakati'	N	N	two-way	mixed-NPIV.A	AVP
Land Dayak	Matéq	N	N	two-way	neutral	AVP
Land Dayak	Ribun	N	N	two-way	mixed-NPIV.A	AVP

Bidayuh—will also be referenced (Omar 1983). Results of the survey for Land Dayak languages are shown in Table 25.

All Land Dayak languages show no applicatives of any type (4 of 4 languages of the sample, plus Bidayuh languages). There is also no evidence that pivot-selecting applicatives can be reconstructed for Land Dayak, and no evidence that these languages ever had pivot-neutral applicatives.

Land Dayak languages generally have two-way symmetrical voice systems (4 of 4 languages of the sample). AV constructions have unmarked AVP word order in AV constructions (4 of 4). In all four languages of the sample, word order is an important indicator not just of grammatical relations, but also the voice category of a transitive clause, as morphological marking for voice on the verb no longer clearly distinguishes AV and PV, with the standard word order for PV being PAV. Morphological marking for arguments distinguishing core grammatical relations also shows signs of reduction. Benyadu regularly makes use of pronominal sets distinguishing non-pivot A arguments from other core arguments. But in other Land Dayak languages this distinction is lost—as in Matéq, which has neutral alignment with all core argument marked the same—or almost entirely lost—being found only for third plural pronominal actors in Bakati, and optionally with second person singular pronominal actors in Ribun. In addition, Land Dayak languages show complete loss of suffixation.¹¹ Here, as

11 Suffixation is not found in the four Land Dayak languages of the sample. Matéq shows a discourse marker =éh, which behaves as a clitic. There is also no suffixation in Bidayuh Serian [sdo] (Omar 1983: 447–451), Biatah Bidayuh [bth] (Omar 1983: 446–469), nor in Sungkukng and other Bidayuhic languages in the Bengkayang, Landak and Sanggau regencies of West Kalimantan, Indonesia (Adelaar 2006: 81, citing personal fieldnotes). Rensch

in Sumatra and mainland Southeast Asia, loss of suffixation appears to be one major factor associated with lack of applicatives.

Related to reduction of verbal morphology, the four Land Dayak languages of the sample show a shift towards analytic means of marking the distinction between AV and PV. The verb in AV clauses is marked with the prefix *N-* in Land Dayak, as is common in West Nusantara. Unusual however, is the marking of PV clauses, in which the verb also may bear *N-*. This is shown in (107) below from Matéq. Here the morpheme marking PV is not a verbal affix, but a particle *ni* that precedes both the A argument (underlined), if expressed, and the verb bearing *N-*. In Matéq both analytic PV and morphologically marked PV are available, but the latter only with certain verbs. Similar analytic PV constructions are found in Ribun, Benyadu, and Bakati' (Sommerlot 2020), as well as Kendayan (Salako), a Malayic language spoken nearby in West Kalimantan and western Sarawak (Adelaar 2002). The particle marking PV in Ribun and Salako can be omitted if clausal word order is PAV, showing that word order is a primary indicator of PV in these languages.

(107) Matéq, Analytic PV

a. *pingàt aiq yoh ni koq moruh*
 plate that PRT PV 1SG AV.smash
 'I smashed the plate'

b. *ni ular aiq degeq nyora ruba turuaq=ng*
 PV snake that constantly AV.attack hole dibbling.stick=3
 'the snake kept on attacking their dibbling holes'

(Connell 2013: 113)

In summary, Land Dayak languages show a shift away from morphological marking for voice and grammatical relations and towards analytic means of indicating the same, especially in PV constructions. This trend and the loss of suffixation probably account for the loss of pivot-selecting applicatives and lack of pivot-neutral applicatives in Land Dayak.

5.5.3 North Sarawak and Melanau-Kajang Languages

This section covers the North Sarawak group and the Melanau-Kajang languages, which are spoken across north central Borneo to the south of Sabah.

et al. (2012) find only enclitics, prefixes, and a few infixes, some of which are fossilized, in their study of over 25 Bidayuh varieties.

Melanau-Kajang languages are concentrated in central Sarawak state, while North Sarawak languages are spoken across a broad area covering northern and central Sarawak state, North Kalimantan and East Kalimantan. North Sarawak as defined in the study includes 41 total languages, with eight selected for the sample. Melanau-Kajang includes 12 total languages, of which just one (Central Melanau, Mukah dialect) was able to be included in the sample.

Many languages of these two groups lack adequate linguistic description and even basic documentation. Making matters more complicated, a number of subbranches of North Sarawak have a disputed classification, e.g. Kayanic languages, Kenyah languages, and the Punan-Mueller Schwaner languages (Eberhard, Simons & Fennig 2021, cf. Hammarström et al. 2022). On top of this, even languages within the same subbranch of North Sarawak are known to show important differences in their verbal systems (see e.g. B. Clayre 2005 on voice in the Dayic subbranch of North Sarawak). For this reason, in this section I will make mention of a number of languages not included in the survey sample for which some sketch material and limited description of verbal constructions are available. These are (i) for Kayanic languages, Segai (Soriente 2013), (ii) for Kenyah languages, the Lepo Ké dialect of Mainstream Kenyah, the Lebu' Kulit dialect of Wahau Kenyah, and the Penan Benalui dialect of Western Penan (B. Clayre 1996; Omar 1983; Soriente 2013); and (iii) for Dayic languages, Sa'ban (B. Clayre 2005). Unfortunately, there are no grammatical descriptions for Punan-Mueller-Schwaner languages nor for Melanau-Kajang languages beside Central Melanau; these remain unrepresented, or nearly so, in the sample.

Results of the survey are shown in Table 26. The large majority of languages of North Sarawak (6 of 8 languages in the sample) lack applicatives of any type, as does Central Melanau (1 of 1).¹² Other Kenyah languages and the Dayic language Sa'ban also appear to lack applicatives (B. Clayre 2005; Soriente 2013). Within North Sarawak, just two languages (2 of 8) show applicatives; both Kelabit and Lun Bawang (Lundayeh) exhibit a pivot-selecting instrumental applicative (IV).

Of the North Sarawak languages lacking applicatives in the sample, all six have two-way symmetrical voice systems, as does Central Melanau. This

12 For Punan Tubuh, Soriente (2013: 184) makes brief mention of a possible benefactive function for the verbal prefix *pe-*. However, this is not illustrated with lexical or clausal examples by which it can be verified that clauses marked with this morpheme meet the definition of an AC used in this study. I have classified Punan Tubuh as lacking applicatives for this reason.

TABLE 26 Typological survey results for North Sarawak and Melanau-Kajang

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
N. Sarawak	Kelabit	Y	N	Philippine-type	neutral	VPA
N. Sarawak	Lun Bawang	Y	N	Philippine-type	pivot-nonpivot	AVP/VPA
N. Sarawak	West Berawan	N	N	two-way	mixed-NPIV.A	AVP
N. Sarawak	Belait	N	N	two-way	mixed-NPIV.A	AVP/VPA
N. Sarawak	Baram Kayan	N	N	two-way	pivot-nonpivot	AVP
N. Sarawak	Eastern Penan	N	N	two-way	mixed-NPIV.A	AVP
N. Sarawak	Punan Tubuh	N	N	two-way	mixed-NPIV.A	AVP
Melanau-Kajang	Central Melanau	N	N	two-way	mixed-NPIV.A	AVP

appears to hold for Sa’ban (Dayic), Segai (Kayanic), and Western Penan (Kenyah). However, B. Clayre (1996: 74) reports that the Lepo Ké dialect of Mainstream Kenyah does not have an undergoer-oriented construction, which indicates that its voice system is asymmetrical. On the other hand, Kelabit (Philippine-type), shows AV, PV, and IV voice categories (Hemmings 2016: 201–204), and Lun Bawang (marginal Philippine-type), shows AV, PV, and an archaic IV category that is rare in current usage (Mortensen 2021: 115); for more detail see §5.5.3.1 below.

Most languages of North Sarawak show a system of morphological alignment in which the non-pivot A argument has distinctive marking compared to other core arguments, which are marked alike (5 of 8). This is also found in Central Melanau. The distinctive form for non-pivot A is generally limited to pronominal arguments, and often found only in certain number and person categories, as in Punan Tubu, where there are distinct pronominal forms for first and second person singular non-pivot A arguments, and third singular non-pivot A can be expressed either with a distinct form or with the free pronoun form used for all other core arguments. In Sa’ban, distinctive forms of the pronouns for non-pivot A have been lost (neutral alignment), these being found only in fossilized remnants (B. Clayre 1996: 57). Two languages of North Sarawak (2 of 8; Lun Bawang, Baram Kayan) show one distinct marking for pivot arguments, and other types of marking for non-pivot core arguments (pivot-non-pivot). It looks like Kelabit formerly had such a system, but it has been collapsed such that core arguments have distinct marking distinguishing them

from obliques, but are now not otherwise distinguished for grammatical relation (neutral alignment, Hemmings 2016: 331–332).

In terms of word order, most languages of North Sarawak show a preference for AVP unmarked word order in A-oriented constructions (verb-medial; 5 of 8), which also holds for Central Melanau. A number of these languages also allow VPA order in AV, but it is not always reported whether or not this is possible. In Belait and Lundayeh, word order is reported to be split between AVP and VPA in AV, with no indication of preference. In Kelabit, VPA is the most natural word order for AV (verb-initial), but VAP and AVP are also possible. Thus, it appears that most North Sarawak languages show a shift away from preference for verb-initial word order as is typical in Philippine-type languages and most common in Sabahan languages. Strict ordering of verb + non-pivot core argument is common here, with this ordering being important for signaling grammatical relations, especially in AV. For example, in West Berawan, word order is more strict in AV than in PV; in AV only AVP is possible, while in PV, both PVA and VAP are found (B. Clayre 1997: 234).

Regarding verbal morphology and general morphological complexity, Lun Bawang and Kelabit are the most conservative. Only these two languages retain productive use of verbal suffixes, including PV *-en* and imperative suffixes, though the latter are reportedly rarely found in Lun Bawang (Hemmings 2016; Mortensen 2021). For all other languages of North Sarawak there is no evidence of productive suffixation, verbal or otherwise. In Central Melanau, there is one reported suffix, *-ai*, but it is found only on a very small number of directional adverbs (I. Clayre 1972: 210–211). Thus, as in languages of mainland Southeast Asia and Land Dayak languages, loss of suffixation is associated with complete lack of applicatives in North Sarawak and Melanau-Kajang.

A number of North Sarawak languages are reported to make use of an analytic or periphrastic PV construction, most commonly marked with the verb ‘do/make’. This is reported in Lun Bawang, Sa’ban, and Dayic varieties of East Kalimantan, as well, as Eastern Penan (Kenyah), Central Berawan and some Kayan varieties (see Mortensen 2021; B. Clayre 1996: 75–81, 2005).¹³ An example of this is given in (108) from Sa’ban, where this construction is replacing morphologically marked PV (B. Clayre 2005: 30). This construction can be con-

13 This construction may not necessarily be an innovation, but its frequent use in place of morphologically marked PV, especially in indicative clauses, does appear to mark a diachronic shift. The form of the verb meaning ‘do/make’ in North Sarawak languages is often *an*, or similar, which is possibly a reflex of a preverb **an*, held to be used in CV in non-indicative moods in the PAN voice system by Ross (2009). For more details, see the discussion in §6.3.6.

sidered a type of serial verb construction (see §3.5), but not an applicative, as it does not select a peripheral semantic role as a core argument. It appears that no construction of this type is found in Central Melanau.

(108) Sa'ban, Periphrastic PV with 'make'

Ayeu noknai an ieh m-paeng.

tree this make 3SG AV-cut.down

'He will cut down this tree.'

(B. Clayre 1996: 78)

In summary, Central Melanau and most languages of the North Sarawak group show loss of Philippine-type voice (pivot-selecting applicatives) and lack of pivot-neutral applicatives. Languages in this area that lack applicatives altogether also lack suffixation, and tend to show reduced verbal morphology. In some of these languages, we also see a shift towards analytic structures with word order becoming important for signaling grammatical relations and increasing use of periphrastic PV constructions, which represent a type of serial verb construction.

5.5.3.1 Outliers in North Sarawak

The only North Sarawak languages that retain Philippine-type voice alternations are Lun Bawang and Kelabit. Geographically, the areas where Lun Bawang and Kelabit are traditionally spoken stand in the northeast corner of Sarawak state, with Lun Bawang to the north of Kelabit.

Both Kelabit and Lun Bawang show an instrument-selecting voice construction (IV) that contrasts with AV and PV (Hemmings 2016; Mortensen 2021), as in example (109). In this construction, shown in (109c), the instrument is always the clausal pivot (**bolded**); thus, this construction constitutes a pivot-selecting applicative. The IV construction in Lun Bawang is reportedly rarely used in spontaneous, spoken language, but it is still found in some written documents and "many speakers are aware of it and can produce it and judge its usage upon request" (Mortensen 2021: 115).

(109) Kelabit, Transitive voice alternations

a. *La'ih sineh ne-nekul nubaq nedih ngen seduk.*

man DIST PFV-AV.spoon.up rice 3SG.POSS with spoon

'**That man** spooned up his rice with a spoon.' (AV)

b. *Sikul lai'h sineh nubaq nedih ngen seduk.*

PV.PFV.spoon.up man DIST rice 3SG.POSS with spoon

'That man ate **his rice** with a spoon.' (PV)

- c. *Seduk pe-nekul la'ih sineh nubaq nedih.*
 spoon IV-spoon.up man DIST rice 3SG.POSS
 'That man used a **spoon** to spoon up his rice.' (IV)
 (Hemmings 2016: 303)

Neither Lun Bawang nor Kelabit show a productive LV construction. In Kelabit, however, the suffix *-an* is retained in fossilized locative nominalizations, and a remnant of LV is found with a single verb, *tu'an* 'to do/put, LV' (Hemmings 2016: 145–146). In this construction, shown in (110), the phrase expressing the location of the event is the clausal pivot, as is indicated by its access to relativization in (110b).

- (110) Kelabit, Remnant locative voice construction
- a. *Lidung tu'an neh babeh nedih.*
 corner do/put.LV 3SG.CORE.II bag 3SG.POSS
 'He put his bag in **the corner**.' (LV) (Hemmings 2016: 145)
- b. *Sen'er kuh lidung [suk tu'an neh babeh*
 PV.PFV.see 1SG.CORE.II corner [REL put.LV 3SG.CORE.II bag
nedih].
 3SG.POSS]
 'I saw the **corner** [where he put his bag].' (LV, relative clause)
 (Hemmings 2016: 218)

Kelabit and Lun Bawang belong to the Dayic primary branch of North Sarawak languages. Other Dayic languages, including Sa'ban, Lengilu', and the Kerayan dialects, whether spoken to the south of Kelabit in Sarawak or to the east in North Kalimantan, have lost IV and now show a two-way voice system (B. Clayre 2005), which is also the norm for the rest of the North Sarawak group. Thus, it appears that North Sarawak languages show decay of the Philippine-type voice system, but this process is progressing slower in Kelabit and Lun Bawang than the rest of the group, as Kelabit and Lun Bawang have lost LV, while retaining IV, at least to some extent. This retention of IV should be viewed in light of a general pattern of linguistic conservatism for Lun Bawang and Kelabit, which is likely due to the two languages' geographic position in the mountainous highlands, affording a degree of separation from other North Sarawak languages, including other Dayic varieties as well as Kenyah and Kayan languages present in the region (see Mortensen 2021: 232–256 on contact and dialect-mixing leading to spread of innovative features in Dayic outside of Lun Bawang and Kelabit).

5.5.4 Greater Barito Languages

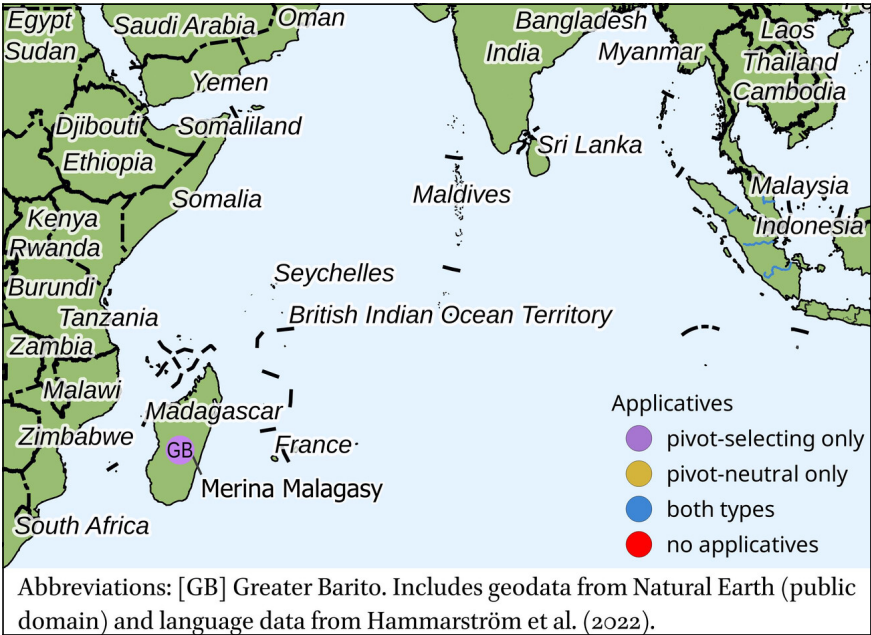
Greater Barito is a linkage representing 35 languages that originated in the Barito River basin encompassing much of southwestern Borneo (Smith 2018). About 14 of these languages are spoken today near their homeland, in the Indonesian provinces of Central Kalimantan and East Kalimantan, while the others show an extremely broad geographic dispersion. Eight Greater Barito languages are included in the sample, as shown in Table 27. In the survey results, Greater Barito languages fall into three types. These are (i) the Malagasy languages of Madagascar in eastern Africa, which show Philippine-type voice and thus pivot-selecting applicatives, (ii) the Sama-Bajaw languages found in the Philippines and across West Nusantara, which show a combination of pivot-selecting and pivot-neutral applicatives, and (iii) languages spoken in the Barito River basin, which show no applicatives of any type.

TABLE 27 Typological survey results for Greater Barito languages

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Gr. Barito	Merina Malagasy	Y	N	Philippine-type	pivot-nonpivot	VPA
Gr. Barito	Southern Sama	Y	N	Philippine-type	mixed-NPIV.A	VPA
Gr. Barito	Central Sama	Y	Y	marg. Philipp.-typ	mixed:other	VPA
Gr. Barito	Yakan	Y	Y	marg. Philipp.-typ	pivot-nonpivot	VAP/VPA
Gr. Barito	West Coast Bajau	N	Y	two-way	pivot-nonpivot	AVP
Gr. Barito	Ngaju	N	N	two-way	pivot-nonpivot	AVP
Gr. Barito	Ma'anyan	N	N	two-way	mixed-NPIV.A	AVP
Gr. Barito	Paku	N	N	two-way	mixed-NPIV.A	AVP

5.5.4.1 Malagasy

The Malagasy languages represent a group of closely-related languages spoken on the island of Madagascar, some 3,800 miles from West Nusantara, off the eastern coast of Africa. All belong to Malagasic, a lower-level subgroup of the Greater Barito linkage, which falls under the same branch as Paku and Ma'anyan, which are spoken in the Barito River basin. Only one Malagasy language, Merina Malagasy, is represented in the sample, as it has the most available resources due to its status as the most prestigious variety. While the Malagasy languages are listed under 12 separate ISO-639-3 codes, they are by all



MAP 9 Location for Merina Malagasy

accounts very similar to one another, such that they are commonly referred to as “dialects,” and Rasoloson & Rubino (2005) state that they are “often so closely related to one another that a clear group classification is uncertain” (456). In some cases, the identification of the variety represented in available source material is not straightforward. For the purposes of this survey, most Malagasy languages would be quite similar in profile to Merina. Map 9 shows the location for Merina Malagasy.

Compared with other West Nusantara languages, Merina, like other Malagasy languages, is relatively syntactically conservative, while showing phonological and lexical innovations due to contact with Bantu languages in Coastal East Africa (Adelaar 2012). Merina retains a Philippine-type voice system with five contrastive voice categories (Pearson 2001). Three of these represent pivot-selecting applicatives: theme (or conveyance) voice (TV), dative voice (DV) and circumstantial voice (CV). The language is verb-initial, with the pivot in final position in unmarked word order. In Merina, only pronominal forms are distinguished morphologically for core grammatical relations. The pivot relation is marked with the nominative set of pronouns, while other non-pivot core arguments are marked with dative or genitive pronouns (pivot-non-pivot morphological alignment). With respect to these typological characteristics, Malagasy is quite similar to most Sabahan languages and quite different from other Greater Barito languages.

5.5.4.2 Sama-Bajaw Languages

Sama-Bajaw languages also show geographic dispersal outside of Borneo, though most are still spoken inside West Nusantara and nearby in the southern Philippines. In total there are nine Sama-Bajaw languages, which together constitute one exclusive subgroup. Four of these are represented in the sample, but in order to capture patterns in the diverse typological features of this group, I will also refer to three others in the discussion here: Pangutaran Sama, Sama Balangingi', and Indonesian Bajau (Walton 1986; Gault 1999; Donohue 1996).

Sama-Bajaw languages represent a cline of typological characteristics showing gradual decline of Philippine-type voice (and thus pivot-selecting applicatives) and development of pivot-neutral applicatives. The voice and applicative systems of these languages fall into three types, as represented in Table 28. One set of languages (Southern Sama, Sama Balangingi') has productive Philippine-type systems with five voice categories (AV, PV, IV, BV, LV). A second set (Central Sama, Yakan, Panguturan Sama) shows marginal Philippine-type systems with reduced productivity or restricted distribution of LV and IV, and no use or only minimal use of BV. This set also has productive pivot-neutral applicatives. The third set (West Coast Bajau, Indonesian Bajau) shows two-way symmetrical systems and productive pivot-neutral applicatives only.

TABLE 28 Applicatives in Sama-Bajaw languages

Pivot-selecting only	Both types*	Pivot-neutral only
Southern Sama Sama Balangingi'	Central Sama Yakan Pangutaran Sama	West Coast Bajau Indonesian Bajau

* These languages have marginal Philippine-type pivot-selecting constructions and productive pivot-neutral applicative constructions.

Central Sama will be used to illustrate Sama-Bajaw languages with marginal Philippine-type alternations and pivot-neutral applicatives. The voice systems of Yakan and Pangutaran Sama, are in large part very similar to Central Sama.

Central Sama has four transitive voice alternations, which I will call AV, PV, IV, and LV. However, stems marked for the latter two voices—the pivot-selecting applicatives—have a different distribution that those marked for the former two. IV and LV stems appear mostly in subordinate clauses, often appear in coordination with nouns and as the object of a preposition, and may be lex-

icalized as locative or instrumental nominalizations. At the same time, stems marked with the IV prefix *paN-* and LV suffix *-an_l* show evidence of status as verbs, including co-occurrence with aspectual, modal, and imperative morphology (James 2017: 59–67). For these reasons, James considers such constructions to be voice alternations but calls them ‘minor voices’, distinguishing them from the much more common and broadly distributed AV and PV constructions, as well as a separate passive construction in Central Sama.

Central Sama also has an applicative suffix *-an₂*, which marks the verb when a beneficiary, recipient, goal, stimulus, or addressee is selected as core argument. In example sentences, we see that this suffix co-occurs with AV, marked with *aN-* on the verb as in (111b), PV, which has no overt voice morphology and shows obligatory actor indexing on the verb, as in (111c), and the passive construction, marked with *-in-* without actor indexing, as in (111d).

(111) Central Sama, Applicative *-an*

- a. *Am-(b)uwan akū badju' ma abagay=ku.*
 AV-give 1SG.I shirt to friend=1SG.II
 ‘I will give a shirt to my friend.’ (AV)
- b. *Am-(b)uwan-an akū bagay=ku badju'*
 AV-give-APPL 1SG.I friend=1SG.II shirt
 ‘I will give a shirt to my friend.’ (AV + APPL)
- c. *B'lla-han=ta ka buwas itu.*
 PV.COOK-APPL=1SG.II 2SG.I rice this
 ‘I will cook you this rice.’ (PV + APPL)
- d. *B<in>uwan-an kamī kaldero.*
 <PASS>give-APPL 1PL.I pot
 ‘We were given a cooking pot.’ (Passive + APPL)

On the other hand, this applicative *-an₂*, which selects one of the aforementioned semantic roles as a core argument, never co-occurs with the ‘minor voices’, IV or LV. Conversely, it is clear that IV and LV cannot co-occur with AV, PV, or passive constructions. Instrument or theme-selecting *paN-* and location-selecting *-an_l* never co-occur with AV *aN-* or passive *-in-*. Also, while PV is not marked with distinct verbal morphology (i.e., it is zero-marked), it has obligatory actor-indexing on the verb, while IV and LV do not, as shown in (112) and (113) below. Thus, an analysis of *paN-* and *-an_l* as applicatives that combine with (only) PV is not supported. Central Sama therefore represents a language in

transition from a robust Philippine-type voice system to a two-way symmetrical voice system plus pivot-neutral ACs.

- (112) Central Sama, IV Construction
Sīn, limangibu bay pam-(b)uwan aku.
 money 5,000 PST IV-give 1SG.III
 ‘Money, five thousand (pesos) was given me.’ (IV) James 2017: 63
- (113) Central Sama, LV Construction
Wai al’ssu’ kaldero, mbal na ta-pam-(b)’lla-han daing.
 PFR cracked pot, NEG now ABIL-PUNCT-cook-LV fish
 ‘The pot has cracked, it can no longer be used for boiling fish’ (lit. place for boiling fish). (LV) (James 2017: 61)

If we compare languages like Central Sama with languages with more productive Philippine-type systems in the group, i.e. Sama Balangingi’ and Southern Sama, it becomes clear that pivot-neutral applicatives marked with *-an* in Sama-Bajaw are in complementary distribution with the voice category that selects a beneficiary pivot (BV) in Sama-Bajaw. This voice construction is also marked with *-an* in indicative mood. Thus, the development of pivot-neutral applicatives in Sama-Bajaw is directly related to the breakdown of the Philippine-type voice system. This is discussed in further detail in Chapter 6, where I argue that many pivot-neutral applicatives of West Nusantara showing selection of beneficiary, theme, and/or instrument applied phrases are derived from earlier Philippine-type circumstantial voice (cv) alternations.

5.5.4.3 Languages of the Barito River Basin

Besides Malagasy and the Sama-Bajaw languages, the remaining Greater Barito languages are still spoken near the Barito River basin in southeastern Borneo. In total, there are 14 such languages, but only 3 are represented in the sample, due to the general paucity of descriptive materials for Bornean languages, which is especially sparse for inland parts of the Malaysian state of Sarawak, and the Indonesian provinces of West, Central, and East Kalimantan.

In the sample, the Greater Barito languages of the Barito River area show similar typological characteristics to other Borneo languages spoken south of Sabah. All have no applicatives of any type (3 of 3). They show two-way symmetrical voice systems (3 of 3), systems of morphological alignment with distinctive marking for the non-pivot A argument (3 of 3), and predominant AVP word order in AV (3 of 3), with increasing reliance on word order for indicating grammatical relations (see Diedrich 2018: 182; Hardeland 1858: 161; Gudai 1985: 147–148).

Greater Barito languages of southeastern Borneo also show reduced suffixation, though not as completely as Land Dayak and most North Sarawak languages. Ma'anyan shows a single suffix (i.e. nominalizing *-an*), and two productive circumfixes (i.e. adversative *kV-* *-an* and nominalizing *pVN-* *-an*), but 11 productive prefixes (Gudai 1985). Paku also shows a single suffix, again nominalizing *-an*, but 16 total prefixes (Diedrich 2018). In Ngaju the suffix *-an* is reported to be rare, found only on a small number of nominalizations, and a few causative verbs also bearing the prefix *ma-* (Hardeland 1858: 64–66). Including *ma-*, Ngaju has 16 prefixes.

Looking at the broader picture, the presence of Philippine-type voice in Malagasy and some Sama-Bajaw languages shows that Philippine-type voice was likely present in early stages for Greater Barito languages. In all likelihood, Philippine-type voice was only lost in languages of the Barito River basin after ancestral Malagasy speakers left Borneo and started their long and storied migration to Madagascar, sometime after AD 400 and most likely in the 7th century AD (Adelaar 2009). This loss probably also post-dates the departure of ancestral Sama-Bajaw speakers from the Barito River basin, sometime between AD 670–800 (Blust 2005). So while Greater Barito languages of the Barito River basin area show some similarities with Land Dayak and North Sarawak languages, and may have undertaken a similar path of grammatical restructuring resulting in the complete loss of applicatives, it is likely that these changes happened much later for Greater Barito languages like Paku, Ma'anyan, and Ngaju than for Land Dayak languages, and probably most North Sarawak languages as well.

5.5.5 *Other Languages Spoken in Borneo*

In addition to the indigenous languages of Borneo discussed already in this section, we also find languages spoken in Borneo which genetically belong to the Malayic and South Sulawesi genetic groups. Some of these kept what appear to be inherited systems of pivot-neutral applicatives after arrival at their present-day location in Borneo, including Brunei Malay, Kendayan (Salako), and Embaloh (see also discussion of Malayic languages of Sumatra in § 5.1 and discussion of South Sulawesi languages in § 5.6.1).

Some Malayic languages spoken in Borneo, however, appear to have lost inherited pivot-neutral applicatives and taken on some resemblance to other Borneo languages spoken south of Sabah in use of analytic constructions. These include Mualang, which is included in the sample, and Iban and the Belangin variety of Kendayan, which are not included in the sample, but are discussed here on the basis of available descriptive material (Omar 1981; Adelaar 2006).

Mualang and Belangin, are both spoken in West Kalimantan province, in the area that is also home to the Land Dayak languages. Both show no applicatives of any type, and no suffixation, showing loss of the applicative suffixes *-i? and *-an in Proto Malayic (Tjia 2007; Adelaar 2006).

While Mualang has lost applicative marking, it still shows alternations in clausal structure that I will refer to as “unmarked applicative analog” constructions. Examples are given in (114) and (115). For comparison, Indonesian ACs with suffixal AM marking are given in (116) and (117).

(114) Mualang, Unmarked benefactive construction

a. *Inay N-beli kayin baju ka ia.*

mother AV-buy clothes shirt to 3SG

‘Mother bought **clothes** for her.’ (Prototypical AV)

b. *Inay N-beli ia ka kain baju.*

3PL AV-buy 3SG to clothes shirt

‘Mother bought **her** clothes.’ (Beneficiary-selecting construction)

(Tjia 2007: 174)

(115) Mualang, Unmarked locative construction

a. *Ia N-isi’ ay ka kuali.*

3SG AV-content water to cooking.pan

‘She is putting **water** into the pan.’ (Prototypical AV)

b. *Ia N-isi’ kuali ka ay.*

3SG AV-content cooking.pan to water.

‘She is filling **the pan** with water.’ (Goal-selecting construction)

(Tjia 2007: 175)

(116) Indonesian, Beneficiary-selecting applicative

a. *John Dul mem-beli buku itu untuk Mary Yem.*

J. D. AV-buy book that for M. Y.

‘John bought **that book** for Mary Yem.’ (BC in AV)

b. *John Dul mem-beli-kan Mary Yem buku itu.*

J. D. AV-buy-BEN.APPL M. Y. buku itu

‘John Dul bought **Mary Yem** a book.’ (AC in AV)

(Kaswanti Purwo 1995: 79)

(117) Indonesian, Goal-selecting applicative

a. *Mary Yem men-(t)uang(-kan) air ke ember.*

M. Y. AV-pour(-THM.APPL) water to bucket Y.

'Mary Yem poured **water** into the bucket.' (BC in AV)b. *Mary Yem men-(t)uang-i ember dengan air.*

M. Y. AV-pour-LOC.APPL bucket with water

'Mary Yem filled the **bucket** with water.' (AC in AV)

(Kaswanti Purwo 1995: 80)

While many languages allow for unmarked alternations of this kind with a limited number of semantically ditransitive verbs, in Mualang, we see a quite large range of possible lexical verbs and verbal meanings used with such constructions. These examples show alternation in the realization of arguments for the semantic patient/theme and beneficiary/locative role. The existence of these alternations suggest that the morphological marking for applicative alternations in Mualang has been lost, but they remain as clausal constructions with distinctive argument structure, and these are still associated with the former meanings. I do not know of any other languages of West Nusantara that systematically exhibit this type of unmarked alternation.

In Belangin, the functions of ACs have been taken over, at least in part, by serial verb constructions (Adelaar 2006: 78). This is shown in example (118), where Belangin uses *beri* 'give' + *minjam* 'borrow AV' to mean 'lend to (s.o.)'. For this same meaning, the closely-related variety Salako, uses *ng-inyapm-i?* from the same root with the applicative suffix *-i?*.

(118) Belangin, Serial verb construction with 'give'

Ba beri aku m-(p)injam sa-bantar ba!

HORT give 1SG AV-borrow one-moment HORT

'Why don't you lend it to me for a while!' (about a flute)

(Adelaar 2006: 78)

Iban, another Malayic language spoken in Central Sarawak, has also lost the original Proto Malayic applicative suffixes. According to Adelaar (2006), Iban subsequently developed a new causative/benefactive AM *--ka* from the preposition *ka*, noting "that in older Iban sources *-ka* is still written as a separate word" (79). Besides *-ka*, Iban has no other suffixes but shows nine prefixes (Omar 1981).

While Adelaar (2006) connects the loss of suffixation in Iban and Belangin to an areal pattern also found in Land Dayak languages, he does not mention

Mualang, nor consider the many North Sarawak languages which also lack all suffixation. As shown in the results presented in §5.5.2-5.5.4, the areal pattern for reduced suffixation extends to a greater geographic area than previously recognized, and this pattern is broadly associated with complete lack of applicatives in Borneo south of Sabah. Possible explanations for this pattern are discussed in the next section.

5.5.6 *Possible Explanations for the Lack of Applicatives in Borneo South of Sabah*

Based on the results of the typological survey and other available descriptive material, among the languages of Borneo, loss of suffixation looks to be a major precipitating factor for the complete lack of applicatives, which is by far the predominant pattern in languages spoken south of Sabah. These languages mostly retain a two-way symmetrical voice alternation (certain Kenyah varieties reported to lack PV are exceptions). Reduction of verbal morphology, and a shift to reliance on word order for signaling grammatical relations, as well as a shift towards periphrastic or analytic signaling of PV are also observed, as is use of analytic structures with benefactive, locative, or causative meanings in some languages. This shift looks to be related to the loss of suffixation, including grammatical restructuring following the loss of morphological marking of PV with suffixal *-en*.

In mainland Southeast Asia and northern Peninsular Malaysia (as well as Singapore Bazaar Malay), loss of suffixation was triggered by language contact with non-Austronesian languages (Tadmor 1995; Thurgood 1999; Aye 2005). On the other hand, it is unknown why loss of suffixation occurred in so many Bornean languages, cutting across several genetic affiliations. Little is known of possible language contact for speakers of Malayo-Polynesian languages with non-Austronesian languages upon arrival in Borneo. The present-day pattern for lack of suffixation might be observed however, if some such contact was centered on the southwest part of Borneo, where Land Dayak languages are presently spoken, and these changes only later spread to North Sarawak, Melanau-Kajang and, finally, Greater Barito languages.

Contact-induced spread leading to loss of suffixation may have been chained, and might have had multiple centers, with possible differences in the precise path of historical change. In the case of Sa'ban (Dayic, North Sarawak), for example, it is argued that contact with Modang (Kayanic) set off the phonological changes that resulted in its highly reduced system of affixation (Blust 1999), in contrast to the relatively rich systems of Kelabit and Lun Bawang (also Dayic). Some Malayic languages whose speakers settled in southwestern Borneo also seem to have undergone loss of suffixes known to be present in Proto

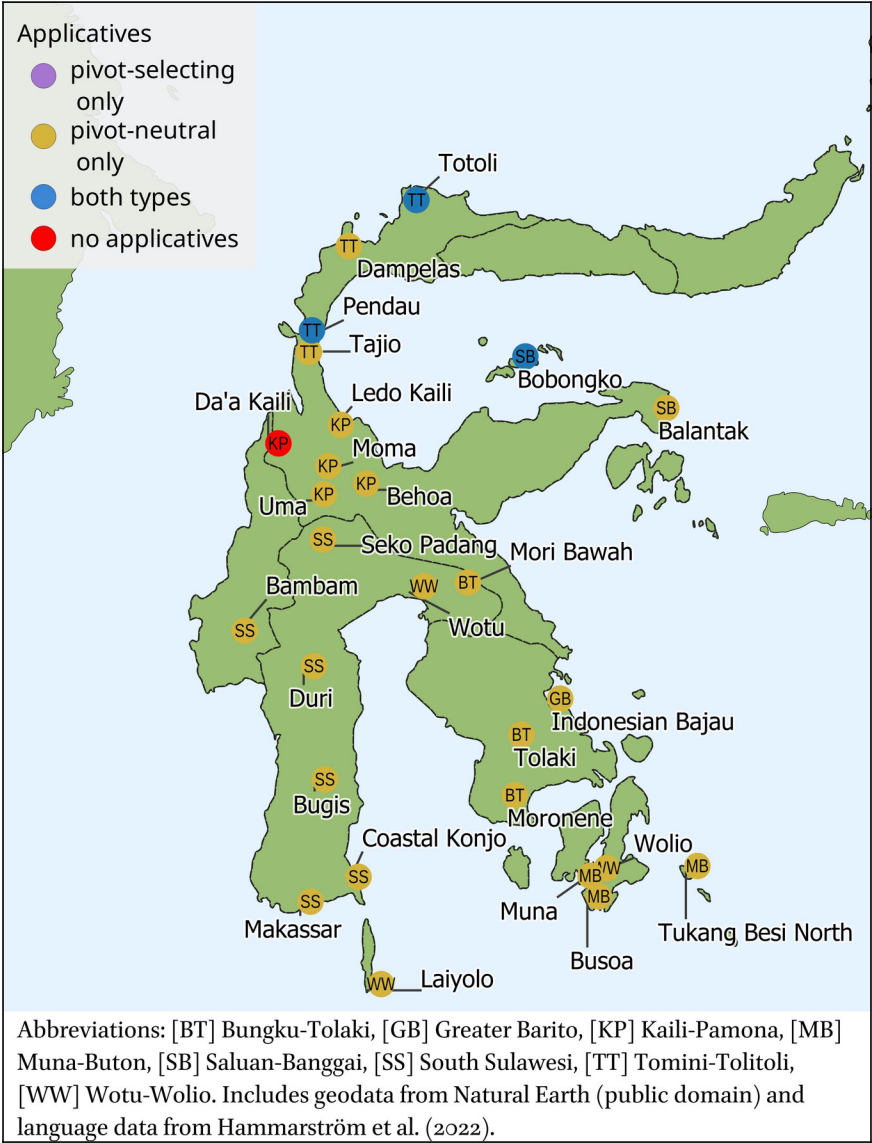
Malayic, e.g. Belangin, Mualang, and Iban, but others retain some inherited suffixes, e.g. Salako (Adelaar 2005b). It is unclear whether the nature or extent of the language contact can explain these differences, and this further complicates a proposed timeline for the spread of these changes. Nonetheless, it is clear that reduced suffixation is an areal pattern for Borneo south of Sabah, and that this pattern was influenced by complex histories of migration, contact, and genetic inheritance for Bornean languages and peoples. Still, the possibility that the decline of suffixation and subsequent changes in the verbal system were initially set off by contact with non-Austronesian speakers is an enticing prospect, albeit a speculative one at present.

5.6 Sulawesi

Sulawesi is the second largest island in West Nusantara after Borneo, and like Borneo also shows great linguistic diversity, with over 100 languages spoken on the island. Sulawesi is traditionally divided into microgroups, which I have generally adopted as genetic groupings for the purpose of the survey, though I have excluded three traditional microgroups that are thought to subgroup with Philippine languages (i.e. Gorontalo-Mongondow, Minahasan, and Sanggiric, see Blust 1991). In this section, I will consider separately languages of the South Sulawesi microgroup in §5.6.1, and languages classified as Tomini-Tolitoli, Kaili-Pamona, Saluan-Banggai, Bungku-Tolaki, Muna-Buton, and Wotu-Wolio in §5.6.2. This second set of genetic groupings is more varied in typological profile and have been proposed to belong to a genetic supergroup, Celebic (Mead 2003), that excludes the South Sulawesi languages. Map 10 shows languages spoken in Sulawesi in the sample. In addition to the languages discussed in this section, Indonesian Bajau is spoken in Sulawesi (see §5.5.4.2).

5.6.1 *South Sulawesi Languages*

The South Sulawesi genetic group includes 30 total languages, which are primarily spoken on the west and southwestern side of Sulawesi. Two languages of this group are spoken in Borneo (i.e. Embaloh, Taman). In available documentation, these two appear to be quite similar to other South Sulawesi languages (Adelaar 1994). Seven South Sulawesi languages are included in the sample, as shown in Table 29. All of the South Sulawesi languages in the sample show pivot-neutral applicatives (7 of 7). They also share common typological features, especially in terms of voice system and morphological alignment.



MAP 10 Language overview for Sulawesi

Almost all South Sulawesi languages in the sample show what I have called a marginal two-way symmetrical voice system (6 of 7). These languages show an alternation between an A-oriented and a P-oriented construction, with the A-oriented construction showing reduced semantic transitivity (B. Friberg 1991: 105–112) or very limited distribution (Campbell 1989: 66). Here, reduced semantic transitivity refers to lower effectiveness or intensity in the acting of one

TABLE 29 Typological survey results for South Sulawesi languages

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
S. Sulawesi	Embaloh	N	Y	marg. two-way	ergative	VAP
S. Sulawesi	Bugis	N	Y	marg. two-way	ergative	AVP/VPA
S. Sulawesi	Coastal Konjo	N	Y	marg. two-way	ergative	VAP
S. Sulawesi	Makasar	N	Y	marg. two-way	ergative	VPA
S. Sulawesi	Bambam	N	Y	marg. two-way	ergative	AVP
S. Sulawesi	Seko Padang	N	Y	marg. two-way	ergative	undet.
S. Sulawesi	Duri	N	Y	two-way	ergative	AVP

entity on another. Constructions with reduced semantic transitivity may thus express non-telic or non-punctual events or states, lower affectedness of P, and/or lower individuation of P, among other properties (Hopper & Thompson 1980). Such A-oriented constructions are discussed in greater detail below (see also the discussion of Makasar and Bugis in §7.3). In the sample, only Duri is considered a two-way symmetrical voice language (1 of 7). Valkama (1993: 69, 79–89) shows that the AV construction in Duri does not have lower transitivity than the PV construction, and though it is less frequent in usage than the PV construction, AV does not appear to be rare.¹⁴

All seven South Sulawesi languages of the sample are coded as showing ergative patterns of morphological alignment. This is because S in intransitive clauses and P in P-oriented transitive clauses pattern together in morphological encoding; both are typically indexed on the verb by means of a pronominal enclitic, while A in P-oriented clauses is typically indexed with a proclitic, as shown in (19a–b) from Makasar. In Seko Padang, two sets of proclitics are used instead of one enclitic set and one proclitic set (Payne & Laskowske 1997: 426–429). However, there are some complications for indexing of arguments in these languages that make them difficult to classify for type of morphological alignment.¹⁵

14 Alongside productive AV and PV constructions, Duri shows another A-oriented ‘antipassive’ construction with reduced semantic transitivity and very limited textual frequency (Valkama 1993, see also discussion in §7.3).

15 In most South Sulawesi languages, A of A-oriented constructions is indexed as an enclitic

(119) Makasar, Voice alternations

a. *Tinroi i Ali**tinro=i i Ali*

sleep=3 PN A.

'Ali is sleeping.' (Intransitive)

(Jukes 2020: 246)

b. *Kukanrei untia**ku=kanre=i unti=a*

1=eat=3 banana=DEF

'I eat the bananas.' (Transitive, P-oriented)

(Jukes 2020: 135)

c. *Angganrea' unti**aN(N)-kanre=a' unti*

BIV-eat=1 banana

'I eat bananas.' (Semi-transitive, A-oriented)

(Jukes 2020: 135)

South Sulawesi languages show some diversity of word order patterns. In three languages of the sample, verb-initial order is predominant, while in two languages (Duri and Bambam), pivot-initial order is predominant (AVP in A-oriented constructions). In Bugis, word order is described as split between AVP and VPA in the A-oriented construction. Word order is not discussed in available source material on Seko Padang.

As mentioned above, most South Sulawesi languages show an A-oriented construction with reduced semantic transitivity. An example is given in (119c) above from Makasar. Determining the syntactic transitivity of these constructions is not straightforward. While the P argument in such constructions typically is strictly indefinite, often it is overtly expressed, and it may even be obligatory to mention P overtly, as in Makasar and Bugis (Jukes 2020: 250–253; D. Laskowske 2016: 26). These constructions have been labeled in various ways by authors, but it is not clear whether they should be considered intransitive (e.g. “antipassive” as used by B. Friberg 1991), transitive (e.g. “actor focus” as used by Campbell 1989) or somewhere in the middle (e.g. “semi-transitive” as used by Jukes 2020).

form (or suffix) on the verb and P is not indexed. If A-oriented clause are syntactically intransitive, this is consistent with ergative alignment patterns, though see below for some reasons that the transitivity value of these clauses is not straightforward. Furthermore, in some languages, the core argument of an intransitive verb (S) may show different patterns of indexing in certain irrealis or non-indicative clauses, complicating patterns of morphological alignment for core arguments (see D. Laskowske 2016: 43–47; K. Laskowske 1994, B. Friberg 1991: 120–121).

It is interesting, then, that in languages of this type, pivot-neutral applicative suffixes typically may co-occur with both the more prototypically transitive P-oriented construction and the A-oriented construction that shows lower semantic transitivity. Some examples of ACs in A-oriented constructions are given below from Coastal Konjo in (120) and Embaloh in (121).

(120) Coastal Konjo, Locative applicative in A-oriented clause

- a. *Ammalu'a* (tappere).
ang-halu'-a tappere.
 AV-roll.up-1SG.ABS mat
 'I roll up a mat.' (BC)
- b. *Ammaliikia* palungang.
ang-halu'-i-a palungang
 AV-roll.up-LOC.APPL-1SG.ABS pillow
 'I roll up a pillow (in something).' (AC) (B. Friberg 1991: 115)

(121) Embaloh, Locative applicative in A-oriented clause

- Urtka?-ak i-asan marampas tahu? tau, ingka,*
 possibly-1SG.ABS ERG-name AV.snatch fiancé person said
i-asan de?i man-jolo-i
 ERG-name aforementioned maN-take.away.place.next.to-LOC.APPL
laki tau.
 husband person
 'They might think that I'm after other people's fiancés, she said, they might think that I tried to take away other women's husbands'.
 (Adelaar 1995: 391)

In the Embaloh example above, the locative applicative suffix *-i* occurs on the verb *man-jolo-i* 'to take away the place next to' (cf. *jolo* 'preceding, ahead of'). This verb also bears the *maN-* prefix associated with low referentiality of P or oblique-marking of the semantic undergoer, i.e. the entity that is understood to be acted upon in the event expressed.

Lastly, I will note that though these languages may show ergative morphological alignment, they are not necessarily syntactically ergative. While the ergative pattern for morphological alignment stems from the distribution of clitic pronominal forms, these clitic forms do not co-vary neatly with syntactic behavior. For Makasar, Jukes (2020) writes:

... the fact that in the majority of cases =ABS corresponds to S and P, while ERG= corresponds to A, suggests that clitics cross-reference core

arguments, and that they do this according to an ergative-absolutive pattern. ... However, when examining the behaviour of certain Makasar clauses it becomes clear (a) that it is not always easy to correlate =ABS or ERG= clitics with particular grammatical relations, and (b) that some arguments which are arguably core are not always cross-referenced. (331)

Other authors make similar observations for other South Sulawesi languages. Campbell (1989) writes: "Since, however, the ergative characteristics are limited to the pronominal system, PUS [Bambam] is morphologically ergative in a very limited sense. Like many languages which have ergative morphology, PUS does not have ergative syntax" (56). Of Coastal Konjo, Barbara Friberg (1991) writes "Only here [in clitic marking] is there an ergative system functioning; syntactically Konjo functions as an accusative system" (106–107). Thus, South Sulawesi languages may be morphologically ergative, but they do not necessarily provide evidence to support a correlation between non-accusative alignment and the presence of applicatives as found elsewhere (Peterson 2007).

5.6.2 *Celebic Languages*

The remaining languages of Sulawesi in the sample belong to six microgroups treated as genetic groupings for the purpose of the study: Tomini-Tolitoli, Kaili-Pamona, Saluan-Banggai, Bungku-Tolaki, Muna-Buton, and Wotu-Wolio. These microgroups have been proposed to belong to a supergroup, called Celebic, which includes 64 total languages, spoken across central, eastern, and south-eastern Sulawesi. Of these, 20 languages are included in the sample, as shown in Table 30. Note that the genetic classification used is disputed for Totoli (representing the Tolitoli subgroup that may be non-Celebic, rather than subgroup with Tomini) and Behoa (representing the Badaic subgroup, which may belong with the Seko languages of South Sulawesi rather than Kaili-Pamona).

Almost all of the languages of the sample in these microgroups show pivot-neutral applicatives (29 of 30). Geographically, these languages are broadly distributed in Sulawesi. The presence of pivot-neutral applicatives is also observed to cut across other typological features of language in these microgroups, especially voice, morphological alignment and word order.

The languages of the sample in these affiliations are diverse in voice system. Most are two-way symmetrical systems (11 of 20), but asymmetrical voice systems (5 of 20)¹⁶ and Philippine-type systems (3 of 20) are also found. There is

16 Languages coded as asymmetrical for voice in Bungku-Tolaki and Muna-Buton, do generally show more than one (apparently) transitive construction, e.g., "ae-class marking" vs. "a-class marking" in Muna (van den Berg 1995), and zero-marked verbs vs. *moN*-marked verbs in Moronene (Andersen & Anderson 2005). These languages are not coded as two-way symmetrical voice systems because there is little evidence that A in one such con-

TABLE 30 Typological survey results for other Sulawesi languages

Gen. grp.	Name	Applicatives?		Voice	Morph. align.	Word order
		Pivot-selecting	Pivot-neutral			
Tomini-Tolitoli	Totoli*	Y	Y	Philippine-type	mixed-NPIV.A	AVP/VPA
Tomini-Tolitoli	Dampelas	N	Y	two-way	mixed-NPIV.A	AVP
Tomini-Tolitoli	Pendau	N	Y	two-way	mixed-NPIV.A	AVP
Tomini-Tolitoli	Tajio	N	Y	two-way	mixed-NPIV.A	AVP/VPA
Kaili-Pamona	Behoa*	N	Y	two-way	pivot-nonpivot	AVP
Kaili-Pamona	Ledo-Kaili	N	Y	two-way	mixed-NPIV.A	AVP/VPA
Kaili-Pamona	Moma	N	Y	two-way	mixed-NPIV.A	AVP
Kaili-Pamona	Uma	N	Y	two-way	ergative	AVP
Kaili-Pamona	Da'a Kaili	N	N	two-way	mixed-NPIV.A	AVP
Saluan-Banggai	Balantak	Y	Y	Philippine-type	pivot-nonpivot	AVP
Saluan-Banggai	Bobongko	Y	Y	marg. Philipp.-typ	mixed-NPIV.A	undet.
Bungku-Tolaki	Mori Bawah	N	Y	asymmetrical	ergative	VAP/VPA
Bungku-Tolaki	Moronene	N	Y	asymmetrical	mixed:other	VAP/VPA
Bungku-Tolaki	Tolaki	N	Y	asymmetrical	split-S	undet.
Muna-Buton	Busoa	N	Y	asymmetrical	accusative	VAP/VPA
Muna-Buton	Muna	N	Y	asymmetrical	accusative	VAP/VPA
Muna-Buton	Tukang Besi	N	Y	two-way	mixed:other	VPA
Wotu-Wolio	Laiyolo	N	Y	two-way	accusative	AVP/VPA
Wotu-Wolio	Wolio	N	Y	marg. two-way	accusative	VAP
Wotu-Wolio	Wotu	N	Y	two-way	mixed:other	AVP

* For these languages, the genetic classification listed is disputed.

also one marginal two-way system (Wolio retains an alternation between A-oriented and P-oriented clauses only in certain “participial” forms, see Anceaux 1952) and one marginal Philippine-type language (Bobongko, which appears to shows limited usage of LV and IV constructions, see §5.6.3.3).

struction is syntactically privileged, while P is syntactically privileged in the other. To the contrary, these languages generally show syntactic behavior indicating that S and A constitute a privileged syntactic relation to the exclusion of P (accusative alignment). Alternations between transitive constructions in these languages are often distinguished by definiteness constraints on P and semantic transitivity, in which sense they are similar to clausal alternations described above for South Sulawesi languages (§5.6.1).

Languages of these six genetic groups have diverse systems of morphological alignment, with all seven coding categories for this feature represented, and pivot-neutral applicatives attested across all seven.

These languages also show diversity in word order patterns, with some languages preferring verb-initial orders (6 of 20), some favoring verb-medial orders (AVP in A-oriented constructions, 8 of 20), and some showing split word order with flexibility for the pivot (AVP/VPA word order in AV, 4 of 20). For Bobongko and Tolaki, word order patterns could not be determined on the basis of available source material.

An unexpected finding in these data, is the fact that a few Philippine-type languages of Sulawesi also have a system of pivot-neutral applicatives which co-occur across different voice constructions, though not necessarily all such categories. This occurs in Balantak and Bobongko, two Saluan-Banggai languages of East Sulawesi province, and Totoli, a Tolitoli language of Central Sulawesi province. All three of these languages are located roughly in the northern third or so of Sulawesi, and are discussed in greater detail in the following subsection, along with Pendau, which shows some similarities to these three in its applicative system. I consider these to represent a transitional state between the two types of applicative systems.

The one language of Sulawesi in the sample that does not show applicatives is Da'a (Kaili-Pamona). Da'a lacks the *-i* locative AM (Martens 1988b: 193) found in other Kaili-Pamona languages. Also while Barr (1988a) reports limited use of *-(C)aka* as a causative marker, he does not mention or include data showing applicative functions. Martens (1990: 193) reconstructs Proto Pamona-Kaili (PPK) **-aka*, "a transitivizer or causativizer or intensivizer", with Da'a *nan-taji-aka* 'to throw away' as a reflex, and also tentatively reconstructs PPK **-uli'-ka* 'to tell, to inform', an apparent addressee-selecting applicative verb, with Da'a *nang-uli-ka* as a reflex. It is possible that the applicative functions of the relevant suffixes have become unproductive in Da'a, but with only limited descriptive material available it is hard to state this definitively.

5.6.3 *From Philippine-Type Voice to Pivot-Neutral Applicatives*

Three languages of Sulawesi in the sample show Philippine-type voice alternations in addition to pivot-neutral applicatives: Balantak, Totoli, and Bobongko. Like the Sama-Bajaw languages discussed in § 5.5.4.2 above, these languages generally show reduction in the four-way voice system, and can be considered to show a transition between Philippine-type voice (pivot-selecting applicatives) and pivot-neutral applicatives. In addition, Pendau, a Tomini language of Central Sulawesi, shows irregularities in marking of voice and applicatives that suggest it has taken a path of development similar to Balantak, Totoli,

and Bobongko. For this reason, it is also discussed in this section. Together, these four cases indicate that the transition between Philippine-type voice and pivot-neutral applicatives takes place via reduced productivity of the CV and/or LV voice categories, reinterpretation of certain affixal marking for voice (e.g. *pog-/paN-*, *-an*, and *-i*), and functional replacement of CV and/or LV with pivot-neutral ACs.

5.6.3.1 Balantak

Balantak is the most straightforward of these cases. Balantak has three basic transitive constructions, AV, PV, and LV, but no circumstantial voice (CV) construction.¹⁷ It also has three applicative suffixes, which each may co-occur together with any of the three basic voices. The general applicative suffix *-kon* is shown in example (122) with the verb *bisara* ‘speak’. In clauses marked with *-kon*, one of a wide range of peripheral semantic roles is selected as a core argument. The applied phrase may be a semantic recipient, beneficiary, instrument, purpose, comitative, or content, among others (van den Berg & Busenitz 2012: 97–99). As shown in (122a), without applicative marking, *bisara* is intransitive. With applicative *-kon*, the verb selects a content applied phrase, and this may co-occur with all three transitive voice categories as shown in (122b–122d). Thus, Balantak has a productive Philippine-type system with a three-way distinction for voice, and shows pivot-neutral applicatives that are outside of the symmetrical voice paradigm. In Balantak, a number of functions of CV in other Philippine-type languages (selection of a beneficiary or instrument as a core argument) are filled instead by pivot-neutral applicatives.

(122) Balantak, Applicative *-kon*

- a. *Kai ba-bisara sang-ilio.*
 1PLE.EXCL INTR-speak one-day
 ‘We talked for a whole day.’ (Intransitive)
- b. *Kai nim-bisara-kon parakala i-ya’a*
 1PLE.EXCL AV.RLS-speak-APPL issue DEIC-DEM
 ‘We talked about the issue.’ (AV + APPL)
- c. *Parakala men bisara-kon-on-ta ...*
 issue REL speak-APPL-PV.IRR-1PL
 ‘The issue that we will talk about ...’ (PV + APPL)

17 In addition to a transitive or ‘agented’ PV construction in which A may be overtly expressed, Balantak also has a distinct agentless P-oriented construction, in which the actor argument is suppressed (see van den Berg & Busenitz 2012: 29).

- d. *Na laigan-mo ka-ni'i a bo pim-bisara-kon-an-ta*
 LOC house-PFV DEIC-DEM ART for GER-speak-APPL-LV-1PL
parakala.
 issue
 'Let this be the house where we will talk about the issue.' (LV + APPL)
 (van den Berg & Busenitz 2012: 31)

5.6.3.2 Totoli

The Totoli voice and applicative system shows some similarities to that of Balantak. Himmelmann & Riesberg (2013) analyze Totoli as a Philippine-type language with three basic transitive constructions, AV, PV, and LV, and two additional pivot-neutral applicatives. Like Balantak, Totoli does not show a CV basic voice category.

Applicative 1 in Totoli selects a beneficiary, instrument, or theme as a core argument and Applicative 2 selects a goal or recipient as a core argument (while LV selects a static location role as the syntactic pivot). In Himmelmann and Riesberg's analysis, Applicative 1 and 2 may only occur with AV and PV, never with LV. Example (123) shows the Applicative 1 construction with the verb *taip* 'to peel' and a beneficiary applied phrase.

- (123) Totoli, Beneficiary-selecting construction
- a. *I Rinto man-(t)aip taipang.*
 HON R. AV-peel mango
 'Rinto peels mangoes.' (AV nonrealis, BC)
- b. *I Rinto man-(t)aip-an aku taipang.*
 HON R. AV-peel-APPL1 1SG mango
 'Rinto peels mangoes for me.' (AV nonrealis + APPL1)
- c. *Aku ko-doong pan-(t)aip-an Rinto taipang.*
 1SG POT-want SF-peel-APPL1 R. mango
 'For me, Rinto will peel a mango.' (PV nonrealis + APPL1)
- d. *Aku ni-pan-(t)aip(-an) Rinto taipang.*
 1SG RLS-SF-peel(-APPL1) R. mango
 'For me, Rinto peeled a mango.' (PV realis + APPL1)
 (Himmelmann & Riesberg 2013: 400–401, 405)

Notably, there are some irregularities in the paradigm for the morphological marking of voice and applicatives in Totoli. The suffixal form *-an*, which is

found with Applicative 1 constructions in AV and PV nonrealis mode, is missing in PV realis mode in varieties of the language spoken in Totoli City, but included in the Northern Totoli dialect (Himmelman & Riesberg 2013: 410–411). This is represented with parentheses around the suffix which I have added in example (123d). The gap in suffixal marking for Applicative 1 in PV realis most likely reflects PMP morphology for CV, which is marked by **-an* in imperative/negative mood, and **Si-/*Sa-* in indicative mood, with the prefix apparently lost in Totoli. Applicative 2 in Totoli is marked by *-i* except in PV realis, where it is marked by *-an*. This most likely reflects PMP morphology for LV, which is marked by **-i* in imperative/negative mood and **-an* in indicative mood. See § 6.4.2 and § 6.4.3 for more on development of pivot-neutral AMs from LV and CV morphology. The prefixal forms *po(g)-/poN-* (glossed as a stem-former above) are found on verbs in LV and certain Applicative 1 verbs, but not on Applicative 2 verbs.

In summary, Totoli has both a Philippine-type voice system with a productive LV alternation and pivot-neutral ACs that co-occur only with AV and PV. Irregularities in the paradigm of morphological marking for voice and applicatives in Totoli suggest that reinterpretation of *po(g)-/poN-*, *-an*, and *-i* have played a role in the development of the pivot-neutral applicatives. In particular, morphological marking that was associated with CV and LV in earlier stages of development now co-occurs with marking for AV; this would have been impossible in PMP. Thus, changes in the interpretation of some voice affixes in Totoli have given rise to the development of pivot-neutral applicatives.

5.6.3.3 Bobongko

In Bobongko, we see a different type of transitional system. The Bobongko voice system includes two major transitive voice alternations (Mead 2001). Verbs in AV select the A argument as syntactically privileged, and are normally marked by *moN-* in realis mode, *noN-* in irrealis mode, and *poN-* in imperatives.¹⁸ Verbs

18 What Mead (2001) describes as an aspectual distinction between realized and unrealized aspect in Bobongko appears to correspond to realis and irrealis mode (or nonrealis mode) in Balantak, Totoli, Pendau, and other Philippine-type languages. In all four languages discussed in this section, this distinction encompasses differences in both tense/aspect and evidentiality/factuality. In Bobongko examples, the realis or realized aspect forms are used to describe past completed actions and states, while the irrealis or unrealized aspect forms are used to describe ongoing and future actions and states, and in certain requestive and prohibitive constructions. For the sake of consistency, I have used realis [RLS] and irrealis [IRR] to distinguish these forms in discussion and glossed examples for Bobongko.

in PV select the P argument as syntactically privileged, and are marked by *o-* in irrealis mode, *-in-* in realis mode, and no overt morphology in imperatives.

Bobongko also makes use of two suffixes that co-occur with AV and PV morphology, which I will analyze as AMs: *-i* (and its variant *-an*), and *-akon*.¹⁹ The suffix *-i/-an* marks the verb when a clausal argument is a semantic goal or location; in such constructions, the applied phrase appears to have the syntactic properties and coding typical of P in AV and PV base constructions. In AV, it normally appears as an unmarked NP immediately following the verb, as in (124a) below. In PV, the applied phrase is the apparent pivot or syntactically privileged argument as in (124b) below. Note that when the goal- or location-selecting construction appears in PV and realis aspect, the suffix *-an* always appears on the verb instead of *-i*.

(124) Bobongko, Locative-selecting applicative

a. *Jadi no-sangalu ka'a, no-tugal lampi'*

so RLS-be.friends this, RLS.AV-plant banana.

'So they being friends, they planted **bananas**.' (BC)

(Mead 2001: 87)

b. *Ka'a-taa' inaut anu t<in>ugal-an-ku*

this-that garden REL <RLS.PV>plant-LOC.APPL-1SG.GEN

bele-nu binte'

with-LNK corn

'This is **the field** that I planted with corn.' (AC) (Mead 2001: 78)

The suffix *-akon* marks the verb when a clausal argument is a semantic beneficiary or recipient. However, unlike constructions marked with *-i/-an*, in constructions marked with *-akon*, the beneficiary applied phrase is not realized with the syntactic properties and coding observed for P in AV and PV base constructions. The beneficiary is instead marked with *bele* 'with, for', and does not appear to be a core argument. An example is shown in (125) below.

(125) Bobongko, Beneficiary-selecting applicative

a. *Gunsing b<in>oa.*

key <RLS.PV>carry

'(Someone) has taken the key.' (BC)

(Mead 2001: 76)

19 Mead 2001: 77 does not refer to *-i* (or its variant *-an*) as AMs, primarily because its compatibility with verbal roots is almost entirely lexically-conditioned. Nonetheless, constructions marked with *-i/-an* in Bobongko meet the definition of applicative used in this study.

- b. *B<in>a-kon-nyo* *bele-nu sangalu-nyo,*
 <RLS.PV>bring-BEN.APPL-3SG.GEN for-LNK companion-3SG.GEN
anu to-pomangan.
 REL person-chew.betel
 ‘She brought (the lime) **for his companions**, who were betel chew-
 ers.’ (AC) (Mead 2001: 89)

In addition to AV and PV, Bobongko makes use of constructions that Mead calls “special inverse” constructions. These appear to be of low textual frequency, though available data is limited. In one such construction, the instrument is syntactically privileged, and the verb is marked with the prefix *poN-* in irrealis mode and *pinoN-* in realis mode. This is shown in (126). In another, the location is syntactically privileged, and the verb is marked with the circumfix *poN- -an* in irrealis mode, and *pinoN- -an* in realis mode.²⁰ This is shown in (127).

- (126) Bobongko, Instrumental Voice
- a. *Sapi’ taio’ kana’ o-kolot*
 cow that must IRR.PV-slaughter
 ‘The cow must be slaughtered.’ (PV) (Mead 2001: 76)
- b. *Ka’a-mo kapara anu ku-pong-kolot sapi’ ka’a.*
 this-PFV machete REL 1SG.NPIV.IRR-IRR.IV-slaughter cow this
 ‘Here is the machete with which I will slaughter the cow.’ (IV)
 (Mead 2001: 81)
- (127) Bobongko, Locative Voice
- a. *N-una’-ku-mo kacamata.*
 RLS.PV-stow-1SG.GEN-PFV eyeglasses.
 ‘I’ve put the eyeglasses away.’ (PV)
- b. *Lamari p<in>ong-una’-an-ku*
 cabinet <RLS.PV>LV-stow-LV.RLS-1SG.GEN
 ‘The cabinet is where I put them.’ (LV) (Mead 2001: 82)

As described thus far, it appears that Bobongko has a marginal Philippine-type voice system, with two major transitive voice alternations (AV and PV), and two minor transitive voice alternations (IV and LV), in addition to pivot-neutral ACs.

20 There is no available data on imperatives in these two constructions in Bobongko.

On top of this, the instrument-selecting (IV) prefix *poN-* also co-occurs with the locative-selecting applicative suffix *-i/-an*, shown in (128) below.

- (128) Bobongko, Instrumental Voice + Locative-selecting applicative
- a. *Oko ku-bobal-i!*
 2SG 1SG.NPIV.IRR-PV.hit-LOC.APPL.IRR
 'I will hit **you!**' (PV + Locative-selecting AC) (Mead 2001: 78)
- b. *Ka'a kau' anu pom-bobal-i-nyo ara*
 This wood REL IV-hit-LOC.APPL.IRR-3SG.GEN 3PL
 'This is **the wood** he will hit them with.' (IV + Locative-selecting AC)
 (Mead 2001: 81)

The semantic and syntactic properties of the type of clause shown in (128b) are consistent with co-occurrence of IV and the locative-selecting pivot-neutral applicative. Like the IV base construction, the instrument is always the pivot in this type of clause. Like the locative-selecting applicative in AV and PV, the location or goal is a core argument, but not necessarily the pivot, as evident from its realization as a post-verbal unmarked free pronoun in (128b). The semantic role selected as pivot depends on the basic voice alternation.

In contrast, I do not analyze the construction marked with *poN-* *-an/pinoN-* *-an*, shown in (127) above, as co-occurrence of instrumental voice (IV) and the locative-selecting applicative marked with *-i/-an*. This construction does not share semantic or syntactic properties that are characteristic of the IV base construction; an instrument is not seen to be part of the semantic meaning of the clause and is not the role selected as pivot. Furthermore, the locative-selecting applicative is marked with *-an* only in realis mode for PV, and *-i* everywhere else. But the construction in (127) always shows a suffixal *-an* component, both in realis and irrealis mode, according to Mead (2001: 83).

Finally, in a single example, we observe a construction marked with *pinoN-* *-akon-an* in realis mode, shown in (129).

- (129) Bobongko, Beneficiary as pivot
- Aliali-um anu p<in>om-be'-akon-an-ku*
 younger.sibling-2SG.GEN REL <RLS>LV-give-BEN.APPL-LV-1SG.GEN
kapara-um
 machete-2SG.GEN
 'It was **your younger sibling** to whom I gave your machete.'
 (Mead 2001: 83)

This construction is also ditransitive, taking two nonactor core arguments coded as unmarked NPs, a recipient, and a theme. The beneficiary or recipient, *aliali-um* ‘your younger sibling’, is the pivot (R), while the theme, *kapara-um* ‘your machete’, is a non-pivot core argument (T) appearing immediately following the verb. This type of clause could be analyzed as a minor nonactor voice, that is, a BV construction, marked with *pinoN-* *-akonan*. Alternately, it could be analyzed as co-occurrence of LV, marked with *pinoN-* *-an*, and the beneficiary-selecting applicative, marked with *-akon*.

Evidence for analysis as BV includes the fact that a location is not the pivot, and therefore this construction does not share a key property of LV base constructions. Evidence for analysis as LV plus pivot-neutral applicative *-akon* includes the fact that this clause is ditransitive, while other instances of *-akon* in co-occurrence with AV and PV are not. In this second possible analysis, we might consider the function of *-akon* as adding a semantic beneficiary or recipient to the constructional meaning, and the function of *pinoN-* *-an* to be selecting the most location- or goal-like argument as the pivot—that being the semantic recipient rather than the semantic theme. Given the limited data, a definitive assessment is not possible, though I lean towards analyzing this construction as LV plus a co-occurring pivot-neutral beneficiary-selecting applicative. Interestingly, the *-akon* suffix appears closer to the verb stem than does the suffixal portion of the circumfix *pinoN-* *-an*. This is consistent with analysis in which a beneficiary or recipient is added first, perhaps at a semantic level of verbal structure, and is subsequently selected to be realized as the syntactic pivot.

The paradigm of morphological marking for symmetrical voice alternations and pivot-neutral applicatives in Bobongko, as analyzed here, is shown in Table 31. This system has four Philippine-type voice alternations and two pivot-neutral ACs, plus an aspectual distinction marked with *-in-* (or its variant *n-*) for realis mode. The two pivot-neutral ACs co-occur with both major voice categories (AV and PV), but each is found with only one of the two minor voice alternations, that is, either IV or LV, but not both.

Bobongko thus represents one type of transitional system that shows Philippine-type voice as well as pivot-neutral applicatives. However, IV and LV appear at much lower textual frequency and appear to be in the process of being lost. In a pure Philippine-type voice system, each peripheral nonactor semantic role, e.g. beneficiary, instrument, location, etc., can be selected only as the pivot by the use of voice morphology on the verb, that is, by means of what I have called pivot-selecting ACs. In Bobongko, we see the emergence of pivot-neutral ACs in which such peripheral roles may alternately be selected to map to the pivot, a non-pivot core argument, or an oblique, depending on the combination of co-occurring constructions. There are some irregularities

TABLE 31 Partial paradigm for voice and applicatives in Bobongko

Voice	Mode	Base	Loc. Appl.	Ben. Appl.
AV	irrealis	<i>moN-</i>	<i>moN- + -i</i>	<i>moN- + -akon</i>
AV	realis	<i>noN-</i>	<i>noN- + -i</i>	(no data)
PV	irrealis	<i>o-</i>	<i>o- + -i</i>	<i>o- + -akon</i>
PV	realis	<i>-in-</i>	<i>-in- + -an</i>	<i>-in- + -akon</i>
IV	irrealis	<i>poN-</i>	<i>poN- + -i</i>	—
IV	realis	<i>pinoN-</i>	<i>pinoN- + -i</i>	—
LV	irrealis	<i>poN- -an</i>	—	(no data)
LV	realis	<i>pinoN- -an</i>	—	<i>pinoN- -an + -akon</i>

Note: The indication ‘no data’ is used when the form is predicted to be possible but is not found in the given mode in available data. The indication ‘—’ is used when there is no evidence that the form is possible in either mode.

and gaps in the Bobongko paradigm; such as the marking of PV with *o-* only in irrealis mode and not realis mode. There are also differences between the locative-selecting applicative marked with *-i/-an* vs. the beneficiary-selecting applicative marked with *-akon*; each co-occurs with a different set of nonactor voices, and shows different patterns in the syntactic properties of the applied phrase across these voices. Such irregularities might be expected when a language exhibits a transitional state, as I am arguing that we see here, with the loss of Philippine-type voice and the development of pivot-neutral applicatives both in progress.

The exact type of system as found in Bobongko is rare or even unique in West Nusantara. However, there are a number of languages in the sample that show “special” ACs akin to certain Bobongko LV and IV forms, where an applicative suffix appears together with some other fossilized affixal marking on the verb under certain conditions. One example is Pendau, which is discussed in the following section.

5.6.3.4 Pendau

Pendau is a Tomini language spoken in the northern half of Central Sulawesi province. Like Bobongko, Pendau shows two major voice alternations (AV, PV) and two applicative suffixes, *-a'* and *-i*. A partial paradigm for symmetrical voice alternations and ACs in Pendau is given in Table 32.

In Pendau, a so-called ‘stem former’, *pV(C)-* appears on the verb in certain constructions. The exact form of the stem former is lexically determined by

TABLE 32 Partial paradigm for voice and applicatives in Pendau

Class	Voice	Mode	Base	Goal/loc. appl.	Ben./Inst. appl.
Prim. Trans.	AV	irrealis	<i>M- + pong-</i>	<i>M- + pong- + -i</i>	<i>M- + pong- + -a'</i>
Factive	AV	irrealis	<i>M- + po-</i>	—	<i>M- + po- + -a'</i>
Prim. Trans.	AV	realis	<i>N- + pong-</i>	<i>M- + pong- + -i</i>	<i>M- + pong- + -a'</i>
Factive	AV	realis	<i>N- + po-</i>	—	<i>N- + po- + -a'</i>
Prim. Trans.	PV	irrealis	<i>ro-</i>	<i>ro- + -i</i> <i>ro- + pong- + -i</i>	<i>ro- + -a'</i> <i>ro- + pong- + -a'</i>
Factive	PV	irrealis	<i>ro- + po-</i>	—	<i>ro- + po- + -a'</i>
Prim. Trans.	PV	realis	<i>ni-</i>	<i>ni- + -i</i> <i>ni- + pong- + -i</i>	<i>ni- + -a'</i> <i>ni- + pong- + -a'</i>
Factive	PV	realis	<i>ni- + po-</i>	—	<i>ni- + po- + -a'</i>

Note: The indication 'no data' is used when the form is predicted to be possible but is not found in the given mode in available data. The indication '—' is used when there is no evidence that the form is possible in either mode.

verb class; for example, most transitive verbs take *pong-*, while factive verbs (e.g. 'make', 'build') take *po-*, dynamic verbs (e.g. 'search') take *pe-*, and postural verbs (e.g. 'sit') take *popo-*. With certain classes of verbs, such as factives, the stem former is always obligatory in finite verb forms. With others, such as the primary transitive and dynamic verb classes, the stem former is generally absent in PV.

The appearance of the stem-forming prefix shows irregularities in certain ACs with primary transitive verbs (bolded cells in Table 32). In ACs marked with *-a'* that take beneficiary applied phrases, the stem-forming prefix may be absent in PV forms, as is the usual pattern for this verb class. But in ACs marked with *-a'* that take instrument applied phrases, the stem-forming prefix always appears. So, the PV verb form *ni-pong-gabu-a'* 'cooked with' takes an instrument applied phrase while *ni-gabu-a'* 'cooked for' takes a beneficiary applied phrase. Similarly, in ACs marked with *-i* that take goal applied phrases, the stem-former prefix may be absent in PV forms. But in ACs marked with *-i* that take static location applied phrases, the stem-forming prefix is obligatory.

Furthermore, for both primary transitive and factive verbs, instrument and static location applied phrases are always realized as the pivot, and only found when the verb is morphologically marked like other PV constructions, i.e. with *ro-* (irrealis) or *ni-* (realis). Beneficiary and goal-selecting ACs, on the other hand, are compatible with both the PV and the AV constructions.

I argue that the use of *pV(C)*- with primary transitive verbs in instrument- and static location-selecting ACs in Pendau represents residual marking for IV and LV constructions.²¹ In Bobongko, there are formal differences in morphological marking for base forms in LV, base forms in IV, and PV + applicative suffixes. In Pendau, such distinctions are minimal. Because the *pV(C)*- morpheme has no clear function in many verbal forms, and its presence in PV is only unusual for certain verb classes, its presence in the special applicatives looks like an irregular use of the stem former rather than part of distinct affixes marking separate IV and LV constructions. In most verb classes in Pendau, the form of the verb in pivot-neutral goal-selecting ACs in PV is identical to the verb in the pivot-selecting locative constructions, and the form of the verb in pivot-neutral benefactive ACs in PV is identical to the verb in the pivot-selecting instrumental ACs. Still, there is admittedly a degree of irregularity and ambiguity in the paradigms, that allow for different analyses of both Bobongko and Pendau.

In summary, Pendau shows remnants of IV and LV constructions in irregular clausal properties and morphological marking for instrument-selecting and locative-selecting ACs, as compared to beneficiary-selecting and goal-selecting ACs. Like Balantak, Totoli, and Bobongko, in Pendau, reduction in Philippine-type voice categories coincides with development of pivot-neutral applicatives. Together, these four cases indicate that the transition between Philippine-type voice and pivot-neutral applicatives in West Nusantara may take place via (i) paradigmatic reduction of CV and/or LV voice categories, (ii) reinterpretation of CV and/or LV affixal marking as applicative markers or stem formers that may appear on verbs in formerly contrastive voice categories (or functional replacement of such affixal marking with new AMs), and (iii) emergence of productive use of the new applicative markers in co-occurrence with PV, and crucially, AV transitive constructions, such that a selected peripheral role may map to the pivot argument, or to a non-pivot argument of the clause, depending on voice.

5.7 Summary of Major Findings

This chapter has explored the distribution of languages of West Nusantara with and without applicatives with close attention to the influence of geography and typological profiles associated with particular geographic locations. Looking at

21 Instrumental and location nominalizations in Pendau are also formed with the *pV(C)*- prefix, and this occurs across several verb classes, including a number for which ACs of this type are not attested (Quick 2007: 99–100).

geographic and typological factors together helps to explain which languages in the sample show continuity with earlier diachronic stages by retention of the Philippine-type voice system, which lost this continuity and lack applicatives altogether, and which show change by developing pivot-neutral applicatives.

Retention of the Philippine-type voice system, in which the peripheral non-actor voices (LV, CV) constitute pivot-selecting ACs, is found primarily in and adjacent to the Philippine archipelago, and mainly in the Sabahan languages and the Sama-Bajaw languages (Greater Barito), with some occurrence in other languages of northern Sulawesi. Thus, languages of West Nusantara, like other western Austronesian languages, generally show decay in the Philippine-type voice system as one moves outside of Taiwan and the Philippines to the south (see McDonnell & Chen 2022).

Pivot-neutral applicatives that co-occur across basic voice alternations, on the other hand, are found to be a broadly distributed areal feature for West Nusantara associated with loss or reduction of the four-way Philippine-type voice system. Such applicatives are even found in languages (e.g. Mentawai, Enggano) which had little to no contact with Malay and other influential languages of the region. The presence of pivot-neutral applicatives also cuts across languages with a wide range of structural features: symmetrical and asymmetrical voice systems, and different types of morphological and syntactic alignment, systems of case-marking, and word order patterns. Given this, I conclude that there is no cohesive typological profile for languages of West Nusantara showing applicatives that co-occur across basic voice categories, by which they may be distinguished from West Nusantara languages without such applicatives.

Considering these findings, the lack of applicatives, rather than the presence of them, is a pattern that requires explanation in languages of West Nusantara. Based on the survey results and additional examination of descriptive resources for languages of West Nusantara outside of the sample, two profiles were developed to summarize key typological features of the languages of the sample without applicatives. One of these is centered geographically on languages of mainland Southeast Asia and northern Peninsular Malaysia, and the other on Bornean languages south of Sabah. For both sets, loss of suffixation appears to be a major factor in the absence of applicatives. We also observe general reduction of morphological complexity, a greater reliance on word order to signal grammatical relations, and a shift towards analytic structures as alternatives for certain voice and applicative alternations observed elsewhere in West Nusantara. In the mainland Southeast Asia set, these changes are more complete across the grammars of individual languages, especially those with a greater time depth of language contact with non-Austronesian languages. In

the Bornean set, these changes might affect different verbal constructions, e.g. AV and PV, to different extents and in different manners. Because of this, the Bornean set is less cohesive compared to the mainland Southeast Asia set. Due to this fact, plus the existence of gaps in our understanding of the history of various Bornean language groups and lack of basic linguistic description for many others, the profile developed for the Bornean languages lacking applicatives is more preliminary in nature and less certain.

On the whole, the findings presented in this chapter cast further doubt on the appropriateness of an Indonesian-type subcategory of western Austronesian symmetrical voice languages, defined by two- or three-way symmetrical voice alternations, applicatives, and use of special clitic pronominal forms for indexing non-pivot actors (Himmelman 2005: 175). While many of the better known languages of the region meet these criteria, e.g. Standard Indonesian, Balinese, and Javanese, when we consider a larger, more representative sample of languages of West Nusantara, other conflicting combinations of features are quite broadly attested. Many Bornean languages cross-cutting a diverse number of lower-level genetic groupings have no applicatives, but otherwise show features consistent with the definition of Indonesian-type languages. Conversely, outside of Borneo and mainland Southeast Asia, languages with voice and alignment systems with diverse characteristics are all found to have pivot-neutral applicatives in the great majority of cases.

In conclusion, pivot-neutral applicatives that co-occur across basic voice categories should be considered an areal feature of languages of West Nusantara, though such applicatives may be lost or blocked from developing due to special factors. These include phonological and/or morphological changes affecting word structure, which may be triggered or spread by language contact. Furthermore, evidence from broad patterns of distribution, as well as nuanced interpretation of descriptive data in individual languages, show that this type of applicative arises in the face of devolution of the Philippine-type voice system.

In the next chapter, I look closer at distributional patterns in the forms and functions of AMs and ACs in the survey, and argue that many AMs marking pivot-neutral applicatives are in fact derived from AMs that marked Philippine-type voice alternations (LV, CV) in PMP and PAN. The distributional patterns for pivot-neutral applicatives thus represent both continuity with earlier diachronic stages and specific types of functional change.

Properties of Applicative Constructions and Their Distribution in West Nusantara

6.1 Distribution of Function and Form

In this chapter, I examine the distribution of various aspects of function and form for applicative constructions (ACs) and applicative morphemes (AMs) in the languages of West Nusantara. Based on distributional evidence and TAM-conditioned relic alternations in certain languages, I argue that pivot-neutral ACs selecting location and goal roles are derived from earlier LV constructions in Proto Malayo-Polynesian (PMP), while the pivot-neutral ACs selecting beneficiaries, instruments, and/or themes are derived from earlier CV constructions, sometimes with subsequent replacement of AM forms. Distributional patterns for some properties of ACs and non-applicative functions of AMs tend to be influenced by geographic location. The organization of this chapter is as follows. § 6.2 describes properties of applicative systems considered in the survey. Patterns in the distribution of applicative functions across forms of applicative morphology are then discussed for AMs marking pivot-selecting ACs in § 6.3 and for AMs marking pivot-neutral ACs in § 6.4. Polyfunctionality of AMs, and the distribution of causative functions, aspectual and intensive functions, and comparative functions, are presented in § 6.5. Following this, I turn to syntactic properties of ACs in § 6.7. The chapter concludes with a summary of findings in § 6.8.

6.2 Properties of ACs and AMs Considered in the Survey

As part of the larger typology survey described in Chapter 4, for each language in the sample with applicatives, information on properties of ACs was collected as part of Questionnaire A (see Appendix 2, § B.1).

The presence or absence of agreement marking or argument indexing for the applied phrase may be one criterion or parameter used to distinguish types of ACs (see Peterson 2007: 51–56; Pacchiarotti 2020). Besides indexing, access of the applied phrase to syntactic operations that are otherwise allowed for P has been used to distinguish types of ACs (Peterson 2007).

Most West Nusantara languages make use of only non-obligatory person or argument *indexing*. This refers to the presence of bound forms on the

verb or verbal complex that index arguments of the verb and express person and/or number features. Thus, for each language, data was compiled indicating whether the applied phrase in ACs shows person-indexing on the verb in the manner generally characteristic of P in monotransitive clauses (Y/N/**mixed**) (Pattern 9).

Since it is not particularly common for syntactic diagnostics to be reported for ACs in descriptive grammars, syntactic properties of the applied phrase were addressed using criteria that are possible to evaluate based on surface forms and grammatical categories that are more likely to be overtly discussed in available sources. For each language, it was recorded whether the applied phrase shows evidence of status as a syntactically privileged argument across basic clause types which co-occur with ACs (**Y-obligatorily/Y-optionally/mixed/N**) (see Pattern 10). It was also recorded whether the applied phrase shows access to relativization (**Y/N/mixed**) (see Pattern 11).

In each language with applicatives, information was recorded on the forms and functions of each distinct AM as part of Questionnaire B. This information includes the form of the AM and its conditioned allomorphs, its apparent source morphology (Patterns A & B), the semantic roles for the applied phrase associated with it (Pattern C), whether it requires concurrent morphological marking, e.g. stem-forming affixes (Pattern D), and its non-applicative functions (Pattern E). For more details on coding categories see Appendix 2, § B.2.

6.3 Forms Marking Pivot-Selecting Constructions

Of the 85 languages of the survey, a total of 59 show applicatives of any type. Nine languages show only pivot-selecting applicatives, 45 show only pivot-neutral applicatives, and five show both types. Each of these languages has between one and four total distinct forms of morphological marking for ACs.

In this section, I summarize and discuss survey results related to the forms and meanings of AMs marking pivot-selecting constructions in West Nusantara languages with Philippine-type voice systems. These include constructions in which a locative role is selected as the pivot (LV) and constructions in which an instrument, theme, or beneficiary is selected as pivot (CV). Here, I include both productive constructions of this type, and constructions with a restricted distribution or limited productivity, i.e., in languages that were coded as having marginal Philippine-type voice systems. There are nine languages of the sample that show pivot-selecting ACs only, and five that show both pivot-selecting and pivot-neutral ACs, for a total of 14 languages of the sample included in this section. To facilitate discussion of the diachronic sources of AMs found in the

survey, in following subsection, I give a brief overview of voice morphology in Proto Austronesian (PAN) and PMP, from which all the Austronesian languages of West Nusantara are descended.

6.3.1 *Voice Morphology in Proto Austronesian and Proto Malayo-Polynesian*

PAN and PMP both had a four-way Philippine-type voice system, with AV, PV, LV, and CV as contrastive voice categories. Voice morphology reconstructed for PAN is given in Table 33 from Chen (2017) (following Wolff 1973; and Ross 2009, 2012). As shown, a three-way distinction in mood is also reconstructed. Additional aspectual or modal distinctions were also marked on indicative verbs in PAN that are not shown in the table. These include the (realis) perfective aspect marked with the infix *-in-, and irrealis mode marked with the reduplicant *Ca- (Ross 2009). Besides the infix *-um- shown in the table, in many present-day Philippine-type languages, a reflex of the stative prefix PAN *ma- can also be analyzed as an AV marker with certain classes of verbs (see Chen 2017: 27).

TABLE 33 Proto Austronesian voice morphology (Chen 2017: 151)

Mood	Actor voice	Patient voice	Locative voice	Circumstantial voice
Indicative	*⟨um⟩	*-ən	*-an	*Si-/Sa-
Optative, hortative	*-a	*-aw	*-ay	*-anay
Imperative, negative	*-Ø	*-u	*-i	*-an

In PMP we see a number of innovations in verbal morphology, including the use of the prefixes *paN- and *paR- (*maN- and *maR- in AV) to form verbal stems (Ross 2002) to which voice and TAM morphology were affixed. Ross (2002) suggests that the meaning of PMP *paN- is ‘distributive’ and that of PMP *paR- is ‘durative’ but notes that these semantic reconstructions are “very tentative” (49). The potentive or abilitative prefix *paka- (*maka- in AV) is another innovation in PMP. Otherwise, the four-way voice system, and mood and aspectual distinctions found in PAN are maintained in PMP.

6.3.2 *Distribution and Functions of LV and cv*

There are 14 languages of the sample that show Philippine-type voice systems; contrastive voice distinctions in these languages are shown in Table 34.

TABLE 34 Morphologically marked voice distinctions in Philippine-type systems of the sample

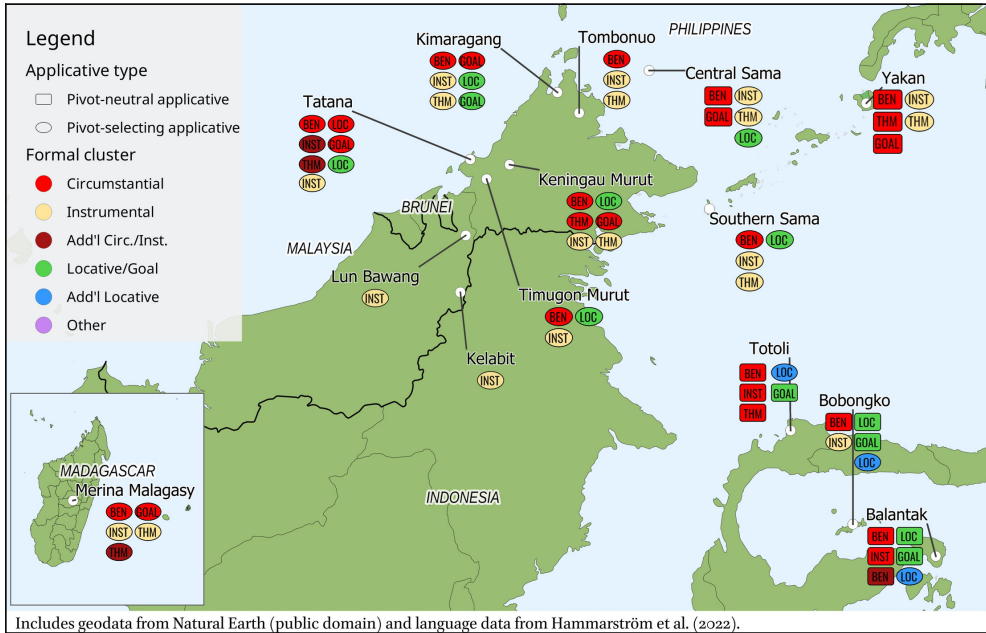
	AV	PV	LV	CV	No. lgs.	Examples
3-way	✓	✓	✓	–	2	Totoli*, Balantak*
3-way	✓	✓	–	✓	3	Kelabit, Lun Bawang, Yakan*
4-way	✓	✓	✓	✓	2	Bobongko,* Central Sama*
4-way	✓	✓	–	✓✓	1	Tombonuo
5-way	✓	✓	✓	✓✓	4	S. Sama, Kimaragang
5-way	✓	✓	–	✓✓✓	1	Merina Malagasy
6-way	✓	✓	✓	✓✓✓	1	Tatana
TOTAL LGS.	14	14	9	12	14	

* These languages also show pivot-neutral applicative constructions.

As shown in the table, all 14 of these retain AV and PV voice constructions. Additionally, each language exhibits between one and four contrastive pivot-selecting ACs. These may include up to one LV construction and up to three CV constructions, which are differentiated by distinct forms of morphological marking, and different sets of possible semantic roles for the applied phrase.

Applicative systems of West Nusantara with pivot-selecting constructions are shown in Map 11. Each color of symbol on the map represents a distinct form of morphological marking for ACs, and each oval symbol represents a possible semantic role for the applied phrase in a pivot-selecting construction bearing such marking (while rectangular symbols pertain to pivot-neutral constructions in mixed applicative systems). For example, Central Sama has two AMs that mark pivot-selectings ACs: one marks an IV construction that takes an instrument or theme applied phrase as pivot (yellow ovals), and the other marks an LV construction that takes a location applied phrase as pivot (green oval). Central Sama also has an AM that marks pivot-neutral ACs; it is found on ACs that select a beneficiary or goal applied phrase as a core argument (red rectangles).

LV constructions are represented in Map 11 as green or blue ovals. In an LV construction, the location of the event expressed by the clause (general location or setting) is typically the pivot argument. LV is also commonly used with a pivot expressing the location of a postural verb (e.g. sit, sleep). In a few languages, it is reported that the pivot in an LV construction may also express a goal role, i.e. Kimaragang, Central Sama. Beside location, in some languages a



MAP 11 Pivot-selecting and mixed applicative systems of West Nusantara

phrase indicating the time that the event expressed by the clause takes place may be the pivot in an LV clause. In the sample, the LV construction is retained in nine languages, but has been lost in five other languages that show at least one CV construction.

In CV constructions in PAN and PMP, the clausal pivot could be either (i) a beneficiary, (ii) an instrument, or (iii) a theme which undergoes a change of location, as well as (iv) a circumstantial role, e.g. a phrase expressing the reason or purpose for an event (see Wolff 1973; Ross 2002, 2009; Chen 2017). In the languages of the sample, we see that the single CV category of PAN and PMP may be narrowed or split into multiple contrastive voice distinctions based on the possible semantic roles of the pivot argument. In the Map 11, CV constructions are represented by red, maroon, or yellow oval symbols, with each color representing one distinct form of morphological marking in a given language.

The most common CV voice category in the languages of the sample is one in which an instrument role—or either an instrument or a theme role—is selected as the pivot. As mentioned in §2.5.2, themes and instruments are inherently semantically related, as many instruments are directed into motion. This category is commonly labeled instrumental voice (IV) or conveyance voice, and is found in all 12 languages of the sample with a CV construction. If a language of the sample has only one CV category, it is IV. In the sample,

applicative systems with only one CV category are found in two North Sarawak languages (Kelabit and Lun Bawang), two Sama-Bajaw languages (Yakan and Central Sama), and Bobongko (Saluan-Banggai).

The second most common CV category is a construction that selects a beneficiary or recipient (sometimes also a goal) as the pivot. In many languages, a phrase expressing the circumstances under which an event occurs, such as a reason or purpose may also be selected as the pivot with the same AM. This category is commonly labeled beneficiary voice (BV), and is also referred to as dative voice (DV), or referent voice (RV) by some authors. If a language of the sample has two CV categories, they are IV and BV. In the sample, applicative systems with two CV categories are found in Southern Sama, and four Sabahan languages (Tombonuo, Keningau Murut, Timugon Murut, and Kimaragang).

Finally, there are two languages of the sample in which three contrastive CV voice categories are found. In Tatana (Sabahan), there is one BV construction, and the IV category is split into two constructions. In clauses marked with the verbal prefix *i-*, the pivot is generally a theme in a transfer event (e.g. the thing given, bought, or returned); while in clauses marked with *poN-* the pivot may be an instrument or theme. In Merina Malagasy, there are three types of CV voice categories (Pearson 2001; Rasoloson & Rubino 2005). In clauses marked with the verbal prefix *a-*, the pivot is an instrument or a theme which is conveyed. In clauses marked with the verbal suffix *-ana* (underlying form /-an/) alone, the pivot is a beneficiary, recipient, or goal. In clauses marked with both a prefixal form (e.g. *a-*, *an-* or *i-*) and suffixal *-ana*, the pivot can be any of a number of peripheral semantic roles, including an instrument, recipient, and in certain existential structures or nominalizations, the purpose, reason or circumstance of the event. This construction marked with prefix + *-ana* is not fully productive, and is primarily found in relative clauses. In both Tatana and Merina Malagasy, there is some functional overlap of the CV voice categories, as the selection of certain roles as pivot can be marked in more than one way.

On the basis of these data, an implication hierarchy may be formulated. In the languages of the sample showing pivot-selecting applicatives, if an applicative system has an AC that selects a beneficiary applied phrase, it also has an AC that selects an instrumental applied phrase. This pattern is cross-linguistically unusual, which will be discussed in § 6.4.1.4 below, following presentation of data on distribution of functions across pivot-neutral AMs.

6.3.3 *Forms of Morphemes Marking LV*

The form of the morpheme marking LV in the languages of the sample is quite consistent. It generally has a suffixal component *-an* (*-on* in Kimaragang), that can be analyzed as a reflex of PAN LV indicative **-an*. In a few languages, we

also see mood alternations reflecting use of earlier PAN LV imperative *-i. In Totoli, LV is marked with *pog- -an/poN- -an* in realis forms and *pog- -i/poN- -i* in non-realis forms, with the latter apparently reflecting earlier LV imperative *-i.¹ Thus, the suffixal element of AMs marking LV in these languages is clearly inherited from PAN.

In most languages of the sample, an additional prefixal component with the form *paN-* or *poN-* (and sometimes also *pag-* or *pog-*) commonly appears on the verb alongside the suffixal element. This component is not found in Kimaragang or Timugon Murut for LV, which do make use of similar prefixal forms in other voice constructions (see Prentice 1995: 385–389; Kroeger 2005: 419–422). Prefixal forms marking LV in these languages are not reconstructible as voice/applicative markers in PMP, but appear to be reflexes of PMP **paN-* ‘distributive’ or **paR-* ‘durative’. In the present-day languages, these prefixal forms have been alternately analyzed as stem formers, transitivity markers, aspectual markers, or simply part of an LV circumfix with suffixal *-an*.

In summary, these observations are noted for AMs marking LV construction in the sample: (i) inherited LV voice suffixes are observed with some relics of earlier mood distinctions, and (ii) prefixal elements are observed which are not derived from earlier voice markers, but verbal prefixes with possible aspectual meanings (e.g. PMP **paR-* ‘durative’, **paN-* ‘distributive’). Similar characteristics are also observed for AMs marking pivot-neutral locative-/goal-selecting ACs in the survey, as discussed below.

6.3.4 *Forms of Morphemes Marking cv*

The forms of the morphemes marking CV categories in languages of the sample are more varied than those marking LV. IV constructions, which are found in 12 languages of the sample, are most often marked with a verbal prefix. In just three languages of the sample—Kimaragang, Tombonuo, and Tatana—this form is *i-* reflecting the PMP CV indicative prefix **Si-*. In Merina Malagasy, the IV prefix is *a-*, as mentioned above, possibly reflecting the alternate form of the PMP CV indicative prefix, **Sa-*. In remaining cases, the prefix is not reconstructible to PMP as a CV marker.

The most common form of the IV prefix in the survey data is *paN-* or a similar form (e.g. *peN-*, *piN-*, *poN-*), which is found in seven languages of the sample: Yakan, Central Sama, Southern Sama, Kelabit, Lun Bawang, Bobongko, and

1 In Southern Sama, LV is marked with *paN- -an* in indicative forms, and *pan- -in* in imperative forms, but the suffixal component of the latter form is explained in Sama-Bajaw as a phonological reduction of *-an* + the imperative suffix *-un*, held to mark imperatives in all voices except AV (see James 2017: 58).

Tatana (which also has *i-*). In Timugon Murut, the IV construction is marked with partial reduplication of the verb root plus a similar prefix, e.g. *pVN-* or *pVg-*, which is analyzed as a transitivity marker. Thus, Timugon has *pam-ba-bali* ‘buy with s.t.’ from root *bali* ‘buy’ (Prentice 1969: 15–17). Partial reduplication is seen elsewhere in West Nusantara as a TAM marker, which is the probable origin for the Timugon form as well. In Keningau Murut, the construction analyzed as IV is marked with *pa-* *-on* in imperfective forms, *pa-* $\emptyset$ in perfective forms and *pa-* *-o’* in imperatives and other non-finite forms (Cohen 1999: 40–41). This construction is shown in (130) and its marking appears to derive from a combination of the causative prefix *pa-* and the PV voice marking *-on/- $\emptyset$ /-o’* which notably also has a zero-marked perfective form in Keningau Murut. A similar construction is found in Tatana, where the causative construction in PV is an alternative means of expressing conveyance of a theme with the theme role as pivot, as in (131).

- (130) Keningau Murut, Instrument expressed as pivot with *pa-* *-on*
Pa-pidis-on ni Jon pais kuno du tataun.
 IV-cut-IV PN.NPIV J. knife 1SG.POSS.DIST NM.NPIV wood
 ‘John is hacking wood with **that knife** of mine.’ (Cohen 1999: 41)

- (131) Tatana, Theme expressed as pivot
 a. *I-taak ku ani’ dokou bua’ diti.*
 TV-give 1SG.GEN only 2SG.DAT fruit PROX
 ‘I am giving **this fruit** to you.’ (IV)
 b. *Pa-taak-on ku ani’ dokou bua’ diti.*
 CAUS-give-PV 1SG.GEN only 2SG.DAT fruit PROX
 ‘I am giving **this fruit** to you.’ (Causative + PV) (Dillon 1994: 48)

Thus, while a few languages of the sample mark IV with a prefix reflecting PMP indicative CV **Si-/*Sa-*, most instead show reanalysis of an aspectual marker or causative prefix to mark IV.

Seven languages of the sample show BV constructions, which are generally marked with the suffix *-an* in indicative forms. Some TAM conditioned allomorphs are also observed. All seven languages have a different suffixal form marking BV in imperatives and other atemporal forms. This suffix is *-i* or *-i’* in most Sabahan languages, but *-ai* in Kimaragang. As with LV imperative forms, BV imperative verbs in Southern Sama show *-in*, explained as a contraction of BV *-an* + imperative *-un*. In Malagasy, the shape of the imperative suffix is *-y/-o*, depending on the phonological shape of the stem, for verb stems in both PV and

BV. As mentioned above, in Merina Malagasy, verbs show both suffixal *-an* and a prefixal component *a-/an-/i-* when marking certain semantic roles as pivot, including reason and purpose.

The marking for BV in the languages of the sample generally thus appears to show use of reflexes of PAN CV imperative **-an* in indicative clauses, with imperatives marked with *-i*. PAN indicative **Si-/*Sa-* is also found in some of these languages, but as an IV marker. The use of a suffix derived from **-an* in indicative clauses is also observed in many languages of West Nusantara with pivot-neutral applications, and I argue below that PAN CV imperative **-an* is the source morphology for the earlier form of the pivot-neutral AMs marking ACs with beneficiary, instrument, or theme applied phrases in West Nusantara languages.

6.3.5 *Implications for Diachronic Development*

Two important observations can be made regarding the distribution of affixal forms marking pivot-selecting constructions in the languages of the sample. First, we observe that aspectual or modal prefixal marking in earlier stages of the language family, such as PMP **paN-* ‘distributive’, **paR-* ‘durative’, are being reinterpreted as voice markers in languages of West Nusantara. While it has been noted elsewhere that this re-purposing of **paN-* and **paR-* occurs for AV verbal forms in Malayo-Polynesian languages (see Ross 2002), here, it is of particular interest that this is also found for LV constructions and IV constructions that select an instrument/theme pivot. Prefixal marking observed for certain pivot-selecting ACs may also reflect causative **pa-*, as in Keningau IV *pa- -on/pa- -Ø/pa- -o*. This is also relevant to the development of pivot-neutral applicatives in West Nusantara, as we have already seen that certain ‘stem-former’ prefixes with shapes consistent with **paN-*, **paR-* and **pa-* irregularly co-occur with pivot-neutral applicative suffixes in languages like Totoli and Pendau that are transitioning from Philippine-type systems to two-way symmetrical voice systems with pivot-neutral applicatives (see §5.6.3). Use of such aspectual and valency-modulating prefixal marking together with applicative morphology thus may represent one important way by which causative and aspectual meanings have come to be commonly associated with pivot-neutral AMs in West Nusantara languages. I do note, though, the aspectual prefixes are not found among AMs that mark BV categories; such AMs generally are suffixes with the shape *-an* in indicative clauses.

Second, in addition to the reinterpretation of other types of verbal prefixes as applicative markers, in the survey data we observe another innovation—or rather shift—in the marking of CV constructions. Only a few languages surveyed retain *i-* or *a-* to mark CV, reflecting the PMP prefixes **Si-/*Sa* for CV

indicative forms. Instead, the suffix *-an* is commonly used to mark CV constructions in indicative forms, especially constructions that select beneficiary or recipient pivots. In contrast, in PAN, **-an* was only found on non-indicative CV forms; CV was marked with **-an* in imperative/negative mood, and marked with **anay*—probably decomposable to **-an* + **-ay* (Ross 2009)—in hortative/optative mood, while **Si-/*Sa-* was used in indicative mood. The use of **-an* to mark pivot-selecting applicatives where the applied phrase is a semantic beneficiary, instrument, or theme, especially in indicative mood, is again highly relevant to the development of pivot-neutral applicatives in West Nusantara languages.

Later in this chapter, I argue that the pivot-selecting CV construction from PMP is the original source that explains the broadly distributed pattern of association of beneficiary-, instrument-, and theme-selecting applicatives with a single AM form (or proto-form) in languages of West Nusantara showing pivot-neutral applicatives. In addition, I argue that this single form was probably **-an* in earlier stages, with a pattern of replacement that gives rise to the present-day distribution of forms found for these functions. Because a historical shift in the use of suffixes reflecting **-an* from the marker of CV in imperative mood in PAN to CV in indicative mood in certain languages descendent to PMP is an important foundation for this argument, in the next section, I present further evidence for this interpretation of the synchronic distribution of AMs and their functions presented above.

6.3.6 *On the Emergence of *-an as the Marker of cv in Indicative Mood*

While the marker for CV in imperative mood in PAN is reconstructed as **-an* in many sources (and shown in Table 33 above accordingly), it is possible that this morpheme was more complex. Ross (2009) reconstructs **ani* for CV in imperative mood based on evidence from Formosan languages in which morphemes with the form *ani* or similar mark CV in imperative and/or negative clauses (e.g. Saisiyat, Seediq Saaroa, Mayrinax Atayal). He holds that **ani* originally occurred preverbally, though it takes the form of a verbal suffix in most present-day languages with a reflex. He also holds that **ani* is probably decomposable into **an* + **-i*, with **an* representing a preverb used with CV in certain non-indicative forms, and **-i* representing the imperative suffix in LV and CV. This fits into a reconstruction of the paradigm for voice and the non-indicative moods as shown in Table 35 based on Ross (2009: 306). Here, non-indicative mood as reflected in imperatives is zero-marked in AV, marked with **-u* in PV, marked with **-i* in LV, and marked with the preverb **an* + **-i* in CV. The optative/hortative mood is characterized by marking with suffixal **-a* across all four voices, with **-aw* being composed of **-a* + **-u* in PV, **ay* being composed of **-a* + **-i* in LV, and **an-ay* being composed of the preverb **an* + **-a* + **-i* in CV.

TABLE 35 Proto Austronesian non-indicative verbal morphology revisited

	Actor voice	Patient voice	Locative voice	Circumstantial voice
Optative, hortative	*STEM-a	*STEM-aw	*STEM-ay	*an-ay + STEM
Imperative	STEM	*STEM-u	*STEM-i	*an-i + STEM

In such a paradigm, we see both the morpheme **an* that is reflected as *-an* in CV indicative marking in many Philippine-type languages of West Nusantara, and the morpheme **-i*, that is reflected as CV imperative marking in some of these languages. However, for my interpretation to be correct, **an* must undergo a diachronic change from a voice marker in non-indicative mood in PAN to a voice marker in indicative mood in some West Nusantara languages. This precise shift occurs in a number of other Philippine-type languages outside of West Nusantara.

In Formosan languages, we see a number of instances where a reflex of **an* (or **an-ay* or **an-i*) marks CV in indicative mood. In Puyuma, the marker for CV in main clause indicative mood is *-anay*, while imperatives are marked with *-an* (Tsukida 2009). In Tsou, which does not show morphologically marked mood distinctions, the marker for CV is *=(n)eni* (Tsuchida 1976). In Saarao, the marker of CV in both indicative and imperative main clauses is *-ani* (Zeitoun & Teng 2016). Chen (2017) interprets these patterns as a diachronic change whereby verbal morphology in non-indicative mood—and originally, dependent clauses, as these moods were marked with a preverb in PAN—comes to be used in indicative, main clauses.² For my purposes, though, it only matters that it is plausible that **-an* was used frequently to mark CV constructions in some relevant stage(s) below PMP, whereby this form—or a replacement for it—could be inherited in West Nusantara languages that show a pivot-neutral applicative marker that can select a beneficiary, instrument, or theme as the applied phrase, e.g. Proto Malayic applicative **-an* (Adelaar 2006).

2 This pattern of older voice constructions and voice morphology being primarily used or only retained in certain types of dependent clauses is found in a number of West Nusantara languages of the sample that I have classified as marginal Philippine-type voice systems (e.g. Central Sama) or marginal symmetrical voice systems (e.g. Nias), see §4.4.3, and is also related to observed differences in marking of clausal arguments in different clause types in a number of Sulawesi languages (e.g. Mori Bawah, Seko Padang) as mentioned in §4.4.2.

The use of *-an* as a marker for CV in indicative clauses is also noted to occur broadly in Philippine languages, where both *-an* (e.g. Maranao), and *(?)i-* *-an* (e.g. Balangaw) are used as general markers of verbs that select beneficiary arguments, sometimes alongside *(?)i-* (Liao 2004: 142).

I interpret this evidence to show that it is quite likely that there was an **-an* marker for CV constructions that was inherited in languages descended from PMP. Furthermore, I hold that as the symmetrical voice and mood systems of these languages underwent diachronic change, for example in the collapsing of the three-way mood distinction between indicative/optative/imperative, and the loss or reinterpretation of certain verbal affixes indicating TAM distinctions, this marker **-an* has frequently also been reinterpreted such that it is used normally in indicative main clauses. In the following section, I will argue that many pivot-neutral AMs in West Nusantara languages derive from earlier pivot-selecting AMs, e.g. CV **-an*, or represent replacement forms for the same morpheme.

6.4 Forms Marking Pivot-Neutral Constructions

In this section, I summarize and discuss survey results related to the forms and meanings of AMs marking pivot-neutral constructions in West Nusantara languages. There are 45 languages of the sample that show pivot-neutral ACs only, and five that show both pivot-selecting and pivot-neutral ACs, for a total of 50 languages of the sample that are included in results presented in this section. An overview of the applicative systems of these languages is shown Map 12 and Map 13.

These languages show between one and four applicatives with distinct morphological marking, which are represented in the maps as distinct colors for the symbols shown under the name of each language. Allomorphs which are conditioned by TAM category or lexical class are not counted as distinct here, as long as other semantic characteristics of the marked construction remain consistent.

6.4.1 *Applicative Systems by Number and Function of Applicative Morphemes*

Table 36 below shows a summary distribution of the languages of the sample with pivot-neutral applicatives by the number of distinct forms of applicative marking observed for such constructions in each language. Applicative systems with two distinct forms of applicative marking are by far the most common in West Nusantara, with 36 languages of the sample representing this category

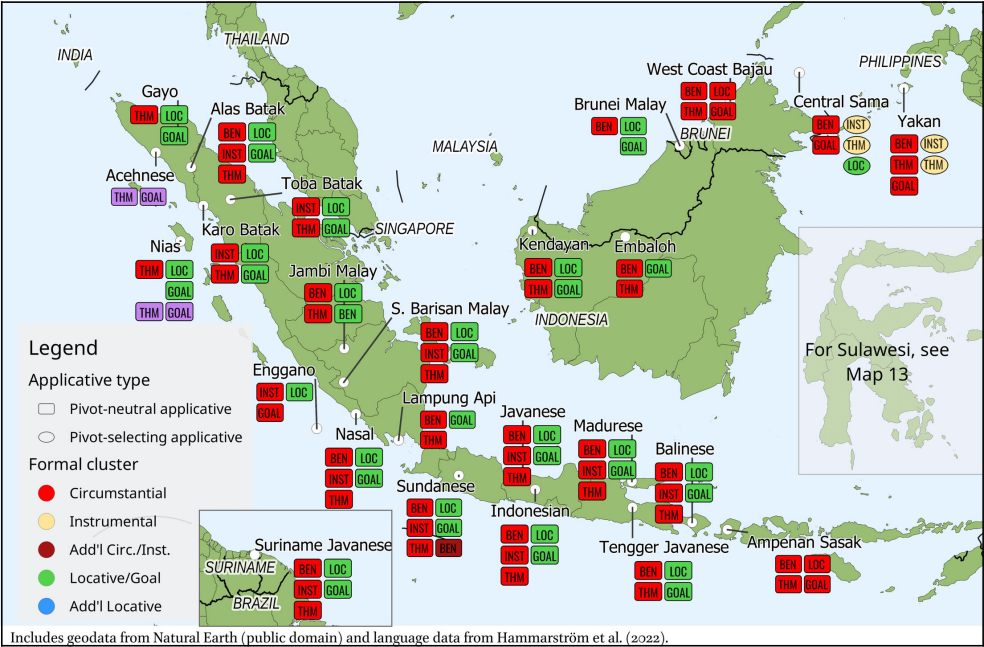
TABLE 36 Morphological marking for pivot-neutral applicatives

No. forms	No. lgs.	Examples
1 form	6	Central Sama, Ampenan Sasak, Tolaki
2 forms	36	Balinese, Std. Indonesian, Pendau, Toba Batak, Bugis
3 forms	7	Sundanese, Balantak, Tukang Besi, Laiyolo, Moma
4 forms	1	Mori Bawah
TOTAL LGS.	50	

(out of 50 total). Also observed but much less common are systems with one distinct form of applicative marking (6 of 50), and systems with three distinct forms (7 of 50). Finally, only one language of the sample—Mori Bawah—shows four distinct forms of applicative marking (1 of 50).

As mentioned above, five languages of the sample show both pivot-neutral and pivot-selecting ACs. With respect to pivot-selecting applicatives, these five languages either have just one locative-selecting (LV) construction (2 of 5; Balantak, Totoli) or one locative-selecting (LV) and one instrument-selecting (IV) construction (3 of 5; Bobongko, Central Sama, Yakan). Compared to languages of the sample with only pivot-selecting applicatives, this is on the lower end of the observed range for number of contrastive pivot-selecting constructions (see § 6.3.2). Bobongko, Central Sama, and Yakan also show a restricted distribution and/or limited frequency for both LV and IV. In addition, none of the five languages with both types of applicatives show a pivot-selecting construction in which the beneficiary role is selected as pivot. With respect to pivot-neutral applicatives, these five languages either show one distinct form of morphological marking (2 of 5; Central Sama, Yakan), two distinct forms (2 of 5; Bobongko, Totoli), or three distinct forms (1 of 5, Balantak). This is generally comparable to the observed range for the number of AMs in languages of the sample with only pivot-neutral applicatives.

Thus, the survey data show that languages of West Nusantara may have between one and four pivot-selecting constructions, and between one and four distinct forms of morphological marking for pivot-neutral constructions, but never more than four across the two types. Languages with both type of applicatives tend to have fewer contrastive LV and CV constructions than observed in other Philippine-type languages and especially tend to lack a construction in which the beneficiary role is selected as the pivot. These patterns suggest that pivot-neutral applicatives serve as functional replacements for lost pivot-

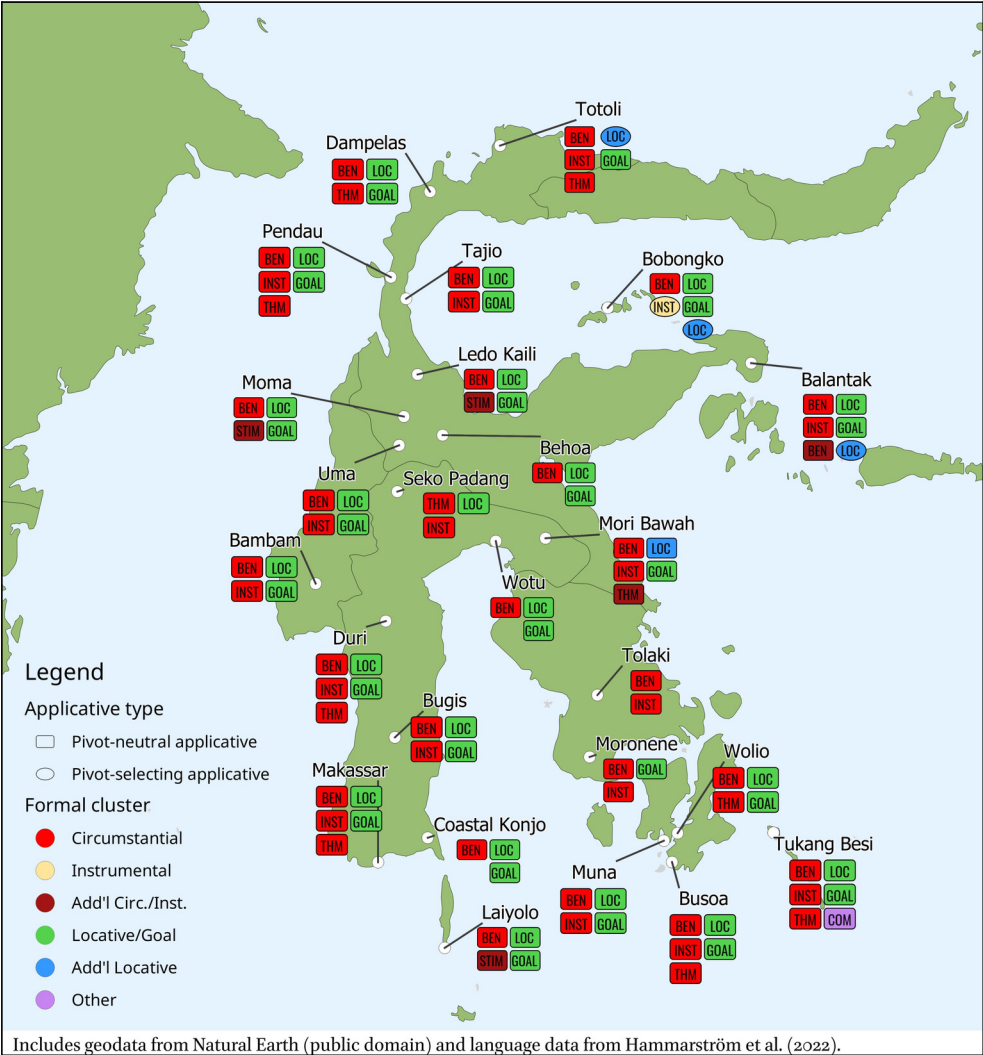


MAP 12 Pivot-neutral and mixed applicative systems of West Nusantara

selecting constructions. Because there are relatively few languages with both types of applicatives in the sample, we must also look at other types of evidence to ascertain whether such a pattern of replacement is supported in the larger group of languages with only pivot-neutral applicatives. In the following sections, more detailed information on the distribution of forms of applicative markers and associated applicative functions are given for different types of systems observed, as categorized by number of distinct forms marking pivot-neutral applicatives in a given language.

6.4.1.1 Languages with Two Distinct Forms Marking Pivot-Neutral Applicatives

The most common type of applicative system in West Nusantara shows two distinct forms of morphological marking for pivot-neutral applicatives; this is found in 36 languages of the sample (of 50 total languages with pivot-neutral applicatives). As a proportion of all languages in the sample with pivot-neutral applicatives, the languages with two distinct forms of marking for pivot-neutral applicatives include all Malayic languages (5 of 5), most non-Malayic languages of Sumatra and the Barrier Islands (7 of 8), most languages of Sulawesi (19 of 24), and all three Javanese languages (3 of 3), as well as Madurese, and Balinese.



MAP 13 Pivot-neutral and mixed applicative systems of Sulawesi

Languages with a two-way distinction in morphological marking of pivot-neutral applicatives are shown in Table 37. All of these languages (36 of 36) show a distribution of functions in which one form marks constructions that select a beneficiary, instrument, and/or theme role to map to the applied phrase, while the second form marks constructions that select a locative and/or goal role to map to the applied phrase.

TABLE 37 Languages with two distinct forms marking pivot-neutral applicatives

Genetic grp.	Language(s)	Form 1			Form 2	
		BEN	INST	THM	LOC	GOAL
NWS-BI	Karo Batak, Toba Batak, Alas, Gayo	(✓)	(✓)	✓	✓	✓
NAS	Nasal	✓	✓	✓		✓
ENG	Enggano		✓		✓	
LAM	Lampung Api	✓	✓		✓	✓
T-T	Dampelas, Pendau, Tajio	✓	(✓)	(✓)	✓	✓
T-T	Totoli*	✓	✓	✓		✓
K-P	Uma	✓	✓		✓	✓
K-P	Behoa*	✓			✓	✓
S-B	Bobongko	✓	✓		✓	✓
B-T	Moronene	✓		✓		✓
M-B	Busoa, Muna	✓	✓		✓	✓
W-W	Wolio, Wotu	✓	(✓)	(✓)	✓	✓
SSUL	Bambam, Bugis, Duri, Embaloh, Co. Konjo, Makasar, Seko Padang	✓	(✓)	(✓)	✓	(✓)
MAL	Brunei, S. Barisan Malay, Jambi, Kendayan, Std. Indonesian	✓	✓	✓	✓	✓
JAV	Javanese, Sur. Jav., Tengger	✓	(✓)	✓	✓	✓
MAD	Madurese	✓	✓	✓	✓	✓
BBS	Balinese	✓	✓	✓	✓	✓

* An asterisk indicates a language for which inclusion in the listed genetic grouping is disputed.
() Parentheses indicate that the function is found in this set of languages, but is not reported or marginal in at least one language represented.

6.4.1.2 Languages with One Distinct Form Marking Pivot-Neutral Applicatives

Systems that show one distinct form of morphological marking for pivot-neutral applicatives have a moderately low frequency of occurrence in West Nusantara. This type of system is found in six languages of the sample (6 of 50 total languages with pivot-neutral applicatives). Table 38 below shows the distribution of common applicative functions across AMs in these languages. This system is common among the Sama-Bajaw languages (Greater Barito linkage) and is otherwise found sporadically in West Nusantara, especially where one AM has been lost.

TABLE 38 Languages with one distinct form marking pivot-neutral applicatives

		Form 1				
Gen. grp.	Language(s)	BEN	INST	THM	LOC	GOAL
GRB	West Coast Bajau, C. Sama, Yakan	✓	(✓)	(✓)	(✓)	✓
BSS	Ampenan Sasak	✓		✓	✓	✓
B-T	Tolaki	✓	✓			
CHAM	Acehnese			✓	✓	

() Parentheses indicate that the function is found in this set of languages, but is not reported or marginal in at least one language represented.

The system with one pivot-neutral AM is found in Sama-Bajaw languages that show loss of productivity for CV and/or LV constructions. These include West Coast Bajau, Central Sama, and Yakan in the sample (see also §5.5.4.2 on Indonesian Bajau and Pangutaran Sama). In these languages, the pivot-neutral AM *-an* is always observed to mark constructions where a beneficiary role is the applied phrase (and typically also goal-selecting constructions, though this may be much less productive). In Yakan and West Coast Bajau, theme-selecting constructions are also marked with *-an*, and in West Coast Bajau, locative-selecting constructions are as well. In conservative Sama-Bajaw languages *-an* marks CV constructions with a beneficiary as pivot (e.g. Southern Sama and Balangingi’, see Akamine 2003; Gault 1999). Therefore, the pattern of meanings seen with *-an* as a single pivot-netural AM appears to result from the extension of a benefactive voice marker to a generalized applicative marker.

A similar pattern is observed in Ampenan Sasak (Bali-Sasak-Sumbawa), which shows a single pivot-neutral AM that marks selection of beneficiaries, locations, themes, and goals, among other roles, as the applied phrase. By comparison with Balinese and some other Sasak varieties (e.g. Ngenó-Ngené) that have beneficiary-selecting *-ang* and locative-/goal-selecting *-in* (Arka 2003; Austin 2001), it appears that Ampenan Sasak *-an* has been extended to function as a more generalized applicative marker due to loss of *-in*, albeit with a limited number of bases.

Loss of one AM without subsequent extension is also observed. In Tolaki (Bungku-Tolaki), the sole remaining AM *-Cako* marks the selection of a benefi-

ciary or instrument role as the applied object. The AM *-i* that marks locative- or goal-selecting ACs in other Bungku-Tolaki languages, e.g. Moronene and Mori Bawah—and widely elsewhere in West Nusantara—has been lost.

Finally, in Acehnese, we see limited use of a causative prefix as an AM. The prefix *peu-* (< PMP *pa- ‘causative marker’) can be used with a limited number of root with the meaning ‘administer ROOT onto/at an undergoer’ or ‘to place s.t. at ROOT’ (Durie 1985). The prefix *peu-* is otherwise highly productive, and the semantic meaning of roots bearing *peu-* is broad. In this light, the applicative functions of *peu-* are of limited importance, though they illustrate a connection between causative and applicative meanings.

6.4.1.3 Languages with More Than Two Forms Marking Pivot-Neutral Applicatives

Applicatives systems in West Nusantara that show three distinct forms of morphological marking for pivot-neutral applicatives have a moderately low frequency of occurrence; this type of system is found in seven languages of the sample (7 of 50 total languages with pivot-neutral applicatives). In a single language—Mori Bawah—four distinct forms of morphological marking for pivot-neutral applicatives are observed.

In Balantak, Sundanese, and Tukang Besi, systems with three distinct AMs marking pivot-neutral constructions originate from the addition of one unusual, innovative AM to two AMs found more widely.

In Balantak, the innovative AM is *-ii*, and it exclusively marks beneficiary-selecting constructions, while *-ako* marks the selection of a beneficiary, instrument, or theme, among other roles as the applied phrase. The suffix *-ii* is thought to derive from a combination of the locative or directional AM *-i* and the personal article *i* that precedes personal names, titles, kinship terms, and pronouns (van den Berg & Busenitz 2012: 109). Here, it appears that animacy effects—with beneficiaries and personal nouns both being animate and usually human—has driven the diachronic development of a new AM.

In Sundanese, the innovative beneficiary-selecting AM is the circumfix *pang- -keun*, which has a substitutive meaning (‘to do s.t. in lieu of s.o. to their benefit’) that distinguishes it from the use of *-keun*, which forms instrument- and theme-selecting ACs in addition to some benefactive ACs (see §2.6–2.7). While the origin of *pang- -keun* is not entirely clear, the shape of the prefixal component suggests some possibilities. On the one hand, it could be related to the PMP verbal prefix *paN-, which, as mentioned above, plays a role in marking voice (especially IV) and TAM categories in other western Austronesian languages. On the other hand, a prefix *paŋ- is also found as a marker of agent or instrument nominalizations in Philippine languages (e.g. Ilokano,

TABLE 39 Languages with more than two distinct forms marking pivot-neutral applicatives

Gen. grp.	Language(s)	Form 1			Form 2		Form 3	Form 4	
		BEN	INST	THM	LOC	GOAL			
S-B	Balantak	✓	✓	✓	✓	✓	BEN		
SUN	Sundanese	✓	✓	✓	✓	✓	BEN		
M-B	Tukang Besi	✓	✓	✓	✓	✓	COM		
K-P	Ledo Kaili, Moma	✓		(✓)	✓	✓	(THM), (STIM)		
W-W	Laiyolo	✓			✓	✓	STIM		
NWS-BI	Nias			✓	✓	✓	THM, GOAL		
B-T	Mori Bawah	✓	✓		✓	✓	THM	GOAL, STIM	

() Parentheses indicate that the function is found in this set of languages, but is not reported or marginal in at least one language represented.

Tagalog, Bikol) and West Nusantara languages (e.g. Standard Indonesian, Toba Batak, Balinese). In my estimation, the nominalization prefix is more likely to have given rise to the prefixal component of *pang- -keun*, because in agent nominalizations, it means ‘one who performs an action’, while Sundanese constructions marked with *pang- -keun* always mean ‘to perform an action in lieu of some beneficiary’. The suffixal component is clearly cognate with *-keun*. As with Balantak *-ii*, here we see the innovation of a new AM that exclusively selects beneficiaries as the applied phrase.

In the case of Tukang Besi, the innovative AM *-ngkene* marks comitative-selecting constructions. This morpheme is related to the morpheme *kene*, which also functions in Tukang Besi as (i) an instrumental preposition meaning ‘with’, (ii) a conjunction meaning ‘and, with’, (iii) a verb meaning ‘to accompany’ with the form *kene* or *ngkene*, and (iv) the marker of an existential predicate with the form *ke(ne)*. As a verb, *kene* is also found in serial verb constructions. Donohue (1999: 187–199) analyzes this as a case of grammaticalization; this morpheme is a verbal root that has come to also behave as a preposition and a bound AM. I also note that in Tukang Besi constructions marked with *-ngkene*, the comitative applied phrase is “an equal and voluntary participant in the action indicated by the verb” (Donohue 1999: 228), and thus always animate.

In these three languages, the underlying pattern of one AM marking selection of beneficiary, instrument, and theme applied phrases and one AM marking selection of locative/goal applied phrases remains in place. However, in each case a new innovative AM has arisen and, though the mechanisms for this innovation are different in each case, all three of the new AMs is exclusively used with animate applied phrases.

Applicative systems with three pivot-neutral AMs are also observed in Ledo Kaili (Kaili-Pamona), Moma (Kaili-Pamona), and Laiyolo (Wotu-Wolio). In these systems, the usual functions of the AM selecting beneficiary, instrument, and theme applied phrases are split across two morphemes. The AM *-ka* consistently marks beneficiary-selecting constructions across the three languages, and was reported to rarely mark instrumental-selecting constructions in Moma (Adriani & Esser 1939). The AM *-(C)aka* on the other hand, in these three languages marks certain theme-selecting constructions (especially with bodily function verbs, e.g. 'to spit out s.t.') and stimulus- or target-selecting constructions (e.g. 'to laugh on account of s.t.', 'to be afraid of s.t.'). In languages with both suffixes, *-ka* is more common, while *-(C)aka* may be of limited productivity.

Mori Bawah (Bungku-Tolaki) is analyzed as having four AMs that mark pivot-neutral ACs. This also results from splits in the form and meaning of earlier applicative markers. Instead of one AM *-ako* marking selection of beneficiary, instrument, and/or theme applied phrases (as seen in other Bungku-Tolaki languages), Mori Bawah has both *-ako* and *-Cako*, with only the latter showing an excrecent consonant. In Mori Bawah *-ako* marks beneficiary-, instrument-, and stimulus-selecting ACs, while *-Cako* marks constructions in which the applied phrase is a theme that is carried, manipulated, or escorted (Mead 2005). These are almost certainly both derived from a single source morpheme, but in present-day Mori Bawah, both *-ako* and *-Cako* may co-occur on the verb, as in *lua-rako-akune* 'bring it outside for me' (Mead 1998: 237), where *-akune* is the fused form of the AM *-ako* and a first person indexing suffix **(ko)na* (Mead 1998: 208, see also §6.7.3.2). This co-occurrence give credence to the interpretation that a split into two separate morphemes has occurred.

Where most other West Nusantara languages have a single AM marking locative- and goal-selecting constructions, Mori Bawah again has two. The suffix *-Ci* marks goal-selecting applicatives with both nominal bases denoting inherent themes and verbal bases indicating self-motion (Mead 2005). It also forms causative constructions and sometimes indicates intensive action or iterative aspect. The suffix *-Cari* marks the selection of a static location, source, or goal role as a core argument with a variety of verbal bases, e.g. 'stay', 'eat', 'plant',

‘place’. I am not aware of any other West Nusantara languages that show a split of this sort for locative- and goal-selecting ACs; in the large majority of West Nusantara languages, all of the functions of Mori Bawah *-Ci* and *-Cari* are associated with a single AM *-i* or *-an*.

Finally, three affixes in Nias may be considered AMs. The suffix *-ö* marks theme- and stimulus-selecting ACs with a small number of stems, including the verb meaning ‘to laugh’ and the bodily function verb meaning ‘to vomit’. This suffix is cognate with the AM elsewhere in Northwest Sumatra-Barrier Islands that selects a beneficiary, instrument or theme, among other roles, as the applied phrase (Karo Batak *-ken*, Toba Batak *-hon* and Mentawai *-ake*). The suffix *-(C)i* in Nias marks locative-, goal- and stimulus-selecting constructions with a only few verbs as well. Lastly, Nias makes use of a verbal prefix *fa-* (< PMP **pa-* ‘causative’), that is used with verbs of throwing to indicate the selection of an additional verbal argument, either a theme or goal. Therefore, Nias looks to uphold the general pattern seen in languages with two distinct pivot-neutral applicative markers (albeit with very limited productivity), while also showing limited use of a causative prefix as an AM, as observed in Acehnese.

6.4.1.4 Cross-Linguistic Comparisons

On the whole, the predominant pattern observed in the survey data is that of two distinct AMs marking pivot-neutral ACs: one for beneficiary-, theme-, and instrument-selecting constructions, and a second for locative- and goal-selecting constructions. In only Acehnese and the Sama-Bajaw languages is there no evidence that such a pattern previously existed. Aside from this, languages of the sample may vary from this pattern in a number of minor ways, including, (i) the loss of one AM form, as in Tolaki, (ii) the split of one AM into two derived forms, as with Mori Bawah *-Cako* and *ako*, and (iii) the innovation of unique third AM, as with Balantak, Sundanese, and Tukang Besi.

If we compare languages of the sample with pivot-neutral ACs to languages with applicatives in other language families, this observed distribution of applicative functions across forms of AMs is unusual in a number of ways.

Cross-linguistically, Peterson (2007: 204) finds a notable relationship between instrumental applicatives, locative applicatives (any type), and circumstantial applicatives (e.g. selecting reason and purpose roles). Having one of these constructions is strongly correlated with having the others, and this is “indicative of the trend for all of these constructions to be marked by a single, generalized applicative marker” (204). In contrast, in West Nusantara languages, while most languages with applicatives do have both an instrumental and a locative AC, these two functions are almost never marked with the same AM, neither in pivot-selecting nor pivot-neutral constructions.

Furthermore, Peterson (2007) finds that “having a benefactive applicative construction correlates negatively with having an instrumental applicative construction” (204) and “if a language has a benefactive (or comitative) applicative construction, it is probably not especially likely that it will extend the marker to other applicative constructions types” (207). However, in West Nusantara languages with pivot-neutral ACs, of the 45 languages with benefactive ACs, 39 mark theme-selecting and/or instrument-selecting ACs with the same AM.

Thus, the pattern whereby one AM form marks benefactive, instrumental, and theme-selecting ACs and another marks locative-selecting ACs is typologically unusual. This pattern however, is reconstructed for PAN and PMP in the form of the voice marking for CV and LV constructions. For these reasons, the most likely explanation for the observed distribution of applicative functions to AMs forms in West Nusantara languages with pivot-neutral ACs, is that this pattern is inherited.

In the following sections, I look more closely at the specific forms of pivot-neutral AMs observed in West Nusantara languages, the source morphology from which they derive, and the patterns of development that can be inferred from their observed distribution. I begin with AMs associated with locative- and goal-selecting ACs (§ 6.4.2), followed by AMs associated with beneficiary-, instrument-, and theme-selecting ACs (§ 6.4.3).

6.4.2 *Applicative Morphemes Selecting Locations and Goals*

As shown in § 6.4.1, across West Nusantara languages with pivot-neutral ACs, we observe a stable, pervasive pattern of association in which one AM marks constructions that select a locative or goal role as the applied phrase. In this section, I examine the forms of the morphemes that mark these constructions and implications for our understanding of their historical development. I argue that this set of constructions derives from earlier Philippine-type LV constructions found in languages with pivot-selecting applicatives, and that the morphological marking for the present-day constructions show a pattern of shift and/or replacement of the original voice morphology for LV.

Table 40 shows pivot-neutral AMs for which the primary applicative functions are to select locative and/or goal roles as the applied phrase. A few other semantic roles are also observed as the applied phrase when the verb bears these affixes. The recipient role (e.g. *give to*) is attested with around one quarter of these morphemes (16 of 45), as is the addressee role (e.g. *speak to*) (18 of 45), no doubt due to semantic similarities between these participants and goals as types of endpoints. In addition, for more than half of locative/goal AMs in the survey (27 of 45), a stimulus role is also attested for the applied phrase (e.g.

be angry at). In a relatively small number of cases (11 of 45), a content role is attested for the applied phrase (e.g. *to think about*). More than half of these morphemes (28 of 45) also function as causative markers, and about one-third (17 of 45) show a pluractional aspectual meaning (e.g. iterative, habitual). Less common is an intensive meaning (10 of 45) (e.g. with great force or thoroughness) when the same affix appears on the verb.

TABLE 40 Locative-/goal-selecting applicative morphemes

Gen. gp.	Language	AM	Role of applied phrase						Other functions		
			LOC	GOAL	REC	STIM	CONT	ADDR	CAUS	PLUR	INTENS
NWS-BI	Alas Batak	-i	✓	✓		✓					
NWS-BI	Karo Batak	-i	✓	✓		✓			✓	✓	
NWS-BI	Toba Batak	-i/-an	✓	✓		✓			✓	✓	
NWS-BI	Gayo	-i	✓	✓		✓				✓	
NWS-BI	Nias	-(C)i	✓	✓		✓			✓		
ENG	Enggano	-(C)i	✓			✓					
NAS	Nasal	-i	✓	✓	✓	✓			✓	✓	✓
LAM	Lampung Api	-i	✓	✓		✓		✓	✓	✓	✓
T-T	Dampelas	-i	✓	✓	✓	✓					
T-T	Pendau	-i	✓	✓	✓	✓		✓			✓
T-T	Tajio	-i	✓	✓	✓	✓		✓	✓		
T-T	Totoli*	-i		✓	✓						
K-P	Ledo Kaili	-i	✓	✓		✓	✓		✓		
K-P	Moma	-i	✓	✓				✓	✓		
K-P	Uma	-i	✓	✓				✓	✓		
K-P	Behoa*	-i	✓	✓				✓			
S-B	Balantak	-i	✓	✓	✓	✓		✓	✓	✓	
S-B	Bobongko	-i/-an	✓	✓			✓				
B-T	Mori Bawah	-Ci		✓		✓			✓	✓	✓
B-T	Mori Bawak	-Cari	✓								
B-T	Moronene	-Ci		✓							
M-B	Muna	-Ci	✓	✓		✓				✓	
M-B	Busoa	-Ci	✓	✓		✓					
M-B	Tukang Besi	-(VC)i	✓	✓		✓	✓				✓
W-W	Wotu	-i	✓	✓				✓	✓		
W-W	Wolio	-i	✓	✓				✓	✓		

TABLE 40 Locative-/goal-selecting applicative morphemes (*cont.*)

Gen. gp.	Language	Role of applied phrase							Other functions		
		AM	LOC	GOAL	REC	STIM	CONT	ADDR	CAUS	PLUR	INTENS
W-W	Laiyolo	-i	✓	✓					✓		
SSUL	Embaloh	-i		✓				✓			
SSUL	Bugis	-Ci	✓	✓		✓					
SSUL	Coastal Konjo	-i	✓	✓		✓				✓	✓
SSUL	Makasar	-i	✓	✓		✓				✓	
SSUL	Duri	-i	✓	✓			✓				
SSUL	Bambam	-i	✓	✓		✓	✓	✓			
SSUL	Seko Padang	-i	✓						✓		
MAL	S. Barisan Mal.	-i	✓	✓	✓	✓	✓	✓	✓	✓	✓
MAL	Jambi Malay	-i	✓			✓	✓		✓	✓	
MAL	Brunei	-i	✓	✓	✓				✓		
MAL	Kendayan	-i?	✓	✓	✓	✓		✓	✓	✓	
MAL	Indonesian	-i	✓	✓	✓	✓	✓	✓	✓	✓	✓
SUN	Sundanese	-an	✓	✓	✓	✓	✓	✓	✓	✓	✓
JAV	Javanese	-i/-an	✓	✓	✓			✓	✓	✓	✓
JAV	Tengger Jav.	-i/-an	✓	✓	✓		✓		✓	✓	
JAV	Suriname Jav.	-i	✓	✓	✓				✓		
MAD	Madura	-e	✓	✓	✓			✓	✓		
BSS	Balinese	-in	✓	✓	✓	✓	✓	✓	✓		

* For these languages, the genetic classification listed is disputed.

In West Nusantara languages, the pivot-neutral locative-/goal-selecting AM is most commonly a suffix with the form *-i*. This form occurs with an extremely high frequency in the survey data. In the sample, a total of 44 languages distinguish AMs that select locative or goal applied phrases from AMs that select beneficiary, instrument, or theme applied phrases. Of these, in 42 languages the locative/goal AM is *-i* or similar. Some such suffixal forms show an excrescent consonant at the morpheme boundary between the suffix and the stem, which is written as *-(C)i* or *-Ci*. This is frequently found in languages where some or all word-final consonants were lost historically, but has no material bearing on the properties of the morpheme or its origins.

There are two cases in the sample where the form of the locative-/goal-selecting AM differs from the prevailing pattern. Balinese has the form *-in*,

TABLE 41 Locative/goal ACs and TAM in selected languages

PAN (LV)		Std. Javanese	Totoli	Toba Batak	Bobongko
Indic., neutral		Indicative	Nonrealis	Indicative	Unrealized
*-an	AV	<i>N- -i</i>	<i>mo(g)-/moN- -i</i>	<i>mang-/mar-/ma- -i</i>	<i>mon- -i</i>
	PV	<i>Ø-/di- -i</i>	<i>-i</i>	<i>Ø-/di- -i</i>	<i>ku-/o- -i</i>
Indic., perf.		PV, archaic	Realis	Compl. participial	Realized
*-in- -an	AV	(no form)	<i>no(g)-/noN- -i</i>	<i>-um- -i</i>	<i>non- -i</i>
	PV	(no data)	<i>ni- -an</i>	<i>ni- -an</i>	<i>-in- -an</i>
		Non-volitional		Non-volitional	
	PV	<i>ka- -an</i>		<i>ha- -an</i>	
Imper./Neg.		Imper./Irr.	Imperative	Imperative	Imperative
*-i	AV	<i>-an-a</i>	(no data)	(no form)	<i>pon- -i</i>
	PV	<i>-an-a</i>	(no data)	<i>-i</i>	<i>-i</i>
Opt./Hort.		Propositive		Promissory	
*-ay	AV	<i>N- -i</i>		(no form)	
	PV	<i>-an-é</i>		<i>-an</i>	

which is also found in the Ngenó-Ngené variety of Sasak (Austin 2001), but not the Menó-Mené, Meriaq-Meriku, and Ampenan varieties. The origin of this form is unclear. It is also found in Betawi and Colloquial Jakarta Indonesian, where it is a generalized applicative marker. Ikranagara (1975) has suggested that *-in* in Betawi was borrowed from Balinese. Because both Balinese and Ngenó-Ngené divide applicative functions in the same manner across *-in* and the other AM *-ang*, and because Menó-Mené and Meriaq-Meriku have neither *-in* nor the ability to form locative-/goal-selecting applicatives, I conclude that *-in* and *-ang* were both present in Proto Bali-Sasak-Sumbawa, and *-in* was lost in Menó-Mené, Meriaq-Meriku, and Ampenan Sasak. In Sundanese, locative- and goal-selecting ACs are always marked with the verbal suffix *-an*.

Additionally, there are four languages of the sample in which the shape of the locative-/goal-selecting applicative shows a notable pattern of TAM conditioned allomorphy. Partial paradigms for four of these are presented in Table 41. As shown in the table, in Bobongko and Totoli, *-i* is the usual marker of locative- and/or goal-selecting ACs, but the relic suffix *-an* is found when the verb is marked with **-in-* for realis mood or realized aspect (Mead 2001; Riesberg, Malcher & Himmelmann 2021). In such cases, the original PAN and PMP morphology for indicative perfective LV (**-in- -an*) is retained. Toba Batak is similar, and also shows *-an* instead of *-i* in promissory and non-volitional mood (Naba-

ban 1981; van der Tuuk 1971 [1864–1867]). The Standard Javanese pattern is more complex, but again *-i* is the usual marker of locative and goal ACs in indicative mood, while *-an* is found in a number of non-indicative TAM categories (Oglobin 2005). Thus, in these four languages, pivot-neutral AMs marking the selection of locative/goal roles show evidence of being derived from earlier LV morphology, with shift towards *-i* found especially in indicative forms, and remnants of earlier *-an* still found sporadically in certain TAM categories.

Functionally, there is also a good deal of overlap between LV and pivot-neutral locative- and goal-selecting applicatives. Both are frequently used with postural verb roots, e.g. ‘sit’, ‘sleep’, with a location role as the applied phrase, e.g. ‘to sit on a bench’, ‘to sleep on a mat’. Pivot-neutral ACs with the same AMs are also frequently found with verbs expressing directional or caused motion, e.g. ‘to throw rocks at s.t./s.o.’, and goal applied phrases. While the selection of goal roles as pivot is not commonly reported in the languages of the sample with Philippine-type voice systems, Chen (2017: 167–169) reports that goal roles (and some that I would label recipients) may be selected as the pivot in LV constructions in a number of Philippine-type languages, especially with ditransitive base verbs, but also with monotransitive and intransitive base verbs.

To date, it has been proposed that the pivot-neutral applicative suffix *-i* either (i) derives from LV morphology (Sirk 1996: 194–195; Wolff 1996; Ross 2002: 52–55), or (ii) derives from the capture of a reflex of the PAN and PMP general locative preposition **i*, which is found widely in the Austronesian language family (Starosta, Pawley & Reid 1982: 155).

Based on the survey data, the first proposal is likely to be true in West Nusantara languages, but the second cannot be ruled out. In languages where the form of the locative-/goal-selecting AM is *-an* in remnant TAM categories and *-i* in others (Toba Batak, Bobongko, Standard Javanese, Tengger Javanese), this alternation is strong evidence that these constructions derive from earlier LV constructions. In these cases, *-i* has been extended outside of imperative mood into other categories, and is almost always observed when the locative-selecting applicative co-occurs with AV prefixes, which was not possible in PAN and PMP. This represents a realignment of Philippine-type voice morphology into a two-way symmetrical system with pivot-neutral applicatives. Even though these remnants of earlier LV **-an* are observed in just a small number of languages, they are fairly broadly distributed geographically and genetically. These cases also show that it is logically possible that in languages with only *-i* or only *-an* as the form of the pivot-neutral locative/goal AM, these suffixes may also reflect earlier LV morphology.

Functionally, the pivot-neutral locative- and goal-selecting ACs show many meanings that are commonly observed for LV, but perhaps even more frequent

and common is usage with directed and caused motion events. All of these can be seen as consistent with the locative preposition *i, which has a broad range of uses including marking of spatial direction or path in addition to location in space or time. If grammaticalization of a postverbal locative preposition *i* did occur, convergence of this with reflexes of the LV verbal suffix *-i and extended uses of this suffix in place of earlier *-an* may explain some differences in meaning between LV constructions and the newer pivot-neutral constructions. But capture of the preposition *i alone would not explain cases of remnant *-an* suffixes or the Sundanese use of *-an* exclusively as the locative- and goal-selecting AM.

6.4.3 *Applicative Morphemes Selecting Beneficiaries, Instruments, and Themes*

In this section, I examine the forms of the AMs that mark selection of a beneficiary, instrument, and/or theme as the applied phrase, and implications of their observed distribution for our understanding of their historical development. In parallel to the discussion of locative-/goal-selecting ACs above, I argue that this set of constructions derives from earlier Philippine-type cv constructions (pivot-selecting applicatives). Here, morphological marking for the present-day constructions shows a complex pattern of shift and replacement of the original voice morphology for cv. Even so, though the pivot-neutral AMs cannot be traced to a single reconstructed form of source morphology, the functional pattern seen in the constructions they mark may be explained by inheritance, but is not consistent with a pattern of independent innovations.

Table 42 shows pivot-neutral AMs for which the primary applicative function is to select a beneficiary, instrument and/or theme role as the applied phrase. In the survey data, I identify 49 AMs of this type in 45 languages.³ A few other semantic roles are also observed as the applied phrase when the verb bears these affixes. The recipient role (e.g. *give to*) is attested for a little less than one-third of such AMs (14 of 49), however it was not always possible to distinguish clearly recipients from beneficiaries in these languages. Stimulus roles (e.g. *be afraid of*) (16 of 49) and content roles (e.g. *tell about*) (16 of 49) are each found with about a third of these AMs. Addressee roles (e.g. *talk to*) (10 of 49) and circumstantial roles (e.g. *die because of*) (8 of 48) are found less commonly. Also, for about half of these AMs a causative function is attested (25 of 49). But

3 The Enggano applicative suffix *-(C)aʔa* is somewhat unusual because it may select either an instrument role or a goal role as the applied phrase, while in all other cases, locative and goal roles are generally excluded in ACs marked by these affixes.

in only a few cases, are pluractional aspectual and intensive functions found with these AMs, and these functions are not included in the table (see discussion in § 6.5.3).⁴

TABLE 42 Benefactive/instrumental applicative morphemes

Gen. gp.	Language	AM	Role of applied phrase									Other
			BEN	INST	THM	REC	STIM	CONT	ADDR	CIRC	CAUS	
NWS-BI	Alas Batak	-ken	✓	✓	✓	✓		✓				✓
NWS-BI	Karo Batak	-ken		✓	✓		✓					✓
NWS-BI	Toba Batak	-hon	✓	✓	✓		✓			✓		✓
NWS-BI	Gayo	-(n)en			✓		✓					✓
NWS-BI	Nias	-'ö			✓		✓	✓	✓			✓
ENG	Enggano	-(C)aʔa		✓								✓
NAS	Nasal	-kun	✓	✓	✓	✓	✓					✓
LAM	Lampung	-ko	✓		✓		✓	✓				✓
	Api											
T-T	Dampelas	-a'o	✓		✓	✓						✓
T-T	Pendau	-a'	✓	✓	✓	✓						✓
T-T	Tajio	-ao	✓	✓								✓
T-T	Totoli	-an	✓	✓								✓
K-P	Ledo Kaili	-aka		✓	✓							✓
K-P	Ledo Kaili	-ka	✓									
K-P	Moma	-aka					✓					
K-P	Moma	-ka	✓	✓		✓						✓
K-P	Uma	-ki	✓	✓		✓		✓	✓	✓		
K-P	Behoa*	-á	✓						✓			✓
S-B	Balantak	-kon	✓	✓		✓	✓	✓	✓	✓		✓
B-T	Bobongko	-akon	✓									
B-T	Mori Bawah	-ako	✓	✓						✓		
B-T	Mori Bawah	-Cako			✓							✓
B-T	Moronene	-ako	✓	✓		✓			✓			
B-T	Tolaki	-Cako	✓	✓		✓		✓	✓	✓		

4 In Totoli, iterative aspect is indicated by means of a verbal suffix *-an* (Himmelmann & Riesberg 2013: 402), and suffixal *-an* is also found with benefactive/instrumental ACs and goal-selecting ACs in certain TAM categories. It is not clear whether iterative *-an* in Totoli should be considered to be the same morpheme as either of the applicatives.

TABLE 42 Benefactive/instrumental applicative morphemes (*cont.*)

Gen. gp.	Language	AM	Role of applied phrase								Other	
			BEN	INST	THM	REC	STIM	CONT	ADDR	CIRC	CAUS	
M-B	Muna	-ghoo	✓	✓		✓					✓	
M-B	Busoa	-ho	✓	✓	✓						✓	
M-B	Tukang Besi	-ako	✓	✓	✓				✓	✓		
W-W	Wotu	-a	✓							✓		
W-W	Laiyolo	-aka			✓			✓				
W-W	Laiyolo	-ka	✓				✓					
W-W	Wolio	-aka	✓	✓	✓	✓	✓		✓	✓		
SSUL	Embaloh	-ang	✓		✓	✓	✓					
SSUL	Bugis	-Ceng	✓	✓		✓					✓	✓
SSUL	Coastal Konjo	-ang	✓									
SSUL	Makasar	-ang	✓	✓	✓							
SSUL	Duri	-an	✓	✓	✓					✓		
SSUL	Bambam	-am	✓	✓						✓		
SSUL	Seko Padang	-ing		✓	✓							
MAL	S. Barisan Mal.	-ka	✓	✓	✓		✓		✓			✓
MAL	Jambi Malay	-kan/-an	✓		✓		✓		✓			✓
MAL	Brunei	-kan	✓		✓				✓			✓
MAL	Kendayan	-an	✓		✓				✓			
MAL	Indonesian	-kan	✓	✓	✓		✓		✓			✓
MAD	Madurese	-agi	✓	✓	✓				✓			✓
SUN	Sundanese	-keun	✓	✓	✓		✓		✓			✓
JAV	Javanese	-aké	✓	✓	✓				✓			✓
JAV	Tengger Jav.	-en/-na	✓		✓							✓
JAV	Suriname Jav.	-aké	✓	✓	✓							✓
BSS	Balinese	-ang	✓	✓	✓		✓					✓

* For these languages, the genetic classification listed is disputed.

In West Nusantara, AMs marking the selection of a beneficiary, instrument, and/or theme in pivot-neutral ACs are almost exclusively suffixal. The shapes of these AMs may be divided into two main types, (i) those which show a vowel + nasal sequence, which I will call -AN suffixes, and (ii) those which show an initial -*k* or -*ak* sequence, e.g. -*kan* or -*aka*, which I will call -K and -AK suffixes, respectively, following Sirk (1996). These are discussed in turn below.

6.4.3.1 Benefactive/Instrumental Suffixes of the -AN Type

Languages that mark the selection a beneficiary, instrument, and/or theme role as the applied phrase with an -AN type suffix are in the minority in the survey data. Nonetheless, this type of form is still widely distributed across West Nusantara languages, even more so, if we include discussion of AMs with the form -*an* in Sama-Bajaw, which have become generalized to also mark selection of locative/goal roles in some members of the subgroup (e.g. West Coast Bajau). These forms are shown in Table 43. For the most part these morphemes are clearly derived from earlier PAN *-*an*, which marked CV in imperative and negative clauses, and was also associated with selection of beneficiaries, instruments, and themes as the applied phrase (Wolff 1973).

Proto South Sulawesi *-*an* is reconstructed as the benefactive AM by Mills (1975: 192–196) and almost all South Sulawesi languages show regular reflexes of this form.⁵ As discussed above, the form *-*an* should also be reconstructed to Proto Bali-Sasak-Sumbawa. In Meno-Mené Sasak, this suffix has fused with enclitic person indexes to form portmanteau suffixes denoting selection of a beneficiary applied argument and person indexing for this argument, e.g. -*angk* < *-*an* + =*k* 1SG, -*am* < *-*an* + =*m* 2SG (Austin 2001). Proto Malayic *-*an* is reconstructed as an applicative suffix by Adelaar (2006: 78–79). It is seen in Kendayan (Salako) and most Minangkabau dialects (with others showing -*kan*), while in some Jambi varieties there is unpredictable variation between -*an* and -*kan* (Adelaar 1984: 406; Yanti 2010: 598). Generally the -*an* suffix is thought to be older than -*kan*, which cannot be reconstructed for Proto Malayic and appears to have replaced the AM *-*an* in many Malayic languages. In Sama-Bajaw, *-*an* is reconstructed as the indicative CV suffix by Pallesen (1985) and has been reanalyzed as a generalized applicative marker in some cases (see §5.5.4.2 above).

5 Seko Padang -*ing* does not show regular correspondences consistent with *-*ang* (Mills 1975). However, the Badaic languages of Central Sulawesi probably form an exclusive subgroup under South Sulawesi together with Seko, rather than belonging to Kaili-Pamona (Zobel 2020). In Behoa (Badaic), the beneficiary-selecting AM is -*á*, which is consistent with *-*ang*, as the backed-vowel *á* (IPA [ɑ̠]) reflects PMP **a* followed by a deleted final back consonant or nasal (Truong in prep).

TABLE 43 Pivot-neutral applicative morphemes of the -AN type

Larger subgroup	Source	Branch	Forms
South Sulawesi	*-an	Northern Makassaric Tamanic-Bugis Seko Badaic	Duri - <i>an</i> ; Bambam - <i>am</i> Coastal Konjo, Makasar - <i>ang</i> Embaloh - <i>ang</i> ; Bugis - <i>Cang</i> Seko Padang - <i>ing</i> [†] Behoa* - <i>á</i> [- <i>ɑ</i>]
Tomini-Tolitoli	*-an	Tolitoli	Totoli* - <i>an</i>
Bali-Sasak-Sumbawa	*-an	Bali	Balinese - <i>ang</i>
		Sasak-Sumbawa	Ngenó-Ngené - <i>ang</i> , Amp- enan - <i>an</i> , Menó-Mené - <i>angk/-at</i> ~ - <i>ant/-am/-an</i>
Malayic	*-an	Kendayan Malay	Kendayan - <i>AN</i> [-(<i>ʔ</i>)a(t)n] Jambi, Minangkabau - <i>an</i> (~ <i>kan</i>)
Sama-Bajaw	*-an	Borneo Coast Bajau Inner Sulu Sama Western Sulu Sama	West Coast Bajau, Indone- sian Bajau - <i>an</i> Cent. Sama - <i>an</i> ; (Southern Sama - <i>an</i> CV) Pangutaran Sama - <i>an</i>
Javanese	*-(<i>ʔ</i>)ən (<i>ʔ</i>)	—	Std. Jav. - <i>na</i> , - <i>né</i> (~- <i>aké/-</i> <i>akən</i>); Tengger - <i>na</i> ~ - <i>ən</i>
Sumatran	*-ən (<i>ʔ</i>)	NW Sumatra	Gayo -(<i>n</i>)ən

* For these languages, the genetic classification listed is disputed.

† These forms show unexpected sound correspondences.

TABLE 44 Benefactive/instrumental applicatives and TAM in Javanese

PAN (PV)	PAN (CV)		Std. Javanese	Tengger Jav.
Indic., neutral *-ən	Indic., neutral *Si-/Sa-	AV	Indicative <i>N- -aké</i>	Indicative <i>N- -ən</i>
		PV	<i>Ø-/di- -aké</i>	<i>Ø-/di- -ən</i>
Indic., perf. *-in- -Ø	Indic., perf. *-in- -an	PV	PV, archaic <i>-in- -aké</i>	PV, archaic (no data)
		PV	Non-volitional <i>ka- -aké</i>	Non-volitional <i>kə- -Ø</i>
Imper./Neg. STEM	Imper./Neg. *-an-i	AV	Imper./Irr. <i>N- -n-a</i>	Imper./Irr. <i>N- -ən</i>
		PV	<i>-n-a</i>	<i>-na</i>
Opt./Hort. *-a	Opt./Hort. *-an-ay	AV	Propositive <i>N- -aké</i>	Propositive <i>N- -na</i>
		PV	<i>-n-é</i>	(no form)

Though they are included in Table 43, Standard Javanese *-na*, *-né* and Tengger *-na*, which mark beneficiary-, instrument-, and theme-selecting ACs in certain non-indicative TAM categories, may not reflect earlier CV **-an* directly. The paradigm for these forms in the non-formal register are shown in Table 44 alongside that for PAN PV and CV. The Javanese morphemes are analyzed as a shortened suffixal form *-n* + imperative/irrealis *-a* or propositive *-é* (Oglobin 2005: 600). Adelaar (2011) traces this shortened suffix to a Pre-Javanese transitive suffix *-(?)ən*, which I note could have itself been a replacement for earlier CV **-an* in imperative/negative **an-i* and optative/hortative **an-ay*. Gayo also has a verbal suffix *-(n)en* is much more productive as a causative marker than an applicative marker and its origin is even less certain.

6.4.3.2 Benefactive/Instrumental Suffixes of the -K and -AK Types

Languages that mark the selection of a beneficiary, instrument, and/or theme role as the applied phrase with a -K or -AK type suffix are quite numerous in the survey data. As seen in Table 45, such forms show a very broad distribution in West Nusantara, being found among the non-Malayic languages of Sumatra and the Barrier Islands, the Celebic languages of Sulawesi, Sundanese, Javanese, Madurese, and many Malayic languages.⁶ Like the -AN type suffixes, recon-

6 -K and -AK type suffixes do not appear to be well-attested in Borneo outside of Malay lan-

struction and identification of earlier source morphology for these sets is problematic. Despite the apparent similarity in the forms listed, when the data are examined from a historical-comparative perspective, a number of puzzling trends appear.

First, in Malayic and Javanese, two subgroups with well-established reconstructions and written records dating back several centuries, the -K and -AK type suffixes cannot be reconstructed to the proto-language. Proto Malayic did not have a suffix *-kan* (Adelaar 1984), though the preposition *akan* may date back to Old Malay. The suffix *-kan* also alternates with *-an* in some Malay languages including Minangkabau, where the variation is dialectal (Adelaar 1984: 406), and Jambi Malay, where the variation is both lexical and dialectal (Yanti 2010: 598–600). As for Javanese, the high register or *krama* form of the beneficiary-, instrument-, and theme-selecting AM is *-akən*. However, *-akən* cannot be reconstructed to Proto Javanese, even though there is evidence for a morpheme *akən* in Old Javanese (Adelaar 2011). It is also not clear why the corresponding neutral register form of *-akən* is *-aké* (or *-ké*) as this does not follow known patterns for transformation of *ngoko* forms into *krama* forms.

Second, the appearance of final *-n* in the -K and -AK type suffixes is inconsistent. In the non-Malayic languages of Sumatra and the Barrier Islands proposed to belong to an exclusive subgroup Sumatran (see Billings & McDonnell 2024), final *-n* is present for the Batak languages and Nasal and is lost as expected in Mentawai and Nias, but is lost unexpectedly in Enggano and Lampung. The Enggano form also shows an unexpected second vowel (/o/ is the expected reflex of *ə). Meanwhile, in Malayic languages, the form of the suffix is *-ka* in Besemah (South Barisan Malay) (McDonnell 2016), but *-kan*, *-an*, and *-a* are also attested in south Sumatran Malay varieties, as well as many phonetic variants of these (Anderbeck & McDowell 2020: 91–101). The suffix *-ka* is also attested in Iban, where it has been proposed to derive from recent capture of the allative preposition *ka* (Adelaar 1984: 409). In Madurese, **-n* is generally retained, but not present in *-aghi* (Nothofer 1975). In most languages of Sulawesi, final consonants have been lost or reduced (Sneddon 1993). In Saluan-Banggai, which does retain final nasals, however, we see final *-n* in this suffix in Bobongko but not Balantak.

Third, while most forms presented in Table 45 show a first consonant that is consistent with earlier *k, a few have problematic correspondences for this consonant. Muna *-ghoo* has initial *gh* (a phonemic uvular trill /ʁ/), which is

guages that are more recent arrivals, e.g. Banjar *-akan* and Brunei Malay *-kan*. However, this is difficult to say definitively due to the general sparsity of languages with pivot-neutral applicatives in Borneo.

TABLE 45 Applicative morphemes of the -K and -AK types

Larger subgrp	Source	Branch	Forms
Sumatran	*-(a)kən	NW Sumatra	Karo <i>-kən</i> ; Alas <i>-akən</i> ; Toba Batak <i>-hon</i>
		Barrier Islands	Mentawai <i>-ake</i> ; Nias <i>-ö</i> [-ʔʁ]
		Nasal*	Nasal <i>-kun</i>
		Lampungic*	Lampung Api <i>-ko</i> [†]
		Enggano*	Enggano <i>-aʔa</i> [†]
Malayic	(-kan)	Malay	Brunei, Std. Indonesian <i>-kan</i> ; Jambi, Minangkabau <i>-kan</i> (<i>~an</i>); S. Barisan <i>-ka</i>
Javanese	(akən)	—	Old Jav., Std. Jav. <i>-akən</i> ; Std. Jav. <i>-aké</i> [†] (<i>~na</i> , <i>-ne</i>); Suriname Jav. <i>-ké</i> [†]
Madura		—	Madurese <i>-agi</i> [†] [-ak ^h ɛ], Kangean <i>-aghən</i> [†] [-ak ^h ən], Mad. Bawean <i>-akən</i>
Sundanese	*-kən	—	Sundanese, Badui <i>-keun</i> [-kɤn]
Tomini	*ako	—	Dampelas <i>-aʔ</i> , Pendau <i>-a</i> , Tajio <i>-ao</i>
Eastern Celebic	*ako(n)	Saluan-Banggai	Balantak <i>-ako</i> [†] , Bobongko <i>-akon</i>
		Bungku-Tolaki	Mori Bawah, Moronene <i>-ako</i> ; Mori Bawah, Tolaki <i>-(C)ako</i>
		Muna-Buton	Muna <i>-ghoo</i> [†] [-ʁoo]; Busoa <i>-ho</i> [†] ; Tukang Besi <i>-ako</i> ; Cia-Cia <i>-(ʔ)aso</i>
Kaili-Wolio	*aka	Kaili-Pamona	Kaili-Ledo, Moma <i>-(C)aka</i> , <i>-ka</i> ; Uma <i>-ki</i> (< <i>-ka</i> + <i>-i</i>)
		Wotu-Wolio	Laiyolo, Wolio <i>-aka</i> ; Laiyolo <i>-ka</i> ; Wotu <i>-a</i>

* These languages subgroup together with NW Sumatra-Barrier Islands in recent proposals.
† These forms show unexpected sound correspondences/shapes.

a regular reflex of PMP *q but not *k (van den Berg 1991). Likewise, the corresponding Busoa applicative suffix *-ho* is problematic, as Busoa /h/ reflects PMP *q or *s, but not *k. Also, Madurese *-aghi* /-ak^hɛ/ is not clearly expected from *-akən, as *g is the source of *gh* (Nothofer 1975).

Fourth, while some diachronic accounts of these suffixes have treated them as captured prepositions, as with Malay *akan* and Javanese *akən* as mentioned above, prepositions of the requisite shapes are not widely attested. Aside from these cases and *Tukang Besi ako*, prepositions with a form consistent with *akən or *akan are not generally found in the languages of the sample, nor in other Austronesian languages of West Nusantara, the Philippines, or Taiwan. Capture of allative *ka* would not explain the initial /a/ in -AK type forms, though -K type forms might result from phonological reduction or deletion if the source morphology had an initial *a.

Given these observations, there is insufficient evidence to demonstrate that the -AK and -K type suffixes are derived from a common inherited morphological source. Crucially, though, together with the reflexes of the -AN type, we do see a stable pattern of association between constructional form and meaning. That is, the pattern whereby the selection of beneficiaries, instruments, and themes—alongside circumstantial roles like reason and purpose—is associated with one morphological marker is extremely stable among languages with pivot-neutral applicatives in West Nusantara. This is observed to be a stable pattern of constructional association as far back as PAN in the form of pivot-selecting CV constructions, and thus dates back far before the breakup of PMP (and observed splits of CV into separate IV and BV constructions in the Philippines and Northeast Borneo). This pattern is also cross-linguistically unusual, as discussed in § 6.4.1.4 above, and is unlikely to result from independent innovations in various genetic groupings below PMP. The observed distribution also is not likely to be explained by a simple pattern of borrowing, given that the shapes of the AMs are themselves quite varied, and their broad geographic distribution does not support the inference that these constructions were primarily spread through language contact.

Therefore, I argue that the most likely explanation for the pivot-neutral ACs showing selection of beneficiary, instrument, and/or theme applied phrases in West Nusantara is that they generally developed from an inherited CV construction. In languages with -AN type AMs marking these constructions, the source morphology is PAN CV *-an (imperative/negative mood), but in languages showing the -K and -AK type suffixes, earlier CV morphology has been replaced. This replacement must have taken place after the breakup of PMP, and sometimes much later. Such replacement would have had to occur multiple times, that is, in various branches under PMP. While the source morphol-

ogy for the replacement AMs is not always clear, where historical evidence is available as for Malayic and Javanese, the picture is complex, and sometimes involves only partial replacement and/or successive replacements at different diachronic stages. Further historical-comparative research is necessary to more fully ascertain the stages in the diachronic development of the forms of these AMs seen in other languages of West Nusantara.

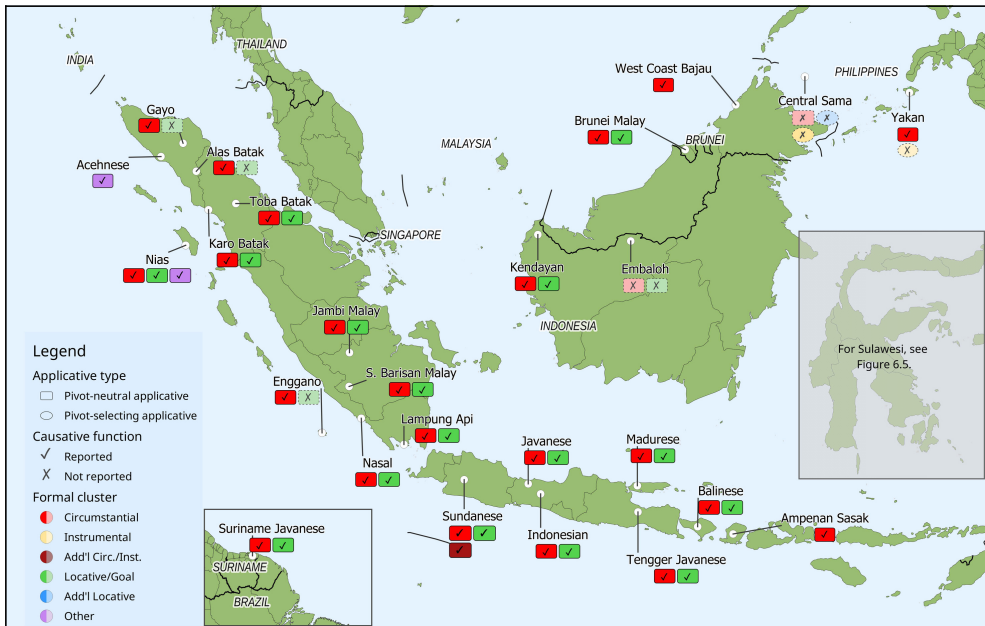
6.5 Polyfunctionality of West Nusantara Applicative Morphemes

In West Nusantara languages, AMs that mark the verb in pivot-neutral ACs have many non-applicative functions, and as such are highly polyfunctional. The occurrence of some of these non-applicative functions was mentioned briefly in previous sections, and they include forming causative constructions, indicating aspectual meanings, indicating greater intensity, and forming comparative constructions. These are discussed in turn below in greater detail.

6.5.1 *Causative Functions*

In a causative construction, an A argument with the role of causer or instigator is introduced to the argument structure of clause (Zúñiga & Kittilä 2019: 15–17). Causative functions are highly prevalent for pivot-neutral AMs found in the languages of the sample. Among languages with pivot-neutral applicatives, in the large majority (40 of 50 languages) at least one AM also is reported to mark causative constructions.

As shown in Map 14, in most of West Nusantara, the norm is for both the AM selecting beneficiary, instrument, and/or theme applied phrases and the AM selecting locative and goal applied phrases (if present) to have causative functions. In Sulawesi, however, as shown in Map 15, causative functions appear to be less prevalent, being reported with at least one AM in about two-thirds of languages (17 of 25) and less than half of the total number of pivot-neutral AMs (23 of 56). In addition, when they are attested, causative functions of AMs in Sulawesi may be of low productivity. For example, in *Tukang Besi*, the applicative suffix *-(VC)i* is reported with a causative meaning in a single example, *ma-i* ‘to bring s.t.’ cf. *mai* ‘to come’ (Donohue 1999: 243). In the sample, there are only ten languages with pivot-neutral applicatives for which causative functions are not reported for any attested AM; eight of these are spoken in Sulawesi (Bambam, Bobongko, Busoa, Duri, Coastal Konjo, Moronene, Muna, and Tolaki), and one additional language, Embaloh, belongs to the South Sulawesi subgroup but is spoken in Borneo. The final language of this type is Central Sama. These numbers do not include additional languages in which an AM-marked

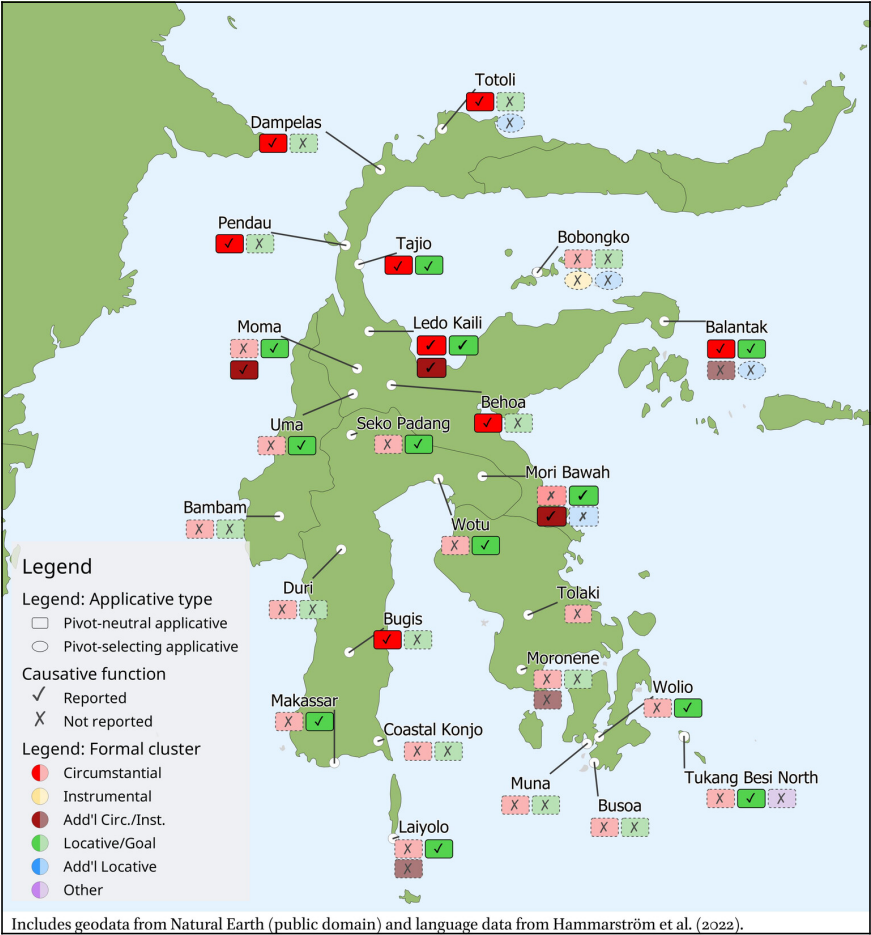


MAP 14 Causative functions of applicative morphemes in West Nusantara

construction is causative only in irregular cases when a causative prefix is also marked on the verb (see § 6.5.2 below).

In languages of West Nusantara with pivot-selecting applicatives, the morphological marking associated with these constructions (Philippine-type LV and cv constructions) are not generally observed to form causative constructions. In these languages an instigating causer is typically introduced to the argument structure of verb by means of one of more distinct causative morphemes. Most common are apparent reflexes of PMP **pa-* ‘causative marker’: *pa-*, *po-* or *p-* in Sabahan languages, *pa-* or *pe-* in Sama-Bajaw languages, and (*m*)*amp-* in Merina Malagasy (presumably composed of *maN-* AV plus *p-*). Such causative prefixes generally may co-occur across multiple voice constructions in the language, including some pivot-selecting constructions (see discussion in § 6.7.1).

In general, designated causative prefixes derived from PMP **pa-* are also extremely common in Sulawesi, being found in all 25 languages of the sample spoken in Sulawesi with applicatives, all of which have pivot-neutral applicatives. This may account for the lower prevalence and less productive use of pivot-neutral AMs as causative markers in many of these languages. Outside of Sulawesi, only about half of the remaining languages with pivot neutral applicatives (13 of 25) show a causative prefix derived from **pa-*.



MAP 15 Causative functions of applicative morphemes in Sulawesi

While I attempted to assess the productivity of causative prefixes based on source material for the survey, it is difficult to make reliable comparisons across languages of the sample because of large disparities in the level of descriptive detail in source material and available quantity of examples, textual material, and lexical resources. Still, in a good number of languages of the sample with little to no productive use of causative prefixes, pivot-neutral applicative affixes fill this gap through extremely productive and frequent use as morphological causative markers, as in Lampung Api, Sundanese, Javanese, Balinese, Jambi Malay, South Barisan Malay, and Nasal, among others.

6.5.2 *Use in Irregular Causative Constructions*

In some languages of the sample, we also observe irregular occurrence of a pivot-neutral AM on bases bearing a distinct causative prefix. In such cases, both affixes must be present for the causative meaning to be exhibited with certain lexical bases. This type of irregular occurrence of AMs on verbs in causative constructions is seen in about a third of the languages of the sample with pivot-neutral applicatives (16 of 50), including six languages in which the relevant AM does not independently function as a causative marker.

For example, in Muna, the suffix *-Ci* does not generally function as a causative marker; morphological causative constructions are marked with the prefix *fo-* as in the example in (132). But with a handful of verbs, in causative constructions the verb is necessarily marked with both *fo-* and the locative-/goal-selecting applicative suffix *-Ci*, as in (133).⁷

(132) Muna, causative construction marked with *fo-*

a. *ao-ndawu*

1SG.RLS-fall

'I fall'

b. *ae-fo-ndawu* *piso*

1SG.RLS-CAUS-fall knife

'I drop a knife'

(van den Berg 2013: 64)

(133) Muna, causative construction marked with *fo-* + *-Ci*

a. *A-foroghu* *oe* *karindi*.

1SG.RLS-drink water cold

'I am drinking cold water.'

(van den Berg 2013: 64)

b. *Ai-no*

younger.sibling-3SG.POSS

no-fo-foroghu-ti-ane

oe-no

3SG.RLS-CAUS-drink-LOC.APPL-BEN.APPL:3SG water-3SG.POSS

kalembungo.

young.coconut

'He gave his younger sister coconut juice to drink'

(*"foroghu"* van den Berg & Marafad 2016)

⁷ The verb in (133b) shows a special type of AM-marking with an indirect object suffix, see discussion in §6.7.3.

Likewise in Ledo Kaili, the verbal prefix *po-* is a morphological causative marker. For the verb *nang-inda* ‘to borrow s.t. (AV)’, however, the causative verb stem is *nom-popa-inda-ka* ‘to loan or lend out s.t.’ which is formed with both *po-* (in its variant form *popa-*) and the theme-selecting AM *-ka*.

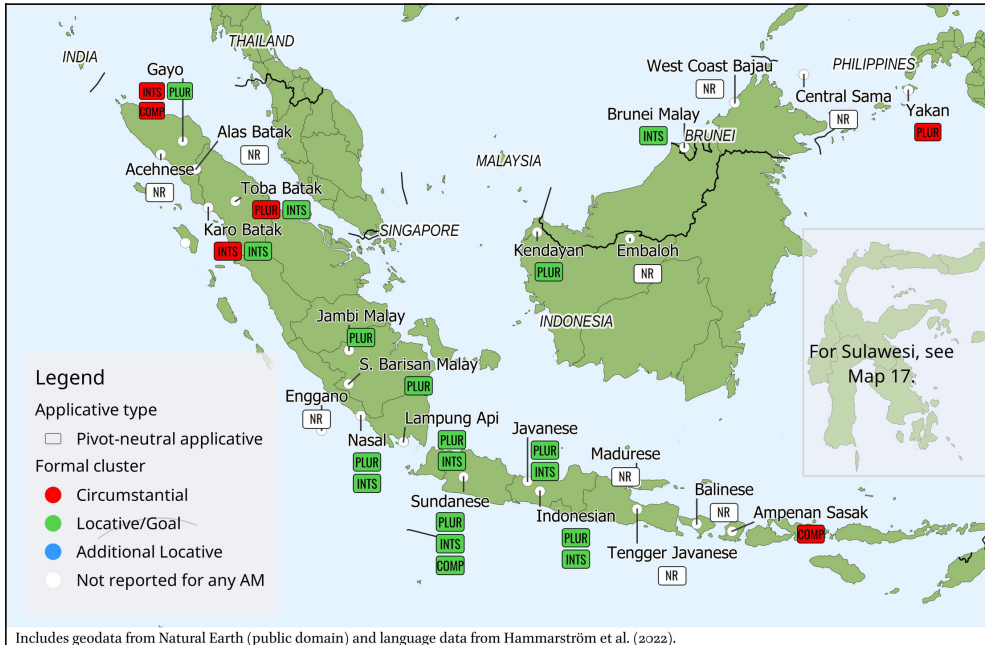
Additional examples from Karo Batak include *pe-sirang-ken* ‘to cause to separate’ cf. *sirang* ‘to separate’ and *pe-pinem-ken* ‘to make drink, suckle, breast-feed’ cf. *pinem* ‘to drink’ (Woollams 1996: 52). Note that Karo Batak *-ken* forms causative verb stems on its own as in *keriken* ‘to deplete, use up’ cf. *keri* ‘depleted’, *kabangken* ‘to make fly, blow away’ cf. *kabang* ‘to fly’, and this is found with a much broader set of bases (Woollams 1996: 57–58).

The required appearance of the causative morpheme together with the AM in certain causative constructions suggests one possible pathway by which applicative suffixes in West Nusantara may have developed causative functions. Perhaps previously both applicative suffixes and causative prefixes were marked on certain lexical verbs, alongside verbs with only one or the other. As the causative prefixes subsequently became less productive, the stems with only the applicative suffixes became preferred, especially in cases where the verb expressed both the participation of an instigating causer, and a constructional meaning consistent with an AC, such as motion of a theme, and use of an instrument to affect a change of state, among others.

6.5.3 *Aspectual and Intensive Meanings*

In many languages of West Nusantara, aspectual meanings are associated with AMs. These aspectual meanings may be grouped under the cover term *pluractional aspect* and include iterative aspect (i.e. repeated action), habitual aspect (i.e. characteristic action), and pluractional action (i.e. an action performed by multiple actors and/or on multiple undergoers) (see Truong & McDonnell 2022; Wood 2007; Mattioli 2019). Durative aspectual meanings are also sometimes observed, i.e. an event or state extending over some period of time. For examples of such aspectual meanings in Sundanese, see § 2.9.2.

In addition to aspectual meanings, AMs in West Nusantara languages may be associated with an intensive meaning, such that greater intensity, thoroughness, exertion, or force is indicated for an action, event, or state when the AM marks the verb. An example is given from Coastal Konjo in (134). In source material for the survey, aspectual and intensive meanings were not found for pivot-selecting AMs; for this reason, only languages with pivot-neutral applicatives (50 total in the sample) are included in the discussion that follows.



MAP 16 Aspectual, intensive, and comparative functions of applicative morphemes in West Nusantara

(134) Coastal Konjo, Intensive meaning of *-i*

a. *Kupakaháji'i.*

ku-paka-haji'-i

1.ERG-CAUS-good-3.ABS

'I fix it (make it good).'

b. *Kupakahajikii.*

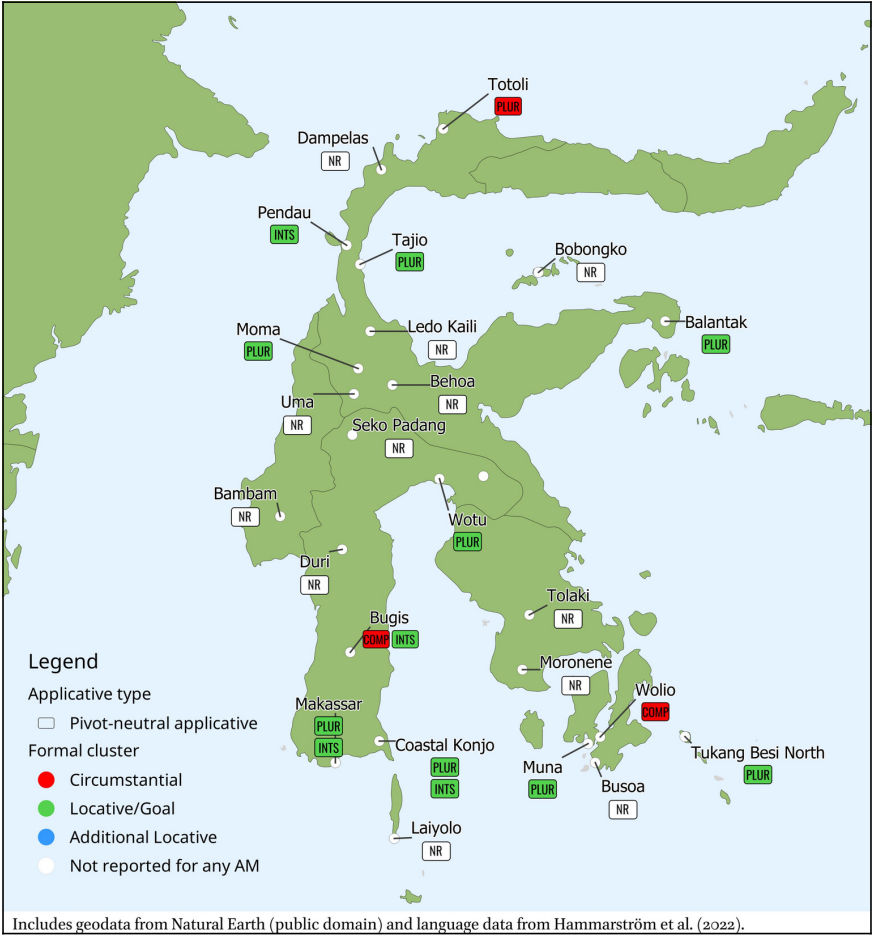
ku-paka-haji'-i-i

1.ERG-CAUS-good-INTENS-3.ABS

'I repair it thoroughly.'

(B. Friberg 1991: 117)

As shown in Maps 16 and 17, pluractional aspectual meanings are quite common for pivot-neutral AMs in West Nusantara, being found in a fairly large portion of the languages of the sample (20 of 50). These are broadly distributed geographically, although not universally reported. Pluractional aspectual meanings are most commonly associated with locative-/goal-selecting AMs; this holds in 17 languages (out of 50 total) in the sample. In just a handful of languages (3 of 50; Yakan, Totoli, and Mori Bawah), pluractional aspect is reported as a meaning of a benefactive/instrumental or partially generalized benefactive AM.



MAP 17 Aspectual, intensive, and comparative functions of applicative morphemes in Sulawesi

Intensive meanings are less commonly reported for AMs in the survey data than are aspectual meanings, being found in about one quarter of the languages of the sample (13 of 50, or 26 %). Again, intensive meanings are most commonly associated with locative-/goal-selecting AMs, being found with such forms in ten languages of the sample. Intensive meanings are uncommon with AMs selecting beneficiaries, instruments, and/or themes; this occurs in just three languages (3 of 50): Nasal, Gayo, and Mori Bawah. With Nasal *-kun* and Gayo *-(n)en* the intensive meaning primarily applies to perception events and indicates active or careful perception. Mori Bawah *-Cako* can indicate an intense or haphazard manner of action as in *me'iniako* 'to hold oneself tightly or strongly' and *morawuosako* 'to scatter in a rough manner, strew' (Mead 2005: 703).

6.6 Comparative and Other Degree Constructions

In a relatively small number of languages of the sample, a comparative degree construction is formed by morphological marking of the verb with an AM (see § 2.9.4 for examples in Sundanese). This occurs in six languages of the sample, which are shown in Table 46. Despite being uncommon, this function is fairly widely distributed geographically and across genetic groupings in West Nusantara. However, it is difficult to draw conclusions about the origin of this function, which is not found with pivot-selecting AMs.

In one additional language, Toba Batak, comparative constructions may be formed with the suffix *-an*, e.g. *balgá* ‘big’, *balgaán* ‘bigger’; *daó* ‘far’, *daoán* ‘farther’ (Nababan 1981: 71–72). In Toba Batak, the locative-/goal-selecting applicative has the form *-an* only with non-volitional PV verbal forms marked with *ha-*, and completive participial PV verbs marked with *ni-*, while *-i* is found with AV verbs and simple indicative PV verbs (see § 6.4.2). Thus it is unclear whether the comparative suffix *-an* and the locative applicative suffix *-an* should be considered the same morpheme.

It is notable that the comparative degree function is found with both benefactive/instrumental AMs and locative-/goal-selecting AMs in the survey data, but the latter only when the associated form is *-an*. This suggests that the connection between the comparative function and the AMs in question may have come about through the convergence of two separate morphemes with similar shapes, at least in some cases.

TABLE 46 Applicative morphemes with a comparative degree function

Language	AM	Role of AppP	CAUS	COMP
Gayo	-(n)en	THM	Y	Y
Bugis	-(C)eng	BEN, INST	N	Y
Mori Bawah	-aka	BEN, INST	N	Y
Wolio	-aka	BEN, THM	N	Y
Sundanese	-an	LOC, GOAL	Y	Y
Ampenan Sasak	-an	BEN, THM, LOC, GOAL	Y	Y

In a few languages of the sample, AMs mark constructions expressing causative meanings in which a causee comes to be characterized by a greater degree of the base property, e.g. ‘to make more X’. These constructions may be marked by both the AM and a distinct causative morpheme. Some examples include Karo

Batak *pebiringken* ‘to make blacker’, cf. *pebiring* ‘to blacken’ and *biring* ‘black’; and *peganjangken* ‘to put up even higher’ cf. *peganjang* ‘to put up high’ and *ganjang* ‘high’ (Woollams 1996: 62). Verb stems like these are also found in Karo Batak with the AM suffix *-i*, sometimes with the same bases, e.g. *peganjangi* ‘to make higher’; *pekitiki* ‘to make smaller’, cf. *kitik* ‘small’ (Woollams 1996: 63). Similar examples occur with *-i* in Wotu (Mead 2013: 33).

6.7 Syntactic Properties of Applicative Constructions

6.7.1 *Co-occurrence with Other Major Voice Constructions*

As described in §4.2.2, for each language in the sample, the co-occurrence of ACs with other major voice constructions (e.g. AV, PV, passive, antipassive) was investigated. This was used as a diagnostic for pivot-selecting vs. pivot-neutral applicatives. In this section, summary findings are reported for this pattern.

There are 59 languages in the sample with applicatives of any type. In nine of these languages, the AC(s) strictly do not co-occur with other basic transitive constructions (AV, PV, or each other). These languages represent Philippine-type voice systems in which the only ACs are essentially voice constructions in which a peripheral semantic role is selected as the syntactic pivot (LV, CV). In addition, we generally do not see any co-occurrence of LV and CV constructions with intransitive constructions. Some authors do report that it is possible for certain nonactor voice constructions—including pivot-selecting applicatives—to co-occur with distinct causative constructions (see Kroeger 2005: 422–424; Dillon 1994: 123–124; Gault 1999: 20–22), though this is not always addressed in the source material for the survey.

Some examples of morphologically marked causative constructions in co-occurrence with pivot-selecting applicatives are given in (135) and (136) below. Note that compatibility of causative constructions with pivot-selecting applicatives vary by language, for example, in Tatana, only AV, PV, and IV co-occur with causative constructions marked with causative prefixes.

(135) Kimaragang, Causative constructions

- a. *Pa-akon-on kuh poh i Jaiwan tu wilton*
 CAUS-eat-PV 1SG.GEN yet NOM J. because hungry
 ‘I’ll have **Jaiwan** eat something (i.e. give him something to eat) first,
 because he’s hungry.’ (Causative + PV)

- b. *Nunuh ot i-pa-akan nuh do tanak dot s<um>usu*
 what NOM IV-CAUS-eat 2SG.GEN GEN child REL <AV>milk
poh?
 yet
 ‘What will you feed a child that is still nursing?’ (Causative + IV)
 (Kroeger 2005: 423)

(136) Sama Balangingi’, Causative constructions

- a. *Pa-bowa-na ma aku surat na*
 CAUS-PV.bring-3SG.GEN OBL 1SG.ABS letter 3SG.GEN
 ‘He will send **his** letter with me’ (‘He will cause his letter to be carried by me.’) (PV) (Gault 1999: 20)
- b. *Pa-bowa-han-ta kaa surat*
 CAUS-bring-BV-1PL.INCL.GEN 2SG.ABS letter
 ‘I’ll send **you** a letter.’ (‘I’ll cause you to be brought a letter.’) (BV)
 (Gault 1999: 21)

In the remaining 50 languages of the sample, at least one pivot-neutral AC is attested in which the applied phrase does not obligatorily map to the relevant privileged syntactic argument (e.g. pivot, subject, absolutive). These results will be discussed below according to type of voice system.

Five languages of the sample show pivot-neutral applicatives alongside a Philippine-type voice system (productive or marginal). In four of these, it appears that the pivot-neutral applicative(s) do not combine with all transitive voices. In Totoli, neither of the two pivot-neutral applicative formations co-occur with LV, even though the LV construction is otherwise very productive (Himmelmann & Riesberg 2013). In Central Sama and Yakan, similarly, pivot-neutral ACs marked with *-an* do not co-occur with IV or LV (Brainard & Behrens 2002; Townsend 2017). In Bobongko, some co-occurrence of IV with locative/goal ACs marked with *-i* is observed, as well as possible co-occurrence of benefactive ACs marked with *-akon* with LV, but not vice versa (Mead 2001). Only in Balantak, do we see co-occurrence of pivot-neutral applicative across all transitive voice values, AV, PV, and LV, and this is observed with all three AMs in the language (van den Berg & Busenitz 2012). These examples have been discussed in more detail above in § 5.5.4.2 and § 5.6.3.

There are 30 languages of the sample that show two-way symmetrical voice systems (non-marginal). Of these, almost all (28 of 30) show free co-occurrence of pivot-neutral applicatives across major transitive voice constructions, i.e. AV, PV and any additional passive or antipassive constructions.

In Pendau, the instrument-selecting ACs marked with *-a'* and the locative-selecting ACs marked with *-i* do not co-occur with AV, while beneficiary-selecting ACs with *-a'* and goal-selecting ACs with *-i* do co-occur with AV (Quick 2007). As discussed in §5.6.3, the restricted ACs probably represent remnant LV and IV constructions, and it is possible that Pendau should be considered a marginal Philippine-type voice system, though it was not coded as such in the survey.

In one two-way symmetrical voice language, Laiyolo, it was not possible to determine whether the pivot-neutral applicative suffixes co-occur with the AV construction based on the source material. Applicative suffixes *-i* and *-aka* in Laiyolo are attested to co-occur with the zero-marked (PV) transitive construction and the passive marked with *ri-* (Belding, Laidig & Maingak 2001).

Eight languages of the sample show marginal two-way symmetrical voice systems and pivot-neutral applicatives, while seven show asymmetrical voice systems and pivot-neutral applicatives. These will be discussed together because of overlap in the types of major voice constructions represented.

Four of these languages (Acehnese, Nias, Enggano, and Wolio) show only one basic transitive voice construction, at least in main clauses, and a passive or possible passive construction. In Wolio and Nias, there are remnants of an alternation between A-oriented and P-oriented transitive clauses found in restricted clauses types (i.e. relative clauses in Nias marked with *aN-* vs. *ni-*, participial clauses in Wolio marked with *mo-* vs. *i-*). Across both types of marking in these restricted clauses, AM-marking may co-occur.

Nine languages of the sample show one zero-marked P-oriented basic transitive construction, a passive construction, and one or more constructions marked with a nasal prefix that show a restricted distribution (see also §7.3). These include three Bungku-Tolaki languages (Moronene, Mori Bawah, and Tolaki) and six South Sulawesi languages (Embaloh, Bugis, Coastal Konjo, Makasar, Bambam, Seko Padang).⁸ The constructions marked with the nasal prefix may be labeled actor focus, semi-transitive, or antipassive, and typically show lower semantic transitivity, e.g. non-telic or non-punctual aspect, lower affectedness of P, and/or lower specificity or definiteness of P. In almost all cases, AM-marking in these nine languages is found to co-occur across all major voice constructions available. In Mori Bawah, however, while the AMs *-Ci*, *-Cari*, and *-Cako* co-occur with all major voice constructions, *-ako* does not co-occur with the 'antipassive' construction marked with *poN-*, at least with some functions. I find it surprising that ACs commonly co-occur with the

8 Duri also shows a similar construction alongside productive AV and PV formations (Valkama 1993).

constructions with lower semantic transitivity, including antipassives, as their properties seem to be at odds with identified discursive functions of applicatives, e.g. higher topicality and referentiality of the applied phrase (see Peterson 2007: 120–121).

Finally, two languages of the sample (Muna, Busoa) also show two distinctive alternations in main clauses that co-vary with definiteness of P, but neither of these are P-oriented; in both A is the privileged relation. Muna and Busoa also show an agentless passive construction, and an alternation between A-oriented and P-oriented participial clauses with transitive verbs. ACs appear to generally co-occur across all of the aforementioned constructions, though in the case of Busoa, examples with *-Ci* in participials are limited.

6.7.2 *Properties of the Applied Phrase in Pivot-Selecting ACs*

As described in § 6.2, for languages with applicatives, patterns of indexing of the applied phrase and syntactic properties of the applied phrase (e.g. syntactic privilege, access to relativization) were investigated in the survey. This section presents results for these patterns for pivot-selecting constructions, while the following section presents results for pivot-neutral constructions.

It is important to note that information about indexing and syntactic properties of the applied phrase were not clearly reported in many descriptive accounts used as source material in the survey. In the absence of descriptive comment, coding values for the survey were determined on the basis of example sentences and other textual material available. Even so, it was not possible to determine some of the information included in the survey questionnaires for a number of languages of the sample, and this will be noted below.

In languages of the sample with Philippine-type voice alternations (14 total in the sample), the indexing and syntactic properties of the applied phrase in LV and CV constructions are generally described as equivalent to those of the pivot argument in other basic constructions, i.e., A in AV and P in PV. This pattern is as expected.

In Philippine-type languages of the Sabahan group, certain clitic pronominal forms may be used to index clausal arguments on the verb or verbal complex. The distribution and properties of these clitic pronouns or “second position clitics” are described for Kimaragang (Kroeger 2005) and Tatana (Dillon 1994). In these languages only non-pivot A arguments and pivot arguments may be expressed by means of a second position clitic, though the pronominal sets from which these are drawn are distinct. The set for the former is usually labeled *genitive* while the set for the latter is usually labeled *nominative*. For Keningau Murut, Timugon Murut, and Tombonuo, some details are unclear in the source material, but the sets of pronouns and their use in argument index-

ing appear to be similar. For all five Philippine-type Sabahan languages of the sample, the pronominal index used for the pivot argument in AV and PV may also be used for the applied phrase in LV and CV constructions.

In terms of syntactic properties, the applied phrase in LV and CV constructions in these languages is obligatorily the pivot argument. In Kimaragang, Keningau Murut, and Tatana behavioral properties of the applied phrase and other pivot arguments are more clear. In these languages, it is reported that the applied phrase generally shows syntactic behavior similar to A in AV and P in PV. The pivot argument—including the applied phrase in LV and CV—may be fronted, relativized, and/or clefted (Dillon 1994: 30–33, 71–72; Cohen 1999: 7–8; Kroeger 2005: 405, 412) while non-pivot arguments do not have access to these operations. Some examples from Tatana are given in (137). Information on syntactic behavior of the applied phrase and other pivot arguments was not available for Timugon Murut and Tombonuo from the source material, including evidence of access to relativization.

(137) Tatana, Relativization of applied phrase

- a. *Uluṅ giṯ [p<in>a-taak-an mu do duit]*
 person REL <PST>CAUS-give-RV 2SG.GEN DAT money
naka-panau do goi' i.
 AV.NVOL-walk ADVZ late.afternoon PN.NOM
 'The man [who was given money by you] left yesterday.' (RV)
- b. *Isai do kadai [p<in>am-(b)ali-an mu do akanon diti]?*
 who DAT shop <PST>LV-buy-LV 2SG.GEN DAT food PROX
 'Who owns the shop [where the food was bought by you]?' (LV)
 (Dillon 1994: 32)

In the remaining Philippine-type languages of the sample, there does not appear to be use of bound indexing for non-A arguments; bound indexes are not used for P of transitive BCs, nor for the applied phrase in ACs.

6.7.3 *Properties of the Applied Phrase in Pivot-Neutral ACs*

In this section, I report results of the survey for syntactic properties of the applied phrase in pivot-neutral constructions, as compiled for the 50 languages of the sample showing this type of AC. Because the properties of the applied phrase surveyed are often closely correlated, I begin with a general overview of the results for the surveyed patterns together, then give more details for particular languages that showing unexpected patterns.

6.7.3.1 General Overview of Results

The survey data show that languages with pivot-neutral applicatives in West Nusantara in large part show expected patterns of indexing, mapping to a privileged syntactic relation, and access to relativization for the applied phrase.

Results on the use of bound-indexing for the applied phrase are shown in Table 47. About one-third of the languages (19 of 50) generally show no bound-indexing of P on the verbal complex in transitive clauses, and no bound-indexing of S in passive constructions. For these languages, as expected, there is no bound-indexing of applied phrases in ACs. In more than half of the languages of the sample (30 of 50), bound-indexing of P on the verbal complex is observed, at least for some person and number categories, and in some clause types. Of these, the large majority (21 of 30) show bound-indexing of the applied phrase in ACs in the same manner characteristic of P in BCs. However, in a small number of cases (6 of 30), there are mixed patterns of indexing for applied phrases in ACs, some of which diverge from expected patterns. These cases include Muna, Busoa, Tukang Besi, Mori Bawah, and Tolaki. For three languages of the sample (3 of 30), patterns of indexing could not be determined across all AMs: Alas Batak, Wolio, and Seko Padang. For one language (Enggano) it could not be determined whether there is bound indexing of S in passive constructions.

TABLE 47 Bound-indexing of the applied phrase

Indexing pattern	No. lgs.	%	No. lgs.	%
Bound-indexing of P	30	60		
Like indexing of AppP			21	44
Mixed indexing of AppP			6	12
Undet. indexing of AppP			3	6
No bound-indexing of P	19	38		
Undetermined	1	2		
TOTAL	50	100		

With respect to mapping of the applied phrase to a privileged syntactic relation, each language was assigned a coding value in a manner consistent with its type of voice and alignment system. Generally, this pattern was evaluated based on the P-oriented constructions in a given language, such as PV constructions, zero-marked P-oriented basic transitive clauses, passive constructions, and P-

TABLE 48 Mapping of the applied phrase to the privileged syntactic argument

Mapping pattern	No. lgs.	%
Yes, in P-oriented const.	40	80
Mixed, in P-oriented const.	8	16
Not applicable	1	2
Undetermined	1	2
TOTAL	50	100

oriented relative clauses or participial phrases. In such constructions, there is evidence of syntactic privilege for the P argument, which may be a pivot, a subject, or an absolutive.

Results on mapping of the applied phrase to the privileged syntactic argument in pivot-neutral ACs are shown in Table 48. Most languages (38 of 50) show evidence that the applied phrase may map to the privileged syntactic argument across P-oriented clause types, and across the inventory of AMs. In a smaller number of languages (8 of 50), the applied phrase in certain types of pivot-neutral ACs may not map to the privileged syntactic relation in P-oriented constructions, though in other types of ACs, they may. These include the five languages with mixed patterns of indexing for the applied phrase mentioned above, plus Balantak, Bobongko, and Makasar. In one language (Acehnese), there is no evidence of a privileged syntactic argument (Durie 1988), so this pattern is not applicable. In one language (Moronene), it was not possible to determined the pattern based on the source material.

As for access to relativization, this behavioral property tends to correlate with mapping of the applied phrase to the privileged syntactic argument, though there is some variance across languages of the sample as to which grammatical relations may be the head noun in a relative clause. In some languages participial clauses or gerunds appear to form headless relative clauses, and these structures were used as evidence of access to relativization. Coding for this pattern was evaluated on the basis of descriptive comment and examples in textual material, or only the latter if the author did not explicitly mention this possibility for the applied phrase in ACs.

Results on access to relativization for the applied phrase in pivot-neutral ACs are shown in Table 49. In most languages (33 of 50) there is evidence that the applied phrase can head a relative clause, in at least one P-oriented clause

TABLE 49 Access to relativization for the
 applied phrase

Access pattern	No. lgs.	%
Yes, generally	33	66
Mixed, by type of AC	5	10
Undetermined	12	24
TOTAL	50	100

type. For five languages, there is evidence that the applied phrase in at least some types of ACs cannot head a relative clause. These languages are: Balantak, Bobongko, Mori Bawah, Tolaki, and Tukang Besi. For a good number of languages of the sample (12 of 50), this pattern could not be determined due to lack of descriptive comment and lack of sufficient examples. In most of these, the applied phrase does appear to map to the type of grammatical relation which may head a relative clause, but there are simply no clear examples in the source material of AM-marked verbs in relative clauses.

While most languages with pivot-neutral applicatives in West Nusantara show expected patterns of coding and behavioral properties, it must be noted that evidence of this for all types of peripheral roles that may be selected as the applied phrase was often not available. Also, I did not attempt to evaluate the syntactic properties of applied phrases and companion phrases in A-oriented constructions, as this is not necessarily apparent from coding, and behavioral properties for such are rarely, if ever, addressed in the source material. Furthermore, non-canonical ACs may exist along canonical ACs in these languages (see Chapter 7 for examples of some such ACs). Thus, the results may overstate apparent similarities between P arguments in BCs and applied phrases in ACs in some languages of the sample.

In the remainder of this section I will present the patterns for indexing, mapping to a privileged syntactic argument, and access to relativization in languages that show unexpected or mixed patterns across types of ACs. The eight languages in which these are found are concentrated in Sulawesi and include Balantak and Bobobgko (Saluan-Banggai); Muna, Busoa, and Tukang Besi (Muna-Buton); Mori Bawah and Tolaki (Bungku-Tolaki); and Makasar (South Sulawesi).

6.7.3.2 Unexpected Patterns of Indexing

Six languages of the sample show mixed patterns of indexing for the applied phrase. These patterns show animacy effects as beneficiaries are more likely to be indexed, and more likely to be indexed using special bound forms, than are instruments, themes, and circumstantial roles (e.g. reason, purpose). Mixed patterns of indexing are also observed more commonly in ditransitive ACs compared to monotransitive ACs.

In Muna, Busoa, Mori Bawah, and Tolaki, the applied phrase may show special forms for pronominal indexes in ACs bearing the benefactive/instrumental AM. In these languages, the P argument, when definite, is usually indexed on the verb as an enclitic or suffixal pronominal form in transitive BCs.

In Bungku-Tolaki languages, the forms of the special indexes are analyzed as arising from phonological coalescence of the applicative suffix *-ako* with the absolutive pronominal forms used to index P in BCs (Mead 1998: 207–212; cf. Edwards 2012: 53–54). Such forms are shown for the Mori Bawah in Table 50. In BCs, the verb stems either takes no bound-indexing or indexing with the absolutive pronominals in the left column. In certain ACs, we either see *-ako* and no following index on the verb, or one of the fused forms in right column. The special indexes in Mori Bawah and their corresponding forms in Tolaki, are regularly used to index beneficiary applied phrases, but only rarely with instrument or reason applied phrases.

In Muna and Busoa, the use of the special bound-indexes is similar with some complications. A comparison of Muna pronominal suffixes is given in Table 51.⁹ Van den Berg (2013: 68) calls the forms used for indexing of P in BCs “direct object suffixes,” and the forms used for indexing beneficiary and recipient applied phrases “indirect object suffixes,” as Muna has a subject relation (S and A) and an object relation (P) in basic main clauses. As in Mori Bawah, in BCs the verb either bears no bound index for the object, or a direct object suffix from the left column. In certain ACs, the verb either bears the suffix *-ghoo* and no object index, or a form from the right column.¹⁰

9 Note that there are no first person dual or plural inclusive pronominal suffixes used to index clausal arguments; free pronouns must be used instead.

10 As shown in Table 50, the Muna direct object and indirect object suffixes do not differ in form for all person and number categories. But when they do, it does not appear that these forms result from fusion of *-ghoo* with the object suffixes. Instead, the shapes of the indirect object suffixes are consistent with the fusion of an earlier suffix with the form *-an* preceding the object suffix. If so, this *-an*, would be a likely reflex of PAN and PMP CV *-an, which was replaced by *-ghoo*. In Busoa, the pronominal suffixes are somewhat different from those in Muna, and also show dialectal variation and stem-conditioned allomorphy (van den Berg 2020), but in at least in the third person singular, where the direct object

TABLE 50 Fusion of Mori Bawah *-ako* with absolutive pronouns (Mead 2005: 704)

	Absolutive	<i>ako</i> + absolutive
1SG	aku	akune
2SG	ko	akomu
3SG	o	akono
1PL.INCL	kita	akita
1PL.EXCL	kami	akami
2PL	komiu	komiu
3PL	ira	ako'ira

In Muna and Busoa, the indirect object suffixes are used to index beneficiary and instrument applied phrases. It does not appear that the indirect object suffixes are used to index reason applied phrases, which are also found in ACs marked with *-ghoo* in Muna and *-ho* in Busoa.

In all four languages that show special forms of indexes, the typical indexing for P and the special indexing for the applied phrase may stack on the verb. However the conditions governing the type of suffixes and mapping used when both the applied phrase and the companion phrase are eligible to be indexed on the verb are complex and differ across the languages. There do however, appear to be some animacy effects observed. In Muna and Tolaki, the instrument may only be indexed when it is a third person referent and in that case, the companion phrase may be indexed with the special form, while the applied phrase is indexed with the regular object/absolutive suffix. Thus it appears that the use of the special forms of indexes in ACs in these four languages shows animacy effects. These forms are commonly used for indexing of beneficiaries and recipients, which are typically animate, and sometimes used for certain types of patient companion phrases, which are possibly animate, but only rarely used with instruments and reason roles, which are typically inanimate.

Tukang Besi and Makasar show only one form of bound-indexing for non-actor arguments whether in BCs or ACs. In both languages, the applied phrase is indexed on the verb in this manner in some types of ACs but not others.

suffix is *-e* and the indirect object suffix is *-ene* (and variant *-ane*) this proposal might be supported. In any case, this constitutes some evidence that Muna *-ghoo* and Busoa *-ho* may be newer forms of AM-marking, which might explain why the shapes of the suffixes show unexpected sound correspondences as mentioned in §6.4.3 above.

TABLE 51 Muna pronominal suffixes for direct and indirect objects

	Direct object	Indirect object
1SG	-kanau	-kanau
2SG	-ko	-angko
2SG.POL	-kaeta	-kaeta
3SG	-e	-ane
1DU.INCL	—	—
1PL.INCL	—	—
1PL.EXCL	-kasami	-kasami
2PL	-ko-omu	-angko-omu
2PL.POL	-kaeta-amu	-kaeta-amu
3PL	-da	-anda

In *Tukang Besi*, the applicative suffix *-ako* marks ACs in which the applied phrase is a beneficiary, instrument, theme, reason, or purpose role. All of these except themes and purpose phrases may be indexed on the verb in ACs with the normal object suffixes (Donohue 1999: 232–242). Interestingly, it appears that the companion phrase is never indexed on the verbs in ACs marked with *-ako*, even if the applied phrase is not indexed or cannot be indexed. Comitative applied phrases in ACs marked with *-ngkene* and locative/goal applied phrases in ACs marked with *-i* may be indexed on the verb, and again the companion phrase is these types of ACs is never indexed.

In *Makasar*, patterns of indexing for the applied phrase varies in ACs marked with the applicative suffix *-ang*. In BCs, generally when P is definite, it is indexed on the verb in a zero-marked transitive clause using an absolutive enclitic. If P is not definite, the zero-marked transitive construction typically cannot be used, only a semi-transitive or antipassive construction in which the same participant is not indexed. In ACs, the pattern of indexing observed is influenced by the transitivity of the base. With intransitive bases, the applied phrase, which is usually a theme, is always indexed on the verb. With monotransitive bases, the beneficiary applied phrase is always indexed on the verb, and the clause is not sensitive to the definiteness of the companion phrase. Instruments appear to follow the same pattern, though the examples are not always clear. With ditransitive bases, which only occur with the lexical verb meaning ‘give’, the recipient is always indexed on the verb, and the theme companion phrase is not. ACs with ‘give’ however, are sensitive to the definiteness of the theme companion phrase, and cannot be used with indefinite themes.

6.7.3.3 Unexpected Patterns of Syntactic Behavior

Eight languages of the sample show unexpected syntactic behavior for the applied phrase. In general the applied phrase in locative- and goal-selecting ACs is allowed to be the privileged syntactic argument in P-oriented constructions. In ACs selecting beneficiaries, instruments, themes, and other circumstantial roles, the patterns are more mixed. In addition, indexing of the applied phrase does not necessarily co-vary with access to syntactic operations.

In Balantak and Bobongko, the syntactic properties of the applied phrase vary by AM. The applied phrase in locative- or goal-selecting ACs with *-i* (and variant *-an* in Bobongko) pattern much like P in BCs and can become the pivot in a PV construction. Accordingly, they are eligible to be the head of a relative clause in Balantak, and the same would be likely hold for Bobongko though evidence of such is not available (Mead 2001).

In ACs marked with *-ako* in Balantak and *-akon* in Bobongko, however, the applied phrase may not hold the pivot relation in PV. In Balantak the applied phrase in ACs marked with *-ako* are of various roles—including beneficiary, instrument, theme, and reason—but all alike are never realized as the pivot in PV. In Bobongko only beneficiary applied phrases are observed with *-akon*, and these also may not hold the pivot relation in PV (but see also §5.6.3 on ACs marked with *-akonnan* in Bobongko). Accordingly, these types of roles are not eligible to head a relative clause in Balantak, and the same would likely hold for Bobongko.

There is also a type of AC marked with *-ii* in Balantak, which selects a beneficiary as the applied phrase. In such ACs, only the beneficiary may be the pivot in PV. The companion phrase (theme or patient) cannot be the pivot in PV, as evidenced by word order and the patterning of articles with NP arguments in such clauses (van den Berg & Busenitz 2012: 108–109). This is in keeping with the proposal that *-ii* arose as a fusion of the locative/goal suffix *-i* plus a following personal name marker *i*.

In Tukang Besi, most types of applied phrases may be the subject of a passive construction, and are eligible to head a P-oriented relative clause marked with the prefix *i-* on the verb. Only reason and purpose applied phrases may not be the subject of a passive construction, nor head a P-oriented relative clause. The companion phrase typically does not show object properties in ACs, except in locative-/goal-selecting ACs, where it may head a P-oriented relative clause, but not map to subject in a passive construction. See also Donohue (1999) for extensive discussion of other syntactic properties of the applied phrase and companion phrase across roles and types of AM-marking.

Finally, in the languages that show special indexes for the applied phrase in some ACs, the pattern of indexing does not necessarily co-vary with access

to syntactic operations. In Muna and Tolaki, though beneficiaries are indexed with the special suffixes and instruments are usually not, both types of applied phrase may be the subject of a passive participial clause. (There is no evidence by which to compare reason applied phrases in these two languages.) In Mori Bawah, however, only beneficiaries may be the subject of a passive construction in ACs marked with *-ako* with transitive bases. Instrument and reason applied phrases may not be the subject in passive constructions, unless the base is intransitive. The patterns for Busoa are not clear. In these languages, the passive participials may be used like a headless relative clause, so passivization and relativization are not separate indicators of access to syntactic operations.

6.7.3.4 Summary and Discussion

As shown in this section, the survey data indicates that, in most languages of the sample with pivot-neutral applicatives, the applied argument in ACs shows coding and syntactic properties similar to that of P in BCs, at least for the type of indicators which can be assessed based on the source material. However, there are eight languages of the sample, all located in Sulawesi, which show unexpected patterns in the syntactic properties of applied phrases.

Generally it appears that in locative- and goal-selecting ACs marked with *-i*, the applied phrase shows coding and syntactic behavior like P in BCs. For beneficiary-, instrument-, and/or theme-selecting ACs, the patterns tend to show the influence of animacy, as well as sensitivity to the transitivity of the base. With transitive bases, unexpected patterns in syntactic properties are more commonly observed, since both the applied phrase and a companion phrase may be arguments of the clause, and there appears to be some type of competition between them for syntactic properties. The influence of animacy is also observed, with beneficiaries being most likely to show indexing and access to syntactic operations, as compared to instruments and themes, while reason and purpose applied phrases are even less likely to do so. Thus in cases where both an applied phrase and a companion phrase appear to be clausal arguments in an AC (as in ditransitive clauses), the animate participant is more likely to show special forms of indexing, or to be indexed to the exclusion of the other, and is more likely to show greater access to syntactic operations.

6.8 Summary of Findings and Implications

In this chapter, I have presented results from the typological survey related to properties of ACs and AMs in West Nusantara languages, and interpreted these

distributional patterns to shed light on the historical developments that may have created them. Some major findings of this chapter are as follows.

With respect to the distribution of forms of applicative morphology and their functions, a predominant pattern for pivot-neutral AMs is observed whereby one form of AM-marking is used for locative- and goal-selecting ACs, and another is used for beneficiary-, instrument-, and theme-selecting ACs. For locative- and goal-selecting ACs, based on this pattern and observed allomorphy in the relevant AMs in a number of languages, I have argued that ACs of this type are derived from earlier LV constructions marked with **-i/*-an*. For ACs selecting a beneficiary, instrument, or theme, I have argued that these constructions are most likely derived from earlier CV constructions marked with **-an*, though in many languages the original suffix has been replaced with a *-K* or *-AK* type suffix.

With respect to non-applicative functions of AM, distributional patterns for these tend to be influenced by geographic location. Sulawesi languages in particular, show less prevalence and lower productivity of causative functions for AMs than is observed in other parts of West Nusantara. The pluractional function is very widespread, and is strongly associated with locative- and goal-selecting AMs. The comparative function is sparsely attested, but also fairly broadly distributed across West Nusantara languages. It is associated with the form *-an*, whether it be a locative- and goal-selecting AM, or a partially generalized benefactive AM. This raises the possibility that the association of this function with the relevant AMs originated via some merger of two formerly distinct morphemes.

With respect to syntactic properties of the applied phrase, most languages show co-occurrence of pivot-neutral AMs across all available major voice constructions. In ACs, most languages of the sample show coding and behavior for the applied phrase similar to that of P, though this similarity may be overstated due to the type and quantity of data available. However, some languages of Sulawesi show varying coding and behavior for the applied phrase, in patterns that are influenced by transitivity of the base and animacy of clausal arguments.

Therefore, the pivot-neutral applicatives of West Nusantara are not simply diachronic retentions nor diachronic innovations. Instead, they show continuity with previous constructions (LV, CV), while also exhibiting key changes in function (addition of causative and aspectual meanings), distribution (co-occurrence with other voice constructions) and form (new affixal shapes).

Taken together, a major implication of these findings is that functional patterns as well as formal patterns are important in understanding the origin and development of the pivot-neutral applicatives in languages of West Nusantara.

Besides this, the results indicate some ways that languages of western Indonesia in the area centered around Java and Madura show some similarities that are not reflected elsewhere, especially in Sulawesi, where the range of properties found for ACs and AMs exhibit a fair amount of diversity. Such diversity is perhaps still understated, due to the fact that detailed description is not available for many languages of Sulawesi. Therefore, there is still much work to do in documenting and understanding the diversity of applicative systems of West Nusantara languages, though the patterns outlined here may stand as a guide, albeit incomplete, to the possible range of this diversity.

A Functional Typology of Applicative Constructions in Languages of West Nusantara

7.1 Introduction

This chapter presents a functional typology of pivot-neutral applicative constructions (ACs) and other constructions marked with applicative morphemes (AMs), based on a sample of 24 West Nusantara languages.¹ In these languages, ACs are marked by one of a small number of AMs that are clearly separate from morphology signaling symmetrical voice alternations (see § 3.4 on distinguishing symmetrical voice and applicatives). I focus on systems with pivot-neutral applicatives because AMs in these systems show more polyfunctionality, and ACs show more diverse syntactic properties, compared to systems with only pivot-selecting applicatives. Applicative systems showing pivot-neutral ACs are also well-represented in West Nusantara, while for pivot-selecting ACs, the great part of diversity is found outside of West Nusantara, particularly in Formosan and Philippine languages.

Throughout the chapter, AM-marked clausal constructions are described according to properties of their fixed form and associated meaning, giving attention to observed commonalities and diversity in these properties across languages. As discussed in § 1.6.1, the fixed form of a construction includes the form of the morphological marking on the verb, and syntactic properties of the clause, such as the number, structural position, and coding of clausal arguments. The meaning of a construction here refers to semantic properties of the clause, such as the semantic roles that map to various positions in the clausal structure, and other elements of semantic meaning that are generalizable across bases that may fill the verbal slot in these constructions.

The data presented here show that beneficiary-selecting ACs display different properties than theme- and instrument-selecting ACs, despite being marked with the same AMs. The former almost always show maximally ditransitive structures, while the latter typically show monotransitive structures with

1 An earlier version of this chapter was published as McDonnell & Truong (2024a). Here it has been significantly expanded and revised with the addition of 16 languages to the original eight included in the sample, and incorporation of the constructional framework and typological categories used in this study.

remapping of the companion phrase. Locative- and goal-selecting ACs to a lesser extent also show some differences in properties. Causative functions are frequently attested for AMs, but not equally across all languages of the sample, being particularly less prevalent in languages of Sulawesi. Finally, the selection of voice or valency alternations plus applicatives modulates access of constituents expressing peripheral roles to positions which are syntactically privileged and prominent in discourse, and this is seen both in languages with symmetrical voice systems and those which have developed asymmetrical voice systems.

This chapter is organized as follows. §7.2 introduces the language sample. §7.3 presents a brief overview of the basic morphosyntax of these languages. §7.4 gives a general introduction to applicative affixes in languages of the sample. The next five sections describe ACs in these languages according to the semantic role of the applied phrase. These include beneficiaries and recipients (§7.5), instruments and themes (§7.6), goals and locations (§7.7), circumstantial roles and comitatives (§7.8), and other types of participants (§7.9). §7.10 describes aspectual, intensive, and other semantic effects marked by AMs. §7.11 describes causative AM-marked constructions. In §7.12, the relationship between applicatives and other major voice (or valency) alternations is described. The chapter concludes with a summary of findings in §7.13.

7.2 Sampling of Languages

A total of 24 languages are included in the sample for this chapter, as listed in Table 52. These languages were selected out of the 50 total languages with pivot-neutral applicatives in the larger sample for the typological survey (see §4.1.2). To be eligible for selection, either detailed descriptive accounts with robust numbers of examples of ACs or fairly comprehensive lexical resources with example sentences were required for a language. For each genetic grouping used in the typological survey, I attempted to include two languages from different primary branches, unless the grouping is comprised of more than 50 total languages, in which case, up to three languages were selected.

For a number of genetic groupings, no languages with adequate resources were found. These include Lampung, Enggano, and Wotu-Wolio. For Javanese languages, only Standard Javanese [jav] was included, due to lack of examples of ACs for Tengger and Suriname Javanese. Acehnese, the sole Chamic language with applicatives, was excluded because its sole AM *peu-* is primarily a causative marker, and very few lexical verbs take applicative meanings with

TABLE 52 Language sample for the functional typology presented

No.	Language	Gen. grp.	Branch	Location	Sources
1	Toba Batak	NWS-BI	Batak	Sumatra	van der Tuuk 1971 [1864–1867]
2	Nias	NWS-BI	Barrier Isl.	Barrier Isl.	Brown 2001
3	Nasal	NAS	none	Sumatra	McDonnell fieldnotes
4	W. Coast Bajau	GRB	Sama-Bajaw	Borneo	Miller 2007
5	Yakan	GRB	Sama-Bajaw	S. Philip.	Brainard & Behrens 2002
6	Kendayan	MAL	none	Borneo	Adelaar 2005b
7	S. Barisan Mal.	MAL	Malay	Sumatra	McDonnell 2016
8	Std. Indonesian	MAL	Malay	(wide use)	Sneddon et al. 2010
9	Sundanese	SUN	none	Java	Truong fieldnotes
10	Javanese	JAV	none	Java	Oglobin 2005; Hemmings 2013; Vander Klok & Evans 2022
11	Madurese	MAD	none	Madura	Davies 2010
12	Balinese	BSS	Bali	Lsr. Sundas	Arka 2003; Artawa 1998
13	Sasak	BSS	Sasak-Sumb.	Lsr. Sundas	Khairunnisa & McDonnell in prep
14	Pendau	T-T	Tomini	Sulawesi	Quick 2007
15	Ledo Kaili	K-P	Northern	Sulawesi	D. Evans 2003
16	Behoa	K-P*	Badaic	Sulawesi	Shore 2016
17	Balantak	S-B	Eastern	Sulawesi	van den Berg & Busenitz 2012
18	Mori Bawah	B-T	Eastern	Sulawesi	Mead 1998
19	Tolaki	B-T	Western	Sulawesi	Edwards 2012
20	Muna	M-B	Nuclear	Sulawesi	van den Berg 2013
21	Tukang Besi	M-B	Tukangbesi-Bonerate	Sulawesi	Donohue 1999
22	Bugis	SSUL	Bugis	Sulawesi	Hanson 2003; Sirk 1983
23	Makasar	SSUL	Makassar	Sulawesi	Jukes 2020
24	Duri	SSUL	Northern	Sulawesi	Valkama 1993

* The genetic affiliation listed for this language is disputed.

peu-. For the Greater Barito linkage, only the Sama-Bajaw languages have pivot-neutral applicatives; two are included from separate branches of the Sama-Bajaw subgroup.

7.3 Basic Morphosyntax

In terms of morphological typology, the languages of West Nusantara included in the sample range from moderately agglutinative (e.g. Pendau in which a single stem may show several prefixes and suffixes) to relatively isolating (e.g. Ampenan Sasak in which a given stem takes only up to one prefix and one suffix). These languages show little to no case-marking. However, as mentioned in §1.6.2, an important type of syntactic coding in these languages is the selection of pronominal forms indexing clausal arguments from particular sets, which co-vary with grammatical relations. Languages represented that show more use of case-marking include Nias, which uses morphophonological changes on nouns ('nominal mutation') to indicate grammatical relations (Brown 2001), and Yakan and Tukang Besi, which make use of case-marking particles on NPs (Brainard & Behrens 2002; Donohue 1999). In most languages of the sample, however, lexical NPs are unmarked when core arguments and marked with a preposition when oblique. Also, in all of these languages, core arguments are often unrealized when their identity is recoverable in the discourse.

A summary of some relevant properties of voice and case marking systems for the languages of the sample is given in Table 53. These properties will be discussed in further detail below, including illustrative examples.

In the languages of the sample, intransitive predicates may be unmarked, or show marking with a number of different affixes according to their semantic properties. These include affixes indicating stative meaning, and dynamic, reciprocal, or non-volitional action, among others. In languages with two-way symmetrical and Philippine-type voice systems, the verb in a transitive clause is typically marked for voice. An example is given for Toba Batak in (138), showing that AV is marked with the prefix *maN-*, while PV is marked with the prefix *di-*. Ledo Kaili also has distinctive affixes for each transitive voice, as in (139).

(138) Toba Batak, Voice alternations

- a. *Man-jaha buku guru i.*
 AV-read book teacher DEF
 'The teacher read a book.' (AV)

- b. *Di-jaha guru buku i.*
 PV-read teacher book DEF
 'A teacher read the book.' (PV)

(Schachter 1984: 127–128)

TABLE 53 Voice and case marking in languages of the sample

Language	Voice	Case marking	Major trans. alternations
Balantak	Philippine-type	limited (pronominals)	AV / PV / LV
Behoa	two-way symmetrical	limited (pronominals)	AV / PV
Duri	two-way symmetrical	limited (pronominals)	AV / PV
Javanese	two-way symmetrical	limited (pronominals)	AV / PV
Ledo Kaili	two-way symmetrical	limited (pronominals)	AV / PV
Madurese	two-way symmetrical	limited (pronominals)	AV / PV
Nasal	two-way symmetrical	limited (pronominals)	AV / PV
Pendau	two-way symmetrical	limited (pronominals)	AV / PV
Std Indonesian	two-way symmetrical	limited (pronominals)	AV / PV
Toba Batak	two-way symmetrical	limited (pronominals)	AV / PV
Ampenan Sasak	two-way symmetrical	none	AV / PV
Balinese	two-way symmetrical	none	AV / PV
Kendayan	two-way symmetrical	none	AV / PV
S. Barisan Malay	two-way symmetrical	none	AV / PV
Sundanese	two-way symmetrical	none	AV / PV
W. Coast Bajau	two-way symmetrical	none	AV / PV
Tukang Besi	two-way symmetrical	Y (preposed particles)	AV / PV
Yakan	Philippine-type (marg.)	Y (preposed particles)	Trans. / semi-trans. / IV
Bugis	two-way (marg.)	limited (pronominals)	Trans. / semi-trans.
Makasar	two-way (marg.)	limited (pronominals)	Trans. / semi-trans.
Mori Bawah	asymmetrical	limited (pronominals)	Trans. / semi-trans.
Muna	asymmetrical	limited (pronominals)	Trans. / semi-trans.
Tolaki	asymmetrical	limited (pronominals)	Trans. / semi-trans.
Nias	two way (marg.)	Y (mutation)	None in main clauses

(139) Ledo Kaili, Voice alternations

a. *Soso nang-(k)ande loka.*

gecko AV-eat banana

'The gecko eats a banana.' (AV)

b. *Loka ni-kande nu soso.*

banana PV-eat by gecko

'The banana is eaten by a gecko.' (PV)

(D. Evans 2003: 495, English translation & glosses added)

In both Toba Batak and Ledo Kaili, if A represents certain first or second person pronominal categories, it may be realized as a pronominal prefix or proclitic that replaces the PV prefix. This is shown in (140) for Ledo Kaili, in which this type of actor indexing prefix is only found in irrealis mode clauses.

- (140) Ledo Kaili, Irrealis PV with bound-indexing for A
Ku-kande tapia ngena.
 1SG.IRR.PV-eat mango later
 'Later, I will eat a mango.' (PV)
 (D. Evans 2003: 496, English translation & glosses added)

In a good number of languages with two-way symmetrical voice or marginal two-way systems, the P-oriented transitive construction is zero-marked. This means it is distinguished by lack of voice morphology in comparison to A-oriented constructions, which are generally marked with one or more verbal prefixes. An example is given for West Coast Bajau in (141); the AV construction is marked with the prefix *N-*, while the PV construction is zero-marked. Note also the special form for non-pivot A when pronominal. Non-pivot A in PV is encoded as an enclitic pronoun, i.e. *=ku* 'I' in (141), whereas all other core arguments are encoded as unmarked free pronouns, and are not otherwise morphologically distinguished for case.

- (141) a. West Coast Bajau
Aku boi m-(b)oo iyo pitu
 1SG CMPL AV-bring 3SG to.here
 'I brought him/her here.' (AV)
- b. *Boi boo=ku iyo pitu*
 CMPL [PV]bring=1SG.NPIV.A 3SG to.here
 'I brought him/her here.' (PV) (Miller 2007: 140)

Other languages with a zero-marked PV construction and a prefix-marked AV construction are Duri and Behoa. In Balantak, only 'agented' PV² in realis mode is zero-marked, otherwise, PV verbs are marked with voice affixes. Kendayan

2 Van den Berg & Busenitz (2012) describe two types of P-oriented constructions in Balantak, one in which the agent may be freely expressed (called 'agented PV'), and one in which the agent is suppressed and cannot be overtly mentioned (called 'agentless PV'). The two are distinctly marked, and the latter may be considered a kind of passive construction.

(Salako) shows prefixal marking for AV and optional marking of PV with a proclitic *di=* (see § 5.5.2 on similar constructions in neighboring languages).

In some symmetrical voice languages, non-pivot A has special coding when it is a lexical NP. Sundanese marks AV and PV constructions with prefixes *ng-* and *di-*, respectively, as in (142). The A argument in PV is most commonly marked by a preposition *ku* ‘by’, as in (142b), though *ku* may be omitted when the actor immediately follows the verb (Kurniawan 2013). Ledo Kaili, as shown in (139b) above, exhibits similar marking of non-pivot A with *nu* ‘by’.

(142) Sundanese, Voice alternations

a. *Asep m-(b)euli baju.*

A. AV-buy clothes

‘Asep bought clothes.’

b. *Baju di-beuli ku Asep.*

clothes PV-buy by A.

‘Asep bought clothes.’

(FM4-050)

In the Nasal example in (143), PV is unmarked when A is first or second person, as in (143a), and optionally marked with a dedicated prefix when A is third person, as in (143b). This pattern is also found in South Barisan Malay.

(143) Nasal, PV marking

a. *lahan ni kak khadu kam=suah.*

field that PFV finish 1PL.EXCL.NPIV=[PV]burn

‘We already burned the field.’

b. *lahan ni kak khadu (di-)suah=nyo.*

field that PFV finish PV-burn=3SG

‘He already burned the field.’

(McDonnell fieldnotes)

Pendau shares similarities to Nasal, but also shows additional complexity in its system of verbal morphology (see § 5.6.3.4). Pendau distinguishes realis and irrealis mode, which is reflected in two sets of voice prefixes. Like Nasal, Pendau also shows distinct forms of pronominal clitics used to index first and second person non-pivot A arguments in certain PV constructions. These appear in pre-verbal position, in which case no dedicated voice prefix is observed on the verb (see Quick 2007: 374–375).

Among the languages of the sample, Ampenan Sasak and Tukang Besi show the least use of verbal morphology to mark symmetrical voice categories. As

mentioned in §5.3, Ampenan Sasak, still shows a contrasts between A-oriented and P-oriented constructions, but the predicate is typically unmarked, with A-oriented constructions only optionally bearing the prefix *N-*. This constitutes a two-way symmetrical diathesis system, with the alternation between A-oriented and P-oriented clauses signaled through a combination of word order and coding of A arguments, including the use of clitic pronominal forms (Khairunnisa 2022).

In *Tukang Besi*, similarly, there are two types of transitive clauses, neither of which show morphological marking of the verb in main clauses. One type shows indexing of P on the verb, and the other does not. But in relative clauses, morphologically marked distinctions akin to PV and AV do appear on the verb, and this co-varies with access to syntactic operations for the argument marked with *na* ‘nominative’ in the clause. Therefore, *Tukang Besi* is treated as a two-way symmetrical system by Donohue (2002), and also likewise in this study.

For some other languages of the sample that show zero-marked transitive constructions in alternation with prefix-marked constructions, the latter may be described as semi-transitive. An example is given for Makasar (South Sulawesi) in (144). In the zero-marked basic transitive clause, shown in (144a), there is no required verbal morphology signaling voice or valency. Here, both A and P arguments are indexed with pronominal clitics. In the clause shown in (144b), the verb is marked with the prefix *aN(N)-*. Here, P is not indexed on the verb with an enclitic pronoun, and P may not be definite. Jukes 2020 analyzes *aN(N)-* as a valency-signally prefix, rather than a voice marker.

(144) Makasar, Transitive alternations

a. *ku=kanre=i taipa=nu*

1=eat=3 mango=2.FAM.POSS

‘I eat your mangoes.’ (Zero-marked transitive)

b. *angng-(k)anre=a’ taipa*

STR-eat=1 mango

‘I eat mangoes’ (Semi-transitive)

(Jukes 2020: 257)

Bugis, another South Sulawesi language, shows similar alternations. For Bugis, the constructions marked with *ma(C)-* or *m-* have been analyzed either as an antipassive construction (Hanson 2003), or a type of AV (D. Laskowske 2016). Yakan (Sama-Bajaw) shows similar alternations that likewise may be treated as AV and PV constructions, or a zero-marked transitive P-oriented construction and a semi-transitive or antipassive construction marked with *mag-* (plus less productive pivot-selecting ACs). I treat these as one alternation in a marginal

symmetrical voice system, due to the fact that some phrases expressing the patient in the prefix-marked constructions appear to show argument properties, while the agent phrase is syntactically privileged. However, these clauses do tend to show lower semantic transitivity (see also § 5.6.1).

Languages of the sample with asymmetrical voice systems include Muna, Mori Bawah, Tolaki, and Nias. Nias does not show verbal alternations of the type we have been discussing in main clauses, while the three Sulawesi languages do. These languages show an alternation in the form of morphological marking or argument indexing on the verb depending on the definiteness of the P argument, which has been called “definiteness shift” (van den Berg 1995). However, unlike symmetrical voice languages, there is little evidence from syntactic behavioral properties by which one such alternation may be considered A-oriented and the other P-oriented. An example is given in (145) below from Muna, where for realis clauses, the third person singular A index *ae-* is used with an indefinite P argument, while the corresponding A index *a-* is used with a definite P argument. Note that the choice of *a-* or *ae-* class indexes does not co-vary with access to syntactic operations for types of core arguments; only S or A may head a relative clause with an *a-* class subordinate verb form (a participial marked with *-um-* *-no*) and the same holds with an *ae-* class subordinate verb form (a participial marked with *me-* *-no*) (van den Berg 2013: 232–234).

(145) Muna, Definiteness shift

a. *Ae-alo-mo* *kapulu.*

3SG.RLS-take-PERF machete

‘I took a machete.’

b. *A-ala-mo* *kapulu-ku.*

3SG.RLS-take-PERF machete-1SG.POSS

‘I took my machete.’

(van den Berg 1995: 169)

In Mori Bawah and Tolaki, in transitive clauses with definite P arguments, the verb is zero-marked, and P is obligatorily indexed on the verb. In corresponding clauses with indefinite P arguments, the verb is prefixed with *poN-* in Mori Bawah (*po-* in Tolaki), which is glossed as antipassive. In neither case is P syntactically privileged. Like ‘antipassive’ constructions in Mori Bawah and Tolaki, *ae-* class indexed clauses in Muna are less semantically transitive than zero-marked or *a-* class indexed clauses; these three languages also show similarities to Makasar and Bugis.

In addition to transitive alternations, many languages of the sample have a ‘true passive’ construction, with the exception of Pendau, Toba Batak, and

possibly Yakan. In some of these, the passive construction is marked with a dedicated affix, as with West Coast Bajau (*-in-*), Amepenán Sasak (*te-*), and Makasar (*ni-*). In other languages, as in Nasal and Indonesian, the passive construction may be marked with the PV prefix, however, see Chen & McDonnell (2019) on difficulties in distinguishing PV and passive constructions when both are marked with the same verbal morphology.

Finally, some languages of the sample, most notably Pendau, make use of a number of *stem-former* prefixes. These prefixes do not express semantic content of their own, but instead function to form an augmented stem which is grammatically required for further affixation with voice prefixes, applicative suffixes, and other derivational morphology (see Quick 2007: 99–108 and discussion in §5.6.3.4). Stem-former prefixes in the languages of the sample typically have shapes like *pong-*, *po-*, *pe-*, and *popo-*, alongside allomorphs showing vowel harmony. Such prefixes are also found in Behoa and Ledo Kaili, though their use in these languages is perhaps less pervasive than in Pendau. Some prefixes with the same shape have been treated as transitivizers or transitive markers by some authors, and some are also treated as causative prefixes (see §7.11). Stem-former prefixes are commonly observed in Austronesian languages of the Philippines and Sulawesi (see e.g. Himmelmann & Wolff 1999).

7.4 Applicative Morphology

Each language of the sample has between one and four AMs that mark ACs, which are listed in Table 54. In four languages—West Coast Bajau, Yakan, Tolaki, and Ampenan Sasak—there is only one AM. Most languages of the sample (14 of 24) have two AMs, one marking selection of beneficiaries, instruments, and/or themes as the applied phrase, and the other marking selection of locations and goals as the applied phrase. For applied phrases with other semantic roles such as stimulus or content, however, there is no such specialization across AMs (see §7.9). Five languages of the sample show three AMs—Nias, Sundanese, Ledo Kaili, Balantak, and Tukang Besi—and one language—Mori Bawah—shows four (see §6.4.1.3 for more details on these systems).

The peripheral roles expressed by the applied phrase in ACs typically may be expressed as an oblique in a corresponding BC in these languages with the same verbal stem without AM-marking. Such obliques are most commonly encoded as a prepositional phrase. There are a few cases, however, in which there is no (monoclausal) equivalent BC, which will be noted below in the relevant sections. In the following sections, I also make reference to the semantic participant expressed by the P argument in a BC, and its syntactic realization

TABLE 54 Applicative morphology by semantic role of the applied phrase

Language		Single Form						
		BEN	INST	THM	LOC	GOAL		
W. Coast Bajau	-an	✓	✓	✓	✓	✓		
Yakan	-an	✓		✓				
Sasak	-an	✓	✓		✓	✓		
Tolaki	-Cako	✓	✓					

Language		Form 1			Form 2				
		BEN	INST	THM		LOC	GOAL		
Toba Batak	-hon	✓	✓	✓	-i/an	✓	✓		
Nasal	-kun	✓	✓	✓	-i	✓	✓		
Kendayan	-an	✓		✓	-i	✓	✓		
S. Barisan Mal.	-ka	✓	✓	✓	-i	✓	✓		
Std. Indonesian	-kan	✓	✓	✓	-i	✓	✓		
Javanese	-aké	✓	✓	✓	-i	✓	✓		
Madurese	-agi	✓	✓	✓	-e	✓	✓		
Balinese	-ang	✓	✓	✓	-i	✓	✓		
Pendau	-a'	✓	✓	✓	-i	✓	✓		
Behoa	-á	✓			-i	✓	✓		
Muna	-ghoo	✓	✓		-i	✓	✓		
Bugis	-Ceng	✓	✓	✓	-i	✓	✓		
Makasar	-ang	✓	✓	✓	-i	✓	✓		
Duri	-an	✓	✓	✓	-i	✓	✓		

Language		Form 1			Form 2		Form 3		
		BEN	INST	THM		LOC	GOAL		
Nias	-ö			✓	-(C)i	✓	✓	fa-	THM, GOAL
Sundanese	-keun	✓	✓	✓	-an	✓	✓	pang- -keun	BEN
Ledo Kaili	-ka	✓			-i	✓	✓	-aka	THM, INST
Balantak	-kun	✓	✓	✓	-i	✓	✓	-ü	BEN
Tukang Besi	-ako	✓	✓	✓	-(VC)i	✓	✓	-ngkene	COM

TABLE 54 Applicative morphology by semantic role of the applied phrase (*cont.*)

Language	Form 1			Form 2		Forms 3 & 4		
	BEN	INST	THM	LOC	GOAL			
Mori Bawah	-ako	✓	✓	-(C)i	✓	✓	-Cako -Cari	THM GOAL, STIM

in the corresponding AC. As discussed in §3.1.3.4, I refer to this participant as the *companion phrase* because it generally may be expressed alongside the applied phrase in the AC, and may or may not be encoded as a core clausal argument.

7.5 **Beneficiaries and Recipients**

7.5.1 *Distribution and General Properties*

All but one languages in the sample (Nias) has an AC in which a beneficiary role is selected to map to the applied phrase. In many cases, this same construction is also found with a recipient role expressed as the applied phrase, though beneficiaries and recipients are not consistently distinguished in descriptive source material.

The languages of the sample vary in productivity of the beneficiary-selecting AC and compatibility of this construction with various bases. In all languages of the sample, benefactive ACs are compatible with at least a subset of transitive bases, including roots with the meanings that express transfer, acquisition, and conveyance, e.g. ‘give’, ‘buy’, and ‘bring’, and acts of creation, e.g. ‘make’, ‘build’. In about half of the languages of the sample, beneficiary-selecting ACs also are compatible with transitive roots expressing processes, such as ‘wash’, ‘grind’, and ‘pound’. In only a few languages are beneficiary-selecting ACs attested with bases expressing sensory or cognitive events, e.g. Sundanese *pang-ambeu-keun* ‘to smell for s.o.’, Sasak *dengah-an* ‘to hear for s.o.’, or with intransitive bases expressing activities, e.g. Muna *ne-lagu-lagu-ghoo* ‘to sing to/for s.o.’, Behoa *mam-pe-kakae-á* ‘to pray for s.o.’.

- (146) Nasal, Beneficiary-selecting AC with *-kun*
a. *Azma ny-(s)anik buwak gin anak=nyo.*
A. AV-make snack for child=3SG
 ‘Azma made snacks for her children.’ (BC)

- b. *Azma ny-(s)anik-kun anak=nyo buwak.*
 A. AV-make-BEN.APPL child=3SG snack
 'Azma made her children snacks.' (AC) (McDonnell fieldnotes)

Example (146) shows an beneficiary-selecting AC from Nasal with the suffix *-kun*. In the BC in (146a), the beneficiary is expressed as a PP, as is typical of most languages of the sample. In Makasar and Kendayan, the expression of a beneficiary with a PP is only possible with an apparently borrowed preposition *untu/untuk* 'for' from Indonesian. Jukes (2020: 315) reports that only younger speaker of Makasar use this borrowed preposition. Expressing the beneficiary as a PP is also possible in Ampenan Sasak with a preposition *umaq*, but this is apparently rare and found only in elicited examples (Khairunnisa & McDonnell in prep).

Sundanese shows two different benefactive applicatives: *-keun* and *pang-keun*. The prior is much less productive as a benefactive applicative. It is restricted to a small number of the transitive bases, and takes a beneficiary applied phrase, as in (147), repeated from (57) in § 2.7. The suffix *-keun* may also act as a causative, as in (148).

- (147) Sundanese, Beneficiary-selecting AC with *-keun*
 a. *Udi m-(b)uka panto keur kuring.*
 U. AV-open door for 1SG
 'Udi opens the door for me.'
- b. *Udi m-(b)uka-keun kuring panto*
 U. AV-(b)uka-BEN.APPL 1SG door
 'Udi opens the door for me.' (Hanafi 1997: 23)
- (148) Sundanese, Causative construction with *-keun*
 a. *Jandela peupeus.*
 window break
 'The window breaks / is broken.' (BC)
- b. *Abi m-(p)eupeus-keun jandela.*
 1SG AV-break-CAUS window
 'I broke the window.' (Causative) (CT1-017)

As discussed in § 2.6, Sundanese beneficiary-selecting ACs with *pang-keun* have a substitutive benefactive meaning and are highly productive. Such ACs are found with a wide range of intransitive and transitive bases. When *pang-*

-keun attaches to an intransitive base, such as the verb *peupeus* ‘break’, shown in (148a), the AC is *not* monotransitive as we might expect. Instead as shown in (149), the AC is ditransitive and has both a causative meaning, with A expressing an instigating causer, and an applicative meaning, with one non-A core argument expressing the beneficiary, and the other, a patient or theme.

- (149) Sundanese, Beneficiary-selecting *pang-* *-keun*
Euis di-pang-meupeus-keun kalapa ku abi.
 E. PV-BEN.APPL-break-BEN.APPL coconut by 1SG
 ‘I broke open a coconut for Euis.’ (AC) (CT1-017)

Balantak also shows two AMs that form beneficiary-selecting ACs: the suffixes *-kon* and *-ii*. ACs formed with these two suffixes show different structural properties. As shown in (150), benefactives ACs marked with *-kon* are always monotransitive. The companion phrase (patient) is encoded as a core argument (P), while the beneficiary applied phrase is encoded as a possessor phrase modifying the companion phrase as in *gala-ni Goris*, where *-ni* indicates a following personal possessor NP.

- (150) Balantak, Beneficiary-selecting AC with *-kon*
 a. *Sina-gku man-taring gala boni Goris.*
 mother-1SG AV.IRR-cook vegetables for.PA G.
 ‘My mother is cooking vegetables for Doris.’
 b. *Sina-gku man-taring-kon gala-ni Goris.*
 mother-1SG AV.IRR-cook-BEN.APPL vegetables-3SG.PA G.
 ‘My mother is cooking vegetables for Doris.’
 (van den Berg & Busenitz 2012: 100)

In contrast, beneficiary-selecting ACs marked with *-ii* are ditransitive, and both the companion phrase and the beneficiary applied phrase are encoded as unmarked core arguments. In such ACs, only the beneficiary may become the subject in PV, as in (151) (see van den Berg & Busenitz 2012: 107).

- (151) Balantak, Beneficiary-selecting AC with *-ii*
Tama-ngku ni-wawau-ii-mo wala'on.
 father-2SG PV.RLS-make-BEN.APPL-PERF boiled.water
 ‘My father has already been made a hot drink.’
 (van den Berg & Busenitz 2012: 108)

Aside from the Balantak benefactive ACs with *-kon*, in all languages of the sample, beneficiary-selecting ACs may be ditransitive. While only a few descriptions (i.e. Quick 2007; Miller 2007; Jukes 2013) discuss the core/oblique status of the beneficiary applied phrase and patient/theme companion phrase, in the languages of the sample, generally both may be considered core since both may be encoded as a bare NP. This applies in all 23 languages of the sample in which this construction occurs. Note that while benefactive ACs are maximally ditransitive in these language, more than one structure is sometimes possible, and not all of these are ditransitive (see § 7.5.3).

7.5.2 *Beneficiary-Selecting ACs with Special Properties*

Beneficiary arguments are indexed differently than P arguments in BCs in three languages of the sample, all spoken in Sulawesi: Muna, Mori Bawah, and Tolaki. In these languages, there is a special form of indexing on the verb for beneficiaries and recipients. These forms are also used uncommonly with other types of peripheral participants (see § 6.7.3.2 for more on the special indexing suffixes in these languages). These morphemes are analyzed as fused forms of an applicative suffix and suffixal indexes for objects or absolutive arguments, though there are some complications, and they may show the same shape as the object/absolutive suffixes in some person and number categories.

Examples from Muna are shown in (152) with the verb *gholi* ‘buy’. In the BC in (152a), the verb is not suffixed. The theme immediately follows the verb and is encoded as an unmarked NP (*bhadhu* ‘shirt’), while the beneficiary, if expressed, is encoded as a PP (*so insaidi* ‘for us’). In a benefactive AC with an NP beneficiary, as shown in (152b), the verb is suffixed with *-ghoo*, and the beneficiary is expressed as an unmarked NP, *ina-ku* ‘my mother’. The beneficiary applied phrase precedes the theme which is also an unmarked NP, *o pae* ‘rice’.³ Alternately, as shown in (152c), when the beneficiary is pronominal, a special form indexing the beneficiary appears on the verb, in this case *-angko* ‘for you’, again followed by an unmarked NP expressing the theme. The suffix *-ghoo* does not co-occur with ‘indirect object’ argument indexes like *-angko*; they are in complementary distribution.

- (152) Muna, Beneficiary-selecting ACs with *ae-* class prefixes
- | | | | |
|----|--|-----------------|--------------------------|
| a. | <i>ama-mani</i> | <i>ne-gholi</i> | <i>bhadhu so insaidi</i> |
| | father-1PL.EXCL.POSS | 3SG.RLS-buy | shirt for 1PL.EXCL |
| | ‘Our father bought a shirt for us.’ (BC) | | (van den Berg 2013: 82) |

3 The article *o* is not used with NPs immediately following the verb in Muna (van den Berg 2013: 102).

- b. *ae-gholi-ghoo* *ina-ku* *o* *pae*
 1SG.RLS-buy-BEN.APPL mother-1SG.POSS ART rice
 'I buy rice for my mother.' (AC, NP beneficiary)
 (van den Berg 2013: 176)

- c. *ae-gholi-angko* *pae*
 1SG.RLS-buy-BEN.APPL:2SG.IO rice
 'I buy rice for you.' (AC, pronominal beneficiary)
 (van den Berg 2013: 70)

In the examples above, *gholi* 'buy' is used with *ae*- class actor indexing. In BCs, the *ae*- class prefixes are always used with an indefinite P argument, which is not indexed on the verb with a direct object suffix. This is shown in (152a) above where the theme ('rice') is indefinite and not indexed. Interestingly, in beneficiary-selecting ACs in Muna, the companion phrase in the AC still obeys the definiteness constraint; if *ae*- class marking is used, the theme must be indefinite and is not indexed on the verb, though the beneficiary may be definite and is indexed on the verb with an indirect object suffix when pronominal.

In BCs, if *gholi* 'buy' is used with *a*- class actor indexing, P must be definite and is indexed on the verb with a direct object suffix when pronominal. This is shown in (153a), where the theme argument is indexed on the verb with *-e* 'it'. In beneficiary-selecting ACs with *a*- class indexing of A, both the beneficiary and the theme are indexed on the verb when pronominal, as in (153b). The beneficiary applied phrase is indexed using the indirect object suffix, and the theme companion phrase is indexed using the direct object suffix.

(153) Muna, Beneficiary-selecting ACs with *a*- class prefixes

- a. *a-gholi-e* *so* *ihintu*
 1SG.RLS-buy-3SG for 2SG
 'I bought it for you' (AC, pronominal beneficiary)
 (van den Berg 2013: 143)

- b. *a-gh<um>oli-angko-e*
 1SG-<IRR>buy-BEN.APPL:2SG.IO-3SG
 'I will buy it for you' (AC, both objects pronominal)
 (van den Berg 2013: 71)

In Tolaki, beneficiary and recipient roles are always indexed on the verb in ACs, regardless of whether they are pronominal or expressed as a full NP. Examples

are shown in (154). A special set of pronominal indexes (glossed as dative) is used, and these forms are distinct from the absolutive forms used to index P in BCs, at least in some person categories.

(154) Tolaki, Indexing of beneficiary applied phrases

a. *Kuposusuanggee* *banggonannggu.*

Ku-po-susuaN-kee *banggona-nggu*

1.NOM-INDEF.P-sing-BEN.APPL:3.DAT friend-1.POSS

'I sang for my friend.' (AC)

b. *Ku-tidu-'i-ko'o.*

1.NOM-punch-3.ABS-BEN.APPL:2.DAT

'I'll punch him for you/ I'll get him (back) for you.' (AC)

(Edwards 2012: 54)

In Mori Bawah, beneficiary-selecting constructions are marked on the verb with the AM *-ako*. Beneficiary (or recipient) roles are indexed on the verb in ACs. The index follows the suffix *-ako*, and has fused with it, except in third person forms. When a beneficiary or recipient is indexed on an AM-marked verb, normal indexing of the patient/theme on the verb lapses, and the companion phrase is not indexed. This is shown in the example below with the verb *ala* 'take'.

(155) Mori Bawah, Beneficiary-selecting AC

a. *i-potae bange andio: tewala kanatuu, Puu-puu, io*

3SG-say monkey this when like.that Pigeon CN

bou-mu-mo koa ku-'ala-o

fish-2SG.POSS-PFV just 1SG.NOM-take-3SG.ABS

'The monkey said: "In that case, Pigeon, I'll take your fish."' (BC)

(Esser 2011: 104)

b. *kuri'a-no ala-akita balu-balu-mu ka*

say-3SG.POSS get-APPL:1PL.INCL RDP-goods-2SG.POSS and

to-kita-o

1PL.INCL.NOM-see-3SG.ABS

'He says, "Come, fetch your wares for us, that we may see them."'

(AC)

(Esser 2011: 322)

7.5.3 *Interactions with Voice and Valency*

Across languages of the sample some variance is observed in the interaction of beneficiary-selecting ACs with symmetrical voice and other valency alternations. In general, the languages of the sample showing symmetrical voice allow benefactive applicatives in AV. However, in Toba Batak, it is reportedly rare for beneficiary-selecting ACs specifically to be used with AV (van der Tuuk 1971 [1864–1867]: 105). For these ACs, PV structures are favored instead, and the verb is obligatorily marked with the prefix *pa-* in addition to the applicative suffix *-hon*. Sundanese has a general restriction on ditransitive constructions, which must occur in PV for the large majority of verbal bases. In the example in (156) below, the beneficiary is the pivot argument (R) and the theme, *balanjaan* ‘shopping purchases’, is an additional non-A core argument (T).

(156) Sundanese, Possessor beneficiary

a. *Icih ny-(c)okot duit.*

I. AV-take money

‘Icih took the money.’ (BC)

(FM4-050)

b. *Indung di-pang-nyokot-keun balanja-an ku Udi.*

mother PV-BEN.APPL-take-BEN.APPL shop-NMLZ by U.

‘Udi took the shopping purchases (in the house) for mother.’ (AC)

(CT1-025)

When Sundanese benefactive ACs occur in AV, they most often show monotransitive clausal structure with the companion phrase (theme or patient) selected as the P argument. The beneficiary participant, if overtly mentioned, is most commonly expressed as the possessor of the companion phrase, as in (157) below. In other cases, the beneficiary is also commonly unrealized when understood from context or may be overtly expressed as a PP (see examples in § 2.6, and analogous Nasal examples in (169)–(170) below).

(157) Sundanese, Possessor beneficiary

Udi m-(p)ang-nyokot-keun balanja-an indung.

U. AV-BEN.APPL-take-BEN.APPL shop-NMLZ mother

‘Udi took mother’s shopping purchases (in the house for her).’ (AC)

(CT1-025)

In monotransitive benefactive ACs like (157), the beneficiary is understood to be the same referent as that expressed by the possessor phrase, likely resolved

through pragmatic inference. While these possessor beneficiary AC constructions are common cross-linguistically (Kittilä & Zúñiga 2010: 19–20), in the sample, they are found only in Sundanese and Balantak.

An example of a possessor beneficiary construction in Balantak is shown in (158). Here the theme companion phrase is *doi'-ku* and includes the possessive suffix *-ku* 'our'. This sentence does not necessarily mean that the item to be acquired belongs to 'us', but that the item is acquired 'for us'. Unlike the Sundanese case, the possessor beneficiary is obligatory in Balantak *-kon* marked benefactive ACs; the beneficiary may not be realized as an unmarked NP or as a PP, and may not be unrealized. This construction is noted to occur with transitive bases. In other types of *-kon* marked ACs, overt realization of the applied phrase is not obligatory, and van den Berg & Busenitz (2012) note that overt realization of both the applied phrase and the companion phrase is very rare in AV in such ACs. This suggests that the realization of the beneficiary as a possessor is related to avoidance of a sequence of two adjacent unmarked NPs after the verb.

(158) Balantak, Possessor beneficiary

Koo-si a mang-ala-kon doi'-ku.

2SG-SEQ ART AV-get-BEN.APPL money-1SG

'You are the one who will get money for us'

(van den Berg & Busenitz 2012: 101)

With respect to linear order, in AV constructions in Pendau, the beneficiary applied phrase and its companion phrase may occur in either order in postverbal position, as in (159).

(159) Pendau, Beneficiary-selecting AC

a. *Nongolia' io vea a'u.*

N-pong-oli-a' io vea a'u

AV.RLS-SF-buy-BEN.APPL 3SG.ABS rice 1SG.ABS

'I bought him rice.' (AC)

b. *Nongolia' vea io a'u.*

N-pong-oli-a' vea io a'u

AV.RLS-SF-buy-BEN.APPL rice 3SG.ABS 1SG.ABS

'I bought him rice.' (AC)

(Quick 2007: 305)

More commonly, the beneficiary applied phrase occurs before the companion phrase in AV, as shown in the Nasal example in (146b) above. This is by

far the more common pattern across languages of the sample. An example from Behoa is given in (160).⁴

- (160) Behoa, Beneficiary-selecting AC
Romu mam-po-ánti-á Umá-na Lembá tálá.
 R. AV-SF-bring-BEN.APPL father-3SG.POSS L. bamboo
 ‘Romu brought Papa Lemba bamboo.’
 (“ánti”, Shore 2016, glosses added)

For Makasar, Toba Batak, and Salako, it is not reported in the source material whether the beneficiary applied phrase may be selected as the privileged syntactic argument in PV or S in passive constructions. With just a few exceptions, in almost all of the remaining languages of the sample, the beneficiary or recipient applied phrase is selected as the pivot or subject in P-oriented clause types, as in the examples from Madurese in (161)⁵ and West Coast Bajau in (162).

- (161) Madurese, Beneficiary-selecting AC in PV
Ebu’ e-ngerra’-agi rote bi’ Bibbi’.
 mother PV-AV.slice-BEN.APPL bread by aunt
 ‘Auntie sliced bread for Mother.’ (AC) (Davies 2010: 100)
- (162) West Coast Bajau, Beneficiary-selecting AC in PV and passive
 a. *Boi sembali emma’=ku kambing e ta’*
 CMPL [PV]slaughter father=1SG.NP IV goat DEM LOC
Saiman.
 S.
 ‘My father slaughtered the goat for Saiman.’ (BC)
- b. *Boi sembali-an emma’=ku Saiman kambing*
 CMPL [PV]slaughter-BEN.APPL father=1SG.NP IV S. goat
tu.
 DEM
 ‘My father slaughtered (for) Saiman the goat.’ (AC)

4 In some parts of Sulawesi, it is common to call a person according to the name of their oldest child. Hence in example (160), *Umáne Lembá* ‘Papa Lembá’, or literally ‘Lembá’s father,’ would commonly be used in place of this individual’s given name.

5 Beneficiary-selecting ACs in Madurese show an unusual property in that certain verb stems retain marking with the *ng-* AV prefix in PV clauses (see Davies 2010: 301–302).

- c. *Saiman boi s<in>embali-an kambing le'*
 S. CMPL <PASS>slaughter-BEN.APPL goat LOC
emma'=ku.
 father=1SG.POSS
 '(For) Saiman was slaughtered a goat by my father.' (AC)
 (Miller 2007: 278–280)

In Nasal, West Coast Bajau, and Madurese, the patient companion phrase does not appear to be a possible pivot argument in PV and/or passive constructions (see Miller 2007: 280 for discussion of West Coast Bajau). In Pendau, Quick (2007) reports that either the applied phrase or the patient companion phrase may occur in the preverbal position, as in (163). For such examples, the beneficiary applied phrase, *io* 3SG.ABS, is the pivot argument in either case.

(163) Pendau, Recipient applied phrase in PV

- a. *Io nipogabua'o'u vea.*
io ni-po-gabu-a'='u vea
 3SG.ABS PV.RLS-SF-COOK-BEN.APPL=1SG.GEN raw.rice
 'I cooked rice for him/her.' (AC)
- b. *Vea nipogabua'o'u io.*
vea ni-po-gabu-a'='u io
 raw.rice PV.RLS-SF-COOK-BEN.APPL=1SG.GEN 3SG.ABS
 'I cooked rice for him/her.' (Passive AC) (Quick 2007: 292)

Even some languages which have distinct patterns of indexing of the applied recipient or beneficiary with 'dative' or 'indirect object' indexes, the recipient or beneficiary may be the privileged syntactic argument of a P-oriented construction. This is reported for Muna and Mori Bawah, and an example is given from Muna below showing a passive participial phrase.

- (164) Muna, Beneficiary-selecting AC, passive participle
aini-ha-e-mo robhine
 this-PRED-3SG.POSS-PERF woman
ne-owa-ghoo-ku se-tuwu bheta
 PASS.PART-bring-BEN.APPL-1SG.NPIV.A one-CL sarong
 'this is the woman to whom I have taken a sarong'
 (van den Berg 2013: 234)

In Tolaki, it appears that the dative marked beneficiary may not be the privileged syntactic argument of a passive construction (see Edwards 2012). In Balantak, the same is true of applied beneficiaries in ACs marked with *-kon*; only the patient/theme companion phrase may become the pivot of a PV clause (van den Berg & Busenitz 2012: 97). However, in beneficiary-selecting ACs marked with *-ii* in Balantak, as mentioned above, the beneficiary is the pivot in PV, not the companion phrase.

In Makasar, both arguments in zero-marked transitive constructions are indexed on the verb, as in the BC in (165a). Regardless of whether a verb bears an AM or not, a maximum of two arguments may be indexed on the verb. In ditransitive benefactive ACs, the A argument and the beneficiary applied phrase are indexed on the verb (Jukes 2020: 314–315), while the companion phrase is not. This is shown in the AC in (165b), where the verb is suffixed with the AM *-ang*, and the beneficiary applied phrase is indexed on the verb with the 2nd person enclitic *=ko*, while the theme companion phrase is not indexed.

(165) Makasar, Indexing of beneficiary applied phrase

a. *ku=balli=i baju=a*

1=buy=3 shirt=DEF

'I bought the shirt.' (BC)

b. *ku=balli-ang=ko baju.*

1=buy-BEN.APPL=2FAM shirt

'I bought you a shirt.' (AC)

(Jukes 2020: 314–315)

Likewise, in Tukang Besi, in one of the two transitive constructions, P is indexed on the verb in BCs. In corresponding ACs, only the beneficiary, not the companion phrase, may be indexed on the verb in a benefactive applicative marked with *-ako* (Donohue 1999).

As mentioned above, in Mori Bawah, only the beneficiary may be indexed on the verb in a beneficiary-selecting AC in (zero-marked) transitive constructions, while in Tolaki and Muna, both beneficiary and patient or theme may be indexed on the verb concurrently in transitive constructions, provided that the companion phrase is definite. In constructions that are less semantically transitive or 'antipassive' constructions, the companion phrase is indefinite in these languages, but the beneficiary may be definite and can be indexed.

- (166) Mori Bawah, Beneficiary-selecting AC in antipassive
Aku mon-tena
 1SG.FUT PART:APASS-command
mo-wawa-akontu inahu eu.
 PART:APASS-bring-BEN.APPL:2PL.ABS vegetable spinach
 ‘I will send someone to bring you spinach.’ (Mead 2005: 704)

According to Hanson (2003: 198–201), in Bugis, either the beneficiary applied phrase or the patient/theme companion phrase, but not both, may be indexed on the verb in a zero-marked transitive construction, with the beneficiary being preferred. The choice appears to be conditioned by pragmatic considerations. Examples are given in (167) and (168). This pattern is not reported for any other languages of the sample. Hanson (2003: 201) also notes that beneficiary-selecting ACs marked with *-Ceng* do not occur if both the beneficiary and the patient/theme are indefinite.

- (167) Bugis, Indexing of companion phrase in benefactive AC
 a. *Magai deqna nanre ri bola-e?*
 why NEG rice LOC house-DEF
 ‘Why is there no rice in the house?’
 b. *Ani na-nasu-ng-ngi iko.*
 A. 3.ERG-cook-BEN.APPL-3.ABS 2SG
 ‘Ani (has already) cooked it for you.’ (Hanson 2003: 198)
- (168) Bugis, Indexing of beneficiary applied phrase in benefactive AC
 a. *Pakkogai iko m-anre?*
 how 2SG AV-eat
 ‘How did you eat?’
 b. *Ani na-nasu-k-kaq nanre.*
 A. 3.ERG-cook-BEN.APPL-1.ABS rice
 ‘Ani cooked me rice.’ (Hanson 2003: 198–199)

As mentioned above, arguments of the verb are commonly unrealized in the languages of the sample. This appears to apply to the beneficiary applied phrase in most languages of the sample. In Ampenan Sasak, in fact, it is most common for the beneficiary or recipient applied phrase in such ACs to be unrealized (Khairunnisa & McDonnell in prep). In such cases, note that even though the beneficiary applied phrase may be unrealized, a benefactive mean-

ing is still present in the clause. For example, in the Nasal AC in (169), a beneficiary is inferred from context. In Sundanese, this non-realization of the applied beneficiary is also possible. Most authors of available source material for other languages of the sample do not report whether this is possible. Donohue (1999: 232–234) however, notes that it is not possible to omit or delete the beneficiary applied argument as an unspecified referent in Tukang Besi.

- (169) Nasal, Unrealized beneficiary applied phrase
Azma ny-(s)anik-kun buwak.
 A. AV-make-BEN.APPL snack
 'Azma made snacks (for them).' (AC) (McDonnell fieldnotes)

In benefactive ACs in Nasal, it is also possible for the beneficiary applied phrase to occur as an oblique PP even though the verb is suffixed with the benefactive AM *-kun*, as in (170). This pattern is also found in Sundanese, Indonesian, Pendau, and with certain lexical verbs in Bugis (Vamarasi 1999: 76; Quick 2007: 292–293; Hanson 2003: 196–197).

- (170) Nasal, Preposition-marked beneficiary applied phrase
Azma ny-(s)anik-kun buwak gin anak=nyo.
 A. AV-make-BEN.APPL snack for child=3SG
 'Azma made snacks for her child.' (AC) (McDonnell fieldnotes)

- (171) Pendau, Preposition-marked beneficiary applied phrase
Ula uo nombagia' doi' sono langkai
ula 'uo N-pong-bagi-a' doi' sono langkai
 snake yonder AV.RLS-SF-give-BEN.APPL money with male
uo.
'uo
 yonder
 'That snake gave the money to the man.' (AC) (Quick 2007: 292)

- (172) Bugis, Preposition-marked beneficiary applied phrase
U-nasu-ng-ngi nanre ku Ali.
 1.ERG-cook-BEN.APPL-3.ABS rice PREP A.
 'I cooked rice for Ali.' (AC) (Hanson 2003: 196)

Note, however, that in such languages, if the beneficiary is expressed as an unmarked NP (or indexed on the verb in Bugis), the benefactive AM must be

affixed onto the verb. Furthermore, clauses like that in (169) must be interpreted as benefactive. Even though the beneficiary is unrealized, the existence of a beneficiary participant that is distinct from the referent of the A argument and that of the companion phrase is inferrable.

7.6 Instruments and Themes

In this section, I present ACs in which an instrument or theme is selected as the applied phrase. As noted in § 2.5, it is not always possible to distinguish clearly instruments from themes, as instruments are often directed into motion, and thus may also be classified as themes. In the discussion that follows, an entity is treated as a instrument when it appears to be manipulated to some effect or purpose by an agent, rather than merely moved or directed into motion.

7.6.1 *Instrument-Selecting ACs*

Of the 24 languages of the sample, 20 have an AC that selects an instrument applied phrase, while four do not: Nias, Behoa, Ampenan Sasak, and Kendayan. In almost all languages in which instrumental ACs are attested, the AM used is the same as the one that selects a beneficiary/recipient applied phrase.⁶ In Kaili Ledo, the suffix *-(C)aka* marks instrumental ACs, while *-ka* marks benefactive ACs. The base verb in an instrument-selecting AC is commonly transitive. Base verbs meaning ‘to hit’, ‘to strike’, ‘to chop’, and ‘to buy’ are frequently found, and also attested are ‘to stab’, ‘to shoot’, ‘to sew’, ‘to scoop up’, ‘to dig’, ‘to pay for’, ‘to write’, ‘to make’, and ‘to kill’. In a few cases, intransitive base verbs are also used, such as ‘to go’, and ‘to return home’, which are found in *Tukang Besi* and *Muna* in instrumental ACs with meanings such as ‘to go by means of (vehicle)’.

Two examples of instrumental ACs are given below.

(173) South Barisan Malay, Instrument-selecting AC

a. *n-jujuk-jujuk diwik Pelik*,

AV-RDP-poke self P.

‘Pelik is bothering (lit. poking at) me,’ (BC)

b. *jujuk-ka=nye ghanting tadi*.

poke-INST.APPL=3 stick earlier.

‘he poked out a stick.’ (AC)

(McDonnell 2016: 96)

6 In Sundanese, the *-keun* suffix marks instrumental ACs as well as benefactive ACs with certain verbs, while *pang-keun* exclusively marks benefactive ACs. In Balantak, *-kon* marks both instrumental and benefactive ACs, while *-ii* exclusively marks benefactive ACs.

(174) Toba Batak, Instrument-selecting AC

a. *mangombak tanggurung ni horbo dohot indalu*

AV.strike back of buffalo with rice.pestle

'to strike the back of a buffalo with a rice pounder' (BC)

b. *mangombak-kon indalu tu tanggurung ni horbo*

AV.strike-INST.APPL rice.pestle onto back of buffalo

'to strike a rice pounder on the back of a buffalo' (AC) (van

der Tuuk 1971 [1864–1867]: 103, English translation & glosses added)

As shown in the above examples, in an instrument-selecting AC, the companion phrase is commonly a patient or goal (i.e., an endpoint of directed motion). In BCs, this patient/goal participant is the P argument. In a BC, the instrument role is realized as an oblique PP or adverbial phrase, if it is expressed. Instruments may also be expressed as the complement of the verb meaning 'to use, to wear', e.g. Sundanese *maké*. In some languages, this verb appears to be in the process of grammaticalization to a preposition.

In two languages of the sample—Ledo Kaili and Duri—though instrumental ACs are attested, there are very few textual examples, and the syntactic properties of these constructions are unclear.

In about half of the remaining languages that show this type of construction, it appears that instrumental ACs are exclusively monotransitive. These include Toba Batak, Nasal, Balantak, South Barisan Malay, Indonesian, Balinese, Javanese, and West Coast Bajau. As seen in the AC examples from Sundanese and Toba Batak above, the instrument applied phrase is coded as an unmarked core argument and the companion phrase is expressed as an oblique PP rather than an unmarked NP. This type of construction is referred to as a *remapping* AC, as a difference is observed in the coding of the companion phrase as compared to the BC. Sundanese follows the same pattern with a single exception; when *-keun* is suffixed to *beuli* 'buy', the AC is ditransitive.

The rest of the languages of the sample allow ditransitive instrumental ACs. These are primarily found in languages of Sulawesi, and include Pendau, Tukang Besi, Bugis, Makasar, Mori Bawah, Tolaki, and Muna, as well as Yakan, which is spoken in the southern Philippines. However, note that even closely related languages may differ in the maximal transitivity of instrumental ACs, for example, Yakan allows such constructions to be ditransitive, while West Coast Bajau does not. In Madurese, instrumental ACs in AV are consistently monotransitive, but it appears that such constructions in PV may be optionally ditransitive (see Davies 2010: 309).

(175) Madurese, Instrument-selecting AC in PV

a. *Burus-sa e-tambu (bi') bato bi' Ale'.*

dog-DEF PV-hit (by) rock by younger.sibling

'Little Brother hit the dog with rocks.' (BC in PV)

b. *Batu e-tambu'-agi (dha) burus bi' Ale'.*

Rock PV-hit-INST.APPL (to) dog by younger.sibling

'Little Brother hit the dog with rocks.' (AC in PV)

(Davies 2010: 309)

In Pendaui, instrument-selecting ACs are consistently ditransitive and are only found in PV (see §5.6.3.4). The instrument applied phrase and the patient or goal companion phrase are both analyzed as core arguments of the verb. An example is given in (176).

(176) Pendaui, Instrument-selecting AC

a. *Pae rosuning nijimo nuuram.*

pae ro-suning nijimo nu=uram

rice PV.IRR-burn 3PL.GEN INST=medicine

'They burned (or smoked) the rice with medicine (for medicinal purposes).' (BC)

b. *Uram roposununua' nijimo pae.*

uram ro-po-suning-a' nijimo pae

medicine PV.IRR-SF.INST-burn-INST.APPL 3PL.GEN rice

'They burned (or smoked) the rice with medicine (for medicinal purposes).' (AC)

(Quick 2007: 297–298)

In the BC in (176a), the patient argument *pae* 'rice' is the pivot argument in PV. The instrument *uram* 'medicine' is not a core argument, but marked with *nu=*, the genitive case marker which is found on oblique instruments as well as possessors. In the AC in (176b), the instrument applied phrase is the pivot and the patient companion phrase is expressed as a postverbal core argument, and is encoded as an unmarked NP.

In Makasar, instrument-selecting ACs are also ditransitive (see Jukes 2020: 315–316). This is shown in (177).

(177) Makasar, Instrument-selecting AC

anjo selek=a na=buno-ang=i bali=a

that kris=DEF 3=kill-INST.APPL=3 enemy=DEF

'He killed the enemy with that kris. (AC)'

(Jukes 2020: 316)

In Muna, Tolaki, and Mori Bawah, instrumental ACs also appear to be ditransitive, as both the instrument and patient may be coded as unmarked NPs. In these languages, with respect to indexing and access to syntactic operations, there are some differences in the behavior of applied instruments as compared to applied beneficiaries.

Unlike applied beneficiaries, in Mori Bawah, the applied instrument is generally not indexed on the verb; only the patient may be indexed, when it is definite. In Mori Bawah, the applied instrument also may not be the subject of a passive construction, but only the patient.

- (178) Mori Bawah, Instrument-selecting AC
Lauro andio te'ingka ku='oho-akomiu.
 rattan PROX near.future 1SG.NOM=bind-INST.APPL:2PLABS
 'In a moment I will bind you with this rattan.' (Mead 2005: 704)

In Muna, the instrument is usually not indexed on the verb, but there are a few exceptions. For example, the instrument and the patient may both be indexed if both are pronominal and the instrument is a third person referent (van den Berg 2013: 180–181). Also, in constructions with non-canonical word order, it appears that a fronted instrument may be indexed on the verb. However, the applied instrument may be the subject of a passive construction in Muna, just like the applied beneficiary. An example of indexing both the beneficiary and the patient is given in (179).⁷

- (179) Muna, Instrument-selecting AC
a-k<um>adiu-ande-e
 <IRR>1SG-wash-APPL:3PL.IO-3SG.OBJ
 'I will wash them with it.' (van den Berg 2013: 180)

In Tolaki, the patterns are less clear. It appears that indexing of the instrument on the verb is generally acceptable only if it is a third person referent and a definite patient is also indexed on the verb. However, the applied instrument may only be the subject of a passive construction without any kind of indexing on the verb (Edwards 2012: 86).

In all three of these languages, when a definite patient is indexed on the verb in an instrumental AC, instead of the basic form of the applicative suffix,

⁷ This sentence has other possible interpretations, and may also be interpreted as a benefactive AC, e.g. 'I will wash it for them.' (see van den Berg 2013: 180).

that is, *-ako* or *-ghoo*, a dative or indirect object pronominal index appears on the verb. This supports the analysis that these special indexes are functionally equivalent to the applicative suffix plus a following pronominal index for an object or absolutive argument. Definiteness of the instrument does not trigger a shift in verbal morphology, though definiteness of the patient does.

In languages with instrumental ACs, it is not reported whether the instrument applied phrase has a special pragmatic status. However, in Sundanese, I find that the instrumental AC is preferred over the BC if the instrument represents salient or unexpected information; this is especially the case in PV, where the instrument applied phrase is the pivot.

7.6.2 Theme-Selecting ACs

Of the 24 languages of the sample, 23 show theme-selecting ACs. In such constructions, the applied argument is an entity which changes location in a directed motion event. In almost all cases, the AM that marks theme-selecting ACs also marks instrument- and beneficiary-selecting ACs. Nias, which has neither beneficiary- nor instrument-selecting ACs, is an exception.⁸ Theme applied phrases are found in only a limited number of examples in Nias, Yakan, Kendayan, Ampenan Sasak, Behoa, and Duri (however, see the discussion below in § 7.9, where the product of a bodily function verb may be considered a theme). Tolaki does not appear to show theme-selecting ACs.

As mentioned above, instrument applied phrases in these languages often share semantic similarities with themes, as instruments used for chopping, hitting, and similar events are directed into motion by an agent (see also Kroeger 2007). This is not necessarily true for all bases, however; with base verbs like ‘buy’, the instrument applied phrase in an AC (typically some type of currency) is not necessarily in motion. This is even more the case for instrument-selecting ACs that allow a mechanical instrument to be the applied phrase, e.g. Muna *tampoli-ghoo* ‘to sew with (e.g. hand, sewing machine)’.

In the languages of the sample, we find various types of constructions in which AM-marking coincides with a theme applied phrase. These are discussed in turn below according to properties of the base verb.

First, theme applied phrases are found in ACs with transitive bases that describe an event of directed motion, e.g. ‘to pelt/throw (at)’, ‘to spray (at)’, ‘to shoot (at)’. In corresponding BCs, the P argument is a goal, while the theme is coded as an oblique phrase if expressed. ACs of this type select a theme

⁸ In Nias, there is one construction that may be considered a theme-selecting applicative, which is formed with the prefix *fa-*, usually a causative marker, and the verbs meaning ‘to pelt’ and ‘to throw’, see Brown (2001: 228–232).

as the applied phrase, show monotransitive clausal structure, and are considered remapping, with the companion phrase expressed as an oblique PP. In the example from West Coast Bajau in (180), an instrument-selecting AC is shown with the verb *seput* ‘spray’. In the BC in (180a), the P argument is the semantic goal, *using e* ‘the cat’, and no theme argument is expressed. In the AC in (180b), the theme applied phrase, *dalit* ‘venom’, is encoded as an unmarked NP and represents the pivot (a core argument). The goal companion phrase *ta’ using e* ‘at the cat’, is expressed as an oblique PP marked with the locative preposition *ta’*.

(180) West Coast Bajau, Theme-selecting AC

a. *Using e ai seput soo dilaw.*

cat DEM PFV [PV]spray snake yesterday

‘A snake sprayed the cat (with venom) yesterday.’ (BC)

b. *Ai seput-an soo dalit ta’ using e*

PFV [PV]spray-THM.APPL snake venom LOC cat DEM

‘A snake sprayed venom at the cat.’ (AC) (Miller 2007: 290)

A similar alternation is described in Toba Batak by Van der Tuuk (1971 [1864–1867]: 104) for the verbs *mamodil* ‘to shoot with a gun (AV)’ and *mangultop* ‘to shoot with a blowpipe (AV)’. With these verbs, the goal in a BC (i.e. the target of the shot) is the P argument. When the same verb root is marked with the AM suffix *-hon*, a theme applied phrase may be selected. Thus, the P argument of “*mamodilhon* is the bullet or that which acts as such, as, for example, *inal* [‘wooden rod for shooting at birds’]”, and the P argument of “*mangultoppon* is the arrow (*nakkat*)” (van der Tuuk 1971 [1864–1867]: 104). Alternately, the applied phrase with these same verbs when suffixed with *-hon* may be the instrument, i.e. a blowpipe and gun, respectively. The companion phrase in these ACs is the goal, which is encoded as a PP, if expressed.

Second, theme applied phrases are found in ACs with base verbs that describe an act of locomotion. Such ACs are found in Toba Batak, West Coast Bajau, Pendau, Mori Bawah, Makasar, and Bugis. In Mori Bawah, these are formed with the applicative suffix *-Cako*, while beneficiary- and instrument-selecting constructions are formed with *-ako*, though the two are almost certainly related historically. In addition, in a number of languages besides those mentioned above, similar constructions are attested with the verb meaning ‘to run, to flee’, though not necessarily with other locomotion verbs. Examples of theme-selecting constructions with ‘run’ were found in Yakan, South Barisan Malay, Indonesian, Javanese, Balinese, Ampenan Sasak, and Behoa,

among others. In theme-selecting ACs with locomotion base verbs, the theme shows semantic similarities to a comitative participant or causand. The base verb in such ACs may be intransitive or transitive.

With bases representing intransitive locomotion verbs, a theme-selecting AC is monotransitive, with the theme applied phrase showing core encoding. For example, in Toba Batak, the verb meaning ‘fly’ is *habang*. When marked with the AM *-hon* and the AV prefix *maN-*, the resulting stem *makkabakkon* means ‘to fly away with (s.t.)’, and it selects as a core argument the entity that is flown with (van der Tuuk 1971 [1864–1867]: 1977). An example from Behoa is shown in (181) with the verb *langka* ‘to run’. In such examples, the A argument in the AC is an instigating causer; thus this type of construction may be considered both causative and applicative.

(181) Behoa, Theme-selecting AC

- a. *Ahung=ku’ me-langka mai pe=mo’*
 dog=1SG.POSS AV-run come just=1SG.ABS.CMPL
na-nóntóhi.
 3SG.ERG-head.for
 ‘My dog ran straight away towards me.’ (BC)
- b. *Mam-pe-langka-ha=ko’ áná’=ku’ nodo=he’*
 AV-TR-run-THM.APPL=2SG.ABS children=1SG.POSS like=3PL.ABS
to ra-tawani.
 REL 3PL.ERG-capture
 ‘You ran off with my children as if they were captives.’ (AC)
 (“*langka*”, Shore 2016, glosses added)

With bases representing transitive locomotion verbs, theme-selecting ACs are generally monotransitive and show remapping, with the theme applied phrase encoded as core and the companion phrase (goal or path) expressed as an oblique PP. Examples are given from West Coast Bajau in (182) and (183).

(182) West Coast Bajau, Theme-selecting AC

- a. *Aku boi n-(s)embet Azizy engko’ surat.*
 1SG CMPL AV-chase A. with letter
 ‘I chased Azizy with the letter.’
- b. *Aku boi n-(s)embet-en surat e ta’ Azizy.*
 1SG CMPL AV-chase-THM.APPL letter DEM LOC A.
 ‘I rushed the letter to Azizy.’ (Miller 2007: 238)

(183) West Coast Bajau, Theme-selecting AC

a. *Ai keta Pirik suang e.*

PERF [PV]cross P. river DEM

'Pirik crossed the river.'

b. *Ai keta-an Pirik using e pe dembila'*

PERF [PV]cross-THM.APPL P. cat DEM to.there across

suang.

river

'Pirik carried the cat across the river.'

(Miller 2007: 237)

In (182b) the applied phrase, *surat e* 'the letter', again is semantically similar to a comitative participant or causand. The sentence in (182b) could be paraphrased as 'I chased Azizy *with the letter*' or 'I caused *the letter* to chase Azizy.' In (183b), the applied phrase, *using e* 'the cat', is likewise semantically similar to a comitative participant or causand. Here, the agent crosses the river while carrying the cat, thus causing the cat to also cross the river.

Third, theme-selecting AMs are also found on base verbs that normally select a theme as the P argument without any applicative marking. In AM-marked clauses with such verbs, there is no change in the semantic role selected as P compared to corresponding BCs, however there is usually a semantic emphasis on the act of directed motion. This type of theme-selecting construction is found with certain verbs of transfer in Sundanese, West Coast Bajau, Toba Batak, and Makasar, among others, e.g. 'to send/send to', 'to give', 'to push'. For instance, with the Sundanese verb *surung* 'push', both the unsuffixed form and the form marked with *-keun* take a theme as P. However, the verb bearing the suffix *-keun* is only used when the event of pushing described is an act of directed motion towards a goal. Consider the example in (184).

(184) Sundanese, Directed motion construction with *-keun*a. *Keur abi ulin ka lapang, aya Pak Haji keur ny-(s)urung*

while 1SG play to field, exist mister Haji while AV-push

roda.

cart

'When I was playing at the field, Pak Haji was there pushing his cart.'

b. *Udi tos ny-(s)urung-keun mobil ka imah.*

U. already AV-push-THM.APPL car to house

'Udi is done pushing the car to the house (i.e. it is now at the house).'

(CT1-027)

In (184a), the verb *nyurung* shows no applicative marking, and is used in this context because the event of pushing described does not direct the theme towards an identifiable and salient endpoint.⁹ In (184b), the same verb is used with the AM *-keun*. In this context, *nyurungkeun* is used because the event describes an act of directed motion. When the completive marker *tos* is used with this verb, the clause entails that the theme has already undergone the change in location described by the goal phrase. Van der Tuuk (1971 [1864–1867]:104) discusses a similar use of the theme-selecting AM *-hon* with the Toba Batak verb *tongos* ‘to send’. This verb may take a theme (e.g. *sorat* ‘letter’) as a core argument without any AM-marking, but the form marked with *-hon* is preferred if directed motion is emphasized, and when a recipient or goal “is either stated or in the mind of the speaker.”

Verbs of bodily function are also found in AM-marked constructions that may be considered theme-selecting ACs (see § 7.9 below).

7.7 Goals and Locations

7.7.1 *Distribution and General Properties*

In most languages of the sample, the AM that selects goals and locations differs from that which selects the semantic roles discussed thus far (i.e. beneficiaries, instruments, and themes). Exceptions are West Coast Bajau, Yakan, and Ampenan Sasak, all of which have a single applicative suffix *-an*. In Mori Bawah, locative- and goal-selecting ACs are marked with both the suffix *-Ci* and the suffix *-Cari*. Locative-/goal-selecting ACs are found in almost all the languages of the sample, however, Tolaki does not appear to have this type of AC.

Locative- and goal-selecting ACs typically occur on both intransitive and transitive bases in the languages of the sample. In Makasar, the locative-/goal-selecting AM *-i* appears to be compatible only with intransitive bases, though Jukes (2020) does not address this point explicitly. Intransitive bases commonly found in locative-/goal-selecting ACs include locomotion verbs (e.g. ‘swim’, ‘jump’, ‘run’), posture verbs (e.g. ‘sit’, ‘stand’, ‘sleep’), and bodily function verbs (e.g. ‘cough’, ‘vomit’). In Muna, only a small number of transitive bases may be suffixed with *-Ci*, and the resulting verbs often have idiosyncratic meanings rather than meanings consistent with a locative- or goal-selecting applicative (van den Berg 2013: 292–293). For languages other than Makasar and Muna, transitive verbs commonly used as a base in such con-

⁹ The term *Pak Haji* refers to a distinguished man who has completed a religious pilgrimage.

structions include ‘put’, ‘pour’, ‘plant’, ‘teach’, and ‘pay’. Consider the examples from West Coast Bajau in (185)–(186).¹⁰

(185) West Coast Bajau, Locative-selecting AC

a. *Sesok e ai pe-rekot ta' jing.*
house.lizard DEM PFV INTR-stick LOC zinc
‘The house lizard has stuck to the zinc.’ (BC)

b. *Ai rekot-on sesok jing e.*
PFV [PV]stick-LOC.APPL house.lizard zinc DEM
‘The house lizard has stuck to the zinc.’ (AC) (Miller 2007: 283)

(186) West Coast Bajau, Goal-selecting AC

a. *Ai enna'(-an)=ni gula' diam kupi'.*
PFV [PV]place-LOC.APPL=3SG.NPIV sugar inside coffee
‘(S)he put sugar in the coffee.’ (BC)

b. *Ai enna'-an=ni kupi' e gula'.*
PFV [PV]place-LOC.APPL=3SG.NPIV coffee DEM sugar
‘(S)he put sugar in the coffee.’ (AC)
(Miller 2007: 285, slightly modified)

In these examples, the locative role in (185) and the goal role in (186) are expressed in oblique PPs in BCs. In ACs marked with *-an*, these roles are selected as the applied phrase and encoded as unmarked core arguments. In West Coast Bajau, locative- and goal-selecting ACs are consistently valency-increasing. In Nasal, an increase in transitivity is observed when the applicative suffix *-i* attaches to intransitive bases and a limited number of transitive bases. Compare the examples of the transitive base *ajakh* ‘teach’ in (187) to the transitive base *takhuk* ‘plant’ in (188).

(187) Nasal, Goal-selecting AC, valency-increasing with ‘teach’

a. *yo agi ng-ajakh baso Nasal khan anak=ku.*
3SG PROG AV-teach language Nasal with child=1SG.POSS
‘I am teaching Nasal to my child.’ (BC)

10 For example (186), Miller (2007: 283) states that the suffix *-an* applies “vacuously” and is optional in the BC without any change in the argument or oblique (see §7.10 for discussion). Thus, in (186a), it is possible to use the *-an* suffix without any change in argument structure. However, in (186b), the ditransitive construction requires the applicative suffix *-an*.

- b. *yo agi ng-ajakh-i anak=ku baso Nasal.*
 3SG PROG AV-teach-LOC.APPL child=1SG.POSS language Nasal
 'I am teaching my child Nasal.' (AC) (McDonnell fieldnotes)

(188) Nasal, Locative-selecting AC, remapping with 'plant'

- a. *be-bibai-an n-(t)akhuk jagung di sawah.*
 DISTR-woman-DISTR AV-plant corn LOC rice.paddy
 'The women planted corn in the rice paddy.' (BC)

- b. *be-bibai-an n-(t)akhuk-i sawah khan*
 DISTR-woman-DISTR AV-plant-LOC.APPL rice.paddy with
jagung.
 corn
 'The women planted corn in the rice paddy.' (AC)
 (McDonnell fieldnotes)

In the BC in (187a), the information that is transmitted (i.e. what is being taught) is expressed as the P argument, while the goal/recipient phrase (i.e. the person being taught) is expressed as an oblique PP. In the AC in (188b), both the goal and the companion phrase are unmarked, showing that the AC is ditransitive. In the BC in (188a), the theme is expressed as an unmarked core argument (P) and the location phrase is encoded as an oblique PP. In the AC in (188b), the location is expressed as an unmarked core argument while the theme companion phrase is expressed as an oblique PP; this AC is monotransitive. Thus, whether a locative-/goal-selecting AC in Nasal is valency-increasing is in part lexically determined.

Locative- and goal-selecting ACs in Sundanese, Indonesian, South Barisan Malay, Javanese, Balantak, and Yakan are similar to those in Nasal. Some transitive bases show ditransitive structures in such ACs, while others show remapping. Other languages, such as Bugis, Balinese, Ampenan Sasak, Mori Bawah, and Madurese, appear to behave like West Coast Bajau in consistently allowing ditransitive locative-/goal-selecting ACs with transitive bases. It is not clear how transitive bases pattern when suffixed with a locative-/goal-selecting AM in some languages of the sample, including Kendayan, Toba Batak, Ledo Kaili, Tukang Besi, and Behoa.

7.7.2 *Locative- and Goal-Selecting ACs with Special Properties*

Like West Coast Bajau, in Pendau all goal-selecting ACs show an increase in the value of syntactic transitivity compared to corresponding BCs. However, in locative-selecting ACs, the Pendau AM *-i* is only found to increase the transi-

tivity of transitive bases when it co-occurs with a stem-former prefix, as mentioned in § 5.6.3.4. Locative-selecting ACs like that shown in (189) require both the stem-former and the AM *-i* to be used on the verb.

- (189) Pendau, Locative applied phrase with stem-former
- a. *bau uo ni-alap ni=kai ri=payangan.*
 fish yonder PV.RLS-take PN=grandfather LOC=boat
 'The grandfather took the fish in the boat.' (BC)
- b. *payangan ni-pong-alap-i ni=kai bau*
 boat PV.RLS-SF.TR-take-LOC.APPL PN=grandfather fish
uo
 yonder
 'The grandfather took the fish in the boat.' (AC) (Quick 2007: 301)

Pendau locative-selecting ACs are also exceptional in that the applied phrase in such constructions may alternately be expressed as a PP (rather than an unmarked NP). According to Quick (2007: 300), the locative applied phrase can even be the pivot when it is a PP, as shown by its preverbal position in example (190).

- (190) Pendau, Locative applied phrase in PP
Ribongkarongo'u niponyoputi'u.
ri=bongkarong=u ni-pong-soput-i=u
 LOC=hut=1SG.GEN PV.RLS-SF-shoot-LOC.APPL=1SG.GEN
 'I shot (it) at/beside my hut.' (AC) (Quick 2007: 300)

7.7.3 Addressees and Recipients Marked like Goals

In some languages, the AM that marks locative-/goal-selecting ACs is also observed in constructions where the applied phrase is an animate entity rather than a location per se. In such cases, the applied phrase may have the role of addressee or recipient.

7.7.3.1 Addressee-Selecting ACs

Addressee-selecting ACs are found with same AM used in locative- and goal-selecting ACs in 15 languages of the sample with more than one AM, and in three languages with only one AM (Yakan, West Coast Bajau, and Ampenan Sasak). An example of an addressee-selecting AC is given in (191) below from West Coast Bajau.

(191) West Coast Bajau, Addressee applied phrase

- a. *"Buat-in do' aku bue' susu, too' bana kelong=ku
make-PV.IMP EMPH 1SG water milk dry very throat=1SG.POSS
tu," bara'=ni m-aku.*

DEM [PV]tell=3SG.NPIV LOC-1SG

'“Make me some milk, I am very thirsty,” she said to me.’ (BC)

- b. *Bila teko me-ruma' bara-an=ni*

when arrive LOC-house [PV]tell-LOC.APPL=3SG.NPIV

emma'=ni uun jomo mu' lawa' bana.

father=3SG.POSS exist person there beautiful very

'When she arrived home, she told her father that there was a very
handsome man there.' (AC) (Miller 2007: 286)

The base in this type of addressee-selecting AC is generally a communication verb, or verb of speaking. Some examples include Nias *fa-hede-si* 'to greet s.o.' cf. *fe-hede* 'to say a greeting', Indonesian *men-cerita-i* 'to tell to s.o.', cf. *ber-cerita*, 'to tell a story', and Muna *podea-ghi* 'to shout at s.o.' cf. *podea* 'to shout'.

In some instances, when a communicative verb bears the AM, this stem has a specific, lexicalized meaning in addition to indicating that the applied phrase is an addressee. For example, Indonesian *meng-(k)ata-i* means 'to scold s.o.' or 'to speak badly of s.o.' (cf. *ber-kata* 'to say'). In Balantak, *mam-bantil-i* means 'to advise, instruct, admonish or reprimand s.o.', or 'to invite (s.o.) to an event' cf. (*mem-bantil-kon*, 'to inform, tell s.o.'). The Sundanese verb *omong-an* (cf. *omong* 'to speak') similarly means 'to scold or advise s.o.'.

However, note that addressee-selecting ACs can also be marked with the AM that marks selection of beneficiaries, instruments, and themes as the applied phrase, to the exclusion of the AM that marks selection of locative and goal roles. Some examples include Behoa *mo-uli'a* 'to speak to s.o./s.t.' (cf. *mang-uli* 'to say'), and Duri *kua-n* 'to say to s.o.' (cf. *kua* 'to say'). Addressee-selecting ACs of this type are less commonly observed than those formed with the locative- and goal-selecting applicative suffix, though of course, in languages with only one AM, it is not possible to make such a distinction.

7.7.3.2 Recipient-Selecting ACs

In some languages with multiple AMs, the locative-/goal-selecting AM is found on the verb in constructions where the applied phrase is a recipient. This can occur with verbs that take either a location applied phrase (inanimate goal endpoint) or a recipient applied phrase (animate recipient endpoint), as with the

verbs meaning ‘to send’ or ‘to carry’. In other cases, it occurs with verbs that do not generally show an inanimate goal as a possible core argument, such as the verb meaning ‘to sell’, ‘to serve’, or ‘to give’. Some examples are shown below.

(192) Javanese, Recipient-selecting AC with *-i*

- a. *aku nguwéh-aké buku menyang Laura*
 1SG AV.give-THM.APPL book to L.
 ‘I gave a book to Laura.’ (Theme-selecting AC)

- b. *aku nguwéh-i Laura buku*
 1SG AV.give-LOC.APPL L. book
 ‘I gave Laura a book.’ (Recipient-selecting AC)

(Hemmings 2013: 173)

(193) Indonesian, Recipient-selecting AC with *-i*

- a. *Ayah meng-(k)irim(-kan) uang kepada saya*
 father AV-send-THM.APPL money to 1SG
 ‘Father sent money to me.’ (Theme-selecting AC)

- b. *Ayah meng-(k)irim-i saya uang*
 father AV-send-LOC.APPL 1SG money
 ‘Father sent me money.’ (Recipient-selecting AC)

(Arka 1993: 94–94)

(194) Balantak, Recipient-selecting AC with *-i*

- a. ... *kasi ni-tarop-kon a wala'on i-ya'a na*
 then PV.RLS-serve-THM.APPL ART boiled.water DEIC-DEM LOC
sawe.
 guest
 ‘Then the hot drinks were served to the guests.’ (Theme-selecting AC)

- b. *Tempo man-tarop-i suo' men u'uru i-ya'a tia*
 time AV-serve-LOC.APPL family REL new DEIC-DEM with
wala'on
 boiled.water
 ‘When they serve the bride and the groom (lit. the new family) a hot drink’ (Recipient-selecting AC)

(van den Berg & Busenitz 2012: 107)

Note that in these cases an alternation between the theme-selecting AM and the goal-selecting AM is often observed. Thus it appears that in these cases, a recipient applied phrase is treated like a goal. This type of recipient-selecting AC is fairly limited in the languages of the sample and usually is found only with a small number of base verbs. In comparison, constructions marked with beneficiary-selecting AMs are much more commonly observed with recipient applied phrases; such ACs are found across a much larger number of languages and with a much larger set of base verbs.

7.8 Circumstantial and Comitative Roles

In a relatively small number of languages of the sample, the applied phrase in an AC may be a circumstantial role, such as a reason, or purpose. Such constructions are found in Toba Batak, Balantak, Mori Bawah, Tolaki, Muna, and Tukang Besi, as well as in a limited number of examples in Pendau. With the exception of Toba Batak, all of these are languages of Sulawesi. The base verb in such a construction may typically be either intransitive or transitive. Some examples are given below.

- (195) Muna, Circumstantial-selecting AC
dadi a-laga ta-sendai na-mate-ghoo ka-gharo
 so ART-ant just-little 3SG.IRR-die-CIRC.APPL NMLZ-hungry
 ‘so in a little while Ant will die of hunger.’ (Reason-selecting AC)
 (van den Berg 2013: 183)
- (196) Mori Bawah, Circumstantial-selecting AC
Aku h<um>uku-akomu ponako-mu
 1SG.FUT <PART>punish-CIRC.APPL:2SG.ABS steal-2SG.POSS
 ‘I will punish you on account of your thievery’ (Reason-selecting AC)
 (Mead 2005: 704)
- (197) Tukang Besi, Circumstantial-selecting AC
No-lea-ako te langke-a-no te kaitela
 3.RLS-load-CIRC.APPL CORE sail-NMLZ-3.POSS CORE corn
 ‘They loaded the corn for the voyage.’ (Purpose-selecting AC)
 (Donohue 1999: 240)

As shown in these examples, the applied phrase in circumstantial-selecting ACs may be realized with core encoding. With transitive bases, it appears

that the AC may be ditransitive. In Mori Bawah, Mead (2005: 704) specifies that it is the companion phrase, e.g. patient, which is indexed on the verb in the AC, rather than the applied phrase. Donohue (1999: 238–242) notes that in *Tukang Besi*, reason and purpose applied phrases in ACs show restricted access to syntactic operations compared to P arguments in base clauses, or other types of applied phrases. Neither may head an object relative clause, and purpose applied phrases are never indexed on the verb. In other languages of the sample, details about the argument structure and patterns of indexing for circumstantial-selecting ACs are not clear.

The only language of the sample with a productive comitative AC is *Tukang Besi*, in which such constructions are marked with the applicative suffix *-ngkene*. In *Tukang Besi*, a comitative applied phrase “is an equal and voluntary participant in the action indicated by the verb, but is viewed by the speaker as of secondary importance” (Donohue 1999: 228) when compared to the A argument. Comitative ACs are found with both intransitive and transitive bases in *Tukang Besi*. In the latter type, the applied phrase may not become the pivot of a passive clause, though it may in the former. Some examples of comitative ACs are given below. As seen in (198a), a related verb *kene* ‘to accompany’ can be used in a serial verb construction with a similar meaning to a comitative AC, which is shown in (198b).

(198) *Tukang Besi*, Comitative AC

- a. *No-wila no-kene ta ina-no*
 3.RLS-go 3.RLS-accompany CORE mother-3.POSS
 ‘She went, accompanying her mother.’ (Serial verb construction)
- b. *No-wila-ngkene te ina-no.*
 3.RLS-go-COM.APPL CORE mother-3.POSS
 ‘She went with her mother.’ (Comitative AC) (Donohue 1999: 200)

(199) *Tukang Besi*, Comitative AC

- No-homoru-ngkene te kene-no te wurai na*
 3.RLS-weave-COM.APPL CORE friend-3SG.POSS CORE sarang NOM
ompu-su.
 grandparent-1SG.POSS
 ‘My grandmother wove a sarong with her friend.’
 (Donohue 1999: 229)

Besides such constructions in *Tukang Besi*, a few other AM-marked constructions that select arguments similar to accompaniments or companions are

found in languages of the sample. However, these typically occur only with a very limited set of bases. Examples include Ledo Kaili *ra-kande-ka* ‘to be eaten with (s.t.), of side dishes’ from *kande* ‘to eat’ (D. Evans 2003: 72) and the similar applicative verb *fumaa-ghoo* ‘to eat with’ in Muna (van den Berg 2013: 123).

Otherwise applied phrases that appear to have a role of accompaniment or accompanier in ACs are mostly limited to bases expressing locomotion, e.g. ‘to run off with’, ‘to cross over with’, as discussed for theme-selecting ACs in §7.6.2 above. I have treated these as theme roles though they are sometimes called accompaniers; note that in such constructions the applied phrase does not generally represent a voluntary participant in the event expressed, unlike the comitative participant in *Tukang Besi* ACs with *-ngkene*.

7.9 Other Applied Phrases

When AMs attach to intransitive bases, they often select—or license—a P argument that takes on various semantic roles. Such transitivity ACs are found in all languages of the sample. In many cases, there is no clear monoclausal BC equivalent. To express the same semantic role in a BC, a subordinate clause or parallel clause often must be used.

7.9.1 Content-Selecting ACs

With bases that describe acts of speaking or cognition, an AC commonly selects a content applied phrase that is realized as the P argument. The referent of the applied phrase may be a topic, a proposition, or reported speech. An example is given from Ledo Kaili with the base *jarita* ‘story; talk’ in (200) below.

(200) Ledo Kaili, Content-selecting AC

- a. *No-jarita=mo madika, nomba-ovo susa po-boti nu*
 AV-talk=CMPL king AV-set.date feast NMLZ-marry REL
ana=na nte i Latadaga.
 child=3SG with PN L.
 ‘The king spoke, setting the date for his daughter’s wedding with Latadaga.’ (BC) (D. Evans 2003: 149, glosses added)

- b. *I Mantari nomba-jarita-i kareba ni-epe=na ri*
 PN M. AV-talk-CONT.APPL news PASS-hear=3SG from
tona pangane
 person earlier
 ‘Mantari told the news he heard from a person earlier.’ (AC)
 (D. Evans 2003: 62, glosses added)

This example shows one common type of content-selecting AC formed with the base meaning ‘to tell (a story)’. This construction is also found in Kendayan, where *ba-curitā* means ‘to tell (intr.)’ but *ny-(c)uritā-ʔàtn* means ‘to tell (s.t.)’, and Sundanese, i.e. *ny-(c)arita* ‘to tell a story’ cf. *ny-(c)arita-keun* ‘to tell (s.t.), to tell about (s.t.)’. Similar applicative verbs are found in Indonesian, South Barisan Malay, Javanese, Ampenan Sasak, and Makasar, among other languages.

Other examples of content-selecting ACs with verbs of communication include Sundanese *ny-(c)arios-keun* ‘to talk about’, Toba Batak *mang-hata-hon* ‘to talk about’ from *hata* ‘word, talk’ (see Schachter 1984: 103), Ledo Kaili *nang-oe-ka* or *nang-koe-ki* ‘to boast about s.t.’ from *nang-oe* ‘to boast’ (D. Evans 2003), Muna *po-kamunti-ghoo* ‘to whisper about’ from *po-kamunti* ‘to whisper (to one another)’, and Mori Bawah *pesikeno-ako* ‘to ask about s.t.’ from *pesikeno* ‘to pose a question’. With verbs of cognition, content-selecting ACs are found with Ampenan Sasak *pikir-an* ‘to think about’ from *pikir* ‘to think’ (Khairunnisa & McDonnell in prep) and Sundanese *ng-impi-keun* ‘to dream about, aspire for’ from *ng-impi*, ‘to dream, dream of’.

7.9.2 *Stimulus-Selecting ACs*

With verbs describing emotional states or responses, ACs commonly select a stimulus (or target) applied phrase that is realized as the P argument. These ACs are found with at least one AM in all 24 languages of the sample. In corresponding BCs in these languages, the stimulus usually may be realized as an oblique PP, but in some cases there is no monoclausal equivalent to the AC. Examples from Kendayan (201) and Ampenan Sasak (202) are given below.

(201) Kendayan, Stimulus-selecting AC

a. *Berà sidi ià ka Neʔ Kulup.*

angry very 3 LOC PN K.

‘He was extremely angry at Kulup.’ (BC) (Adelaar 2005b: 92)

b. *Tarutama bapaʔ=e karas sidi m-(b)era-iʔ ià ...*

especially father=3.POSS hard very AV-angry-APPL 3

‘Especially his father got very angry at him ...’ (AC)

(Adelaar 2005b: 86)

(202) Ampenan Sasak, Stimulus-selecting AC

a. *Ie takut.*

3SG afraid

‘(S)he is afraid.’ (BC)

b. *Ie takut-an berarak.*

3SG afraid-APPL spider

‘(S)he is afraid of spiders.’ (AC)

(Khairunnisa & McDonnell in prep)

(203) Behoa, Stimulus-selecting AC

a. *Demi mo-pa-láli’ bona ti’ara ma-tawa.*

D. AV-CAUS-forget in.order.to NEG INTR-laugh.

‘Demi thought about something else so he would not laugh.’ (BC)

(“*láli*”, Shore 2016, glosses added)

b. *Mo-pa-tawa-i=a’ Susan.*

AV-CAUS-laugh-STIM.APPL=1SG.ABS S.

‘I laughed at Susan.’ (AC)

(“*mopatawai*”, Shore 2016, glosses added)

In the Behoa example in (203), the verb in the AC takes both the AM *-i* and the causative prefix *pa-*. The use of prefixes alongside AM suffixes in constructions of this type is found in several other languages of the sample. In Toba Batak, base verbs expressing emotional states take the fossilized prefix *ha-* in addition to the AM suffix *-i*. For example, the root *tahut* ‘afraid’ shows the base verb form *ma-tahut* ‘to be afraid’ and the AM-marked verb form *mak-ka-tahut-i* ‘to be afraid of (s.t.)’ (van der Tuuk 1971 [1864–1867]: 134). Similar verbs of emotion in Madurese take the non-volitional prefix *ka-* in addition to the AM *-i* in PV constructions (Davies 2010: 293–294). In Sundanese, the prefix *CVng-* (partial reduplication) is found on some stimulus-selecting ACs. This prefix also indicates greater intensity, as in (204) below, repeated from (70).

(204) Sundanese, Stimulus-selecting AC

a. *Mariam ceurik lantaran indung=na maot.*

M. cry because mother=3 die

‘Mariam cried because her mother died.’ (BC)

b. *Mariam ny-(c)eung-ceurik-an indung=na.*

M. AV-RDP-cry-APPL mother=3

‘Mariam cried intensely about her mother.’ (AC)

(CT1-006, based on Hanafi 1997: 22)

AM-marking is also found on stimulus-selecting ACs with intransitive perception verbs as bases. In Toba Batak, the intransitive verb *marnangi* means ‘to

have ears, to be able to hear', while the same root marked with *-hon* in AV is *manangikan* meaning 'to hear (s.t.), to listen to (s.t.)' (van der Tuuk 1971 [1864–1867]: 101). Van der Tuuk (1971 [1864–1867]) writes that the applied phrase of *manangihon* "is something to/for which one listens in order to catch it, either a distant sound, or a word towards which one directs one's hearing" (101). See § 7.10 below for discussion of AM-marking used with an intensifying effect on transitive base verbs of perception.

7.9.3 ACs with Verbs of Bodily Function

In many, but not all, languages of the sample, an AM marks selection of a P argument with intransitive base verbs describing bodily processes. Examples include Muna *no-hoda-ghoo* 'to cough up (s.t.)' from *hoda* 'to cough', Nias *uta-ö* 'to throw up (s.t.)' from *m-uta* 'to vomit', and Makasar *na-ta'-me-áng=i cera'* 'he is pissing blood' cf. *at-ta'-mea=i* 'he is urinating'. In such cases the applied phrase may be considered a type of theme, though they are not always categorized as such in descriptive accounts. Jukes (2020: 312–314) for example, considers the applied phrase in such examples to be a type of "inherent patient". Examples of this type are also found in Toba Batak, Ledo Kaili, and Javanese. An example of an intransitive BC and a transitive AC with a bodily function verb is given below.

(205) Sundanese, AC with bodily function verb

a. *Icih utah.*

I. vomit

'Icih vomited.' (BC)

b. *Icih ng-utah-keun udang=na*

I. AV-vomit-THM.APPL shrimp=DEF

'Icih vomited up the shrimp.' (AC)

(FM4-046)

7.10 Aspect, Intensity and Other Semantic Effects

In the languages of the sample, AM-marking is often observed to be associated with a semantic difference in clausal meaning, such as a change in aspect, intensity, manner, or semantic characteristics of the P argument (see § 6.5.3).

The AMs that mark locative- and goal-selecting ACs are also commonly found to indicate repeated, iterative, habitual or pluractional aspect, and this may occur with or without a change in argument structure. This was discussed for the Sundanese AM *-an* in § 2.9.2. Aspectual functions of this type are also

found with Toba Batak *-i*, Salako *-i?*, South Barisan Malay *-i*, Indonesian *-i*, Javanese *-i*, Nasal *-i*, Balantak *-i*, Mori Bawah *-Ci*, Muna *-Ci*, and Yakan *-an*. Makasar *-i* is also sometimes observed with similar effects, but this function is “most likely no longer productive” (Jukes 2020: 306). An example of a pluractional construction is given from Muna below with the locative/goal AM *-Ci*.¹¹

(206) Muna, pluractional aspect with *-Ci*

- a. *Sau hae ne-ala-mu itua?*
 wood what PASS.PART-take-2SG that-EMPH
 ‘What kind of wood did you take?’

- b. *Ala-hi kaeta sau itu, owa-hi kaeta na ini.*
 take-PLUR 2.POL wood that, bring-PLUR 2.POL to here
 ‘Fetch all that wood over there, bring it here.’

(“*ala*”, van den Berg & Marafad 2016, glosses added)

In a number of languages, AMs also function to indicate intensive or careful action. This occurs with transitive verbs of perception as in Kendayan *nanang-an* ‘to watch, to look at’ cf. *nanang* ‘to see’ (Adelaar 2005b). Similar constructions are found in Indonesian, e.g. *me-lihat-i* ‘to scrutinize, look at intently’ cf. *me-lihat* ‘to see’, and Kaili Ledo, e.g. *ne-talinga-ni* ‘to listen to s.t. on purpose, eavesdrop’ from *talinga* ‘ear’, cf. *nang-epe* ‘to hear s.t.’ (D. Evans 2003: 44, 228).

In other cases, the intensive function of AMs indicates application of greater than usual force. For instance, Toba Batak *pasak* means ‘beat’, and *pasak-kon* may mean ‘beat with s.t.’ (instrumental applicative function) or alternatively, ‘do beat s.t.’ (intensive/emphatic function) (Nababan 1981: 70). In Mori Bawah, Mead (2005: 703) notes that *-Cako* can indicate that an action “is performed in a more intense or haphazard manner (without any change in valency of the predicate)”. Interestingly, *-Cako* also indicates that an action “is performed by a large number of people” (702) with some bases, but this appears to be fairly limited in productivity. In *Tukang Besi*, the applicative suffix *-(VC)i* indicates “forceful application” (Donohue 1999: 243), as in *pepe-ki* ‘slap forcefully’, and *busu-ki* ‘punch with forward fist’. An example from Javanese is given below with the AM *-i*, which can indicate intensity as well as intentional action.

11 The form *kaeta* in example (206) is used in informal imperatives and means something like ‘for us (incl.)’ (van den Berg 2013: 72).

(207) Javanese, Greater intensity with *-i*

a. *Charlotte ng-rusak lawag*

C. AV-break door

'Charlotte broke the door'

b. *Charlotte ng-rusak-i lawang*

C. AV-break-INTENS door

'Charlotte destroyed the door'

(Hemmings 2013: 171)

In Sundanese, the theme-selecting AM *-keun* is also observed to have semantic effects including greater individuation or specificity of P. An example is shown below contrasting the base verb *melak* and the AM-marked verb *melakkeun*. Both mean 'to plant' and both select a theme role as the P argument. In (208a), *melak* is used when the planting of rice is described as a general activity. In (208b), *melakkeun* is used in when the clause describes a planting event with a more individuated referent for P. Here, P refers to rice seeds or seedlings which have been prepared by the farmer ahead of time, as already mentioned in first clause of (208b), preceding the use of *melakkeun*.

(208) Sundanese, Higher individuation of P

a. *M-(p)elak paré ayeuna mah di sawah, di-sebut=na*

AV-plant rice now PRT in rice.field PV-call=3

ny-(s)awah

AV-rice.field

'Now planting rice in a paddy is called *nyawah* (making paddies).'

b. *Saméméh m-(p)acul ilaharna patani sok sa-sadia-an*

before AV-hoe usually farmer go.ahead RDP-ready-CAUS

binih paré heula. M-(p)elak-keun binih paré (gabah)

seed rice first AV-plant-THM.APPL seed rice rice.grain

di-sebut=na tebar.

PV-call=3 seed.rice

'Before tilling the ground usually the farmer prepares rice seeds first. Planting the rice seeds (grains of rice) is called *tebar* (seeding rice).'

(CT1-030, based on Kustian n.d.)

Specificity effects are also reported for the Javanese applicative suffix *-i* by Vander Klok & Evans (2022), though these effects appear to apply only with a limited set of bases.

- (209) Javanese, Higher specificity of P
- a. *Slamet n-(t)ulis (buku anyer / *buku-ku sing anyer).*
 S. AV-write book new / book-1SG REL new
 ‘Slamet wrote a new book / *my new book.’
 - b. *Slamet n-(t)ulis (buku-ku sing anyer / *buku anyer)*
 S. AV-write-LOC.APPL book-1SG REL new / book new
nganggo tulis-an warna-warna.
 using write-NMLZ RDP-color
 ‘Slamet wrote (my new book / *a new book) with colored writing.’
 (Vander Klok & Evans 2022, citing Sudaryanto 1991:61–62)

In Makasar, the verb *sare* ‘give’ is a ditransitive verb that selects three core arguments. As shown in (210a), when *sare* is used without any AM-marking, the theme is always indefinite, is not indexed on the verb, and is obligatory to mention. When the AM *-ang* is affixed to *sare*, as shown in (210b), the selection of semantic roles and indexing of arguments shows no change. There is, however, a semantic difference in that the theme must be definite in the AM-marked clause. In addition, the theme argument may be unexpressed when the verb is marked with *-ang*, which represents a change in its syntactic properties.

- (210) Makasar, Change in definiteness of the theme
- a. *La=ku=sare=ko doe’*
 FUT=1SG=give=2SG money
 ‘I’ll give you some money.’
 - b. *La=ku=saré-ang=ko doek=ku*
 FUT=1SG=give-THM.APPL=2SG money=1.POSS
 ‘I’ll give you my money.’ (Jukes 2020: 254)

Certain clauses marked with the AM *-an* show similar semantic effects in West Coast Bajau. The AM *-an* is found on many monotransitive and ditransitive verbs in AV without a change in argument structure compared to base forms. Miller (2007: 293) describes these alternations, stating “when the *-an_i* suffix does occur, a specific/referential argument and/or a particular event is involved.” This is similar to the use of Yakan *-an* as an obligatory suffix in the zero-marked PV constructions with certain bases; the suffix must be used for transitive clauses with definite P arguments. In corresponding semi-transitive or ‘antipassive’ constructions marked with *mag-*, P is indefinite and *-an* is not required (but may be optionally present with some lexical verbs).

Finally, AM-marking is frequently associated with lexicalized changes in verbal meaning. As mentioned in § 2.5.1, the Sundanese verb *béré* means ‘to give’, while *béré-keun* means ‘to hand over’. In Balantak, *mim-bibit* means ‘to carry in the hand’, while *mim-bibit-i* means ‘to attach/make a carrying strap/rope on s.t.’ (van den Berg & Busenitz 2012: 105). For further examples and discussion of the semantic functions of AMs in West Nusantara languages see Truong & McDonnell (2022).

7.11 Causative AM-Marked Constructions

The use of AMs in forming causative constructions is quite common in languages of the sample, but not universally observed. In some languages of the sample, AMs are the primary markers for morphological causative constructions. This is the case in the three Malayic languages of the sample, as well as Nasal, Javanese, Sundanese, Balinese, and Ampenan Sasak. In Nias, the prefix *fa-* should be considered primarily a causative morpheme, though it is found on a few constructions with applicative meanings, as described above.

In other languages, including Toba Batak, Madurese, Yakan, West Coast Bajau, and all 11 languages of Sulawesi represented in the sample, there is a separate causative prefix with the form *pa-*, *paka-* or similar that forms morphological causative constructions. In 13 of the 15 such languages, these prefixes are the primary markers of causative constructions. In Madurese, both *pa-* and the AMs *-agi* and *-e* are productively used to form causative constructions. In Balantak, the AMs *-i* and *-kon* and causative prefixes *po-* and *pa-* are found to form causative constructions across bases according to patterns which are “lexically specific and somewhat idiosyncratic” (van den Berg & Busenitz 2012: 93–94). Even in languages where the causative prefixes are the primary markers of morphological causative constructions, AM-marked constructions in which an instigating causer is introduced may still be observed with certain lexical bases. Altogether, in 21 languages of the sample, one or more AMs forms causative constructions. In three languages, there is apparently no use of AMs to form causative constructions with any level of productivity. These are Muna, Tolaki, and Duri, all language of Sulawesi with productive causative prefixes.

An example of a causative AM-marked construction with a stative base is given below from Balantak with the locative applicative AM *-i*.

(211) Balantak, Causative function of *-i* with stative base

a. *Anak-ku no-baloki'-mo.*

child-1S RLS-big-PFV

‘My child is already big (now).’ (van den Berg & Busenitz 2012: 68)

- b. *Ia mae' na Luwak mam-balaki'-i poto-na*
 3SG go LOC Luwak AV-big-CAUS photo-3SG
 'He went to Luwak to enlarge his photo.' (Causative)
 (van den Berg & Busenitz 2012: 96)

With certain bases in Madurese, either the causative prefix *pa-* or an applicative suffix may be used to form a causative construction. This is shown with the AM *-agi* in the example below.

- (212) Madurese, Causative constructions
 a. *Mutmainah m-(p)a-sossa ca-kanca-na.*
 M. AV-CAUS-sad RDP-friend-DEF
 'Mutmainah made her friends sad.' (Causative)
 b. *Mutmainah ny-(s)ossa'-agi ca-kanca-na*
 M. AV-sad-CAUS RDP-friend-DEF
 'Mutmainah made her friends sad.' (Causative)

The example below shows a causative AM-marked construction from Ampenan Sasak, with the dynamic intransitive verb *kèlèp*, 'fly'.

- (213) Ampenan Sasak, Causative function of *-an*
 a. *Pesawat nó kèlèp.*
 plane DET fly
 'The plane flew.'
 b. *Pilòt nó kèlèp-an pesawat.*
 pilot DET fly-CAUS plane
 'The pilot flew the plane.' (Khairunnisa & McDonnell in prep)

Note that in some causative AM-marked constructions formed with transitive bases, it is not the causee that maps to P, but the causand (e.g. patient or theme). An example is shown below from Javanese with the AM *-aké*. Constructions of this type are also found in Indonesian, Sundanese, and Nasal.

- (214) Javanese, Causative function of *-aké* with transitive base
 a. *Bambang gawe dolanan iku kanggo bocah kae.*
 B. make toy that for child that
 'Bambang made that toy for that child.'
 (Vander Klok & Evans 2022, citing Suhandono 1994:53)

- b. *Klambi-ne di-gawè-kake dening gêrji.*
 shirt-3SG PV-make-CAUS by tailor
 'He had his shirt made by a tailor.' (Horne 1974: 193, glosses added)

In languages with productive causative morphemes distinct from AMs, the two types of morphemes often may combine on the same verb. However, in certain languages, such as Pendau, it does not appear that causative prefixes freely combine with applicative suffixes.¹²

In Toba Batak, when certain transitive base verbs are marked with the prefix *pa-* and the suffix *-hon*, it does appear that *-hon* functions to select a theme applied phrase, while *pa-* introduces an instigating causer argument. Examples include *pa-pahat-ton* 'to give (s.t.) to animals to eat' from *pahan* 'to eat' and *pa-djudjuk-kon* 'to give (s.t.) to someone to carry on the head' from *djudjung* 'to carry on one's head' (van der Tuuk 1971 [1864–1867]: 130). In certain other irregular causative verb forms, however, note that *-hon* is also required to be marked on stems formed with *pa-* in AV only (see discussion of similar cases in § 6.5.2). These irregular causative stems are found with intransitive or stative base verbs. With such verbs, there is no clear selection of a peripheral role to map to a core argument, and thus no clear applicative function. For example, *jóngjong* means 'to stand', while *pa-jóngjong* means 'to make to stand (up), PV', but *pa-jóngok-kon* means 'to make to stand (up), AV' (Nababan 1981: 103).

In Makasar, causative *pa-* combines with both the benefactive/instrumental AM suffix *-ang* and the locative/goal AM suffix *-i*. In some cases marking with the AM results in the selection of an additional definite argument, as with the verb *kanre* 'eat', which is shown in (215) below.

- (215) Makasar, Causative *pa-* + AM *-ang*
 a. *ku=pa-kanre=i bembe*
 1=CAUS-eat=3 goat
 'I made/let him eat goat (meat).' (Jukes 2020: 290)
 b. *ku=pa-kanre-ang=i bembe=a*
 1=CAUS-eat-BEN.APPL=3 goat=DEF
 'I made/let him eat the goat.' (Jukes 2020: 296)

¹² However, see Quick (2007: 284) for one example in which *pa-* is analyzed as both a causative marker and a stem forming prefix when used with the applicative suffix *-a*.

With other base verbs in Makasar, the functions of a co-occurring causative prefix and applicative suffix are not easy to distinguish clearly (see Jukes 2020: 295–297). A number of verbs, for example, bear both the prefix *pi-* and one or both of the applicative suffixes. The prefix *pi-* can function as a causative marker and also has other semantic functions. This prefix “derives forms with meanings like ‘(examine/inspect/listen) carefully or intently’” (Jukes 2020: 299) and in such cases may be found with or without concurrent AM-marking.

In some languages, the selection of a stimulus applied phrase with a base verb of perception or emotional state requires both an applicative suffix and another prefix. This was noted earlier for Toba Batak *ha-*, a fossilized prefix of unclear function, and Sundanese *CVng-*, an intensifier or simulfactive marker, as well as Makasar *pi-* above.

For languages of the sample in which the same AM shows both causative and applicative functions, the distribution of such functions across bases may be influenced by syntactic and semantic properties of the base lexeme, though certainly idiosyncratic and lexicalized patterns are also often reported. AM-marking on stative base verbs and most intransitive dynamic base verbs often results in only the introduction of an instigating causer argument. AM-marking with transitive bases, and intransitive bases of certain semantic subclasses (e.g. speech, perception, emotion as described above), commonly is associated with the selection of a peripheral role to map to a non-A argument in the clause (i.e., an applicative function). Additionally, on certain lexical bases, marking with a single AM may be associated with both the introduction of an instigating causer and the selection of an applied phrase that is not a causand. An example is given from Sundanese in (216).

(216) Sundanese, Portmanteau use of *-an*

a. *Cai hujan ng-(k)ucur=na ka solokan.*

water rain AV-flow=3 to gutter

‘Rain water flows to the gutter.’

b. *Icih ng-(k)ucur-keun cai kana gelas.*

I. AV-flow-CAUS.THM.APPL water into glass.

‘Icih poured water into a glass.’

c. *Gelas di-kucur-an cai ku Icih.*

glass PV-flow-CAUS.LOC.APPL water by I.

‘The glass had water poured into it by Icih.’

(CT1-023)

In example (216a), the base verb *kucur* ‘flow’ is shown to be intransitive without AM-marking. It bears the AV prefix *ng-* but no applicative affix, and takes a

single S argument, *cai hujan* 'rain water'. In example (216b), the AM *-keun* forms a causative construction with *kucur*. Here the verb *ng-(k)ucur-keun* takes an A argument that is an instigating causer, *Icih* 'personal name', and a P argument that is a causand, *cai* 'water'. However, in example (216c), when the AM *-an* occurs on the base verb *kucur*, the resulting clause shows both a causative and applicative meaning. The verb selects a goal applied phrase *gelas* 'drinking cup', which maps to the pivot argument in PV, while the causand *cai* 'water' is realized as a second non-A core argument appearing in postverbal position.

This type of construction is also possible with transitive bases, in which case the selection of a peripheral role as a non-A core argument may be more unexpected. Consider the following alternation from Sundanese with the verb *injeum* 'to borrow'. In the BC in (217a), the A argument refers to the agent, i.e. borrower, while the P argument refers to the entity that is transferred in possession, i.e. the theme, or thing borrowed. In the AC in (217b), the A argument now refers to an instigating causer, who is not the borrower, but the entity who allows the borrowing to occur, i.e. the lender. In this case it must be a third-party lender, who is not the owner of the thing borrowed. Contra expectation, we do not see the borrower selected as the P argument in the AC in (217b), instead the theme remains the P argument (and represents the applied phrase), and the borrower is expressed in an oblique PP, *ka Icih* 'to Icih'. This AC is similar in structure to the causative example in (214) above from Javanese with the AM *-aké*.

(217) Sundanese, Causative + Theme-selecting construction

a. *Icih ng-injeum duit ka abi.*

I. AV-borrow money to me

'Icih borrowed money from me.' (BC)

(CT1-003)

b. *Duit abi di-injeum-keun ka Icih ku Ema.*

money 1SG PV-borrow-CAUS.THM.APPL to I. by mother.

'My money was lent out to Icih by Mother.' (AC)

(CT1-003)

Similar examples are found with recipient applied phrases, as in (218).

(218) Javanese, Causative + Recipient-selecting construction

a. *Buku-ne tak silih.*

book-3.POSS 1SG borrow

'I borrowed his book.' (BC)

- b. *Bocah=e di-silih-i sarung.*
 child=3 PV-borrow-CAUS.LOC.APPL sarong
 'They lent the child a sarong.' (AC)
 (Horne 1974: 554, glosses added)

However, such examples are not necessarily limited to verbs that express events of caused motion or transfer. Other verbs may acquire the meaning of caused motion or transfer when an applicative affix associated with that constructional meaning is affixed to a base. In the example below, the BC in (219a) describes a perception event in which there is no sense of movement of a theme. In the AC marked with *-keun* in (219b), however, the event described is both a caused perception event and a caused motion event. The A argument is understood as an instigating causer rather than a perceiver, and the applied phrase *kaos kaki Udi* 'Udi's socks' is both a theme and a stimulus.

(219) Sundanese, Causative + Theme-selecting construction

- a. *Abi ng-ambeu kue haneut.*
 1SG AV-smell cookie warm
 'I smell warm cookies.' (BC)
- b. *Kaos kaki Udi di-ambeu-keun ka*
 clothing foot U. PV-smell-CAUS.THM.APPL to
adi=na.
 younger.sibling=3.POSS
 'Udi forced his younger sibling to smell his socks (by moving them close to his/her face).' (AC)
 (CT1-015)

These examples underscore that AM-marked constructions in these languages may have constructional meanings that are both causative and applicative. This is found even in languages with a separate causative morpheme, e.g. Balantak *bolos-ii* 'to lend s.o. s.t', from *bolos* 'to borrow s.t.', while Balantak also has the causative prefixes *pa-*, and *po-* (van den Berg & Busenitz 2012). However, it appears that introduction of an instigating causer is limited to a very small number of bases with Balantak *-ii*.

7.12 Applicatives and Voice

In the languages of the sample, ACs typically freely co-occur across other major voice constructions including AV, PV, and passive voice constructions.

As reported in § 6.7.1, this is the norm in languages of West Nusantara. It is also evident from examples of ACs given above in this chapter, which frequently have been shown in both AV and PV constructions. Even in languages that show reduced semantic transitivity in certain A-oriented constructions, ACs tend to combine freely with these clause types. As mentioned above, Makasar is one such language. ACs in Makasar freely combine with the semi-transitive prefix *aN(N)*- and another so-called actor focus prefix *aN*- (see Jukes 2020: 306). Examples were also given of ACs in the ‘antipassive’ construction in Mori Bawah in (166) and in what may be called semi-transitive clauses with the *ae*-class prefixes in Muna in (152). Likewise, in languages that have a passive construction, ACs generally freely occur with it, as in Ampenan Sasak, which is shown in (220). In the AC in (220b), the verb bears both the passive prefix *te*- and the AM suffix *-an*. The applied phrase, in this case a goal, is selected as the pivot argument when this is the case.

(220) Ampenan Sasak, Passive with goal-selecting AC

a. *Dengan tólóq babak bajur leq ramuan.*

people put bark bajur LOC potion

‘People put bajur tree bark in the potion.’ (BC)

b. *Ramuan te-tólóq-an babak bajur siq dengan.*

potion PASS-put-LOC.APPL bark bajur by people

‘The tree bark was added to the potion (lit. made thing) by people.’

(AC)

(Khairunnisa & McDonnell in prep)

In terms of syntactic restrictions on co-occurrence of ACs with other major voice constructions, as discussed above in § 7.5.3 above, certain ditransitive ACs in Sundanese may occur in PV but usually not AV. Likewise, in Pendau, goal ACs marked with *-i* and instrumental ACs marked with *-a*’ do not occur in AV (see § 5.6.3.4). Quick (2007: 304–305) also mentions that a number of roots in Pendau require that the verb be marked with the locative/goal applicative *-i* in PV, as in (221a), whereas marking with the same AM does not occur in AV, as in (221b). With the same root, omitting the AM *-i* in PV or including it in AV is ungrammatical.

(221) Pendau, PV construction requiring *-i*

a. *Palan roguntuninyo.*

palan ro-guntung-i=nyo

lamp PV.IRR-light-LOC.APPL=3SG.GEN

‘He/she will light the lamp.’

- b. *A'u mo-guntung palan.*
a'u M-pong-guntung palan
 1SG AV.IRR-SF-light lamp.
 'I will light the lamp.' (Quick 2007: 304)

Similar restriction are reported by Miller (2007: 192–193) for West Coast Bajau and Brainard & Behrens (2002) for Yakan, where AM-marking with *-an* is required on some roots in PV but optional in AV. This type of restriction may be related to a general tendency for PV constructions to show higher semantic transitivity, and greater individuation or affectedness for the P argument (and thus the applied phrase in ACs). Thus, while ACs do typically co-occur with AV and other A-oriented constructions in the languages of the sample, the use of AM-marking and PV does show a correlation in at least some West Nusantara languages, e.g. Besemah (South Barisan Malay) (McDonnell 2016: 214–215), and this is likely driven by tendencies in discursive usage that have become grammaticalized. See also Donohue (2001), which examines the use of *Tukang Besi* ACs in natural texts and finds an overwhelming tendency for applied phrases to be pivots in discourse. This and other syntactic restrictions noted in this section are in keeping with the proposal made in Chapter 6, that pivot-neutral ACs are derived from earlier pivot-selecting constructions, in which the peripheral role of location, goal, beneficiary, instrument, or theme, exclusively maps to the pivot relation.

Despite a general lack of syntactic restrictions on voice in ACs across the sample, the combination of voice and applicative morphology allows a participant with a peripheral semantic role, such as a beneficiary, instrument, goal, or location, among others, to be the pivot (see Davies 2005 for in-depth discussion of these points in Madurese). Furthermore, it is well-known that pivots in symmetrical voice languages are the syntactically privileged argument and thus play an important role in syntactic operations, such as relativization and focus (see e.g. Arka 2003, Riesberg 2014b). In many of the languages of the sample, whether symmetrical or not, such operations are usually restricted to the pivot or subject, and if not, at least to core arguments.

In the languages of West Nusantara, relativization is typically marked by a 'gap' in the relative clause, which is co-referential with the head noun. In languages of the sample, the relative clause may be introduced with a linker particle or relativizer, or may be headless, as in Makasar and West Coast Bajau, among others. In asymmetrical voice languages like Nias, Muna, and Mori Bawah, relative clauses, or participial structures that function like headless relative clauses, show A-oriented and P-oriented alternations, which are not observed in main clauses. Thus an applied phrase may be the head noun of a

P-oriented relative clause in these languages, provided that it is eligible to be the pivot or subject in P-oriented clause types (see §6.7.3). With the exceptions of Ampenan Sasak and Makasar, the argument that is co-referential with the head noun is restricted to the pivot (or analogous privileged syntactic relation). In Makasar a single argument in the clause may be co-referential with head noun (see below). In Ampenan Sasak, access to relativization is restricted only to core arguments (see Khairunnisa 2022: 84–87).

In Nasal, as is typical for two-way symmetrical voice languages of the sample, voice alternations and applicatives are used together to modulate access of peripheral semantic roles to relativization. As shown in (222a) and (223a), in Nasal, when the verb in the relative clause is in PV, only P may be the head noun. When AM-marking is used together with a PV construction, the applied phrase maps to the P argument, and thus may serve as the head noun of the relative clause. In (222b), the verb in the relative clause is marked with the goal-selecting AM *-i*, and accordingly, the goal applied phrase is the head noun. In (222b), the verb in the relative clause is marked with the instrument-selecting AM *-kun*, and accordingly, the instrument applied phrase is the head noun.

(222) Nasal, Instrument-selecting AC in relative clause

- a. *tulis-an* [*sai di-tulis anak=ku jenu*] *kak*
 write-NMLZ REL PV-write child=1SG.POSS earlier PFV
ku=hapus.
 1SG.NPIV=[PV]erase
 ‘I erased the writing that my child wrote (on the wall).’ (BC)

- b. *sisai* [*sai di-tulis-i anak=ku jenu*] *kak*
 wall REL PV-write-LOC.APPL child=1SG.POSS earlier PFV
ku=bekhesih-kun.
 1SG.NPIV=[PV]clean-CAUS
 ‘I cleaned the wall that my child wrote on.’ (AC)
 (McDonnell fieldnotes)

(223) Nasal, Goal-selecting AC in relative clause

- a. *manuk* [*sai ku=panggul jenu*] *lijung.*
 chicken REL 1SG.NPIV=[PV]hit earlier flee
 ‘the chicken that I hit earlier ran away.’ (BC)

- b. *tungkuk* [*sai ku=panggul-kun* *khan manuk jenu*]
 staff REL 1SG.NPIV=[PV]hit-INST.APPL with chicken earlier
patuh.
 break
 ‘the staff that I used to hit the chicken broke.’ (AC)
 (McDonnell fieldnotes)

In Makasar, generally only the P argument may be the head noun of the relative clause in zero-marked transitive clauses (Jukes 2020). Again, a peripheral semantic role is only eligible to be the head noun when the verb in a relative clause is marked with an AM. This is shown in (224). Here the verb is marked with the locative/goal AM *-i*, and accordingly, the locative applied phrase is the head noun. In (225), likewise the verb is marked with the instrumental AM *-ang*, and accordingly, the instrument applied phrase is the head noun. Thus, the use of ACs in combination with voice alternations modulates access of phrases expressing different sets of semantic roles to relativization. In this respect, the combination of P-oriented voice constructions with pivot-neutral applicatives together functions like LV and CV alternations (pivot-selecting applicatives) in Philippine-type languages (see § 6.7.2).

- (224) Makasar, Goal-selecting AC in relative clause
sikola [*na=mange-i=a* *agang=ku*] *baji'=i*.
 school 3=GO-LOC.APPL=DEF friend=1.POSS good=3
 ‘the school my friend goes to is good.’ (AC) (Jukes 2020: 229)
- (225) Makasar, Instrument-selecting AC in relative Clause
sele' [*ni-buno-ang=a=i*] *tarang=i*.
 kris PASS-kill-INST.APPL=DEF=3 sharp=3
 ‘the kris he was killed with was sharp.’ (AC) (Jukes 2020: 229)

Additionally, certain focus and clefting constructions are also restricted to the pivot argument, or to core arguments more generally, in many languages of West Nusantara. In Makasar, for instance, a peripheral semantic role is only eligible to be focused in clauses where the verb bears AM-marking (Jukes 2020: 228). This is shown in (226). Here, the argument in preverbal position receives special pragmatic focus. Canonical word order in Makasar is verb-initial.

- (226) Makasar, Focused location applied phrase
tapper=e' ku=empo-i.
 mat=EC 1=sit-LOC.APPL
 ‘I sit on a mat.’ (AC) (Jukes 2020: 311)

In West Coast Bajau, a similar focus construction is observed (Miller 2007: 206–207). Again, the argument in preverbal position receives special pragmatic focus, though in West Coast Bajau this position is restricted specifically only to pivot arguments. As shown in (227a), in PV clauses, the P argument is the pivot and thus can be focused in the preverbal position. Accordingly, when the verb is marked with the AM *-an*, a peripheral semantic role is eligible to be focused. This is shown in (227b), where the beneficiary applied phrase is the pivot and thus may appear in preverbal position, receiving pragmatic focus. Non-pivot arguments cannot be fronted in the same manner. Again, the use of ACs in combination with voice alternations modulates access of phrases expressing different sets of semantic roles to positions of structural and discursive prominence. Just as with relativization, in Philippine-type languages, it is LV and CV constructions that are used to provide access to peripheral semantic roles to fronting and clefting constructions in a similar manner (see § 6.7.2).

(227) West Coast Bajau, Focused beneficiary applied phrase

- a. *Telumpa' e boi beli=ni ta' Kuzik.*
 shoes DEM CMPL [PV]buy=3SG.NPIV LOC K.
 'She bought the shoes for Kuzik.' (BC)

- b. *Kuzik boi beli-an=ni telumpa' e*
 K. CMPL [PV]buy-BEN.APPL=3SG.NPIV shoes DEM
dilaw.
 yesterday
 'She bought Kuzik the shoes yesterday.' (AC) (Miller 2007: 206)

7.13 Summary of Findings

In this chapter, I have presented a functional typology of ACs and other AM-marked constructions based on 24 languages of West Nusantara showing pivot-neutral applicatives. In this concluding section, I summarize some key distributional patterns evident from the data presented.

In languages of the sample, ACs show differing structural properties depending on the role of the applied argument. ACs with beneficiary applied phrases most commonly occur only with transitive bases. Beneficiary-selecting ACs usually show an increase in the number of core arguments over a corresponding BC, such that these ACs are maximally ditransitive. One exception is benefactive ACs marked with Balantak *-kon*, which are maximally monotransitive and valency-preserving with transitive bases.

Instrument-selecting ACs are quite often maximally monotransitive, with the companion phrase (patient or goal) remapped to an oblique phrase. This occurs especially in Malayic languages and languages of Java and Sumatra. In Pendau and a number of other languages of Sulawesi, instrumental ACs are maximally ditransitive. Most languages with instrument-selecting ACs also have theme-selecting ACs marked with the same AM. The two constructions share semantic similarities in that most instrument applied phrases, like themes, express an entity that is directed into motion. Theme ACs are generally monotransitive in the languages of the sample, with remapping of the companion phrase when the BC is transitive.

Goals, locations, and addressees are typically marked with the same AM. The syntactic properties of these locative- and goal-selecting ACs are more diverse than other types of ACs. With some exceptions, locative- and goal-selecting ACs typically occur with both intransitive and transitive bases, and with transitive bases, may either increase clausal transitivity or show remapping of the companion phrase.

When AMs that mark beneficiaries, instruments, goals, and/or locations attach to intransitive bases, they may also select applied phrases expressing various other semantic roles, including content, stimulus, and the theme-like product of a bodily process. These constructions result in monotransitive ACs. For many ACs of this type, there is no monoclausal BC equivalent.

AM-marked constructions may also show non-applicative functions. Thus some AM-marked constructions do not show selection of an applied phrase but instead have a purely semantic effect such as indicating repeated or pluractional aspect, greater intensity, or changes in the properties of non-A arguments, such as individuation, definiteness, or specificity.

Causative functions are also attested for AMs, but not equally across all languages of the sample. Eight languages of the sample show no productive causative morphology distinct from AMs. The other 16 show productive causative prefixes, and in 14 of these, such prefixes are the most productive markers of morphological causative constructions by far. In many such cases, AM-marking and causative prefixation may combine. In all but three languages of the sample, one or both AMs that mark ACs can also mark causative constructions. For these affixes, AM-marked constructions may be both causative and applicative, with the AM functioning to select both a causer A argument and a peripheral role as a non-A core argument.

Finally, in West Nusantara languages with symmetrical voice systems, the pivot plays an important role in syntactic operations, and the combination of P-oriented voice marking and applicative morphology allows peripheral semantic roles, such as beneficiaries, instruments, goals, and locations, to be the pivot.

This is significant because access to many syntactic operations, such as relativization and certain fronting constructions, is reserved for the pivot in many of the languages in the sample. Analogous patterns are also found in many languages with asymmetrical or marginally symmetrical voice systems, which may retain an alternation between P-oriented constructions and A-oriented constructions only in relative clauses or participial structures. In this way, the selection of voice alternations plus use of applicatives modulates access of constituents expressing peripheral roles to positions which are privileged syntactically (e.g. pivot, head noun of relative clause) and prominent in discourse (e.g. focused, or highly topical).

Conclusion

In this concluding chapter, I summarize some of the major findings and contributions of this study and discuss implications for future research.

From the start, the goal of the study has been to understand the applicative systems of West Nusantara in typological context, but also on their own terms, in the context of the diachronic and synchronic systems in which they developed and are used. In addition, I have given special attention to broadening the description and cross-linguistic comparison of applicative constructions (ACs) in languages of West Nusantara. Accordingly, the depth and the breadth by which I have described ACs in West Nusantara is a major contribution of this study. This has been driven by two factors.

First, the conceptual framework for applicatives developed in this study allows for broad inclusion in the types of constructions that were considered relevant. In Chapters 1 and 3, I outlined a constructional approach whereby ACs are understood as a conventionalized pairing of a fixed form and consistent meaning, and I showed how elements of form and meaning for ACs might be further elaborated. This focus led to consideration of a variety of clausal constructions with functional similarities or formal similarities to canonical applicatives, including non-canonical ACs of various types, and non-applicative AM-marked constructions with diverse functions.

Second, I have sought to emphasize distinctions that are meaningful in the internal linguistic systems of West Nusantara languages. In Chapter 2, I gave a thorough descriptive account of the applicative system of Sundanese, a language which has received relatively little attention in previous research on applicatives. As part of that case study, I showed that ACs in Sundanese cannot be clearly distinguished from causative constructions, pluractional meanings, and category-changing constructions marked by the same morphemes. Furthermore, in Sundanese the overlap between applicative and non-applicative functions of AMs is observed across diverse forms of AMs and in diverse types of ACs, e.g. goal-selecting ACs with *-an*, theme-selecting ACs with *-keun*, and beneficiary-selecting ACs with the unique applicative circumfix *pang-* *-keun*.

In keeping with these two driving factors, in Chapter 3, the relationship between applicatives and symmetrical voice in western Austronesian languages was also examined. On the one hand, in languages like Balinese, symmetrical voice and applicatives are two separate dimensions of the verbal system. In languages like Kimaragang, on the other hand, certain symmetri-

cal voice constructions (LV, CV, etc.) can be considered applicatives in cross-linguistic context on the basis of their form and function. But within the internal grammatical system of the individual language, they operate within a single paradigm of alternations that includes constructions that are clearly not applicatives (AV, PV). On this basis I proposed the terms *pivot-neutral* applicative for the Balinese type and *pivot-selecting* applicative for the Kimaragang type, and showed how this would allow for better integration of Philippine-type languages into a cross-linguistic typology of applicatives.

As reported in Chapter 4, I conducted a large scale typological survey of the languages of West Nusantara, examining data in 85 languages representing extensive geographic diversity and genetic diversity under Malayo-Polynesian. This yielded a breadth and depth of data on applicatives in West Nusantara on a scale far larger than any previous research. Based on the survey, basic distributional facts for applicatives in West Nusantara languages were established, including a number of important patterns that have not been previously identified.

First, while the presence of pivot-neutral applicatives are the norm in West Nusantara, there are conspicuous subareal patterns whereby applicatives are missing in mainland Southeast Asia north of Peninsular Malaysia, and Borneo south of Sabah. This lack of applicatives correlates with other typological changes in the relevant languages, including more reliance on fixed word order to signal grammatical relations, shift to analytic rather than morphological means for modulating voice and valency, and loss of suffixation. In mainland Southeast Asia it is well known that these changes were caused by language contact with Austroasiatic languages. In Borneo, there are also indications that these changes have spread through contact, beginning in southwest Borneo in the area where Land Dayak languages are spoken and gradually affecting North Sarawak languages and Greater Barito languages in adjacent areas, as well as some Malayic languages like Iban and Mualang. While Adelaar (2006) previously identified some such trends in West Kalimantan and southern Central Sarawak, the extent of these patterns is larger than he recognized at the time. Still, the initial trigger for these changes in Borneo is not identified, though one must wonder whether speakers of non-Austronesian languages present in Borneo upon the arrival of Malayo-Polynesian groups did not influence the course of development for the newcomers' languages.

Second, in West Nusantara not only is the presence of pivot-neutral applicatives the norm, pivot-neutral applicatives are associated with diverse typological profiles, and are found across widely differing systems of alignment and across many types of symmetrical and asymmetrical voice systems. This casts doubt on the association of (pivot-neutral) applicatives with a proposed

category of Indonesian-type languages showing two-way symmetrical voice systems and use of special coding for non-pivot actors, among other characteristic properties.

Third, instead of association with the emergence of a particular typological profile, there are indications that the presence of pivot-neutral applicatives in West Nusantara is associated specifically with the decline of Philippine-type voice. Particularly in Central Sama, Totoli, Pendaui and Bobongko, we see incomplete stages in the transition from Philippine-type voice to pivot-neutral applicatives, showing how the former might have receded in productivity, while the latter expanded. The extension of applicatives into co-occurrence with both AV and PV constructions drove reorganization from an integrated Philippine-type voice system (AV, PV, LV, CV) to the separation of symmetrical voice (AV and PV) and pivot-neutral applicatives as independent paradigmatic alternations in the verbal system. This probably took place incrementally. For example, in Pendaui the goal- and beneficiary-selecting applicatives co-occur with AV marking, but locative- and instrumental-selecting applicatives with the same suffixal marking are only found in PV.

In Chapter 6, distributional patterns for the forms of AMs, and their functions were presented. The predominant pattern in West Nusantara is for one form of AM to be associated with selection of locative and goal applied phrases, and another form of AM to be associated with selection of beneficiary, theme, and instrument applied phrases. This pattern of functional distribution across AMs is pervasive and broadly distributed across the region. It also shows marked similarities to the pattern of functional distribution across the LV and CV constructions in PMP and PAN. Furthermore, the association of benefactive and instrumental ACs with the same AM to the exclusion of locative and goal ACs is cross-linguistically unusual.

Based on evidence from synchronic allomorphic alternations between *-i* and *-an* with locative- and goal-selecting ACs in some languages of West Nusantara, I have argued that AMs marking locative-/goal-selecting ACs with either the form *-i* or *-an* are derived from LV morphology. For AMs that select beneficiaries, instruments, and themes, we see more variance in the form of the suffix. In South Sulawesi languages, Balinese-Sasak-Sumbawa, and Sama-Bajaw the morpheme *-an* or some regular reflex of this is used exclusively. Elsewhere, a variety of forms like *-akən*, *-kan*, and *-ako* are used, but some irregularities in expected sound correspondences for these complicate the picture. In addition, there is some evidence that older forms of benefactive/instrumental AMs have been replaced with newer ones, e.g. Javanese *-ʔən* replaced with *-akən*, and Proto Malayic *-an* replaced with *-kan*. Therefore, I have argued that the most likely explanation is that these constructions are derived from earlier CV construc-

tions marked with a reflex of the PMP imperative/negative CV suffix **-an* in earlier stages, with later replacement of the form in many languages.

In Chapter 6, I also present evidence for a number of subareal patterns in the properties of AC and AMs in West Nusantara. With respect to polyfunctionality, AMs in languages of Sulawesi are less likely to show causative functions than AMs in other western Indonesian languages. With respect to properties of ACs, a number of languages of Sulawesi show unexpected patterns of indexing and syntactic properties for the applied phrase. These patterns appear to be driven by animacy effects whereby beneficiaries are treated differently than instruments, themes, and circumstantial roles like reason and purpose. More animate participants are more likely to be indexed on the verb, more likely to show distinctive forms of such indexing, and more likely to show access to syntactic operations and to map to subject or pivot in P-oriented clauses (passive, *pv*).

In Chapter 7, I present a comprehensive functional typology of ACs and other AM-marked constructions based on a sample of 24 West Nusantara languages. ACs are categorized by the semantic role selected as the applied phrase and then described according to their observed range of syntactic and semantic properties across the languages. Beneficiary-selecting ACs again show different properties than theme- and instrument-selecting ACs, despite being marked with the same AMs. The former almost always show maximally ditransitive structures, while the latter typically show monotransitive structures with remapping of the companion phrase to an oblique relation. Locative- and goal-selecting ACs to a lesser extent also show some differences in properties. Some goal-selecting ACs are maximally ditransitive, but both locative- and goal-selecting ACs show remapping structures in a good number of languages.

Several directions for further research are implicated by this study. Regarding diachronic development, more historical-comparative research is needed, particularly on the forms of pivot-neutral AMs that mark beneficiary, instrument, and theme applied phrases. This research should take into account many more possible cognate forms and detailed analysis of sound correspondences than were possible to consider in this study. Research on languages of Borneo may also be of particular interest. Few languages in Indonesian Kalimantan and parts of Central and North Sarawak could be included in this study due to lack of basic documentation and grammatical description. Patterns of language contact in Borneo are also particularly complex, and it is clear that more research is needed to show how and why Borneo languages have changed structurally over time.

For applicatives in synchronic use, the influence of lexical semantics is a promising direction for further research. Here it would be of value to investigate the extent to which the subareal patterns shown for Sulawesi versus other west-

ern Indonesian languages hold. Also, adopting a constructional approach to applicatives of course implicates further studies of applicatives in usage, especially usage in natural discourse and larger scale corpus studies from which frequency patterns might be investigated. At present, it is difficult to conduct these types of research because nearly all corpus resources for West Nusantara languages are concentrated in a very small number of languages, including Indonesian and Javanese. Even smaller documentary linguistic records, collections of textual material, and lexical resources are lacking for the large majority of languages of West Nusantara. Thus, descriptive linguistic research based on field study and language documentation must go hand in hand with deeper studies of particular features of language in this region, including applicatives.

Lastly, study of applicatives in natural speech and interactive speech events is needed. This study has touched on some functions of applicatives related to semantic transitivity and information structure, like use of ACs to indicate higher specificity or affectedness, higher topicality, and given status in the discourse context for the referent of the applied phrase. These types of functions can only be reliably identified and described through study of natural connected speech. At present, the only research of this type for West Nusantara is Donohue's (2001) study of *Tukang Besi* applicatives in narrative texts. Interactional and pragmatic uses of applicatives have also received little attention. But several authors mention marking of the predicate with a benefactive AM as a means of expressing a request or polite imperative, and a number of speakers with whom I have worked find that benefactive imperatives are among the most natural examples of ACs in daily usage. This could explain how the PAN/PMP imperative CV suffix **-an* came to be the general marker of pivot-neutral benefactive/instrumental ACs. Moreover in languages that lost morphologically-marked mood distinctions, frequent use of benefactive ACs in requests could subsequently lead to grammaticalization of the benefactive AM as a general imperative marker. Therefore, new research based on natural connected speech and interactional speech events is of great importance for further investigation of the synchronic functions of applicatives with implications for their diachronic development.

Language Sample for Typological Survey

Table 55 lists languages included the sample for the typological survey described in Chapter 4. Language codes are listed in the second column using the ISO-639-3 code followed by Glottocode (Hammarström et al. 2022). The following genetic groups are noted by abbreviation in the table: BSS = Bali-Sasak-Sumbawa, B-T = Bungku-Tolaki, CHA = Chamic, ENG = Enggano, GRB = Greater Barito, JAV = Javanese, K-P = Kaili-Pamona, LAM = Lampungic, LND = Land Dayak, MAL = Malayic, M-B = Muna-Buton, M-K = Melanau-Kajang, MAD = Madurese, NAS = Nasal, NSAR = North Sarawak, NWS-BI = Northwest Sumatra-Barrier Islands, REJ = Rejang, S-B = Saluan-Banggai, SAB = Sabahan, SSUL = South Sulawesi, SUN = Sundanese, T-T = Tomini-Tolitoli, W-W = Wotu-Wolio. Languages with a disputed genetic affiliation are marked with an asterisk (*). The designation of genetic groups and their primary branches in the table is given according to Eberhard, Simons & Fennig (2021). Regions are listed according to major island within West Nusantara. Mainland Southeast Asia (MSEA) here refers to the continental portion of Southeast Asia north of Peninsular Malaysia. Madura, which is separated from the island of Java by the narrow Madura Strait, is included in the region designated as Java.

TABLE 55 Language sample for the typological survey

Language	Code	Group	Prim. branch	Region	Sources
Alas Batak	btz, batai292	NWS-BI	Batakic	Sumatra	Soravia 2007
Karo Batak	btx, batai293	NWS-BI	Batakic	Sumatra	Woollams 1996
Toba Batak	bbc, batai289	NWS-BI	Batakic	Sumatra	Nababan 1981; Percival 1981; Schachter 1984; van der Tuuk 1971 [1864–1867]
Gayo	gay, gayo1244	NWS-BI	Gayo	Sumatra	Eades 2005
Nias	nia, nias1242	NWS-BI	Nuc. Barr. Isl.	Barrier Isl.	Brown 2001, 2005
Enggano	eno, enggi245	ENG	na	Barrier Isl.	Crowley n.d.; Edwards 2015
Nasal	nsy, nasai239	NAS	na	Sumatra	McDonnell fieldnotes
Dampelas	dms, dampi237	T-T	Tomini	Sulawesi	Moro 2010
Pendau	ums, pend1242	T-T	Tomini	Sulawesi	Quick 2007
Tajio	tdj, taji1246	T-T	Tomini	Sulawesi	Mayani 2013
Totoli	twe, toto1304	T-T	Tolitoli	Sulawesi	Himmelmann & Riesberg 2013; Riesberg 2014b

TABLE 55 Language sample for the typological survey (*cont.*)

Language	Code	Group	Prim. branch	Region	Sources
Da'a Kaili	kzf, daak1235	K-P	Northern	Sulawesi	Barr 1988a, 1988b
Ledo Kaili	lew, led01238	K-P	Northern	Sulawesi	D. Evans 1996, 2003
Moma	myl, moma1242	K-P	Northern	Sulawesi	Adriani & Esser 1939
Uma	ppk, umaa1242	K-P	Southern	Sulawesi	Martens 1988a, 1988b
Behoa	bep, bes01237	K-P*	Southern	Sulawesi	Shore 2016
Balantak	blz, bala1315	S-B	Eastern	Sulawesi	van den Berg & Busenitz 2012
Bobongko	bgb, bob01255	S-B	Western	Sulawesi	Mead 2001
Mori Bawah	xmz, mori1268	B-T	Eastern	Sulawesi	Esser 2011; Mead 1998, 2005
Moronene	mqn, moro1287	B-T	Eastern	Sulawesi	Andersen 2013; Andersen & Anderson 2005; Mead 1998
Tolaki	lbw, tola1247	B-T	Western	Sulawesi	Edwards 2012
Busoa	bup, bus01238	M-B	Nuc. Muna-Buton	Sulawesi	van den Berg 2020
Muna	mnb, muna1247	M-B	Nuc. Muna-Buton	Sulawesi	van den Berg 2013
Tukang Besi	khc, tuka1248	M-B	Tukangbesi-Bonerate	Sulawesi	Donohue 1999, 2001
Wotu	wtw, wotu1240	W-W	Wotu	Sulawesi	Mead 2013
Laiyolo	lji, lai1246	W-W	Kalao	Sulawesi	Belding, Laidig & Maingak 2001
Wolio	wlo, woli1241	W-W	Wolio-Kamaru	Sulawesi	Anceaux 1952
Embaloh	emb, embal1238	SSUL	Bugis	Borneo	Adelaar 1995
Bugis	bug, bugi1244	SSUL	Bugis	Sulawesi	Hanson 2003; D. Laskowske 2016; Sirk 1983
Coastal Konjo	kjc, coas1295	SSUL	Makassar	Sulawesi	B. Friberg 1991; T. Friberg 1995
Makasar	mak, maka1311	SSUL	Makassar	Sulawesi	Jukes 2020
Duri	mvp, duri1242	SSUL	Northern	Sulawesi	Valkama 1993
Bambam	ptu, bamb1270	SSUL	Northern	Sulawesi	Campbell 1989
Seko Padang	skx, seko1243	SSUL	Seko	Sulawesi	T. Laskowske 2006; Payne & Laskowske 1997
Eastern Cham	cjm, east2563	CHA	Coastal	MSEA	Thurgood 2005
Bih	ibh, biha1246	CHA	Highlands	MSEA	Nguyen 2013
Tsat	huq, tsat1238	CHA	Highlands	MSEA	Thurgood, Thurgood & Fengxiang 2014
Acehnese	ace, ach1257	CHA	Acehnese	Sumatra	Durie 1985
Patani Malay	mfa, patt1249	MAL	Malay	MSEA	Tadmor 1995
Kerinci	kvr, ker1250	MAL	Malay	Sumatra	Ernanda 2017
Besemah	pse, cent053	MAL	Malay	Sumatra	McDonnell 2016
Jambi Malay	jax, jamb1236	MAL	Malay	Sumatra	Yanti 2010
Brunei	kxd, brun1242	MAL	Malay	Borneo	Clynes 2001
Bazaar Malay	zlm, mala1478	MAL	Malay	Singapore	Aye 2005
Kendayan	knx, kendi254	MAL	Kendayan	Borneo	Adelaar 2002, 2005b

TABLE 55 Language sample for the typological survey (*cont.*)

Language	Code	Group	Prim. branch	Region	Sources
Mualang	mtd, mual1241	MAL	Ibanic	Borneo	Tjia 2007
Indonesian	ind, indoi316	MAL	Malay	Other	Sneddon et al. 2010
Urak Lawoi'	urk, urak1238	MAL	Urak Lawoi'	MSEA	Hogan 1988, 1999
Balinese	ban, bali1278	BSS	Bali	Lsr Sundas	Arka 2003
Ampenan Sasak	sas, sasi1249	BSS	Sasak-Sumb.	Lsr Sundas	Khairunnisa 2022
Sumbawa	smw, sumbi241	BSS	Sasak-Sumb.	Lsr Sundas	Austin 2001; Shiohara & Arka 2024
Madura	mad, nuch1460	MAD	na	Java	Davies 2010
Sunda	sun, sund1252	SUN	na	Java	Hardjadibrata 1985; Kurniawan 2013; personal field notes
Javanese	jav, java1254	JAV	na	Java	Hemmings 2013; Oglobin 2005
Tengger	tes, teng1272	JAV	na	Java	Conners 2008
Suriname Jav.	jvn, cari1276	JAV	na	Americas	Villierius 2019
Rejang	rej, reja1240	REJ	na	Sumatra	McGinn 1982
Lampung Api	ljp, lamp1243	LAM	na	Sumatra	Walker 1976
Merina Merina	plt, plat1254	GBR	East	Africa	Pearson 2001; Rasoloson & Rubino 2005
Ma'anyan	mhy, maan1238	GBR	East	Borneo	Gudai 1985
Paku	pku, pakui239	GBR	East	Borneo	Diedrich 2018
Yakan	yka, yaka1277	GBR	Sama-Bajaw	Philippines	Brainard & Behrens 2002
W. Coast Bajau	bdr, west2560	GBR	Sama-Bajaw	Borneo	Miller 2007
Central Sama	sml, cent2092	GBR	Sama-Bajaw	Philippines	James 2017
Southern Sama	ssb, sout2918	GBR	Sama-Bajaw	Philippines	Akamine 2003
Ngaju	nij, ngaji237	GBR	West	Borneo	Hardeland 1858
Benyadu'	byd, beny1237	LND	Benyadu'	Borneo	Sommerlot 2020
Bakati'	bei, beka1241	LND	Bakati'	Borneo	Sudarsono 2002
Matéq	xem, kemb1249	LND	Southern	Borneo	Connell 2013
Ribun	rir, ribu1241	LND	Southern	Borneo	Sommerlot 2020
Cent. Melanau	mel, cent2101	M-K	Melanau	Borneo	Blust 1988; Chou 1999
West Berawan	zbw, west2564	NSAR	Berawan-Lower Baram	Borneo	B. Clayre 1997
Belait	beg, belai260	NSAR	Berawan-Lower Baram	Borneo	Clynes 2005
Kelabit	kzi, kela1258	NSAR	Dayic	Borneo	Hemmings 2016
Lundayeh	lnd, lund1271	NSAR	Dayic	Borneo	Mortensen 2021
Baram Kayan	kys, bara1370	NSAR*	Kayan-Kenyah	Borneo	Omar 1983
Penan, Eastern	pez, east2485	NSAR	Kayan-Kenyah	Borneo	Sercombe 2006
Punan Tubu	puj, punai266	NSAR	Punan Tubu	Borneo	Soriente 2013
Kimaragang	kqr, kima1244	SAB	Dusunic	Borneo	Kroeger 2005
Ida'an	dbj, idaa1241	SAB	Dusunic	Borneo	Goudswaard 2005
Keningau Murut	kxi, keni1249	SAB	Murutic	Borneo	Cohen 1999
Timugon Murut	tih, timui262	SAB	Murutic	Borneo	Prentice 1969, 1995

TABLE 55 Language sample for the typological survey (*cont.*)

Language	Code	Group	Prim. branch	Region	Sources
Serudung Murut	srk, seru1246	SAB	Murutic	Borneo	Townsend 2017
Tombonuo	txa, tomb1244	SAB	Paitanic	Borneo	Levinsohn & King 1991; King 1984, 1991
Tatana	txx, tata1257	SAB	Tatana	Borneo	Dillon 1994

Questionnaires Used in the Typological Survey

B.1 Questionnaire A

Part I: General properties of the language

Name of language:

ISO-639-3 language code:

Glottolog language code:

Genetic group:

[Bali-Sasak-Sumbawa; Bungku-Tolaki; Chamic; Enggano; Greater Barito; Javanese; Kaili-Pamona; Lampungic; Land Dayak; Madurese; Malayic; Melanau-Kajang; Muna-Buton; Nasal; North Sarawak; NW Sumatra-Barrier Islands; Rejang; Sabahan; Saluan-Banggai; South Sulawesi; Sundanese; Tomini-Tolitoli; Wotu-Wolio]

Location:

[Africa; Americas; Barrier Islands; Borneo; Java & Madura; Lesser Sundas; Mainland Southeast Asia; Peninsular Malaysia; Philippines; Sulawesi; Sumatra, Other]

Major division of genetic group:

Part II: Structural properties of the language

Pattern 1: Word order

In basic transitive clauses (A-oriented) is the predominant word order Verb-P?

- **Y:** source indicates predominant word order is Verb-P, NP expressing A generally does not intervene
- **N:** source indicates predominant word order other than Verb-P
- **free:** there is no predominant word order

Pattern 2: Morphological alignment

With respect to morphological marking of core arguments in basic intransitive and transitive clauses, how do S, A, and P pattern?

- **accusative:** S and A are marked alike, to the exclusion of P
- **ergative:** S and P are marked alike, to the exclusion of A
- **neutral:** S, A, and P are marked alike (and distinct from non-core arguments)

- **split-S**: S is marked like A when agentive and P when patientive (see Mithun & Chafe 1999: 578)
- **pivot-non-pivot**: S shares distinct marking with A in A-oriented transitive constructions, and P in P-oriented transitive constructions
- **mixed-NPiv.A**: A of P-oriented transitive constructions shows special marking, otherwise S, A, and P are marked alike.
- **mixed (other)**: marking of S, A, and P otherwise varies according to construction

Pattern 3: Syntactic alignment

With respect to syntactic properties of core arguments in basic intransitive and transitive clauses, what is the primary patterning of S, A, and P?

- **accusative**: S and A share special syntactic properties to the exclusion of P
- **ergative**: S and P share special syntactic properties to the exclusion of A
- **neutral**: S, A, and P alike share special syntactic properties distinct from those of non-core arguments
- **split-S**: special syntactic processes generally apply to equally to A and S when agentive, and equally to P and S when patientive
- **pivot-non-pivot**: S shares special syntactic properties with A in A-oriented transitive constructions, and P in P-oriented transitive constructions
- **mixed**: no one primary patterning can be said to hold for syntactic properties of S, A, and P across basic intransitive and transitive clauses

Pattern 4: Symmetrical voice

What is the pattern of voice and/or diathetical alternations found in basic transitive clauses in the language?

- **Philippine-type**: Three or more basic transitive constructions are observed, distinguished by mapping of semantic role to grammatical relation. These include at least two distinct nonactor oriented constructions.
- **marginal-Philippine-type**: Three or more transitive constructions are observed, distinguished by mapping of semantic role to grammatical relation. However, one or more of these is non-productive or substantially restricted in distribution.
- **two-way-symmetrical**: Two basic transitive constructions are observed, one A-oriented, and one P-oriented.
- **marginal-two-way-symmetrical**: Two transitive constructions are observed, one A-oriented, and one P-oriented. However, one of these is non-productive or substantially restricted in distribution.

- **asymmetrical:** No alternations in basic transitive constructions are observed which are distinguished by mapping of semantic role to grammatical relation.

Pattern 5: Morphological case-marking

Is morphological case-marking used in the language?

- **Y:** Morphological elements (or morphological processes) that attach to nouns or NP constituents are generally used to indicate grammatical or spatial relations.
- **Limited:** Case-marking morphological elements are found to attach only to a small subclass of nominals, or case is marked morphologically by means of sets of pronominal elements, but is not marked on nouns generally.
- **N:** No morphological elements (or processes) are found that attach to nouns or NP constituents and indicate grammatical or spatial relations.

Pattern 6: Order of noun and possessor

What is the order of possessed noun and possessor in the language?

- **N-Poss:** The possessed noun generally precedes the possessor.
- **Poss-N:** The possessor generally precedes the possessed noun.
- **mixed:** Both orders are observed.

Pattern 7a: Presence of morphological causative construction

Does the language have a morphological causative construction?

- **Y:** The language has a morphological causative construction.
- **N:** The language does not have a morphological causative construction.

Pattern 7b: Source of morphological causative marker

Which of the following are sources of morphological causative markers in the language?

- **appl:** Causative morphology shares the same form with an applicative morpheme in the language.
- ***pa-:** Causative morphology in the language apparently derives from PMP *pa- ‘causative’.
- **other:** Causative morphology in the language apparently derives from some other source.
- **NA:** The pattern is not applicable because the language has no morphological causative construction.

Pattern 7c: Productivity of reflex of *pa-

*What is the productivity of morphological causatives derived from *pa-?*

- **high:** productive with a large number of lexical roots across multiple syntactic categories (transitive verbs, intransitive dynamic verbs, stative verbs, nouns, etc.)
- **medium:** productive with a large number of lexical roots that primarily belong to one syntactic category
- **low:** only attested with a limited number of lexical roots.
- **NA:** There is no morphological causative derived from *pa-.

Part III: Properties of the applicative system

Pattern 8a: Presence of applicatives

Does the language have applicative constructions? An applicative is defined as a clausal construction in which overt morphological marking on the verbal complex coincides with the selection of a non-agent, non-patient semantic role to map to a core argument in the clause.

- **Y:** Applicative constructions as defined above are identifiable in the language based on the source material.
- **N:** Applicative constructions as defined above are not identifiable in the language based on the source material.

Pattern 8b: Co-occurrence with other constructions

Does applicative marking in the language freely co-occur with the basic transitive constructions of the language and the passive (if applicable)?

- **Y:** At least one of the applicative morphemes in the language co-occurs with the major diathetical alternations of the language, including all the basic transitive constructions and any passive construction.
- **N-Partial:** None of the applicative morphemes in the language co-occurs with all the basic transitive constructions of the language and any passive constructions. However, at least one applicative morpheme co-occurs with more than one such construction, under certain conditions.
- **N:** The applicative morphemes in the language do not co-occur with other basic transitive constructions of the language or the passive construction.
- **no-appl:** There are no applicatives, so this pattern is not applicable.

Pattern 9: Indexing of the applied phrase

In applicative constructions, does the applied phrase show person-indexing on the verb in the manner generally characteristic of P in monotransitive clauses?

- **Y:** The applied phrase generally shows person indexing on the verb in the same manner as other P arguments in the language.

- **N:** The applied phrase generally does not show person indexing on the verb, even though other P arguments in the language do show such indexing.
- **mixed:** Under certain conditions but not others, the applied phrase shows indexing of person and number features on the verb in the same manner as other P arguments in the language are indexed.
- **no-index:** The pattern is not applicable because the language does not generally make use of person indexing for P arguments.
- **no-appl:** The pattern is not applicable because the language does not have applicatives.

Pattern 10: Syntactic privilege and the applied phrase

Does the applied phrase show evidence of status as a syntactically privileged argument across basic clause types which co-occur with applicative constructions?

- **Y-obl:** Yes, there is evidence that the applied phrase always holds a syntactically privileged relation across basic clause types with which the applicative construction co-occurs.
- **Y-opt:** There is evidence that the applied phrase generally holds a syntactically privileged relation in P-oriented basic clause types.
- **mixed:** There is evidence that the applied phrase may hold a syntactically privileged relation in basic clause types; this co-varies according to the form of the applicative morpheme and/or semantic role of the applied phrase.
- **N:** The applied phrase generally does not appear to hold a syntactically privileged relation in the clause, or does so only in marked, infrequent constructions.
- **no-appl:** The pattern is not applicable because the language does not have applicatives.

Pattern 11: Access to relativization

Does the applied phrase have access to relativization?

- **Y:** Yes, the applied phrase may generally be the head noun of a relative clause, subject to the same conditions as other P arguments.
- **N:** No, the applied phrase generally may not be the head noun of a relative clause.
- **mixed:** The applied phrase sometimes may be the head noun of a relative clause, but this is subject to additional conditions not observed for other P arguments.
- **no-appl:** This pattern is not applicable because the language does not have applicatives.

B.2 Questionnaire B

Pattern A: Source morphology

What is the apparent source morphology from which the applicative morpheme is derived?

- ***akən**: The applicative morpheme in question appears to derive from *akən ‘on, upon; instrumental preposition’
- ***i**: The applicative morpheme in question appears to derive from PMP *i ‘locative preposition’
- ***-an/*-ən**: The applicative morpheme in question appears to derive from PMP voice morphology *-an or *-ən.
- ***pa-**: The applicative morpheme in questions appears to derive from PMP *pa- or a combination of *pa- and another prefix, e.g. *paka-, popa-, etc.
- **other**: The applicative morpheme in question appears to derive from another known historical source.
- **undetermined**: The historical source of the applicative marked in question is not clear.

Pattern B: Source morphology type

What is the category of the historical source morphology from which the applicative morpheme is derived?

- **adpos**: The source morphology was an adposition.
- **verb**: The source morphology was a verb.
- **caus**: The source morphology was a causative marker.
- **case-mrkr**: The source morphology was a case marker.
- **voi-mrkr**: The source morphology was a voice marker.
- **other**: The source morphology is known to have a different category or function than that listed above.
- **undetermined**: The category or function of the source morphology is not known.

Pattern C: Semantic roles of the applied phrases

What are the semantic roles of the applied phrase in constructions bearing the applicative morpheme?

- **BEN**: Beneficiary, i.e. a participant who accrues a benefit through an event or state of affairs.
- **REC**: Recipient, i.e. an entity that receives possession (physical or otherwise) of an entity
- **LOC**: Static locative, i.e. the static or generalized location of a state or event

- **GOAL**: Goal, i.e. the end point of an entity that changes location in a motion event.
- **THM**: Theme, i.e. an entity undergoes a change of location or is located in space
- **INST**: Instrument, i.e. an inanimate entity manipulated to some effect in an event
- **STIM**: Stimulus, i.e. the object of an act of perception, stimulus of an emotional response
- **CONT**: Content, i.e. the content of an act of speaking or cognition.
- **CIRC**: Circumstantial, i.e. the reason or purpose for a state or event.
- **COM**: Comitative, i.e. a participant that accompanies an actor or mover.
- **ADDR**: Addressee, i.e. a participant that is the intended receiver of some communication

Pattern D: Co-occurrent marking with other morphology

Must the applicative morpheme co-occur together with another morpheme on the verbal complex in certain applicative constructions?

- **Y-SF**: Yes, the applicative morpheme appears together with a “stem-former” in certain applicative constructions. The stem-former does not have a semantic meaning of its own, but it may have a syntactic or morphological function.
- **Y-CAUS**: Yes, the applicative morpheme appears together with a causative morpheme in certain applicative constructions. The causative morpheme has an independent causative function in other constructions.
- **Y-other**: Yes, the applicative morpheme appears together with some other morphological marking on the verbal complex that is not generally found in basic transitive constructions.
- **N**: No, the applicative morpheme generally does not co-occur with other morphological marking on the verb necessary to form the applicative constructions.

Pattern E: Other functions

Which of the following non-applicative functions are also marked by the applicative morpheme?

- **CAUS**: The applicative morpheme also forms causative constructions, in which an instigating causer participant is introduced and selected to map to A.
- **CAUS-combo**: The applicative morpheme co-occurs with another morphological causative on the verbal complex in certain (non-applicative) causative constructions.

- **PLUR**: The applicative morpheme indicates pluractional aspect, e.g. durative, habitual, iterative, multiple actors or undergoers.
- **INTENS**: The applicative morpheme indicates greater intensity, e.g. greater volitionality, greater application of force, etc.
- **COMP**: The applicative morpheme indicates comparative degree of a gradable quality.
- **sem-change**: The applicative morpheme is associated with some other semantic change in the meaning of a verb, e.g. ‘discard’ cf. ‘throw’, ‘elope’ cf. ‘run’.
- **none**: No non-applicative functions are indicated from the source material.

Database for Typological Survey

The data compiled for the typological survey described in Chapters 4, 5, and 6 is given below. Table 56 contains the data collected by language using Questionnaire A. Table 57 contains the data collected by form of applicative morpheme (AM) using Questionnaire B.

Abbreviations for genetic affiliation: BSS = Bali-Sasak-Sumbawa, B-T = Bunku-Tolaki, CHA = Chamic, ENG = Enggano, GRB = Greater Barito, JAV = Javanese, K-P = Kaili-Pamona, LAM = Lampungic, LND = Land Dayak, MAL = Malayic, M-B = Muna-Buton, M-K = Melanau-Kajang, MAD = Madurese, NAS = Nasal, NSAR = North Sarawak, NWS-BI = Northwest Sumatra-Barrier Islands, REJ = Rejang, S-B = Saluan-Banggai, SAB = Sabahan, SSUL = South Sulawesi, SUN = Sundanese, T-T = Tomini-Tolitoli, W-W = Wotu-Wolio. Languages with a disputed genetic affiliation are marked with an asterisk (*).

Column heading abbreviations for Table 56 are as follows: Glotto = Glotto-code, ISO = ISO-639-3 code, Gen. = Genetic Group, Maj. Div. = Major Division, WdO = Word Order, MrpAlg = Morphological Alignment, SynAlg = Syntactic Alignment, N-Poss = Order of Noun and Possessor, MCau = Morphological Causative, SrcMph = Source Morphology, CauPrd = Productivity of Morphological Causative, Appl = Applicative, Co-oc = Co-occurrence, Indx = Indexing, SynPrv = Syntactic Privilege, AccRel = Access to Relativization. Additional column heading abbreviations for Table 57 are: SrcTyp = Source Morphology Type, CoMrp = Co-occurring Morphology, Sem = Semantic Change. Undetermined values are indicated as [und] or [undet]. For other coding values, please refer to the relevant questionnaire in Appendix 2.

TABLE 56 Survey data for Questionnaire A

Language	Glotto	ISO	Gen.	Location	Maj. Div.	¹ WdO	notes	² MrpAlg	³ SynAlg
Alas Batak	bata1292	btz	NWS-BI	Sumatra	Sumatra	y	AVP	mx-d-npiv.A	und
Karo Batak	bata1293	btx	NWS-BI	Sumatra	Sumatra	y	AVP	piv-npiv	piv-npiv
Toba Batak	bata1289	bbc	NWS-BI	Sumatra	Sumatra	y	VPA	mx-d-npiv.A	piv-npiv
Gayo	gayo1244	gay	NWS-BI	Sumatra	Sumatra	y	AVP	piv-npiv	piv-npiv
Nias	nias1242	nia	NWS-BI	Barr. Isl.	Barr. Isl.	y	VPA	mx-d (other)	accus
Enggano	engg1245	eno	ENG	Barr. Isl.	Barr. Isl.	y	AVP	neutral	accus
Nasal	nasal1239	nsy	NAS	Sumatra	na	y	AVP	piv-npiv	piv-npiv
Dampelas	damp1237	dms	T-T	Sulawesi	Tomini	y	AVP	mx-d-npiv.A	piv-npiv
Pendau	pend1242	ums	T-T	Sulawesi	Tomini	y	AVP	mx-d-npiv.A	piv-npiv
Tajio	pend1242	tdj	T-T	Sulawesi	Tomini	y	AVP/VPA	mx-d-npiv.A	piv-npiv
Totoli*	toto1304	twe	T-T	Sulawesi	Tolitoli	y	AVP/VPA	mx-d-npiv.A	piv-npiv
Da'a Kaili	daak1235	kzf	K-P	Sulawesi	na	y	AVP	mx-d-npiv.A	und
Ledo Kaili	ledo1238	lew	K-P	Sulawesi	na	y	AVP/VPA	mx-d-npiv.A	piv-npiv
Moma	moma1242	myl	K-P	Sulawesi	na	y	AVP	mx-d-npiv.A	und
Uma	umaa1242	ppk	K-P	Sulawesi	na	y	AVP	ergative	piv-npiv
Behoa*	beso1237	bep	K-P	Sulawesi	na	y	AVP	piv-npiv	piv-npiv
Balantak	balal1315	blz	S-B	Sulawesi	na	y	AVP	mx-d-npiv.A	piv-npiv
Bobongko	bobol1255	bgb	S-B	Sulawesi	na	und	und	mx-d-npiv.A	piv-npiv
Mori Bawah	mori1268	xmz	B-T	Sulawesi	na	n	VAP/VPA	ergative	accus
Moronene	morol1287	mqn	B-T	Sulawesi	na	n	VAP/VPA	mx-d (other)	accus
Tolaki	tola1247	lbw	B-T	Sulawesi	na	und	und	mixed- other	accus
Busoa	busol1238	bup	M-B	Sulawesi	na	y	AVP	accusative	accus
Muna	munal1247	mnb	M-B	Sulawesi	na	y	AVP	accusative	accus
Tukang Besi	tuka1248	khc	M-B	Sulawesi	na	y	VPA	mx-d (other)	piv-npiv
Wotu	wotul1240	wtw	W-W	Sulawesi	na	y	AVP/VPA	mx-d (other)	piv-npiv
Laiyolo	laiy1246	lji	W-W	Sulawesi	na	y	AVP	accusative	piv-npiv
Wolio	woli1241	wlo	W-W	Sulawesi	na	n	VAP	accusative	und
Embaloh	emba1238	emb	SSUL	Borneo	Borneo	n	VAP	ergative	ergative
Bugis	bugi1244	bug	SSUL	Sulawesi	Sulawesi	y	AVP/VPA	ergative	piv-npiv
Coastal Konjo	coas1295	kjc	SSUL	Sulawesi	Sulawesi	n	VAP	ergative	accus
Makasar	maka1311	mak	SSUL	Sulawesi	Sulawesi	y	VPA	ergative	neutral
Duri	duri1242	mvp	SSUL	Sulawesi	Sulawesi	y	AVP	ergative	piv-npiv
Bambam	bamb1270	ptu	SSUL	Sulawesi	Sulawesi	y	AVP	ergative	neutral

4 Voice	5 Case	6 N-Poss	7a MCau	7b SrcMph	7c CauPrd	8a Appl	8b Co-oc	9 Indx	10 SynPrv	11 AccRel
2-wy sym	lim	N-Poss	y	*pa-	med	y	y	und	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	y	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	y	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-	med	y	y	y	y-opt	y
mrg 2-wy	y	N-Poss	y	*pa-, appl	low	y	y	no-indx	y-opt	y
asymmet	y	N-Poss	y	*pa-, appl	med	y	y	und	y-opt	und
2-wy sym	lim	N-Poss	y	*pa-, appl	und	y	y	y	y-opt	y
2-wy sym	n	N-Poss	y	*pa-	und	y	y	no-indx	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-	high	y	n-part	no-indx	mixed	y
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	no-indx	y-opt	y
Phil-typ	n	N-Poss	y	*pa-	med	y	n-part	no-indx	mixed	y
2-wy sym	lim	N-Poss	y	*pa-	high	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	no-indx	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	no-indx	y-opt	und
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	no-indx	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-	high	y	y	y	y-opt	y
Phil-typ	lim	N-Poss	y	*pa-	low	y	y	no-indx	mixed	mixed
mrg Phil	lim	N-Poss	y	*pa-	und	y	y	no-indx	mixed	mixed
asymmet	lim	N-Poss	y	*pa-, appl	high	y	n-part	mixed	mixed	mixed
asymmet	n	N-Poss	y	*pa-	und	y	y	y	und	und
asymmet	lim	N-Poss	y	*pa-	med	y	y	mixed	mixed	mixed
asymmet	lim	N-Poss	y	*pa-	med	y	y	mixed	mixed	y
asymmet	lim	N-Poss	y	*pa-, appl	high	y	y	mixed	mixed	y
2-wy sym	y	N-Poss	y	*pa-, appl	high	y	y	mixed	mixed	mixed
2-wy sym	lim	N-Poss	y	*pa-+appl	und	y	y	y	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-, appl	med	y	n-part	y	y-opt	y
mrg 2-wy	lim	N-Poss	y	*pa-, appl	med	y	y	und	y-opt	und
mrg 2-wy	lim	N-Poss	y	*pa-	und	y	y	y	y-opt	und
mrg 2-wy	lim	N-Poss	y	*pa-+appl	high	y	y	y	y-opt	y
mrg 2-wy	lim	N-Poss	y	*pa-	und	y	y	y	y-opt	und
mrg 2-wy	lim	N-Poss	y	*pa-, appl	high	y	y	mixed	mixed	y
2-wy sym	lim	N-Poss	y	*pa-	med	y	y	y	y-opt	und
mrg 2-wy	lim	N-Poss	y	*pa-, appl	high	y	y	y	y-opt	y

TABLE 56 Survey data for Questionnaire A (*cont.*)

Language	Glotto	ISO	Gen.	Location	Maj. Div.	¹ WdO	notes	² MrpAlg	³ SynAlg
Seko Padang	seko1243	skx	SSUL	Sulawesi	Sulawesi	und	und	ergative	ergative
Eastern Cham	east2563	cjm	CHA	MSEA	MSEA	y	AVP	neutral	accus
Bih	bihai246	ibh	CHA	MSEA	MSEA	y	AVP	neutral	accus
Acehnese	achi1257	ace	CHA	Sumatra	Sumatra	free	free	split-S	split-S
Tsat	tsat1238	huq	CHA	MSEA	MSEA	y	AVP	neutral	accus
Pattani Malay	patt1249	mfa	MAL	MSEA	MSEA	y	AVP	mxd-npiv.A	und
Kerinci	keri1250	kvr	MAL	Sumatra	Sumatra	y	AVP	mxd (other)	und
S. Barisan Mal.	cent2053	pse	MAL	Sumatra	Sumatra	y	AVP/VPA	neutral	piv-npiv
Jambi Malay	jamb1236	jax	MAL	Sumatra	Sumatra	y	AVP	neutral	mixed
Brunei	brun1242	kxd	MAL	Borneo	Borneo	n	VAP/AVP	mxd (other)	piv-npiv
Sing. Baz. Mal.	malai479	zlm	MAL	Other	other	y	AVP	neutral	accus
Kendayan	kend1254	knx	MAL	Borneo	Borneo	y	AVP	mxd-npiv.A	und
Mualang	mual1241	mtd	MAL	Borneo	Borneo	y	AVP	neutral	piv-npiv
Indonesian	indo1316	ind	MAL	Other	other	y	AVP	mxd-npiv.A	piv-npiv
Urak Lawoi'	urak1238	urk	MAL	MSEA	other	y	AVP	neutral	und
Balinese	bali1278	ban	BSS	Lsr Sundas	na	y	AVP	mxd-npiv.A	piv-npiv
Sasak	sasai249	sas	BSS	Lsr Sundas	na	y	AVP	mxd (other)	mixed
Sumbawa	sumb1241	smw	BSS	Lsr Sundas	na	und	und	accusative	und
Madura	nuch1460	mad	MAD	Java	na	y	AVP	mxd-npiv.A	piv-npiv
Sunda	sund1252	sun	SUN	Java	na	y	AVP	mxd-npiv.A	piv-npiv
Javanese	java1254	jav	JAV	Java	Java	y	AVP	mxd-npiv.A	piv-npiv
Tengger	teng1272	tes	JAV	Java	Java	y	AVP/VPA	neutral	und
Suriname Jav.	cari1276	jvn	JAV	Americas	other	y	AVP	mxd-npiv.A	piv-npiv
Rejang	reja1240	rej	REJ	Sumatra	na	y	AVP	mxd-npiv.A	piv-npiv
Lampung Api	lamp1243	ljp	LAM	Sumatra	na	y	AVP	mxd-npiv.A	piv-npiv
Merina Malag.	plat1254	plt	GRB	Africa	na	y	VPA	piv-npiv	piv-npiv
Ma'anyan	maan1238	mhy	GRB	Borneo	na	y	AVP	mxd-npiv.A	piv-npiv
Paku	paku1239	pku	GRB	Borneo	na	y	AVP	mxd-npiv.A	piv-npiv
Yakan	yaka1277	yka	GRB	Philippines	other	n	VAP/VPA	piv-npiv	piv-npiv
W.C. Bajau	west2560	bdr	GRB	Borneo	na	y	AVP	piv-npiv	piv-npiv

4 Voice	5 Case	6 N-Poss	7a MCau	7b SrcMph	7c CauPrd	8a Appl	8b Co-oc	9 Indx	10 SynPrv	11 AccRel
mrg 2-wy	lim	N-Poss	y	*pa-, appl	und	y	y	und	und	und
asymmet	n	N-Poss	y	*pa-, appl	low	n	na	no-appl	no-appl	no-appl
asymmet	n	N-Poss	y	*pa-, appl	low	n	na	no-appl	no-appl	no-appl
asymmet	lim	N-Poss	y	*pa-	high	y	y	y	na	und
asymmet	lim	mixed	n	na	na	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	other	low	n	na	no-appl	no-appl	no-appl
2-wy sym	y	N-Poss	y	*pa-, appl	med	n	na	no-appl	no-appl	no-appl
2-wy sym	n	N-Poss	y	appl	na	y	y	y	y-opt	y
2-wy sym	n	N-Poss	y	appl	na	y	y	no-indx	y-opt	y
2-wy sym	lim	N-Poss	y	appl	na	y	y	y	y-opt	y
asymmet	n	mixed	n	other	na	n	na	no-appl	no-appl	no-appl
2-wy sym	n	N-Poss	y	appl	na	y	y	no-indx	y-opt	und
2-wy sym	n	N-Poss	y	*pa-	low	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	appl	na	y	y	y	y-opt	y
asymmet	n	N-Poss	y	other	na	n	na	no-appl	no-appl	no-appl
2-wy sym	n	N-Poss	y	appl	low	y	y	no-indx	y-opt	y
2-wy sym	n	N-Poss	y	appl	na	y	y	no-indx	y-opt	und
asymmet	lim	N-Poss	y	other	low	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-, appl	med	y	y	no-indx	y-opt	y
2-wy sym	n	N-Poss	y	appl	na	y	y	y	y-opt	y
2-wy sym	lim	N-Poss	y	*pa-+appl	na	y	y	no-indx	y-opt	y
2-wy sym	lim	N-Poss	y	appl	na	y	y	y	y-opt	und
2-wy sym	lim	N-Poss	y	appl	na	y	y	y	y-opt	y
2-wy sym	lim	N-Poss	y	other	med	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	appl	na	y	y	no-indx	y-opt	y
Phil-typ	lim	N-Poss	y	*pa-	high	y	n	y	y-obl	y
2-wy sym	lim	N-Poss	y	other	na	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	other	high	n	na	no-appl	no-appl	no-appl
mrg Phil	y	N-Poss	y	*pa-	med	y	n-part	no-indx	y-opt	y
2-wy sym	n	N-Poss	y	*pa-	high	y	y	no-indx	y-opt	y

TABLE 56 Survey data for Questionnaire A (*cont.*)

Language	Glotto	ISO	Gen.	Location	Maj. Div.	¹ WdO	notes	² MrpAlg	³ SynAlg
Central Sama	cent2092	sml	GRB	Philippines	other	y	VPA	mxd (other)	piv-npiv
South. Sama	sout2918	ssb	GRB	Philippines	other	y	VPA	mxd-npiv.A	piv-npiv
Ngaju	ngaj1237	nij	GRB	Borneo	Borneo	y	AVP	piv-npiv	piv-npiv
Benyadu'	beny1237	byd	LND	Borneo	na	y	AVP	piv-npiv	mixed
Bakati'	beka1241	bei	LND	Borneo	na	y	AVP	mxd-npiv.A	piv-npiv
Mateq	kemb1249	xem	LND	Borneo	na	y	AVP	neutral	piv-npiv
Ribun	ribu1241	rir	LND	Borneo	na	y	AVP	mxd-npiv.A	piv-npiv
Cent. Melanau	cent2101	mel	M-K	Borneo	na	y	AVP	mxd-npiv.A	und
W. Berawan	west2564	zbw	NSAR	Borneo	na	y	AVP	mxd-npiv.A	mixed
Belait	belai260	beg	NSAR	Borneo	na	y	AVP/VPA	mxd-npiv.A	piv-npiv
Kelabit	kela1258	kzi	NSAR	Borneo	na	y	AVP	neutral	piv-npiv
Lundayeh	lund1271	lnd	NSAR	Borneo	na	y	AVP/VPA	piv-npiv	piv-npiv
Baram Kayan*	bara1370	kys	NSAR	Borneo	na	y	AVP	piv-npiv	und
E. Penan	east2485	pez	NSAR	Borneo	na	y	AVP	mxd-npiv.A	piv-npiv
Punan Tubu	puna1266	puj	NSAR	Borneo	na	y	AVP	piv-npiv	piv-npiv
Kimaragang	kima1244	kqr	SAB	Borneo	na	n	VAP/VPA	piv-npiv	piv-npiv
Ida'an	idaa1241	dbj	SAB	Borneo	na	y	AVP	piv-npiv	piv-npiv
Keningau Mur.	keni1249	kxi	SAB	Borneo	na	n	VAP	piv-npiv	und
Timugon Mur.	timu1262	tih	SAB	Borneo	na	n	VAP/VPA	piv-npiv	piv-npiv
Serudung Mur.	seru1246	srk	SAB	Borneo	na	y	VPA	mxd-npiv.A	piv-npiv
Tombonuo	tomb1244	txa	SAB	Borneo	na	n	VAP	piv-npiv	und
Tatana	tata1257	txx	SAB	Borneo	na	y	VPA	piv-npiv	piv-npiv

4 Voice	5 Case	6 N-Poss	7a MCau	7b SrcMph	7c CauPrd	8a Appl	8b Co-oc	9 Indx	10 SynPrv	11 AccRel
mrg Phil	lim	N-Poss	y	*pa-	med	y	n-part	y	y-opt	y
Phil-typ	lim	N-Poss	y	*pa-	high	y	n	y	y-obl	y
2-wy sym	n	N-Poss	y	*pa-	med	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	und	und	und	n	na	no-appl	no-appl	no-appl
2-wy sym	n	N-Poss	y	other	med	n	na	no-appl	no-appl	no-appl
2-wy sym	n	N-Poss	y	other	low	n	na	no-appl	no-appl	no-appl
2-wy sym	n	N-Poss	und	und	und	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	med	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	med	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	med	n	na	no-appl	no-appl	no-appl
Phil-typ	n	N-Poss	y	*pa-	low	y	n	no-indx	y-obl	y
mrg Phil	lim	N-Poss	y	other	med	y	n	no-indx	y-obl	y
2-wy sym	lim	N-Poss	y	*pa-	und	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	und	n	na	no-appl	no-appl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	und	n	na	no-appl	no-appl	no-appl
Phil-typ	y	N-Poss	y	*pa-	high	y	n	no-indx	y-obl	y
2-wy sym	lim	N-Poss	y	*pa-	high	n	na	no-appl	no-appl	no-appl
Phil-typ	y	N-Poss	y	*pa-	high	y	n	no-indx	y-obl	und
Phil-typ	y	N-Poss	y	*pa-	high	y	n	y	y-obl	no-appl
2-wy sym	lim	N-Poss	y	*pa-	und	n	na	no-appl	no-appl	no-appl
Phil-typ	y	N-Poss	y	*pa-	high	y	n	und	y-obl	und
Phil-typ	y	N-Poss	y	*pa-	high	y	n	y	y-obl	y

TABLE 57 Survey data for Questionnaire B

Language	Glotto	ISO	Gen.	AM Form	Type	A	B	C1	C2	C3	C4
						SrcMph	SrcTyp	BEN	REC	LOC	GOAL
Alas Batak	bata1292	btz	NWS-BI	ken	I	*akən	adpos	✓	✓	–	–
Alas Batak	bata1292	btz	NWS-BI	-i	II	*i	undet	–	–	✓	✓
Karo Batak	bata1293	btx	NWS-BI	ken	I	*akən	adpos	–	–	–	–
Karo Batak	bata1293	btx	NWS-BI	-i	II	*i	undet	–	–	✓	✓
Toba Batak	bata1289	bbc	NWS-BI	hon	I	*akən	adpos	✓	–	–	–
Toba Batak	bata1289	bbc	NWS-BI	-i/-an	II	*-an/*-ən	voi-mk	–	–	✓	✓
Gayo	gayo1244	gay	NWS-BI	-i	II	*i	undet	–	–	✓	✓
Gayo	gayo1244	gay	NWS-BI	(n)en	I	*-an/*-ən	voi-mk	–	–	–	–
Nias	nias1242	nia	NWS-BI	ö	I	*akən	adpos	–	–	–	–
Nias	nias1242	nia	NWS-BI	-(C)i	II	*i	undet	–	–	✓	✓
Nias	nias1242	nia	NWS-BI	fa-	other	*pa-	caus	–	–	–	✓
Enggano	enggi245	eno	ENG	-(C)aʔa	I	*akən	adpos	–	–	–	✓
Enggano	enggi245	eno	ENG	-(C)i	II	*i	undet	–	–	✓	–
Nasal	nasal1239	nsy	NAS	-kun	I	*akən	adpos	✓	✓	–	–
Nasal	nasal1239	nsy	NAS	-i	II	*i	undet	–	✓	✓	✓
Dampelas	dampi237	dms	T-T	a'o	I	*akən	adpos	✓	✓	–	–
Dampelas	dampi237	dms	T-T	-i	II	*i	undet	–	✓	✓	✓
Pendau	pendi242	ums	T-T	a'	I	*akən	adpos	✓	✓	–	–
Pendau	pendi242	ums	T-T	-i	II	*i	undet	–	–	✓	✓
Tajio	taji1246	tdj	T-T	ao	I	*akən	adpos	✓	–	–	–
Tajio	taji1246	tdj	T-T	-i	II	*i	undet	–	✓	✓	✓
Totoli*	toto1304	twe	T-T	-i	II	*i	undet	–	✓	–	✓
Totoli*	toto1304	twe	T-T	-an	I	*-an/*-ən	voi-mk	✓	–	–	–
Ledo Kaili	ledo1238	lew	K-P	-aka	I	*akən	adpos	–	–	–	–
Ledo Kaili	ledo1238	lew	K-P	-i	II	*i	undet	–	–	✓	✓
Ledo Kaili	ledo1238	lew	K-P	-ka	I	*akən	adpos	✓	–	–	–
Moma	moma1242	myl	K-P	-aka	I	*akən	adpos	–	–	–	–
Moma	moma1242	myl	K-P	-i	II	*i	undet	–	–	✓	✓
Moma	moma1242	myl	K-P	-ka	I	*akən	adpos	✓	✓	–	–
Uma	umaa1242	ppk	K-P	-i	II	*i	undet	–	–	✓	✓
Uma	umaa1242	ppk	K-P	-ki	I	*akən	adpos	✓	✓	–	–
Behoa*	beso1237	bep	K-P	-á	I	*-an/*-ən	voi-mk	✓	–	–	–
Behoa*	beso1237	bep	K-P	-i	II	*i	undet	–	–	✓	✓
Balantak	bala1315	blz	S-B	-kon	I	*akən	adpos	✓	✓	–	–
Balantak	bala1315	blz	S-B	-i	II	*i	undet	–	✓	✓	✓
Balantak	bala1315	blz	S-B	-ii	other	other	other	✓	–	–	–
Bobongko	boboi255	bgb	B-T	-akon	I	*akən	adpos	✓	–	–	–
Bobongko	boboi255	bgb	B-T	-i/-an	II	other	voi-mk	–	–	✓	✓
Bobongko	boboi255	bgb	B-T	poN-	CV	other	other	–	–	–	–
Bobongko	boboi255	bgb	B-T	poN--an	LV	other	other	–	–	✓	–
Mori Bawah	mori1268	xmz	B-T	-ako	I	*akən	adpos	✓	–	–	–
Mori Bawah	mori1268	xmz	B-T	-Ci	II	*i	undet	–	–	–	✓

C5	C6	C7	C8	C9	C10	C11	D	E1	E2	E3	E4	E5	E6
THM	INST	STIM	CONT	CIRC	COM	ADDR	CoMrp	CAUS	CAUS-c	PLUR	INTENS	COMP	Sem
✓	✓	–	✓	–	–	–		✓	–	–	–	–	–
–	–	✓	–	–	–	–		–	✓	–	–	–	–
✓	✓	✓	–	–	–	–		✓	✓	–	–	✓	–
–	–	✓	–	–	–	–		✓	✓	✓	–	–	–
✓	✓	✓	–	✓	✓	–	Y-SF	✓	–	–	–	–	–
–	–	✓	–	–	–	–		✓	–	✓	–	–	–
–	–	✓	–	–	–	–		–	–	✓	–	–	–
✓	–	✓	–	–	–	–		✓	–	–	✓	✓	–
✓	–	✓	✓	–	–	✓		✓	✓	–	–	✓	–
–	–	✓	–	–	–	–	Y-CAU	✓	–	–	–	–	–
✓	–	–	–	–	–	–		✓	–	–	–	–	–
–	✓	–	–	–	–	–		✓	–	–	–	–	–
–	–	✓	–	–	–	–		–	–	–	–	–	–
✓	✓	✓	–	–	–	–		✓	–	–	✓	–	–
–	–	✓	–	–	–	–		✓	–	✓	✓	–	–
✓	–	–	–	–	–	–		✓	–	–	–	–	–
–	–	✓	–	–	–	–		–	–	–	–	–	–
✓	✓	–	–	–	–	–		✓	–	–	–	–	–
–	–	✓	–	–	–	✓		–	–	–	✓	–	✓
–	✓	–	–	–	–	–		✓	✓	–	–	–	–
✓	–	✓	✓	–	–	✓	Y-SF	✓	–	–	–	–	✓
–	–	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	–	–	–	–		✓	–	✓	–	–	–
✓	✓	–	–	–	–	–		✓	–	–	–	–	–
–	–	✓	✓	–	–	–		✓	✓	–	–	–	✓
–	–	–	–	–	✓	–		✓	✓	–	–	–	✓
–	–	✓	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	✓		✓	✓	–	–	–	–
–	✓	–	–	–	–	–		✓	✓	–	–	–	–
–	–	–	–	–	–	✓	Y-SF	✓	–	–	–	–	–
–	✓	–	✓	✓	–	✓		–	–	–	–	–	–
–	–	–	–	–	–	✓		✓	–	–	–	–	–
–	–	–	–	–	–	✓		–	–	–	–	–	–
–	✓	✓	✓	✓	✓	✓		✓	–	–	–	–	–
–	–	✓	–	–	–	✓		✓	–	✓	–	–	✓
–	–	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–	Y-SF	–	–	–	–	–	✓
–	–	–	✓	–	–	–	Y-SF	–	–	–	–	–	✓
–	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	–	✓	✓	–		–	–	–	–	✓	–
–	–	✓	–	–	–	–		✓	–	✓	✓	–	✓

TABLE 57 Survey data for Questionnaire B (*cont.*)

Language	Glotto	ISO	Gen.	AM Form	Type	A	B	C1	C2	C3	C4
						SrcMph	SrcTyp	BEN	REC	LOC	GOAL
Mori Bawah	mori1268	xmz	B-T	-Cari	II	other	undet	–	–	✓	–
Mori Bawah	mori1268	xmz	B-T	-Cako	I	*akən	adpos	–	–	–	–
Moronene	moroi287	mqn	B-T	-ako	I	*akən	adpos	✓	✓	–	–
Moronene	moroi287	mqn	B-T	-Ci	II	*i	undet	–	–	–	✓
Tolaki	tolai247	lbw	B-T	-Cako	I	*akən	adpos	✓	✓	–	–
Muna	munai247	mnb	M-B	-ghoo	I	*akən	adpos	✓	✓	–	–
Muna	munai247	mnb	M-B	-Ci	II	*i	undet	–	–	✓	✓
Busoa	busoi238	bup	M-B	-ho	I	*akən	adpos	✓	–	–	–
Busoa	busoi238	bup	M-B	-Ci	II	*i	undet	–	–	✓	✓
Tukang Besi	tukai248	khc	M-B	-ako	I	*akən	adpos	✓	–	–	–
Tukang Besi	tukai248	khc	M-B	-(VC)i	II	*i	undet	–	✓	✓	✓
Tukang Besi	tukai248	khc	M-B	-ngkene	other	other	other	–	–	–	–
Wotu	wotui240	wtw	W-W	-a	I	*akən	adpos	✓	–	–	–
Wotu	wotui240	wtw	W-W	-i	II	*i	undet	–	–	✓	✓
Laiyolo	laiyi246	lji	W-W	-aka	I	*akən	adpos	–	–	–	–
Laiyolo	laiyi246	lji	W-W	-ka	I	*akən	undet	✓	✓	–	–
Laiyolo	laiyi246	lji	W-W	-i	II	*i	undet	–	–	✓	✓
Wolio	wolii241	wlo	W-W	-aka	I	*akən	adpos	✓	✓	–	–
Wolio	wolii241	wlo	W-W	-i	II	*i	undet	–	–	✓	✓
Embaloh	embai238	emb	SSUK	-ang	I	*-an/*-ən	voi-mk	✓	✓	–	–
Embaloh	embai238	emb	SSUL	-i	II	*i	undet	–	–	–	✓
Bugis	bugii244	bug	SSUL	-Ceng	I	*-an/*-ən	voi-mk	✓	✓	–	–
Bugis	bugii244	bug	SSUL	-Ci	II	*i	undet	–	–	✓	✓
Coastal Konjo	coasi295	kjc	SSUL	-ang	I	*-an/*-ən	voi-mk	✓	–	–	–
Coastal Konjo	coasi295	kjc	SSUL	-i	II	*i	undet	–	–	✓	✓
Makasar	makai311	mak	SSUL	-ang	I	*-an/*-ən	voi-mk	✓	–	–	–
Makasar	makai311	mak	SSUL	-i	II	*i	undet	–	–	✓	✓
Duri	duri1242	mvp	SSUL	-an	I	*-an/*-ən	voi-mk	✓	–	–	–
Duri	duri1242	mvp	SSUL	-i	II	*i	undet	–	–	✓	✓
Bambam	bambi270	ptu	SSUL	-am	I	*-an/*-ən	voi-mk	✓	–	–	–
Bambam	bambi270	ptu	SSUL	-i	II	*i	undet	–	–	✓	✓
Seko Padang	seko1243	skx	SSUL	-ing	I	*akən	adpos	–	–	–	–
Seko Padang	seko1243	skx	SSUL	-i	II	*i	undet	–	–	✓	–
Acehnese	achii257	ace	CHA	peu-	other	*pa-	caus	–	–	–	✓
S. Barisan Mal.	cent2053	pse	MAL	-ka	I	*akən	adpos	✓	–	–	–
S. Barisan Mal.	cent2053	pse	MAL	-i	II	*i	adpos	–	✓	✓	✓

C5	C6	C7	C8	C9	C10	C11	D	E1	E2	E3	E4	E5	E6
THM	INST	STIM	CONT	CIRC	COM	ADDR	CoMrp	CAUS	CAUS-c	PLUR	INTENS	COMP	Sem
–	–	–	–	–	–	–		–	–	–	–	–	–
✓	–	–	–	–	–	–		✓	–	✓	✓	–	✓
–	✓	–	–	–	–	✓		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	✓	✓	✓	✓		–	–	–	–	–	–
–	✓	–	–	✓	✓	–		–	–	–	–	–	✓
–	–	✓	–	–	–	–		–	✓	✓	–	–	✓
✓	✓	–	–	✓	✓	–		–	–	–	–	–	✓
–	–	✓	–	–	–	–		–	–	–	–	–	✓
✓	✓	–	✓	✓	–	–		–	–	–	–	–	–
–	–	✓	–	–	–	–		✓	–	–	✓	–	✓
–	–	–	–	–	✓	–		–	–	–	–	–	–
–	–	–	–	–	✓	✓		–	–	–	–	–	–
–	–	–	–	–	–	✓		✓	✓	–	–	–	–
✓	–	✓	–	–	–	–		–	–	–	–	–	✓
–	–	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		✓	–	–	–	–	–
✓	✓	✓	✓	–	✓	✓		–	–	–	–	✓	✓
–	–	–	–	–	–	✓		✓	–	–	–	–	✓
✓	–	✓	–	–	✓	–		–	–	–	–	–	–
–	–	–	–	–	–	✓		–	✓	–	–	–	–
–	✓	–	–	✓	✓	–		✓	–	–	–	✓	–
–	–	✓	–	–	–	–		–	✓	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	–	✓	–	–	–	–		–	–	✓	✓	–	–
✓	✓	–	–	–	–	–	Y-CAU	–	✓	–	–	–	–
–	–	✓	–	–	–	–	Y-CAU	✓	✓	✓	✓	–	–
✓	✓	–	–	–	–	✓		–	–	–	–	–	–
–	–	–	✓	–	–	–		–	✓	–	–	–	–
–	✓	–	–	–	–	✓	Y-SF	–	–	–	–	–	–
–	–	✓	✓	–	–	✓	Y-SF	–	–	–	–	–	–
✓	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		✓	✓	–	–	–	–
✓	–	–	–	–	–	–		✓	–	–	–	–	–
✓	✓	✓	✓	–	–	–		✓	–	–	–	–	✓
–	–	✓	✓	–	–	✓		✓	–	✓	✓	–	–

TABLE 57 Survey data for Questionnaire B (*cont.*)

Language	Glotto	ISO	Gen.	AM Form	Type	A	B	C1	C2	C3	C4
						SrcMph	SrcTyp	BEN	REC	LOC	GOAL
Jambi Malay	jamb1236	jax	MAL	-kan/-an	I	*akən	adpos	✓	–	–	–
Jambi Malay	jamb1236	jax	MAL	-i	II	*i	undet	✓	–	✓	–
Brunei	brun1242	kxd	MAL	-kan	I	*akən	adpos	✓	–	–	–
Brunei	brun1242	kxd	MAL	-i	II	*i	undet	–	✓	✓	✓
Kendayan	kend1254	knx	MAL	-an	I	*-an/*-ən	voi-mk	✓	–	–	–
Kendayan	kend1254	knx	MAL	-i?	II	*i	undet	–	✓	✓	✓
Indonesian	indo1316	ind	MAL	-kan	I	*akən	adpos	✓	–	–	–
Indonesian	indo1316	ind	MAL	-i	II	*i	undet	–	✓	✓	✓
Balinese	bali1278	ban	BSS	-ang	I	*-an/*-ən	voi-mk	✓	–	–	–
Balinese	bali1278	ban	BSS	-in	II	*i	undet	–	✓	✓	✓
Sasak	sasa1249	sas	BSS	-an	I	*-an/*-ən	voi-mk	✓	✓	–	✓
Madura	nuch1460	mad	MAD	-agi	I	*akən	adpos	✓	–	–	–
Madura	nuch1460	mad	MAD	-e	II	*i	undet	–	✓	✓	✓
Sunda	sund1252	sun	SUN	-keun	I	*akən	adpos	✓	–	–	–
Sunda	sund1252	sun	SUN	-an	I	*-an/*-ən	voi-mk	–	✓	✓	✓
Sunda	sund1252	sun	SUN	pang–keun	other	other	other	✓	–	–	–
Javanese	java1254	jav	JAV	-aké	I	*akən	adpos	✓	–	–	–
Javanese	java1254	jav	JAV	-i/-an	II	*-an/*-ən	voi-mk	–	✓	✓	✓
Tengger	teng1272	tes	JAV	-en/-na	I	*-an/*-ən	voi-mk	✓	–	–	–
Tengger	teng1272	tes	JAV	-i/-an	I	other	voi-mk	–	✓	✓	✓
Suriname Jav.	cari1276	jvn	JAV	-aké	I	*akən	adpos	✓	–	–	–
Suriname Jav.	cari1276	jvn	JAV	-i	II	*i	undet	–	✓	✓	✓
Lampung Api	lamp1243	ljp	LAN	-ko	I	*akən	adpos	✓	–	–	–
Lampung Api	lamp1243	ljp	LAN	-i	II	*i	undet	–	–	–	✓
Merina Malag.	plat1254	plt	GRB	a-	IV	other	voi-mk	–	–	–	–
Merina Malag.	plat1254	plt	GRB	-an	BV	*-an/*-ən	voi-mk	✓	✓	–	✓
Merina Malag.	plat1254	plt	GRB	PFX-an	CV	other	other	–	–	✓	–
Yakan	yaka1277	yka	GRB	-an	other	*-an/*-ən	voi-mk	✓	✓	–	✓
Yakan	yaka1277	yka	GRB	paN-	IV	other	other	–	–	–	–
W.C. Bajau	west2560	bdr	GRB	-an	other	*-an/*-ən	voi-mk	✓	✓	✓	✓
Central Sama	cent2092	sml	GRB	-an	other	*-an/*-ən	voi-mk	✓	✓	–	✓

	C5	C6	C7	C8	C9	C10	C11	D	E1	E2	E3	E4	E5	E6
	THM	INST	STIM	CONT	CIRC	COM	ADDR	CoMrp	CAUS	CAUS-C	PLUR	INTENS	COMP	Sem
	✓	–	✓	✓	–	–	–		✓	–	–	–	–	–
	–	–	–	✓	–	–	–		✓	–	✓	–	–	–
	✓	–	–	✓	–	–	–		✓	–	–	–	–	–
	–	–	–	–	–	–	–		✓	✓	–	–	–	–
	✓	–	–	✓	–	–	–		✓	–	–	–	–	✓
	–	–	✓	–	–	–	✓		✓	–	✓	–	–	✓
	✓	✓	✓	✓	–	–	–		✓	–	–	–	–	✓
	–	–	✓	✓	–	–	✓		✓	–	✓	✓	–	✓
	✓	✓	✓	–	–	–	–		✓	✓	–	–	–	–
	–	–	✓	✓	–	–	✓		✓	–	–	–	–	–
	✓	–	✓	✓	–	–	✓		✓	–	–	–	–	–
	✓	✓	–	✓	–	–	–		✓	–	–	–	–	–
	–	–	✓	–	–	–	✓		✓	✓	–	–	–	✓
	✓	✓	✓	✓	–	–	–		✓	–	–	–	–	–
	–	–	✓	✓	–	–	✓		✓	–	✓	–	✓	✓
	–	–	–	–	–	–	–		✓	–	–	–	–	–
	✓	✓	–	✓	–	–	–		✓	–	–	–	–	–
	–	–	–	–	–	–	✓		✓	–	✓	✓	–	–
	✓	–	–	–	–	–	–		✓	–	–	–	–	–
	–	–	–	✓	–	–	–		✓	–	✓	–	–	–
	✓	✓	–	–	–	–	–		✓	–	–	–	–	–
	–	–	–	–	–	–	–		–	–	–	–	–	–
	–	✓	–	–	✓	–	–	Y-SF	–	–	–	–	–	–
	✓	–	✓	–	–	–	✓		✓	–	✓	–	–	✓
	✓	✓	–	–	–	–	–		–	–	–	–	–	–
	✓	–	–	–	–	–	✓		✓	–	–	–	–	–
	–	–	✓	–	–	–	✓		–	–	–	–	–	–

TABLE 57 Survey data for Questionnaire B (*cont.*)

Language	Glotto	ISO	Gen.	AM Form	Type	A	B	C1	C2	C3	C4
						SrcMph	SrcTyp	BEN	REC	LOC	GOAL
Central Sama	cent2092	sml	GRB	-an	IV	*-an/*-ən	voi-mk	–	–	–	–
Central Sama	cent2092	sml	GRB	paN--an	LV	other	other	–	–	–	–
South. Sama	sout2918	ssb	GRB	paN--an/paN--in	LV	other	other	–	–	✓	–
South. Sama	sout2918	ssb	GRB	-in--an/-an	BV	*-an/*-ən	voi-mk	✓	–	–	–
South. Sama	sout2918	ssb	GRB	pan-	IV	other	other	–	–	–	–
Kelabit	kela1258	kzi	NSAR	peN-/peneN-	IV	other	other	–	–	–	–
Lundayeh	lund1271	lnd	NSAR	piN-	IV	other	other	–	–	–	–
Kimaragang	kima1244	kqr	SAB	-an	BV	*-an/*-ən	voi-mk	✓	✓	–	✓
Kimaragang	kima1244	kqr	SAB	i-	IV	other	voi-mk	–	–	–	–
Kimaragang	kima1244	kqr	SAB	-on	LV	*-an/*-ən	voi-mk	–	–	✓	✓
Keningau Mur.	keni1249	kxi	SAB	-in/-an/-i'	BV	*-an/*-ən	voi-mk	✓	✓	–	✓
Keningau Mur.	keni1249	kxi	SAB	pa--on/pina-/pa--o'	IV	other	other	–	–	–	–
Keningau Mur.	keni1249	kxi	SAB	m/n/pang--an	LV	other	other	–	–	✓	–
Timugon Mur.	timu1262	tih	SAB	-an/-in/-i?	BV	*-an/*-ən	voi-mk	✓	✓	–	–
Timugon Mur.	timu1262	tih	SAB	CV-	IV	other	other	–	–	–	–
Timugon Mur.	timu1262	tih	SAB	-an	LV	*-an/*-ən	voi-mk	–	–	✓	–
Tombonuo	tomb1244	txa	SAB	i-	IV	other	voi-mk	–	–	–	–
Tombonuo	tomb1244	txa	SAB	-an/-i	BV	*-an/*-ən	voi-mk	✓	✓	–	–
Tatana	tata1257	txx	SAB	i-	IV	other	voi-mk	–	–	–	–
Tatana	tata1257	txx	SAB	poN-	IV	other	other	–	–	–	–
Tatana	tata1257	txx	SAB	-an/-i	BV	*-an/*-ən	voi-mk	✓	✓	✓	✓
Tatana	tata1257	txx	SAB	poN--an	LV	other	other	–	–	✓	–

C5	C6	C7	C8	C9	C10	C11	D	E1	E2	E3	E4	E5	E6
THM	INST	STIM	CONT	CIRC	COM	ADDR	CoMrp	CAUS	CAUS-c	PLUR	INTENS	COMP	Sem
✓	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	✓	✓	–	–	–		–	–	–	–	–	✓
✓	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	✓
✓	–	✓	–	–	–	✓		–	–	–	–	–	–
✓	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–
–	–	✓	–	–	✓	✓		–	–	–	–	–	–
–	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	✓	–	–		–	–	–	–	–	–
✓	–	–	–	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	✓		–	–	–	–	–	–
✓	✓	–	–	–	–	–		–	–	–	–	–	–
–	✓	–	–	–	–	–		–	–	–	–	–	–
–	–	–	✓	–	–	–		–	–	–	–	–	–
–	–	–	–	–	–	–		–	–	–	–	–	–

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Applicative constructions are a distinctive grammatical feature of the Austronesian languages of western Indonesia, Malaysia, Singapore, and Brunei. Applicatives in these languages show varied syntactic and semantic properties, and are closely connected to causativization, aspectual meanings, and symmetrical voice. As a result, they do not fit neatly into 'canonical' patterns for applicatives. This book adopts a construction-based, typologically-grounded approach, treating applicatives as pairings of form and meaning. Data from 85 languages are analyzed systematically, combining careful description with quantitative methods and extensive use of geomapping to explore the diverse properties of applicatives in this region and their diachronic development.

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